1998

The agroecologies of a southern community: The Tye River Valley of Virginia, 1730-1860

Lynn A. Nelson

College of William & Mary - Arts & Sciences

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THE AGROECOLOGIES OF A SOUTHERN COMMUNITY:
THE TYE RIVER VALLEY OF VIRGINIA, 1730-1860

A Dissertation

Presented to

The Faculty of the Department of History

The College of William and Mary in Virginia

In Partial Fulfillment

Of the Requirements for the Degree of

Doctor of Philosophy

by

Lynn A. Nelson

1998
APPROVAL SHEET

This dissertation is submitted in partial fulfillment of the requirements for the degree of

Doctor of Philosophy

Lynn A. Nelson

Approved, July 1998

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ABSTRACT

The farmers of piedmont Virginia’s Tye River Valley adapted their agriculture to a commercial frontier during the eighteenth century. This ‘frontier agroecosystem’ optimized labor returns by exploiting the stored fertility of mature ecosystems at the expense of conservation, but proved vulnerable to population growth and soil exhaustion. Productivity stagnated and out-migration increased after the Revolution, and the gentry’s promotion of economic development was stymied by the limited build-up of capital and consumerism. The hard-pressed frontier agroecosystem could not provide the reliable commercial returns needed to promote dynamic development or stable neighborhoods.

During the early nineteenth century, prominent planters began to demand that Virginia farming be intensified – that land productivity be maximized, rather than labor productivity. This strategy, many claimed, would anchor farm families while promoting economic independence. Those among the Tye Valley’s ordinary farmers who practiced traditional intensification – increased land productivity through increased labor investment – found it led to declining labor productivity, resulting in lower profits, declining consumer opportunities, and diminished political influence. Practical plantation owners with commercial ambitions turned to entrepreneurial intensification – the build up of per-acre productivity through the importation of improved seed, livestock, fertilizer, and machinery. This would also maintain or even improve labor productivity. To attract the capital needed to purchase these imports, the Valley’s leaders had to abandon colonial for capitalist politics, and practice the natural resource conservation necessary to use farmland to insure long-term investments. The commercial and ecological self-sufficiency idealized by republican ‘high farmers’ was compromised.

Many Tye Valley farmers, however, resisted the dependence implicit in capitalist agriculture through a popular republicanism that accepted lower living standards and curtailed opportunity as the price of agrarian independence. Farmers in the lower classes pursued traditional intensification on their land while trying to maintain common access to the ‘free’ resources left over from the frontier property system. They also resisted attempts by the district’s entrepreneurial planter-politicians to modernize Virginia’s political economy and force the state into a capitalist economy.

High crop prices during the 1850s, however, helped the Valley’s capitalist farmers reinvest profits in modernized cultivation. By 1860, they had gone far toward incorporating the landscape of the Tye River Valley into a capitalist agroecosystem. Popular resistance, however, slowed the development of the capital needed for a full transformation. The region therefore still lagged in the intensity of its cultivation and the profits its farming generated. Valley farmers thus found entrepreneurial farming, elite republicanism, and traditional intensification in jeopardy on the eve of the Civil War.
THE AGROECOLOGIES OF A SOUTHERN COMMUNITY:

THE TYE RIVER VALLEY OF VIRGINIA, 1730-1860
INTRODUCTION

In the contemporary United States, mounting public discussion of environmental and natural resource-related problems has begun to focus the attention of scholars on the history of environmental crises. Modern ecological science has revealed many of the ways in which pollution, resource extraction, land clearing, and the like, are responsible for the destruction of biotic communities upon which human beings depend. Yet in recent years, the growing sophistication of that science, and of the political, social, and economic analyses of environmental problems, have led scholars away from a simple narrative of the destruction wrought by industrial and agricultural capitalism. Ecologists have begun to abandon ideas involving the stability and longevity of biotic communities, arguing instead that ecosystems remain in constant flux, continually transformed by macro-climates, random weather and geologic events, and by the aggressive survival strategies of millions of plants and animals. We have slowly come to understand that a 'pristine' Nature never existed, and that humans cannot 'destroy Nature' in the same way one might shoot a deer, poison an annoying insect, or pull a troublesome weed out by the roots.

In the face of this realization, scholars have begun to turn their attention toward the demands and expectations humans place on the Earth. The ability of human communities to protect inherited achievements while successfully pursuing further
cultural, social, economic, and political ambitions is dependent upon the ability of those communities effectively to ‘manage’ the natural world around them. To be sure, minerals, waters, plants, and animals must still be extracted from nature and transformed into usable resources. Yet human producers must also be able to replicate the processes of nutrient and energy cycling that rebuild natural ecosystems in order to sustain such productivity and the social, economic, and cultural systems based on it. For such managed ecosystems to be successful, they must therefore be adapted to the goals and social systems of the communities undertaking the management. To understand the history of Nature, then, it is not enough to understand the ways in which humans seek to shape their environment, and the ways in which the individuals and ecosystems around us respond to that management. We must also consider the values and aspirations that guided our attempts to transform the natural world, as well as the contests within human communities for the right to define those values and aspirations. Any effective understanding of environmental ‘crises’ – those moments in history when the workings of the natural world and human attempts to turn those workings to their own benefit come into unsustainable contradiction – demands that we accept the fact that not only do humans live and evolve within a context of Nature, but that contemporary and historical Nature exists and develops within the changing context of various experiments in human supervision.

This dissertation attempts to move toward such an effective understanding by analyzing the evolution, nature, and attempted resolutions of the United States’ first great ecological crisis. Eighteenth-century Virginia, with its prosperous tobacco agriculture
and cosmopolitan planter aristocrats, had been the pre-eminent colony of British North America, as well as leader of the American Revolution. Yet in the half-century after independence, that eminence was undermined as Virginia's prosperity vanished, farmers flooded out of the new state, the plantation gentry sank into debt and despair, and the commonwealth's political influence drained away. Many Virginians chose to define this ebb in the region's fortunes as a peculiarly ecological crisis. A colonial agricultural system characterized by extensive farming and the inefficient and wasteful exploitation of natural resources, they argued, would steadily diminish in its returns and fail thereby to sustain property and prosperity. The stability and achievements of Virginia's eighteenth-century 'Golden Age' were being ruined by the inability of the state's farmers to manage their agricultural environment so as to sustain its productivity.

Virginia's farmers would attempt, in the decades before the Civil War, to make a variety of adjustments to their agricultural system in order to restore their vanishing social heritage. Yet as time would prove, there would be considerable divisions among white Virginians over just what the glories of Old Virginia entailed. Plantation slavery, gentry rule, libertarian government, and agrarian republicanism were, each one, uncertain and disputed inheritances. As plantation aristocrats, small slaveholders, yeoman family farmers, and the mass of landless whites selected priorities from among their social, political, and cultural legacies, they began to analyze their environmental problems differently, and to attempt distinct, and often contradictory and conflicting, solutions. Virginia's post-Revolutionary ecological crisis was one not just of ravaged forests, eroded and exhausted soils, and stunted crop plants battling weeds and briars for
possession of the fields. Diverse groups with dissimilar outlooks saw distinctive pasts and futures in a landscape of farms interspersed with old fields covered with scrub pine, cedar, and dense underbrush. Those distinct approaches would shape how they attempted to gather and renew resources, and manage that landscape during the nineteenth century. Analyzing the ecological and cultural roots of those diverging approaches to the environment provides a foundation for grasping the expectations Virginians had of the natural world around them, as well as the development of the region's natural environment during this era.

To be sure, there has been no lack of scholarly analysis of Virginia's early national and antebellum ecological crisis. In a rigidly progressive national culture, decline and failure remain troubling yet magnetic subjects, particularly in a region and society that gave birth to so much of the national ideology and mythology. This dissertation attempts to add to that body of work by means of a close community analysis of the Tye River Valley, a farming district on the western edge of the Virginia piedmont. The bulk of the research that has been published on the ecological crisis of Old Virginia has tended to focus—either as hagiography or critique—on the published writings of the elite of Virginia planters, particularly those who hoped to modernize Virginia farming along European models. Most of these works tend uncritically to accept the announced aims of these voluble agriculturalists and measure their success or failure from their own commentaries and self-appreciation. Returning to the small communities of rural Virginia allows the analysis to ground itself once again in a much more inclusive view of the actual agricultural environment, rather than what a small, singular group of
Virginia and the Tye River Valley.
ideologues thought, or claimed, that they saw. Digging into the private papers of plantation managers offers a chance better to understand the practical applications of modern farming, below the more abstract systems of self-styled ‘agricultural reformers.’ Comprehensively quantifying the crop production, livestock, and agricultural equipment enumerations in the county court records, mercantile records, tax lists, and census reports generated within a rural community helps to fill in the often vague picture of the practice of agriculture and environmental management beyond the fences of the largest, best-documented plantations. Finally, reconstructing the landholding and agricultural production of small neighborhoods within a small district creates a powerful explicatus and corrective to the vivid literary images of the rural landscape created by antebellum essayists and travelers.

The Tye River Valley is an excellent object for just such a community study. The Valley occupies large sections of two current Virginia counties, Amherst and Nelson, and is situated between the major urban centers of the western piedmont, Charlottesville and Lynchburg. The Tye River itself rises from two forks near the crest of the Blue Ridge, and flows thence to the south and east some thirty miles to its confluence with the major river of the central piedmont, the James. The surviving government and manuscript records of the district are remarkably rich, including plantation papers, mercantile accounts, and quite complete runs of county, state, and national records of property, agricultural production, and commercial transactions. Of particular note are the papers of the Massie family, which chronicle in astonishing detail their farming and commercial activities throughout the first half of the nineteenth century, and the letters of Joseph
Carrington Cabell, which recount the varied pre-occupations of the Tye Valley’s Jacksonian-era political leader. Nelson County, in addition to the collections of wills and probate records, land transactions, and census manuscripts typical of many Virginia counties, also boasts a deed index of remarkable clarity and accessibility. It is this index that has made it feasible to reconstruct the agricultural landscape of two of the Tye Valley’s rural neighborhoods, the Blue Ridge neighborhood around Fork Mountain and the heads of the Tye, and Hatt Creek, which branched off the Tye just above the center of the Valley. Yet in addition to these qualifications, the Tye Valley furnishes an admirable focus for studying the challenges the local environments of rural Virginia made to the many and various attempts to manage them. While sharing many of the ecological characteristics of the rest of the piedmont (and of the tidewater to a lesser extent), the Valley remains part of the Blue Ridge and Southwest Mountain district, giving it soil structures and a terrain that seriously contested the social and economic ambitions of Virginians.

Like the remainder of piedmont Virginia, the Tye River Valley is covered for the main part by red clay and clay loam soils that support a typical mid-Atlantic hardwood forest – particularly oaks, hickory, and, during the eighteenth and nineteenth centuries, chestnut. The climate is also typical of the almost sub-tropical south Atlantic coast – relatively warm temperatures throughout the year, with high levels of rainfall, punctuated by frequent storms and periodic droughts. What separates the Tye Valley from the ecological regime of the rest of eastern Virginia is, of course, the low mountains which cover a sizeable portion of the region. The Tye originates near the crest of the Blue
Ridge, at an elevation of over three thousand feet above sea level. While most of the eastern face of the Virginia Blue Ridge quickly falls away to the rolling hills of the piedmont, the Tye Valley is also bordered by southwestern spurs of the Southwest Mountains, a low range of hills that stretches parallel to the Ridge from the Rapidan River in present-day Orange County south and west to the James River at Lynchburg. This range, as thousand-foot high Findlay's Mountain and Buffalo Ridge in Nelson and Amherst Counties, seals the main portion of the Tye Valley off from the James River. The Valley is further isolated by spurs of the Southwest Mountains that separate it from the watersheds to either side – the Pedlar and the Rockfish Rivers. Within the Valley itself, the low ridges that branch off these mountains and high hills further break up the rolling piedmont hills of the interior. As a result, many portions of the Tye Valley are almost inaccessibly steep and rocky, while even the more level portions are only relatively so. Yet rarely does the mountain environment support ecosystems that diverge widely from the piedmont plain below. Even on the highest 'peaks' of the district, the elevation is never sufficient to allow Appalachian conifers to drive out the hardwoods. And while there are significant stretches of rich mountain hollow soils along several high country creeks, nowhere are the hollows high enough or cool enough to support the full extent of the rich and diverse Appalachian cove forests that are such an ornament of the mountain South's natural environment. Virginia's systems of cultivation and resource exploitation could be pushed into almost all the nooks and crannies of the Tye Valley, but encountered profound difficulties in so doing.

Large stretches of the Valley are extremely difficult to farm, while those more
level properties retain relatively steep slopes that leave them conspicuously vulnerable to soil erosion. Much of the Valley floor, in fact, was created by soils washing down from the surrounding mountainsides. In addition to the normally serious portion of rainfall received by the Virginia piedmont, sudden storms can blow up over the Blue Ridge mountains, dumping enormous quantities of rain on the Valley. These floods, called ‘freshes’ during the eighteenth and nineteenth centuries, can be so serious as to lead to catastrophic erosion incidents, where enormous amounts of sand and gravel are washed down from the slopes, narrow stream beds are overwhelmed, and the flood waters spread out over the surrounding fields and forest, digging out more topsoil before slowing enough to dump tons of new rock and sediment along their path. With severe freshes frequently able to destroy top soils on fully forested tracts, the advent of agriculture in the region only exacerbated the problem. Rain waters rushed down the sharp grades of many cleared fields, dissolving topsoil and carrying it off onto the stream bottoms and down river, while the red clay fields left behind were eaten away by imperialistic gullies. The most valuable farmlands in the Valley were narrow meadows that bordered the major rivers and some of the larger streams. Yet even with their deep soil structures and relatively level topography, the ‘low grounds’ were still vulnerable to the Valley’s storms. Hard freshes could wash away crops and even occasionally trees and inches to feet of topsoil. The milder rains, for their part, washed clay, sand, and gravel down from the hillsides above only to deposit it on the low grounds when hitting the slower pace of the expanded stream channel, leaving fields covered with useless sediment.

Under these conditions, commercial agriculture was a difficult venture to sustain.
The cultivation of corn, tobacco, and cereal grains all demanded levels of soil fertility impossible to maintain in the face of unchecked erosion and the usual dose of nutrient depletion that accompanied annual cropping. Valley farmers were therefore forced very quickly to find some way of either conserving natural resources against agriculturally-induced destruction, or else ameliorating what remained. Many chose to try and keep the property and settlement system as open as possible, continually incorporating new lands in order to replace those that had been farmed to infertility. Others attempted to sustain themselves as independent petty proprietors by investing greater amounts of labor in more efficient cultivation and low grade conservation techniques. Others still embraced the importation of new livestock and seed varieties, fertilizers, and farm equipment in order rapidly to improve the fertility of the soil and the efficiency of farming. This wide variety of potential answers to this problem, however, contained within themselves important implications for the system of landed property, the stability and hierarchy within the community’s social order, and the structure and prosperity of its commercial economy. The battles that ensued over the proper way to re-calibrate the Tye Valley’s (and Virginia’s) agricultural system with its natural environment were played out not only in diverging agricultural strategies, but also in profound social, economic, and political differences that emerged among the practitioners of varying systems. It was these conflicts, and the inability of any faction to seize the power necessary to impose its vision, that led to the ‘ecological’ crisis of the post-Revolutionary Tye Valley just as much as the physical decay of the region’s agricultural ecosystems. The varying agroecosystems Virginians attempted to impose on the Tye Valley clashed both in the
Explaining these agroecosystems in both natural, as well as social, economic, cultural, and political terms, then, offers one of the best chances to understand what was at stake during the rise and decline of the Old Dominion during the eighteenth and early nineteenth centuries. Without question, Virginia went through, and only partially emerged from, a serious ecological crisis during these years. Yet with so many diverse issues playing a role in defining this crisis, simple explanations as to the causes of difficult and contested concepts such as environmental ‘decline,’ ‘renewal,’ and ‘sustainability,’ no longer suffice. We need a more detailed and subtle understanding of the interplay of complex, changeable natural environments and equally perplexing human institutions. Looking at the Virginia ecological crisis on the stage of a small rural community like the Tye Valley is one way to start.
CHAPTER I

THE FRONTIER AGROECOSYSTEM IN THEORY AND APPLICATION

The first white and black settlers from the Virginia colony reached the Tye Valley during the 1730's. When they arrived, they discovered a natural ecosystem which had matured for several decades largely without serious disturbance from mankind. The previous human inhabitants of the Tye region, the assorted village hunters and agriculturalists of the Monocan Indian tribe had, through a series of biological and political disasters, largely abandoned the area almost a half-century before. In the absence of human intervention, the ecosystem had had the opportunity to develop a large reserve of biotic material and productive potential. Frontier farmers were able to promote high crop plant production by releasing the stored biotic potential of such mature ecosystems into active production before moving on to fresh grounds. This cultivation strategy balanced the needs of eighteenth-century frontier settlers for both the commercial profits needed to buy land and develop more advanced social organizations against the lack of cheap human labor in their tiny, dispersed 'communities'. Maintaining this equilibrium was the essential cultural function of the agricultural ecosystem backwoods farmers created — the frontier agroecosystem.
The Monocan Habitation of the Tye River Valley

While the rocky streams and hillside forests of the Tye River Valley lay on the edge of the European commercial world at the mid-point of the eighteenth century, it is important to understand that the valley's landscape had not been devoid of human activity. While archaeological evidence dates agricultural settlement in the region to before 700 A.D.,¹ the inhabitants of the Tye Valley encountered by English explorers and settlers in the seventeenth century were hunters and villagers of the Monocan Indian tribe, which apparently arrived in Virginia around 1200 A.D., and proceeded to occupy much of the piedmont between Virginia's Potomac and James Rivers.² With an economy based on gathering, hunting, and fishing, supplemented by subsistence agriculture and regional trade, the Monocans of the Tye River Valley pursued much the same livelihood as other inhabitants of North America's eastern seaboard at the time of English colonization.³

Yet while their habitation of the Tye River Valley is important to consider, it must be made clear that in terms of their long-term ecological impact on the upper

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²Marmon, The Lee Marmon Manuscript, 15. See also David I. Bushnell, “The Five Monacan Tribes of Virginia.” Smithsonian Collections, 82, 12(1930).

piedmont forests, the Monocans of the seventeenth century appear to have represented only a shadow of the heights of population, social organization and agricultural development achieved by themselves other woodland tribes prior to the arrival of Europeans. During the sixteenth and seventeenth centuries, Spanish explorers encountered large indigenous societies in present-day Florida, Georgia, and Alabama. These tribes had established permanent villages, limited the role of hunting in their economies, and cleared extensive stretches of river bottom and upland forest for the cultivation of maize and associated crops. Archaeological sites in the Tye Valley near Wingina along the James River, as well as at campsites further up the Tye, indicate a somewhat similarly sophisticated sedentary culture, with permanent houses and complex pottery forms around 1000 A.D. Yet these people, known to the Valley's later inhabitants as the "Tacci", or "Doegi", were apparently driven out by the migrating Monocans before the arrival of Europeans.

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If the expulsion of the previous inhabitants reflected a decline in the strength of the upper piedmont’s human communities relative to the other Indian societies of the eastern woodlands, the later Monocan occupation of the Tye River area replayed the process. By the time of the Jamestown settlement, a combination of political and epidemiological causes had evidently reduced the Monocans to the fringes of the Indian diplomatic and commercial system east of the Appalachians. Epidemic diseases introduced by the first European explorers in the Americas doubtless played a role in shattering the Monocan population and limiting their cultural and economic sophistication. Yet beyond the pandemics which devastated all native American populations, the Monocans seem also to have had diplomatic and military problems which curtailed their growth. Facing the competing political and military organization of the Powhatan Confederacy in the Chesapeake tidewater, the Monocans saw their opportunities for expansion into new hunting and agricultural grounds blocked by peoples which suffered less from the enormous dislocation that occurred as a result of the sixteenth-century plagues. The Cherokee, for instance, advanced from their earlier

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agricultural base in Tennessee and North Carolina into southwestern Virginia during that
century and much of the next, occupying the Peaks of Otter southwest of the Tye River
Valley during fall hunting expeditions.\textsuperscript{10}

In any event, by the time of the establishment of England's Virginia colony, the
Monocans seem to have become a marginal political entity. Powhatan explained to John
Smith that the Monocans, in alliance with the Mahanoacs to the north, were accustomed
to raiding in his Confederacy each fall. Yet their limited numbers evidently reduced
those raids to occasional plunder rather than active seizure of territory.\textsuperscript{11} While
agriculture retained a role in the tribe's subsistence, remaining archaeological evidence
and colonial accounts indicate that the Monocans largely abandoned the sedentary life
toward which many woodlands tribes seem to have been moving prior to the double blow

\textsuperscript{10}Marmon, \textit{The Lee Marmon Manuscript}, 18.

\textsuperscript{11}Marmon, \textit{The Lee Marmon Manuscript}, 17. See also John Smith, "A True
Barbour, ed. (Chapel Hill, NC: University of North Carolina Press, 1986): I: 3-118, and
Hantman, "Powhatan's Relations with the Piedmont Monocans," 101-103. Hantman
argues that the Monocans were expanding their territories in the region around Richmond
at the expense of the Powhatan Confederacy in the years immediately preceding the
settlement of Jamestown. He bases this conclusion largely on short-term archaeological
evidence, making the larger geo-political implications of the apparent contest uncertain.
See Hantman, "Powhatan's Relations with the Piedmont Monocans," 103-111. Hu
Maxwell makes an interesting point in, "The Use and Abuse of Forests by the Virginia
Indians," \textit{William & Mary Quarterly} 19(1910), 73-103. Forester Maxwell noted a
number of cases during the first decades of the Virginia colony where observers noted a
minimal number of pine trees in eastern Virginia, and those that were there were
concentrated in the tidewater. This seems a clear sign that forest reclamation of Indian-
burned fields and meadows in much of the piedmont had \textit{already} progressed well beyond
the initial stages of succession in lower Virginia. The Monacans were already not the
force they had been in transforming the landscape, and their influence would decline
of European disease and conquest.\textsuperscript{12} While John Smith's map of the Virginia piedmont, drawn in 1608, reveals a number of inland settlements, explorer John Lederer found only one village of significance, Mahock, when he passed the Tye Valley on his way to Southwest Virginia and North Carolina in 1670.\textsuperscript{13} The reduced military, social and

\textsuperscript{12}On the expansion of settled agricultural economies among North American Indians, see Henry Dobyns, "Estimating Aboriginal Population: An Appraisal of Techniques with a New Hemispheric Estimate," \textit{Current Anthropology} 7(1966): 395-416, and Dobyns, \textit{Their Number Become Thinned}, 48-51, 126-144. Anthropologist Marvin Harris has made the point that the development of subsistence technologies and population levels are interrelated. Given this, it seems likely that as Indian population levels crashed as a result of epidemic disease, levels of technology declined as well. The Native American tribes described by English-speaking explorers in the seventeenth and eighteenth centuries were likely a shadow both of the populations and the social and economic sophistication achieved in many areas of eastern North America before 1492. See Marvin Harris, \textit{Cannibals and Kings: The Origins of Cultures}, (New York: Random House, 1977): 11-46 on the role of population in determining labor systems and applications of technology. For a discussion of the Monocan Indians at their post-contact, pre-Jamestown peak, see, Bushnell, "The Five Monacan Tribes of Virginia."

\textsuperscript{13}John Smith, "A Map of Virginia," in Barbour, ed., \textit{The Complete Works of Captain John Smith}, I: 119-190. There is some evidence of Monacan decline at the time of the Jamestown settlement as well. Captain Newport of the Virginia colony traveled to the Falls of the James with a Powhatan guide in 1608. The captain wished to go further, but his guide dissuaded him, insisting that not only were the Monacans unfriendly, travel to their settlements would be long and hard. Newport was suspicious of the excuse, but perhaps it lends some credence to the notion of a declining Monacan tribe. Quoted in Bushnell, "The Five Monacan Tribes."

2. John Lederer, \textit{The Discoveries of John Lederer}, ed. William Cumming (Charlottesville, VA: University of Virginia Press, 1958): 20-21. Interestingly, Lederer visited a town of Indians just above the James River Falls near modern-day Richmond, identifying them as the "Monakins", and the "Mahocks" as a distinct, unfriendly tribe. Just as interestingly, Lederer did not actually visit the town he identifies as "Mahock" on his map of his travels inland, and noted the alleged settlement with a different symbol than he used for Indian towns closer to the borders of the Virginia colony. By the time of his travels, it would appear that the Monocans had already been reduced to an appendage of Virginia's diplomatic system as the Powhatans had been. See Jack Hubert Wilson, "A Study of the Late Prehistoric, Protohistoric, and Historic Indians of the Carolina and Virginia Piedmont: Structure, Process, and Ecology," (Ph.D. diss., University of North Carolina-Chapel Hill, 1983), 112-114.
economic status of the Monocan tribe had been both revealed and rounded out during the Susquehannock War of the 1660's. The Monocans, hoping to preserve their lands against Iroquois expansionism, allied themselves with the Susquehannocks. The Iroquois, however, wishing to establish a military presence on the western flank of their Delaware River-based enemies, invaded the Virginia piedmont from the Shenandoah Valley sometime before 1670, and were able to quickly disperse most of what was left of the Monocan communities.\(^{14}\) The remains of the Monocan people either moved closer to the coast into polyglot Indian villages under the protection of the Virginia colony,\(^{15}\) or else drifted across the Appalachians beyond Iroquois territory. A small settlement of farmers of Native American descent maintained itself in the coves of Bear Mountain in the western reaches of the Tye Valley, and was able to force recognition of themselves as the Monocan tribe from Virginia state authorities in 1989.\(^ {16}\) Yet after the Iroquois invasion,


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the former inhabitants of the Tye Valley played little role in shaping the landscape or future settlement of the region. As early as Lederer's inland march in 1670, the piedmont woods were described as being full of game and a growing population of natural predators.¹⁷ Moving through what had been Monocan territory along the James near the Tye River Valley and further south and west, Lederer recalled that he "travelled [for five days] through difficult ways, without seeing any Town or Indian..."¹⁸

The ecological implications of the decline and fall of the Indian habitation of the Tye River Valley are key to understanding the nature of the region's English settlement during the 1730's and 1740's. While the better organized woodlands tribes could achieve levels of population whose sustenance demanded extensive agricultural clearing, woods burning, food gathering, and hunting,¹⁹ by the third quarter of the seventeenth century the Monocans had long lost that kind of organization and population. With their expulsion around 1670, organized human disturbance of the Tye River ecosystem came to an end for several decades. While not hunting the area on a regular basis, the Iroquois League maintained an occasional military presence east of the Blue Ridge for many years afterward, interfering in the hunting activities of tribes subject to the Virginia colony,


¹⁸Ibid., 22.

and discouraging the English from venturing too far inland.\textsuperscript{20}

In the absence of a significant human presence, and the landscape disturbance and extraction of natural resources which such a presence entailed, the ecosystem of the Tye Valley received a chance to further mature, diversify and stabilize beyond even the extent allowed by the ephemeral agricultural and hunting economy of the Monocans. The word "monocan" appears to have translated from into English as "water" or "shallows", indicating perhaps agriculture and settlements along the creek and river bottoms by the indigenous inhabitants of the Valley.\textsuperscript{21} If the Valley's Indians were similar to other woodlands peoples in concentrating their agricultural clearings on the fertile flood plain soils along the James and Tye Rivers,\textsuperscript{22} as well as the meadows and riverine forests which clung to the banks of the other creeks in the Tye Valley, then the


\textsuperscript{21}Marmon, \textit{The Lee Marmon Manuscript}, 17.

\textsuperscript{22}By the time of serious English colonization of North America in the seventeenth century, most Indian tribes in the eastern woodlands concentrated their agriculture on the deeper and more organically rich soils of river flood plains. Using these soils allowed more permanent settlement than might have been possible had agriculture been pursued on the thinner red clays of the piedmont's uplands. See Silver, \textit{A New Face on the Countryside}, 46-52. See also Richard White, \textit{The Roots of Dependency: Subsistence, Environment, and Social Change among the Choctaws, Pawnees, and Navajo}, (Lincoln, NE: University of Nebraska Press, 1983): 7-13, 20-23. White makes the point that on the odd occasion when southeastern tribes such as the Choctaw did not occupy such prime agricultural lands, the reasons could generally be attributed to politics, in this particular case their hostile relations with the Creek, Chickasaw, and slave raiders of various races. When these threats had been muted by the 1820's and 1830's, the Choctaw moved their agricultural settlements back onto alluvial soils, only a decade before their final removal to Oklahoma.
changes which would have taken place on the Monocan's old fields during the period of their decline and absence can be extrapolated from more modern trends.

In piedmont Virginia, larger tree and shrub species move onto disturbed alluvial soils much more rapidly than species of comparable natures are able to manage on the red clay lands above. On the sandy point bars deposited by the region's rivers, for example, small trees such as Black Willow establish themselves quite quickly, followed soon by dogwoods and other willow varieties. Leaf fall from these trees builds up a soil profile to the point that less hardy saplings of other species can establish themselves. This process of autogenic succession continues in later decades with mature trees including Gum and American Elm, as well as occasional individuals from the dominant

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24 Autogenic succession refers to ecosystem change generated by processes and relationships internal to the system, or more simply, "vegetation change ... caused by the effects of the plants themselves." J.L. Chapman and M.J. Reiss, *Ecology: Principles and Applications*, (Cambridge: Cambridge University Press, 1992): 204-5. The concept of succession has come under increasing criticism in recent years from ecologists influenced by chaos theory. These scientists point to the constant, unpredictable interference of outside factors such as fire and other natural disasters, weather and climate fluctuations, stochastic population variations, and human interventions, all of which destabilize the supposedly orderly, self-regulated progression of plant succession. For accessible discussions of chaos science and its application to ecology, see James Gleick, *Chaos: The Making of a New Science*, (New York: Penguin, 1987), and Daniel Botkin, *Discordant Harmonies: A New Ecology for the Twenty-First Century*, (New York: Oxford University Press, 1992). Yet despite this criticism, there are important layers of analysis, particularly at the landscape level, at which the processes of autogenic succession described by previous ecologists still make for sustainable generalizations.
Oak-Hickory forest which characterizes the bluffs and ridges above. On cleared bottomland old fields, with similar drainage but better developed soils than the point bars, the process would have been accelerated, with the slow-growing understory plants of a more mature riverine forest such as Trumpet Vine, Wisteria, Holly, and the ubiquitous Poison Ivy moving in against pioneer weeds such as Ragweed, Asters, and

25While the Oak-Chestnut forest no longer exists as an ecosystem type, its complex of trees and associated species dominated the Appalachian highlands, including most of the Tye River Valley near the Blue Ridge, during the period since the last great glaciation. The forest was destroyed, however, in the first forty years of the present century by a fungal blight imported into North America from the far east around the turn of the century. The blight killed off the standing chestnuts, and while a few still grow they can only reach sprout or small shrub stage before being attacked by the fungus. See Oscar Gupton and Fred Swope, Trees and Shrubs of Virginia (Charlottesville: University Press of Virginia, 1981): 32-33. In places such as the Tye Valley where the once-numerous American Chestnut has been destroyed, its place of ecosystem dominance has been taken by the various species of oak, supplemented by hickory, maple, and assorted other hardwoods. Braun, Deciduous Forests of Eastern North America, 192-194.

26Point bars are depositional banks of sand left along their shores by meandering rivers. While they are composed primarily of sand and clay silt, and thus lack the better developed stratification and organic layers which characterize soils of ecosystems disturbed in other ways, the pristine state of the freshest point bars has made them a prime focus for the study of the process of colonization and succession in southern riverine forests. See Kricher and Morrison, Eastern Forests, 62, 130.

27By pioneer species, most ecologists and biologists refer to plants specifically adapted to the colonization of disturbed or denuded soils and ecosystems. Able to survive in full sunlight and with a minimum of soil structure or soil support, pioneer species are particularly characterized by r-selection, a reproduction strategy which includes rapid growth, short life-spans, and emphasizes the rapid production and widest distribution (usually by wind) of seeds. This strategy allows the plants to out-compete less vigorous, K-selected species for space and other resources in an open environment. See R.H. MacArthur and E.O. Wilson, The Theory of Island Biogeography, (Princeton: Princeton University Press, 1967): 148-151. For a more accessible analysis of the distinction, see Chapman and Reiss, Ecology, 35-37.
Goldenrod even sooner. Despite their earlier clearings, it seems unlikely that the agricultural activities of the Monocans significantly curtailed the accustomed development of the riverine landscape first invaded by Virginia's European settlers and African slaves during the 1730's and 1740's. John Lederer described the area between Buffalo Ridge and the Blue Ridge itself as being full of open meadows which might have been the remnants of Monocan cultivation. Yet while Virginia mapmakers and surveyors frequently noted the existence of Indian old fields in more recently settled areas, no such mention survives from the admittedly sketchy records from the Tye Valley during the 1730s and 1740s.

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29 "A Map of the Whole Territory Traversed by John Lederer in His Three Marches," in Lederer, The Discoveries of John Lederer, frontispiece. On the map he appears to have drawn of the piedmont of Virginia and the Carolinas, Lederer described the eastern face of the Blue Ridge as consisting of "Savanae." Recent local historians have taken this to mean that the entire Tye Valley between the Buffalo and Blue Ridges was a great grassy plain during the seventeenth century. See Percy, The Amherst County Story, 2. This interpretation, however, is more than a little eccentric. Given Lederer's use of the plural, it is more likely he was referring to a territory still bearing the marks of Indian agriculture with frequent or occasional open fields. These smaller clearings would most likely have reverted to forest by the time Virginia colony settlers arrived half-a-century or more later. Maxwell, "The Use and Abuse of Forests by the Virginia Indians," 93-94, takes a more moderate approach to the piedmont "savane," identifying them as riverside meadows of moderate size.

30 For accounts of early Amherst that might have mentioned surviving old fields see Lederer, The Discoveries of John Lederer, 17-22, and Ralph Emmett Fall, ed. The Diary of Robert Rose: A View of Virginia by a Scottish Colonial Parson, 1746-1751, (Verona, VA: McClure Press, 1977): 1-106. Colonial deed records also occasionally mention the existence of old fields, but the county deed books which cover old Amherst in the 1700-1760 period, those of Henrico, Goochland, and Albermarle, appear to make no mention of their appearance in the Tye River region. Certainly the famous Fry-Jefferson Map of 1763, which covered the entire Virginia Colony and noted the existence of extensive old fields on other portions of the Virginia frontier, makes no mention of any in the Tye.
A small and declining society such as the seventeenth-century Monocan Indians likely made little agricultural use of the uplands beyond their riverside fields, reserving them instead for hunting and gathering during seasons when crop foods were unavailable. With a steadily contracting population and no domesticated animals, the largest disturbance the Monocans probably made in the Oak-Chestnut forests which dominated the Tye Valley would have been the seasonal burning of understory plants. The use of such low-intensity fires by woodlands tribes throughout temperate North America has been well-documented. Such fires burned ground-level species such as Poison Ivy and Laurel down to their resilient roots without harming the larger trees. Fires also reduced to ash the upper levels of leaf and needle litter atop the soil. This removal of cover from seeds and the nutrient spike (particularly phosphates) provided by the Valley at the time of the formation of Amherst County. It seems that while Indian agriculture had been present in the area prior to the Monocan expulsion, their fields had not been maintained either by human or natural means to such an extent as to make them identifiable by later settlers.

31 See Silver, A New Face on the Countryside, 51-53. Although the seventeenth and eighteenth century Choctaw discussed by Richard White did not follow the same riverine agriculture-upland hunting division of ecological resources that the coastal and piedmont Indians appear to have, White does note the division of their lands into a core of agricultural settlement and a broader hinterland of hunting territories. White, The Roots of Dependency, 7-15.

32 Silver, A New Face on the Countryside, 54-55.

ashes, made possible the rapid generation of grasses and forest edge plants such as the aforementioned Asters, particularly the various species of burn area-friendly blueberries. All of these plants provided forage for the favorite game animals of the woodlands tribes, wild turkey and white-tailed deer, as well as opening up gathering opportunities for the people themselves.34

While Indian fires could be quite extensive, and even occasionally burn out of control,35 their ability to maintain a permanent burnover ecosystem different from the region's dominant riverine and oak-chestnut forests would have been slight without the regular application the Monocans seem unlikely to have been able to provide after the 1660's. In their absence, the most destructive kind of ecological disturbance in the Tye Valley's forests would probably have been wildfire, which would have impacted the Valley's trees and associated biota in a much different way. Rather than regularly burning off the limited underbrush and leaving the larger trees unscathed, wildfires went

34 For a general discussion of the ecological impact of managed forest burning, see Silver, A New Face on the Countryside, 61-62.

35 Maxwell, “Use and Abuse of Forests,” 86-94. See also Pyne, Fire in America, 71-122, for a more general discussion. Pyne would insist, and rightly, that “out of control” is a very contextual idea, relevant mainly to the desires of western foresters to protect widespread crop lands or the property investments of commercial logging operations. Native burners could successfully ‘manage’ their fires because they had little to lose – agriculturally, ecologically, or both – from what foresters term ‘escape fires’. When the tactic was imported into the Virginia system of property and commercial agriculture, it became much more problematic. The key point, however, is that such escape fires have increased in frequency and severity since serious fire suppression has been instituted in North America, since more understory material is now available to fires. Ecosystems characterized by fires set with human regularity and those burned by naturally occasional fires are very different things. For a more general discussion of fire ecology, see Pyne, Fire in America, 34-44.
through an area on a timetable measured in decades and characterized by randomness. As a result, wildfires frequently fed on a well-developed understory of brush and small trees, as well as fallen-down timber, creating conflagrations which often did kill larger Oaks, Chestnuts, and other species.\textsuperscript{36} Yet while these catastrophic fires could destroy a mature forest cover, in the absence of regular human fire-making, they were rarely frequent enough to maintain permanent clearings against the returning trees. If anything, the larger fires might well have sped up the intrusion of larger trees, particularly the burnover-friendly Red Cedar and Loblolly Pines which occur throughout so much of eastern Virginia.\textsuperscript{37} The semi-permanent clearings which many European settlers discovered in areas of recent Indian habitation needed the regular low-level burns to maintain themselves, and in their absence would have relatively quickly given way to the larger trees of more mature ecosystems.

Historians of the American frontier have noted in recent decades that the image white settlers had of the unblemished wilderness to the west was largely an ideological

\textsuperscript{36}See Pyne, \textit{Fire in America}, 8-33, for a more thorough discussion of the origins, behavior, and impact of wildfires. For a more focused analysis of the impact of forest fire, both natural and human-set, in the South Atlantic piedmont, see United States Forest Service, "Kuchler Type Fire Ecology and Management: Southern Mixed Forest," USFS World Wide Web Site. The Forest Service makes the point that longleaf pine adapts best to regular ground-level burns every 3-4 years - the kind of fires set by Native American and later white southern woods-burners. Associated pine species such as shortleaf, loblolly, slash, and certain cedars, are better adapted to succeed broadleaf deciduous trees after hot fires burned on a 10-15 year cycle - as might have occurred with natural, lightning-set fires.

creation. In order to justify seizing territory and natural resources from the original inhabitants, politicians, artists, and frontiersmen willed Indians out of their conscious perceptions. This act enabled Americans to envision the frontier as a 'virgin land', full of potential yet wholly without the human management needed to turn that potential into production. Contemporary scholars have done great service to discourage this viewpoint, assembling evidence of large Indian populations, their ambitious transformations of their environment, and their cultural and social resilience in the face of disease and invasion. As one historian has put it, the American landscape was not virgin, but "widowed." 38 Yet that revision is not a comprehensive one. When considered at the narrow level of the frontier ecosystem, there is something to be said for the notion of a dramatically diminished aboriginal influence prior to white settlement. In areas like the Tye Valley, disease and social decline combined with the permutations of native and imperial politics to create large regions of limited human settlement, buffer zones between cultural and economic centers. In these frontier areas, ecosystems could frequently mature beyond the simple levels at which human occupation kept them. 39 The Virginians who settled the Tye River Valley in the 1730s may have encountered a

38 For the original discussion contrasting the ‘virgin’ and ‘widowed’ wildernesses, see Francis Jennings, The Invasion of America: Indians, Colonialism, and the Cant of Conquest, (New York: Norton, 1976), 15-16. See also Dobyns, 'Their Number Become Thinned'. 8.

39 See White, The Roots of Dependency, 7-11, 17-19. The process of allowing the ecosystems, particularly the fauna, of large stretches of intertribal borderland to develop without extensive human interference was obviously accelerated by the devastation of European epidemic diseases. When travelling through the central piedmont in 1670, John Lederer recalled, “the heaviness of the way,” and that he, “found the ways very uneven, and cumbred with bushes.” Lederer, The Discoveries of John Lederer, 16-17.
'widowed' land, but war and death had sundered the union decades previous.

**Ecological Succession, Mature Ecosystems, and Biotic Fevers.**

With ecological development on both flood plain and hillside left relatively unimpeded by the absence of extensive or regular human disturbance during the years between the Iroquois expulsion of the Monocans and the first serious colonial settlement of the area, Virginia's British and African colonists found in the Tye River Valley a quite mature ecosystem. The idea of a 'mature' ecosystem is an important one for understanding the human ecologies of eighteenth-century America, both for Native- and Euro-Americans. Scientific ecologists have over recent decades largely abandoned the idea of natural ecosystems developing inexorably toward permanent 'climax communities', complex structures of microorganisms, plants, insects, and larger animals dependent on climate and topography for their geographic extent. Yet many of the older ideas about plant succession still remain vital to any understanding of landscape history. While many more radical thinkers argue that ecology must abandon belief in  

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41While current ecological theory incorporates an appreciation of both climate effects of vegetation patterns and succession, as well as internally-driven ecological transformations (as *autogenic* and *allogenic* succession, respectively), the idea that these two forces combined to create a permanent, self-regulating climax plant and animal community has been abandoned. Recent research has placed a great deal of emphasis on the contributing roles of human factors in recent history, and regular disturbance of ecosystems through climate changes and natural catastrophes in preventing the formation
ordered ecosystem development, many ecologists contend that there is still a place for
care of progressive transformation of the natural landscape.\textsuperscript{42}

If ‘climax’ has been discarded as the keystone to the scientific modeling of the
expected development of biotic communities, its role has been taken in the thinking of
both academic and popular ecologists by ‘bio-diversity’, the measure of the number of
species in a natural environment. Many ecologists now insist that the genetic and
environmental randomness of evolution is not absolute. Instead, they argue, evolution in
the absence of major local or epochal disturbances moves toward increasing complexity
and diversity. The progress, maturity, and health of natural ecosystems can be judged by
the diversity of species which they support.\textsuperscript{43} Ecosystems in various states of
disturbance, disrepair, or decline appear to have a property in common: declining
numbers of species, declining levels of diversity.\textsuperscript{44} Furthermore, the mechanisms which
earlier ecologists had identified as driving succession play a crucial role in promoting
biodiversity, making certain species types characteristic of either simple, immature
ecosystems, or their diverse, mature successors.

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of permanent climax communities. For a recent textbook discussion of the importance of
older ideas about plant succession in a much more complex current view, see Chapman

\textsuperscript{42}Daniel Botkin discusses the continuation of this controversy in \textit{Discordant
Harmonies}, 51-68.

\textsuperscript{43}See Edward O. Wilson, \textit{The Diversity of Life}, (Cambridge, MA: Belknap Press,
1992): 183-214, for the best popular discussion of the progressive nature of biodiversity
development.

\textsuperscript{44}See Chapman and Reiss, \textit{Ecology}, 180-181.
Simple ecosystems, for example those communities of weeds, grasses, and shrubs which inhabit old fields in the eastern United States, tend to have a relatively small number of species in relation to landscapes which have developed their flora and fauna for many years without major disturbance.\textsuperscript{45} When such disturbances do occur, biodiversity almost invariably crashes.\textsuperscript{46} Only as pioneer species – weeds – once again begin the process of taking up soil minerals as nutrients and incorporating them into biotic material, then redeveloping an old field's soil profile as their bodies die each year, are decomposed, and once again provide its ground level with some minimal shade, can larger plants and animals move easily into the area.\textsuperscript{47} Yet as they do, these larger, more biologically complex, species make possible the reintroduction of legions of smaller organisms which survive on the bodies and detritus of the larger species through various

\textsuperscript{45}It is a generally established principle, although not universally applicable, that biodiversity increases with later stages of succession after ecosystem disturbance. For an extremely basic discussion of the relationship between succession and biodiversity, see Chapman and Reiss, op. cit.

\textsuperscript{46}Wilson discusses the threat of widespread human disturbance of ecosystems to biodiversity in The Diversity of Life, 243-280.

\textsuperscript{47}It should be emphasized again, as noted at greater length above, that these processes of internally driven ecological change, or allogenic succession, are not the only forces propelling the development of plant communities. Even in the absence of human alteration of the landscape, climate changes and natural catastrophes continue to impact vegetational structure. Yet the processes of allogenic succession remain in most temperate ecosystems both powerful and prevalent enough to be a decisive force within a human time-frame. Certainly the first scientific ecologists were led by their temporally limited data sets and observations to believe that such processes were the only significant force at work.
kinds of symbiosis. Biodiversity is not solely driven by competitive specialization - plants and animals evolving to take more perfect advantage of smaller and smaller pre-existing ecosystem niches. Instead it is the ability of large plants and animals to create those niches themselves that increases the numbers of species in an ecosystem. Light-sensitive blueberry bushes that thrive in the shade of large oak trees; flocks of blue jays which feed on the berries of those bushes; bacteria living in the stomachs of those jays helping to digest those berries, are all dependent for their existence upon the ability of pioneer species to remake disturbed soils into a suitable environment for Oak, Hickory, Chestnut, and other big trees. Yet they rely much more directly for their survival on the inherent abilities of the 'dominant' species inhabiting the mature forest to resist disturbance and removal.

One of the key characteristics of the dominant species of mature ecosystems is their long life span. Fields abandoned to weeds after fire, flood, or cultivation often have significant diversity in the form of the various plants which invade the disturbed soil and compete for soil nutrients, water, sunlight, and the ability to reproduce. Yet the shorter life spans of such plants, both as individuals and as biotic communities, obstruct the development of the kind of symbiosis between species necessary to maintain higher levels of stable diversity. The end result of competition between species in an old field is a victor, and the victorious species will drive the others out. Truly high levels of

48 Chapman and Reis, Ecology, 243-256, for a discussion of co-evolution of cooperative or related species, and 109-111 for some ideas of the ways in which dominant flora and fauna create niches for other species.

49 Kricher and Morrison, Eastern Forests, 101-130.
diversity depend instead upon dominant species capable of supporting numerous species in cooperative symbiosis. The stability and strength of dominant species create multiple niches in which other species can flourish without having to compete for the necessities of life with every other plant and animal in the ecosystem.50

The big trees of piedmont Virginia's forests filled the requirements of individual strength and dominance in a number of ways. First, the many weeds and grasses which invade old fields - ranging in piedmont Virginia from lovely flowering plants such as Fireweed and the various Goldenrods and Asters, to the mundane Dandelions and assorted Thistles, to the downright pernicious Common Ragweed - are almost all annuals or biennials, whose entire bodies, with the exception of seeds, die and are decomposed every year or two. The larger perennial species such as Oak and Chestnut which serve as the foundation for the mature forest community have life spans measured in hundreds of years, and thus do not regularly return all of their nutrients and biomass to the various short-term cycles of the ecosystem.51

Key to this long life, not surprisingly, is the ability of dominant species to weather many of the disturbances they face. Pioneer species, in contrast, spew seeds in every direction in the hopes that offspring would maintain the genetic line after the original had been uprooted by the first hard rain. The big trees are typically much larger and slow-growing, a disadvantage in the first stages of the natural re-colonization of disturbed

50 For a brief discussion of ecological dominance, see Wilson, *The Diversity of Life*, 129-130. For an analysis more directly applicable to Virginia forests, see Kricher and Morrison, *Eastern Forests*, 10-14, 57-61.

areas, but a protection against later disturbance once established. Such trees, for example, are only occasionally uprooted by the frequent floods which occur along the stream bottoms of the Tye Valley, whereas weeds and shrubs are drowned or washed away. Nor are they usually destroyed by low-level wild land fires which eliminate those same weeds and shrubs on a regular basis. That large body size, then, is one of the most basic protections against destruction, as well as providing more opportunities for symbiotic or parasitical life, and therefore an essential marker of a dominant species.

The trees and many of the larger understory plants of the mature Oak-Chestnut forest, while cycling a noticeable portion of their bodies through the ecological cycle on an annual basis (through their leaves), retain the larger part of their biomass alive from season to season, year to year, whether in the form of the hardy roots of the creeping vines or branches of the smaller shrubs below, or in the roots, trunk, and branches of the big trees above.52

This enhanced body size typical of the dominant species of the mature ecosystem also enhances the potential of the advanced forest community as a whole to recover from severe disturbance. The interdependent species which make up the mature forest go much further in developing the soil profile of the ground below. Pioneer mosses, weeds and grasses do hard labor colonizing soils whose organic matter has been burned off by wild (or human) fire or washed away by rain and flood waters, or by breaking up clay hardpan exposed by severe soil erosion, or even by beginning the process of fracturing

52Kniker and Morrison, Eastern Forests, 57-61 for a basic, and Braun, Deciduous Forests of Eastern North America, 192-259, for a more detailed discussion of the life strategies of the hardwood forests of the Virginia piedmont and Blue Ridge regions.
exposed rock faces. Yet their small bodies and typically limited root systems make it impossible for them to turn a severely disturbed soil into the fully developed and integrated mineral and organic system found under the canopy of riverine and hillside forests. At best, as ecologists have noted for nearly a century, they create the conditions that hurry their own demise. The big trees, on the other hand, have large root systems which continually upset and redistribute soil minerals and mass, as well as holding it together against the sheet erosion which regularly strikes those Tye River Valley soils exposed by various forms of disturbance to the region's heavy rains. Furthermore, the trees continue the process of cycling organic material back into the upper soil horizons through annual leaf and seed fall as well as providing the protection of a mature forest cover to their decomposition and incorporation into soil humus. That well-developed soil, when disturbed, can provide the structure and nutrients needed to enable larger plant species to shoulder aside pioneer weeds and speed the recovering ecosystem on its way toward diversity and maturity.

In addition, the large bodies of dominant tree species creates a stable reserve of nutrients and biomass which serves the cause of ecosystem recovery in an even more crucial way. Mature forests dominated by the kinds of large trees and the life processes described above, tend to store much larger amounts of nutrients and biomass for much longer periods of time than do simple, immature ecosystems. Old field weeds gobble up

\[53\text{In an effort to speed reproduction, the pioneer species typically invests as much of its biomass as possible in photosynthesis and flower and seed production, rather than the large root systems needed to support a big body. See Chapman and Reiss, }\textbf{Ecology}, \textit{35-37}.]
every spare nutrient, every bit of disturbed soil where their roots can take hold, and every bit of organic material in that soil, and incorporate it into their bodies and then keep it cycling through the process of germination, growth, reproduction, and decomposition on an annual basis. The larger flora of the mature ecosystem, on the other hand, store those nutrients and that organic material, in the form of their wood, their roots, or the decomposing organic material in a deep, well-developed soil. Thus large amounts of the 'biotic potential' of the ecosystem is kept out of the regular ecological cycles on an extended basis. At the most basic level, while the rates of primary production (photosynthesis and plant biomass creation from that process) remain nearly the same between simple, pioneer ecosystems and their mature successors, the amount of total biomass in the former falls far short of that in the latter.

This reserve served and serves the riverine and hillside forests such as those in the Tye River Valley by providing the resources needed to give the diversification and maturation of the ecosystem a jump-start in cases of severe disturbance or destruction. While both mature and immature ecosystems contain annually active nutrient and energy cycles, the continual buildup of reserves by the larger plant species of mature communities creates a much larger biotic potential in those ecosystems. The roots of

54 See for example a textbook discussion of the various nutrient cycles and the varying rates of storage of key nutrients by different plants. Chapman and Reiss, Ecology, 151-160.

larger trees do a much better job churning the soil and extracting nutrients from its deeper layers, as well as supporting those leguminous bacteria which can fix nitrogen from the air and soil around them, providing a larger supply for the ecosystem as a whole. The greater biotic mass of the mature ecosystem is built in part on its component species' greater ability to incorporate soil minerals into larger bodies. This ability in turn supports the development of a richer soil, larger amounts of organic matter through photosynthesis, and ultimately, greater species diversity which further heightens resistance to occasional disturbance.

When catastrophic disturbance of the ecosystem does occur, the built-up biotic potential of nutrients, organic material, and soil is then released through burning and/or decay to speed the reconstitution of the biotic community. While evolutionary scientists are amazed at the speed with which life can recover from the complete destruction of an ecosystem, as in the case of the recolonization of landscapes devastated by volcanic eruptions, it should be remembered that the recovery rates of regionally predominant plant communities in such areas is measured in centuries, rather than the decades which temperate forests require to bounce back from blow-downs or large wildfires. The untapped potential of the soil remaining after such occurrences is exploited by pioneer species, while the burned or decaying bodies of the big trees release organic material into the soil, aiding the populations of those bacteria which process decaying organic material

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into nutrient and soil forms which new plants can make use of to expand in size and numbers.\textsuperscript{58}

The visible impact on the landscape from such sudden releases of biotic potential into the ecosystem have long been recognized. Aldo Leopold, founder of modern wildlife management and one of the greatest popular exponents of ecological theory, described the results:

\begin{quote}
Soils in the first stages of exploitation display a burst of plant and animal life. The abundant crops that evoked thanksgiving in the pioneers are well known, but there are also bursts of wild plants and animals. A score of imported food-bearing weeds had been added to the native flora, the soil was still rich, and landscapes had been diversified by patches of plowland and pasture. The abundance of wildlife reported by the pioneers was in part a response to this diversity.\textsuperscript{59}
\end{quote}

When natural or human disturbances release stored biotic energy into the ecosystems, pioneer species explode in numbers, as do the various species of wildlife which fed on the bodies and seeds of those plants. The population of white-tailed deer in the Atlantic seaboard states, for example, has maintained itself at very high levels despite the enormous popularity of sport hunting since the Second World War. The abandonment of farmland in the face of midwestern agricultural competition, combined with the continual disturbance of second growth trees in the interests of commercial forestry and new residential construction, regularly create new edge habitats, explosions of grass and


shrub growth on the boundary between human and forest landscapes which provide excellent forage for deer. Leopold called these and similar explosions of plant and animal life in disturbed landscapes "biotic fevers ... combustions of stored fertility."

These 'biotic fevers', these explosions of plant growth that followed disruption of a mature ecosystem, would serve as the basis for the creation of an agricultural ecosystem, or 'agroecosystem', in the eighteenth-century Tye River Valley. The agroecosystem concept applies ecological theory and science to create an understanding of human agriculture as a biological process marked by the continuous yet stochastic cycling of resources among the system's various species and structures and a changing competitive balance between those species. Agroecosystems differ from natural ecosystems in a number of crucial ways. First, the intrusion of human management radically curtails biodiversity, as farmers seek to eliminate other species in order that crop plants might monopolize productive resources. Second, the geographic range of human communities make agricultural ecosystems particularly open-ended ones. Farmers import animal and plant varieties into the agricultural system from the outside,

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62 For a brief definition of the nature of the agricultural ecosystem, see Joy Tivy, *Agricultural Ecology*, (New York: Longman, 1990), 1-7. For a more extensive discussion of the theory behind agroecology, see Miguel Altieri, et al., *Agroecology: The Scientific Basis of Alternative Agriculture*, (Boulder, CO: Westview Press, 1987), 1-46. Susanna Hecht put it most clearly, "At the heart of agroecology is the idea that a crop field is an ecosystem in which ecological processes found in other vegetation formations – such as nutrient cycling, predator/prey interactions, competition, commensalism and successional changes – also occur." Quoted from Altieri, et al., *Agroecology*, 5.
and then frequently export the products of their reproduction and growth rather than recycling them through the ecosystem's processes of decay, decomposition, and new biotic production. Finally, the limited diversity and the porousness of an agroecosystem makes that ecosystem highly unstable, particularly in comparison with mature biotic communities. Introduced species upset competitive balances while crop exports continually denude the system's resource foundation. This instability leaves agricultural ecosystems dependent upon human management for their survival.63

The cycles of life, death, decay, and renewal which characterize undisturbed, natural ecosystems certainly do continue within the agricultural ecosystem, but at a much reduced level and with continual interference from farmers. In most cases, farmers must recreate the cycling of elements under human supervision in order to make agroecosystems sustainable. Yet this recreation typically must make use of the natural pathways of that cycle in a cooperative adaptation by man and nature in order to be most effective. Turning the explosive productivity of the biotic fevers which resulted from the disturbance of mature ecosystems toward crop and animal growth was the essential alliance between ecological cycles and human management that characterized agriculture and agroecosystems on Virginia's eighteenth-century frontier. Farmers in the Tye Valley adapted biotic fevers to the requirements of agricultural settlement on a commercial frontier in order to create a 'frontier agroecosystem'.

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63 One key aspect of contemporary progressive agroecology has been an emphasis on the need for agricultural systems to mimic the stability offered by the diversity of mature ecosystems. See Altieri, et al., Agroecology, 33-39, 69-75, 115-126, 159-172.
Commercial Frontiers and Their Ecological Implications

Historians of modern commercial frontiers have long been familiar with the economic and social characteristics of the peripheral regions they study.64 The physical expansion of societies beyond the geographic reach of the institutions and infrastructures of their central economic system leaves frontier settlers without the full range of socially-developed productive and commercial tools available to their competitors closer to the metropolis. Two of these deficiencies - labor shortages and heightened transportation costs - play particularly crucial roles in shaping the possibilities for and limits to both the commercial development and ecological impact of settlements long distances from a society's agricultural and industrial centers.65


Almost by definition, frontier regions are neighborhoods of sparse human population, and as a result both skilled and manual labor are invariably among the most valuable resources in the productive process. Indeed, in the absence of strong cultural bonds, such as separatist religious community, or strong political ones, like chattel slavery, frontier settlers often find it impossible to make significant labor investments in either the production of crops or the extraction of natural resources. For free farmers and unattached men, hunting, squatting, natural resource extraction, and/or various kinds of trade all offer greater return than the limited wages which agricultural drudge work offers in any commercial system.

Scholars have noticed that as a result of this problem, those men of power and wealth who do invest in frontier agriculture typically arrange the region's politics in such a manner that their agricultural workers can be coerced by themselves and/or the state. This coercion comes in the forms of serfdom, contract labor, and debt peonage, or in the case of the Virginia piedmont and the Tye River Valley, indentured servitude and

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68The classic formulation of this observation comes from Wallerstein, The Modern World-System I, 90-95.
outright race slavery. Yet even such labor masters face limits on their ability to exploit the work of others for heavy frontier labor. Despite the assistance of the state, mastering labor in a commercial society which puts a price on everything, including bound human beings, is an expensive undertaking. Those hoping to make large profits from frontier crops and resources must therefore balance the products of any work done by their chattels against the investment made to bind their labor. On most frontiers, this equation has eliminated all work beyond that which yielded the most immediate return in the form of commercially-viable products and crops.

In agroecological terms this limitation on labor particularly manifests itself in terms of soil maintenance. Land clearing and crop growth become a perpetual drain on the biotic potential of agricultural ecosystems, as unprotected soils wash or are blown away, and nutrients are carried out of the system in the form of harvested crops. Sustainable agroecosystems are therefore dependent on the ability of farmers to replicate

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69 The core of Wallerstein's argument about the reasons for the adoption of slavery in the colonial-era Western Hemisphere over other forms of bound labor is found in The Modern World-System II: Mercantilism and the Consolidation of the European World Economy, 1600-1750. (San Diego, CA: Academic Press, 1980), 171-175.

70 See McCusker and Menard, The Economy of British America, 135-137 and 233-5 on the costs of importing slaves and indentured servants. To these initial costs must of course be added food, shelter, and clothing, particularly for less productive children, freedom dues for servants, holiday presents for slaves, overseers' wages, as well as the social costs of courts, jails, slave patrols, and the other machinery needed to manage coerced laborers beyond the plantation fences. Small wonder the most conscientious of Virginia's eighteenth-century plantation managers kept their accounts in terms of their laborers, their costs and productivity, rather than in terms of acres in production or capital investment. See Christine Daniels, "Gresham's Laws: Labor Management on An Early-Eighteenth-Century Chesapeake Plantation," Journal of Southern History, LXII 2 (May 1996): 205-238.
the recycling of nutrients and rebuilding of soils constantly progressing in undisturbed ecosystems. Yet protecting soil structure and fertility from one crop to the next is a demanding task for agriculturalists, particularly in terms of the demands it makes for heavy manual labor. In order to go beyond exploiting and consuming only the thinnest upper layers of a soil's organic horizons, various levels of annual plowing are necessary to mix the soil and ease the passage of crop roots, water, and air into deeper layers, while also providing furrows to channel rainwater away from the field. This plowing demands the removal of large rocks from the fields, and in American forests the back-breaking task of yanking tree stumps from the ground. In regions such as the Tye River Valley, where unbroken stones jutting out of hillside soils are frequent and sizeable, and where the trees still grow tall today after two, three, and more cuttings, these jobs force the use of horse teams, or more frequently oxen. Both species of draft animals, of course, require further investment of time and labor in their care and handling.

Attempts to control erosion on the Tye Valley's hillsides presented eighteenth-


72In the Tye River Valley, for example, large scale commercial logging appears not to have become a crucial part of the regional economy until the first decades of the twentieth century, when larger concerns such as the Tye River Lumber Company and other local and regional businesses began buying up large tracts. Yet these companies were able to turn temporary profits from trees a half-century old on abandoned farmland and pillaged hillside forests. Lands logged before the Second World War are again covered with large oak and hickory trees. See Nelson County, (Va.), Index to Deeds, 1807-1920, Library of Virginia, Richmond, Virginia.

century farmers with demands for hard work bordering on blackmail. While farmers in
many regions of the piedmont were bemoaning the insidious effect of Virginia's frequent
heavy rains on their easily washed clay soils, the best understood counter-measures -
terracing the fields and digging adequate drainage channels - demanded extensive
earthwork which ate up the valuable labor time of slave communities. As such, they
were typically beyond the economic reach of all but the largest and best-capitalized
slaveholders.

Finally, attempts to fertilize soils with organic material also presented problems
for farms suffering from labor shortages. The most easily available sources of fertilizer

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74 As early as the late 1760s, George Washington was experimenting not only with
ways to slow erosion, but also with means to restore older gullies. See Avery O. Craven,
Soil Exhaustion as a Factor in the Agricultural History of Virginia and Maryland, 1606-
1860. (Champaign, IL: University of Illinois Press, 1926), 87. Piedmont planter-lawyer
Patrick Henry has been credited with the revolutionary-era statement: “He is the greatest
patriot, who stops the most gullies,” quoted in Wilbur S. Jacobs, “The Great
Despoliation: Environmental Themes in American Frontier History.” Pacific Historical

75 Thomas Jefferson, a reforming planter so committed to intensification and
innovation in agricultural production that he bankrupted his plantation with ill-advised
experiments, appears never to have attempted serious works in terms of levies or
terracing of his piedmont fields. See Barbara McEwan, Thomas Jefferson, Farmer,
appears to have remained an oddity in Virginia down to 1860, and not to have been
widely practiced until after the Civil War. See a letter from William Massie to Nathaniel
Francis Cabell, May 8, 1858, Cabell Family Papers, Special Collections Department,
Alderman Library, University of Virginia, and Stanley W. Trimble, “Perspectives on the
History of Soil Erosion Control in the Eastern United States,” Agricultural History,
59:2(1985): 162-180. See also Trimble, Man-Induced Soil Erosion on the Southern
Piedmont. (Ankeney, IA: Soil Conservation Society of America, 1974); Arthur Hall,
to the farmer of the eighteenth century, animal dung and green manures (plant bodies or cultivated grass crops) both had to be plowed into the soil to achieve any worthwhile results. This was true even if the easiest methods were used, such as simply letting cattle and hogs run loose in the fields after harvest, feeding on the leftover mast and defecating where they might. Achieving the best results from manuring, on the other hand, demanded the penning of livestock and the collection of their feces, a job which obviously required extensive work in construction, shoveling, and carting, even before one considers the labor needed to plow such manure into crop field soils once it had been hauled from the barn and hog pens.76 Labor demands such as these typically made permanent, intensive cultivation of fields beyond the work resources of most frontier farmers, their families, and their chattels.

As noted, the second major commercial characteristic of frontier regions is high transportation costs.77 Frontiers such as the early eighteenth-century Tye River Valley are typically well beyond their society's settled areas, and the lack of an economic base in the new region typically precludes the possibility of major road construction or river

76A crucial source for understanding the practical obstacles blocking the investment of intensive labor in Chesapeake agricultural operations is John Taylor of Caroline, Arator. Being a Series of Agricultural Essays. Practical and Political: In Sixty-Four Numbers. (Petersburg, VA: Whitworth and Yancey, 1818). Taylor, a reforming planter of Caroline County, Virginia, outlined the techniques of fertilization and soil conservation most easily adopted by his state's planters and farmers. Yet he recognized the obstacles to such investment as sufficiently weighty that additional consideration had to be give to politics and labor management. Future page references to Arator will be to the 1977 reprint edition, published in Indianapolis by Liberty Classics Press.

77See Taylor, The Transportation Revolution. 3-14, 15-21, 56-58, for a brief discussion of the problems of the American transportation system as late as 1815, well after the most severe commercial isolation of the internal frontier had passed.
improvement. The exceptions have only come when the society possessed a strong central government willing to invest in such projects and then wait decades for the returns to appear in terms of social and revenue development. A strong military willing to invest in transportation improvement for defense or conquest, or else an integrated economic system able to collect the capital necessary to undertake frontier settlement ventures on a regional scale - large returns from large investments - could also serve the purpose.\textsuperscript{78} The first British empire which nominally controlled the human settlement of the Tye River Valley after the expulsion of the Monocans and the decline of Iroquois power, however, possessed none of these attributes.\textsuperscript{79} In the absence of such institutions,

\textsuperscript{78}For a discussion of the role of one of the West's strongest political states in promoting successful frontier settlement, see Steven Drummond and Lynn H. Nelson, \textit{The Western Frontiers of Imperial Rome}, (Armonk, NY: M.E. Sharpe, 1994): 19-31, 42-49. Historians of the American West have in recent years become increasingly aware of the vital role of large capitalist enterprises such as railroad, timber, mining, and irrigation corporations in concentrating the resources and dictating the modes of cooperation necessary to pursue the commercial settlement of America west of the Mississippi. See Patricia Nelson Limerick, \textit{The Legacy of Conquest: The Unbroken Past of the American West}, (New York: Norton and Company, 1987): 78-133, for the most accessible discussion of the role of large social and commercial organizations in promoting frontier expansion and development.

\textsuperscript{79}Historians of colonial America have laid increasing emphasis in recent years on the role of imperial politics, diplomacy, and administration in shaping the development of British North America, earning for prominent scholars such as Stephen Saunders Webb the title, "New Imperial Historians". Yet the need for such a revision, and the almost complete absence of considerations of the impact central control on American development which characterized early American history strongly indicates the weakness and decentralization of the British imperial system in the eighteenth century relative to other historical empires and expansionist states, if not to the colonial governments and individual settlers of the era. See W.A. Speck, "The International and Imperial Context," in Greene and Pole, eds., \textit{Colonial British America}, 384-407, for a brief and comprehensive discussion of the successes and profound limitations of British imperial administration.
therefore, the costs on the one hand of moving goods, equipment, and people out to a frontier, and products, crops, and resources back from it to the center on the other, could be exorbitant.80

As a result, in addition to weighing crop yields and prices against labor investment, frontier farmers worked diligently to balance investments in outside goods and the commercial returns on their crops against the costs of transporting both. These calculations typically resulted in the minimal use of equipment, the commercial export of nothing but crops with the highest bulk-to-price ratio, and the reversion to local self-sufficiency of many other productive activities. For eighteenth-century farmers on the Euro-American frontier, this meant concentration on easily transportable goods such as whiskey or meat-on-the-hoof,81 or comparatively high-priced crops such as the dark-leaf

80George Rogers Taylor notes, for example, that the construction of the Erie Canal in the 1820's reduced shipping rates in upstate New York to less than ten percent of what they had been over a rather well-developed road system. Taylor, The Transportation Revolution, 32-36. Chesapeake Virginia, with its large rivers flowing down to the tidewater ports of Richmond and Norfolk, did not quite have the same problems as other backcountry regions, but poor roads beyond the river ports and seasonally uncertain flow in the rivers themselves caused concern among planters and merchants right down to the Civil War. On the costs of shipping tobacco from the eighteenth century Chesapeake back to England, to say nothing of the costs of getting the crop to the ships, see John Hemphill II, "Freight Rates in the Maryland Tobacco Trade, 1700-1762," Maryland Historical Magazine, 54 (1959): 36-58, 153-187.

tobacco which served as one of the foundations of the Tye River Valley's agricultural system. One small creek hollow, deep inside Horsehoe Mountain off the upper reaches of the Tye, well beyond the river range of the small, poled canoes which navigated the waters of the James River in the piedmont, earned the name "Ginseng Hollow" in the eighteenth century, for the root so valued in Chinese traditional medicine that it could be profitably collected on the American frontier and shipped in small quantities to the Orient.

Conversely, eighteenth-century Virginia farms of all sizes went to considerable lengths to ensure that their non-commercial activities remained as independent as possible in an underdeveloped area. Even the largest plantation owners grew much of their own food, made and repaired tools, even distilled their own spirits. Wealthy Tye

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82 Marmon, The Lee Marmon Manuscript, 51-53.


84 William Byrd's famous description of his position as a plantation master - "I have a large Family of my own, and my Doors are open to Every Body, yet I have no Bills to pay, and half-a-Crown will rest undisturbed in my Pocket for many Moons together. Like one of the patriarchs, I have my Flocks and my Herds, my Bond-men and Bond-women, and every Sort of Trade amongst my own Servants, so that I live in a kind of Independence on every one but Providence." - has typically be interpreted as a paean to slavery, yet can also be seen as an expression of the powerful drive on the frontier plantation to reduce outside inputs into its economy. Byrd quoted in Rhys Isaac, The Transformation of Virginia, 1740-1790, (Chapel Hill: University of North Carolina Press, 1984): 39-40. Indeed the drive to reduce plantation expenditures remained so strong that a recent scholar has interpreted the agricultural reform crusade of the nineteenth century as largely an attempt to make plantations self-sufficient in food, soil, and other resources. See John Schlotterbeck, "Plantation and Farm: Agriculture and Society in Orange and Greene Counties, Virginia, 1730-1860," (Ph.D. Dissertation, Johns Hopkins University,
Valley planters, such as slaveholder and local political leader William Cabell, Jr., went down this road as far as they could. Cabell's vegetable gardens were extensive, growing turnips, celery, colewart, cabbage, potatoes, peas, onions, melons, cucumber, and pumpkins among other plants, away from his tobacco, flax, and wheat fields. He had large quantities of rum boated up the James to him, but experimented in distilling brandies from the apple and peach orchards he planted on his less-valuable soils. When the Revolution broke out, and the dangers of smuggling to and from the West Indies made rum importation even more expensive, Cabell and other wealthy neighbors adopted and improved the lower class industry of distilling corn whiskey. Smaller farmers than Cabell often responded to high transportation costs by slipping out of the commercial economy almost entirely, squatting on unclaimed or unpoliced lands, growing corn for home consumption, running hogs in the woods, and hunting wild game for pleasure and meat. Many farmers used trade goods such as whiskey, ginseng, or deer skins only to


86Ibid., Volume 7.

87As noted above, despite Robert Mitchell's strong presentation of the case for a strong market orientation of early backcountry farmers, by necessity techniques of self-sufficiency developed which subsequently had significant cultural power. Commercial isolation was, if not the original source, certainly the continuing foundation for this way of life. For the origins of European frontier subsistence systems and cultures in North America, see Terry Jordan and Matti Kaups, The American Backwoods Frontier: An Ethnic and Ecological Interpretation. (Baltimore: The Johns Hopkins University Press, 1989): 94-134. For a study of the staying power of subsistence techniques and cultures in the American South, see Grady McWhiney, Cracker Culture: Celtic Ways in the Old South. (Tuscaloosa: AL: University of Alabama Press, 1988): 23-79.
provide a small cash supplement to a personal economy that accepted agricultural
subsistence as a way of life.\footnote{For an interesting discussion of the way in which cash crops fit into a subsistence-oriented farm economy, see Michael Merrill, "Cash is Good to Eat: Self-Sufficiency and Exchange in the Rural Economy of the United States," \textit{Radical History Review} 3(1977), 42-71.} The modern farm economy, with its complete
commercialization both of production \textit{and} farm-family consumerism, was economically,
and therefore agroecologically, unworkable on the frontier of eighteenth-century
Virginia.

With these formidable barriers to the successful commercialization of agriculture
on the early modern frontier such that many commercially-minded farmers\footnote{In addition to Mitchell's work on the Shenandoah Valley, Jack Greene has presented a strong case for the commercial world of the Atlantic world holding strong appeal for frontier farmers. Greene has argued that the goals of frontier settlers were not separatism and family utopianism, but rather the desire to improve their social position in a precise recreation of the norms typifying first the Atlantic coast, and ultimately, the old country. See Greene, "Independence, Improvement, and Authority: Toward a Framework for Understanding the Histories of the Southern Backcountry during the Era of the American Revolution," in Ronald Hoffman, Thad Tate, and Peter Albert, eds., \textit{An Uncivil War: The Southern Backcountry During the American Revolution}, (Charlottesville, VA: The University Press of Virginia, 1985): 3-36.} on these peripheries dropped largely out of market participation, another element in the definition
of a frontier needs to be added. A successful commercial frontier, indeed any successful
frontier settlement, needs to encounter a mature ecosystem of the type discussed above.\footnote{Mining and trading frontiers, which have played such an important role in the creation of the Occidental world-system, are of a slightly different type, although many of the same requirements apply in the abstract. Certainly the extraction of natural resources demands their previous freedom the develop, while trade with indigenous peoples demands their ability to support themselves and draw those same resources from the native ecosystem.}
Fields long-used for crops or pasture are among the simplest, the most immature, of the temperate ecosystems.\textsuperscript{91} Denuded of their dominant species, the soil stripped bare of its buffer of organic matter, and even pioneer species carefully weeded out by conscientious farmers, such fields offered little hope for rapid ecological renewal from their own resources. In order for farmers to maintain cultivation, both human labor and biotic material would have had to have been brought in from the outside, and then worked into the existing mineral matrix of the soil in order to provide a basis for further crop growth.\textsuperscript{92} As noted above, frontier farmers, unlike their competitors in long-settled regions, were typically in no position to obtain and apply the labor, equipment, and mineral and organic inputs necessary to maintain a system of permanent cultivation.\textsuperscript{93}

Yet when frontier farmers apply their minimal labor resources to a mature ecosystem, the initial values plugged into the agricultural equation are much different. A mature, undisturbed ecosystem has the kind of stored reserve of biotic potential no old field can match. Frontier farmers of all classes, races, and periods have discovered that the agricultural reward for releasing that stored potential into active circulation more

\textsuperscript{91}See Tivy, Agricultural Ecology, 1-6.


\textsuperscript{93}Joy Tivy has defined intensive agriculture as, "involv[ing] high levels of capital expenditure or inputs in order to achieve as high an output per unit of land area ... as possible." Tivy, Agricultural Ecology, 224. These capital inputs include both large amounts of human labor and significant indirect energy inputs in the forms of fertilizer and other substances. Attempts to establish permanent cultivation on specific pieces of land within a commercial system demand these kinds of inputs.
than repaid the labor needed to do so. Indeed, this became the essential element of frontier agroecosystems both across the world and in the eighteenth-century Tye River Valley: the exploitation of the stored biotic potential of mature ecosystems by human hunters, gatherers, and particularly farmers.94

We thus come to a fundamental definition of both the productive lives of frontier farmers and the ecological workings of the frontier agroecosystem. Frontier settlers move into a mature ecosystem,95 and use minimal labor investments to provide an ecological disturbance which releases the organic community's stored biotic potential of nutrients and other resources into active circulation. Once those nutrients and resources are actively available to new plants, the frontier farmer then uses various management techniques to control the access of pioneer plants, foraging animals, and wild predators.


95 Now the previous discussion of the mature ecosystem in Virginia and British North America in general would indicate some rather specific requirements for a human settlement. Certainly that was the implication of Stanton Green's work, which referred solely to temperate forests. Yet frontier settlers have proven remarkably adaptable, however, in discovering usable resources in apparently inhospitable ecosystems. Jordan and Kaups, for instance, find the origins of the American frontier settlement culture in, of all places, the frigid pine land frontier of seventeenth-century eastern Finland. See Jordan and Kaups, American Backwoods Frontier, 38-63. Public lands ranchers in the American West have, with profound difficulties of course, built a thriving frontier economy and culture on the thin ecological margin or arid grasslands. See Donald Worster, "Cowboy Ecology," in Worster, Under Western Skies: Nature and History in the American West, (Oxford: Oxford University Press, 1992): 34-52.
to those biotic resources, directing their biological use instead toward those flora and fauna selected by the farmer. All of these techniques are applied in varying degrees and balances with an eye towards ensuring the maximum biological and commercial return against a minimal investment of capital and labor. If the labor and capital resources of the individual farm must serve as one starting point for serious consideration of its techniques and strategies, then the biotic potential of the ecosystem the farmer interferes with must be a second important influence on the shape of agricultural life within a developing frontier region. The decline and expulsion of the Monocan villages from the Tye River Valley before the end of the seventeenth century suspended organized, large-scale human disturbance of the ecosystem for several decades, allowing it extensively to mature prior to the arrival of serious agricultural settlement from the Virginia colony during the 1730s and 1740s. Isolated on a remote, yet still market-oriented, frontier of the British Empire and the Atlantic commercial system, Tye Valley farmers created a frontier agroecosystem. That agroecosystem would form the foundation of the region’s colonial and revolutionary-era economy, social structure, and political system.

**The Frontier Agroecosystem in Early Virginia.**

Virginians created a frontier agroecosystem in their colony by combining Native American subsistence techniques with the economic framework of landed property and commercial agriculture which was forced on the colony by its continuing political, cultural, and material dependence upon England. The Powhatan and Monocan peoples had been able to practice an almost pure form of the frontier agroecosystem, as only the
broadest of tribal diplomatic concerns prevented them from abandoning lands they had
going for more mature ecosystems. And since the eastern woodlands tribes engaged
in trade primarily for goods valued in diplomatic or ceremonial, rather than economic,
contexts, there was little incentive to forsake systems of common landownership. The
English settlers of Virginia, on the other hand, brought a legal system and a commercial
economy that introduced a private property structure almost as soon as tobacco
agriculture was established. Nor should one overlook the role of culture in encouraging
Anglo-Virginians in establishing more rigid property lines than had the Powhatans.
Private property in land was so firmly entrenched in European minds as the sine qua non
of status that the drive for it overrode declining yields and profits on a regular basis.

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96 See, for example, White, The Roots of Dependency, 9-10, 60-61, 65-67, 76-78 for a
discussion of the role of tribal warfare in establishing geographic boundaries to the
subsistence system of the Choctaw in the Deep South. For a similar treatment of the
Northern Indians in the colonial era, see Daniel Richter, The Ordeal of the Longhouse:
The Peoples of the Iroquois League in the Era of European Colonization. (Chapel Hill,
NC: University of North Carolina Press for the Institute of Early American History and
Culture, 1992). For the Powhatan and Monocans, see Hantman, "Powhatan and the
Piedmont Monocans," in Rountree, ed., Powhatan Foreign Relations, 94-112. See also,
Hunt, The Wars of the Iroquois.

97 See for example, Cronon, Changes in the Land, 95, for a discussion of the role of
wampum in pre-colonial Indian exchange systems. See Hunt, The Wars of the Iroquois,
and Cronon, Changes in the Land, 91-107, for a discussion of how the entrance of
European goods such as alcohol and firearms into the Indian trade system altered the
hunting economy in ways that drastically altered Native American ecological
relationships.

98 An interesting look at the roots of the English obsession with landownership appears
in Alan MacFarlane, The Origins of English Individualism: The Family Property and
attention for his insistence that the developing land market and considerable rural
cooperation in the extinction of common rights meant that early modern England in fact
had no 'peasantry' in any strict sense of the word. Richard M. Smith, "Families and
Virginia's non-Indian farmers did not go far in their preoccupation with permanent property in land during the colonial period, however. A complexly-defined and scrupulously-documented property system such as marked the early modern English countryside would only have rewarded the effort made to establish it in the wake of enormous labor investments in continual soil reclamation, resource conservation, and chemical and biological amelioration - investments far beyond the colonists' resources, no matter how strictly managed.

Since the Elizabethan era, England had suffered from a serious population surplus. As a result, the foundation of economic, social, and political power was not control over labor, which could be had at almost any price, but control over land as private property. Yet the investments required to obtain control of that land - particularly in the face of a steadily expanding population - made its possession a semi-permanent, and commercial, endeavor for the English nobility. That demand for


See, for one of the oldest, but still relevant, examples, Tawney, The Agrarian Problem, 253-280.
permanence and profit had made a frontier agroecosystem impossible early in the middle ages, and English agriculturalists of all classes instead practiced varying brands and degrees of intensification. Intensification is a broadly-defined process whereby increased labor and energy investments are made in order to reduce the resource ‘waste’ which always accompany agricultural disturbance of an ecosystem. This kind of ‘waste’ of course, is understood entirely from a human perspective, and incorporates any biotic productivity that unmanaged natural processes divert from crop growth, as well as unprofitable losses to soil fertility and structure which results from the export of biotic material from the ecosystem. In early modern England, intensification became a practical necessity not only to maintain an expanding population, but also to make ownership of private property financially sustainable.

When English settlers arrived in Virginia, therefore, they brought with them a legal and commercial culture which organized society around individual property, particularly in land. Furthermore, they also carried with them the now ancient British

101Tivy’s definition of intensive agriculture focuses on modern capitalist farming. Interestingly, however, she uses energy inputs, or “energy density” as the key measure of agricultural intensification. See Tiiv, Agricultural Ecology, 224. Certainly by this measure modern industrial agriculture represents a quantum leap ahead of all pre-industrial and particularly pre-chemical cultivation systems. Yet for the purposes of this dissertation, the increased energy inputs involved in traditional agriculture in high-population areas does represent an important agroecological shift, even if most of the energy inputs are in the form of human labor.

102Studies of the modernization and intensification of agriculture within the expanding commercial system of early modern England have been a cottage industry for nearly a century. For two recent, authoritative works, see Eric Kerridge, The Agricultural Revolution (New York: Augustus Kelley, 1968), and Joan Thirsk, ed., The Agrarian History of England and Wales: Volume IV, 1500-1640, (New York: Cambridge University Press, 1967).
mind set which insisted that rights over the resources on pieces of surveyed land were the bedrock of power, and the closer those rights approached monopoly the closer the holder came to complete security in his personal dignity and social prestige. Throughout the seventeenth century, the drive for private land ownership among the white population would transcend numerous other considerations in shaping the agriculture, settlement, and society of the Virginia colony. When the earliest Virginia Company settlement schemes based on manufacturing, mining, and trade could not attract colonists, legal head rights granting land to new settlers and particularly the importers of new settlers did the trick. When a clique composed of the royal governor and his cronies attempted to slow the expansion of the land system in the interests of protecting the villages of friendly Indians and the Indian trade, their reward was Bacon’s Rebellion, which overturned the colonial government and committed Virginia to geographic expansion and private settlement for more than a century afterward.

Moreover, this appetite for individual land ownership generated the most basic distinction between the Powhatan/Monocan systems of ‘frontier’ – low population density – agricultural settlement and that of the English, and later Anglo-African, colonists. The largest reservoirs of biotic potential in Virginia were, of course, the great forests which dominated the Chesapeake’s tidewater and piedmont countryside, and the

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well-developed soil profiles with thick organic layers of decaying or burnt-off leaves and fallen timber which lay beneath the Oaks, Chestnuts, and other deciduous trees. These reservoirs were at their deepest in the forest communities which lined the river and stream sides of the region, which were characterized by a denser and more diverse population of trees. Furthermore, flooding only occasionally became severe enough in Virginia to lead to intense erosion within mature forest ecosystems, and instead typically contributed the regular deposition of valuable soil material.\(^{105}\)

In response to both the possibilities and limits of this landscape, Powhatan and Monocan women centered semi-permanent agricultural settlements along those flood plains where the labor of clearing and cultivation reaped the largest rewards.\(^{106}\) Living within that legal system based upon individual rather than tribal property, the English and Africans were in a different position, however. Farmers looking for their own land spread out across lower Virginia in open country neighborhoods.\(^{107}\) Moreover, once committed to the search for private landed property by English culture, the farmers of the Virginia colony were committed to the market in land and its extensive financial and commercial consequences. In the absence of communal (and therefore diplomatically settled) ownership of nature typical of the eastern woodlands Indians, land required


individual monetary investment in its purchase, as well as the regular taxes and fees owed to the state. Hence, no matter how self-sufficient an Anglo-American planter might make his farm and his family, some manner of cash profit was necessary just to break even in the game of yeoman independence, much less get a farmer far enough ahead to provide for the reproduction of such status among his children.\textsuperscript{108}

\textsuperscript{108} In a famous essay on early American yeoman farmers, Marxist scholar Michael Merrill concluded that because production and work on the small farm in the early nineteenth century was oriented toward subsistence and home or community consumption, cash only served a "use value" to farmers. Hence they were not tied to the market economy as their mentality left them out of it. See Merrill, "Cash is Good to Eat," op cit. Yet Merrill's argument ignores the extent to which cash was not merely useful, but in so many cases desperately necessary, to the early American farmer. Despite the opportunities for easy subsistence through hunting and hog running, land still had to be purchased or rented and taxes had to be paid (even when they were allowed to be paid in kind rather than tender, the crops allowed were cash ones: tobacco, wheat, whiskey, and so on). Many goods such as clothing and tools, and subsistence items like salt and sugar, had to be purchased with cash or cash crops in the merchant's store accounts. Most importantly, if a farmer hoped to provide anything for his children, he needed to continually build up financial resources in order to purchase the land needed to establish his offspring or marry his daughters. Bluntly, mentality didn't dictate the economic structure of early America, power did. Imperial and colonial elites, while not always successful, did a quite creditable job of controlling access to the most basic factor in agricultural production, the natural ecosystem defined as "land", and dictated a commercial market in it. This structure forced farmers to participate, willing or no, and dragged the mentality along in its train. See for example, James Henretta, "Families and Farms: Mentalite in Pre-industrial America." William & Mary Quarterly 35(1978): 3-33. Henretta's work focused on the limitations family kin networks and frontier isolation placed on the commercial outlook of American farmers, but he did note the importance of land acquisition to shaping those limitations. As markets developed, the need for land forced farmers to adjust to meet them. See for example, Winifred Rothenberg, From Market-Places to A Market Economy: The Transformation of Rural Massachusetts, 1750-1850. (Chicago: IL: University of Chicago Press, 1992): 242-244. Rothenburg traces the development of the commercial mentality to the formation of regional markets in crops and labor during the eighteenth century, yet really the "battle" had been won much earlier and was placed in a commercial legal structure. For an example of this process in early New England, see John Frederick Martin, Profits in the Wilderness: Entrepreneurship and the Founding of New England Towns in the Seventeenth Century. (Chapel Hill, NC: University of North Carolina Press for the Institute of Early American History and...
The demands of the Atlantic marketplace where those profits were most easily obtained encouraged farmers to stretch the agricultural returns on frontier labor and small pieces of land to their ecological limit, while attempting whenever possible to hoard untapped biotic resources as a future hedge against the uncertainty of that marketplace. As a result, settlement developed in a much more dispersed manner within the European and later the Euro-African agricultural system, than it had in England, to say nothing of the almost ‘urban’ populations of the Powhatans and Monocans.\(^{109}\) While the wealthiest white planters were, in general, able to secure ownership of the agroecologically explosive bottomlands,\(^{110}\) white men of lesser means did not typically respond to this monopoly of prime natural resources by selling their life's labor to the

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\(^{110}\)The image of valuable agricultural lands being held in the pre-Civil War South by the wealthiest members of society, while poorer farmers were pushed back from the rivers onto the ridges and pine lands in largely drawn from the work of Frederick Law Olmsted, who described the pattern in his 1856 book, *A Journey in the Backcountry* (New York: Burt Franklin, 1970 reprint edition): 13-14, 18-20, 33, 158-160. While a number of later scholars disputed his picture of the southern class landscape, particularly Frank Owsley, there is much to be said for his version. The most precious ecosystems in Virginia, the "low grounds" along the rivers and streams, were dominated by the tobacco gentry. See Isaac, *Transformation of Virginia*, 34-42. The Fry-Jefferson Map of 1763 reinforces this picture, noting the locations of major planter seats closely lining the major rivers. In old Amherst County, for example, the James River bottomlands were owned not by middling farmers but by members of the wealthy Cabell and Nevil families.
owners of those more fertile fields, as poor families back home were being forced to do.\textsuperscript{111} The promise of paid passage to the colony could extort such contracts from indentured servants for only limited periods, and a permanent system of paid agricultural labor could never be established.\textsuperscript{112} Instead, freed servants and other migrants of modest means discovered that the biotic resources of the Virginia tidewater and piedmont were for a moment sufficient to support a wide dispersal of independent commercial farming. The natural bounty of mature ecosystems beyond the river sides helped the loss in commercial return realized from their relative poverty fall below, at least in the short run, the loss in surplus labor value inherent in selling labor into the most productive ecosystems. As a result, in the latter decades of the seventeenth century, Virginia's lesser white farmers pushed their exploitation of the colony's latent biotic potential beyond the

\textsuperscript{111}Certainly the initial process of settling the region did involve such a process, as Englishmen and women indentured themselves into agricultural labor in Virginia's tobacco fields. Yet such arrangements were never permanent, and servants clearly had other agendas in mind beyond transportation, food, and freedom dues. The classic discussion of the state and mentality of freed servants in the seventeenth-century Chesapeake, see Morgan, \textit{American Slavery, American Freedom}, 215-234. For a discussion of the motivations behind servant and free migration to Virginia, see Russell Menard, "British Migration to the Chesapeake Colonies in the Seventeenth Century," in Lois Green Carr, Philip Morgan, and Jean Russo, eds, \textit{Colonial Chesapeake Society}, (Chapel Hill, NC: University of North Carolina Press for the institute of Early American History and Culture: 1988): 99-132. See also Allan Kulikoff, \textit{Tobacco and Slaves: The Development of Southern Cultures in the Chesapeake, 1680-1800}, (Chapel Hill, NC: University of North Carolina Press for the Institute of Early American History and Culture, 1986): 45-54, for a discussion of the land and labor choices made by white families after the introduction of widespread chattel slavery.

\textsuperscript{112}By-and-large, Virginia's eighteenth-century economic leaders abandoned free markets in labor for bound workers. See Wallerstein, \textit{The Modern World-System II}, 170-174. Even white wage workers were at least subconsciously thrust into the category of coerced, subservient labor. See Kulikoff, \textit{Tobacco and Slaves}, 295-296.
river flood plains, creek bottoms, and low waterside bluffs and onto the swampy backwaters and sand ridges inland, with significantly different ecological and commercial results. Africans, of course, were quite deliberately given no such choice, and were driven to invest their labor in the ecological potential of low grounds by means of the whip and the gun.

The unique elements of both the Virginia landscape and its commercial system did help to create ecologically significant, and obvious, differences in the structure within which Powhatans, Monocans, and whites of different classes exploited the natural world. Yet the circumstances of frontier life—low population density, poorly developed trade networks, and distance from world economic centers—common to both sides of the Virginia frontier forced a substantial degree of common technique and common technology on all of Virginia’s human populations. English settlers borrowed a number

113 For a discussion of these mechanisms and their apparent results, see Lynn A. Nelson, ""Then the poor Planters Hath greatly the Disadvantage': Tobacco Inspection, Soil Exhaustion, and Formation of a Planter Elite in York County, Virginia, 1700-1760," Locus 6:2(Spring 1994): 19-34. Form inventory data I concluded that expanding population along with attempts to compete in the tobacco market on an equal level with planters who possessed both more abundant and superior land forced smaller farmers to push their properties agricultural potential much harder than their wealthier neighbors, resulting in declining yields and outmigration. See David Hardin, "'Alterations They Have Made at This Day': Environment, Agriculture, and Landscape Change in Essex County, Virginia, 1600-1782," (Ph.D. diss., University of Maryland, 1995), 103-119.

114 Tim Silver makes a somewhat similar point about the adaptation of Southern colonists to their unique environments: the ability of settlers to mold their agriculture and life to the contours of the ecosystems in which they lived was the foundation of the construction of a successful society. This issue of adaptation is a crucial one to environmental history. In an intellectual climate in which any suggestion of an ecological context to human action is bound to bring charges of 'environmental determinism', it is important to distinguish the idea of folk adaptation, the creation of a culture based upon the bonding of a legal and commercial system to the specifics of a
of the essential techniques of the Virginia frontier agroecosystem from the Chesapeake Indians. In terms of labor-saving methods of disturbing ecosystems, ameliorating and maintaining soils, and exploiting grazing animals, there was a marked continuity within the frontier agroecosystem between native and Anglo-African settlement.

As noted earlier, the agricultural labor which most amply rewarded its investment was that which released the biotic potential of the large trees and uppermost levels of the soil, and then directed that potential into controlled crop growth by removing the competition of other flora. The surface soil, with its richness in nutrients and decomposing organic matter, and its physical structure ready to support selected crop species, responded to agricultural labor quickly and lucratively. The main factor the forest soil lacked to provide an agricultural return was sunlight, the forest floor's surface being shielded by the leaves of the trees above it from that essential input of primary production during the growing season. A simple process answered the need for sunlight in the early agricultural systems of the Atlantic seaboard. During the winter, farmers moved into the forest with crude axes, made of stone among the Indians or of rough-

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local environment. Cultural norms can fly in the face of ecological imperatives, but rarely for long. In Virginia, frontier circumstances made subsistence and labor efficiency primary goals for both Indian and colonist, while an often harsh and limiting environment forced a degree of cultural adaptation on both groups. Not surprisingly, while certainly maintaining a great degree of social, economic, and cultural distance, Virginia's red and white citizens made profoundly similar agroecological choices during the period of their coexistence. For some of the best theoretical and practical work on folk adaptation, see James Malin, History and Ecology: Studies of the Grassland, Robert P. Swierenga, ed., (Lincoln, NE: University of Nebraska Press, 1984): Part II, "Environmental Adaptations in the Grassland: Case Studies," 127-258.
hewn iron among the English and Africans, and girdled the larger leaf-bearing trees. "Girdling" involved cutting a strip of bark from the tree around the base of its trunk, and thus exposing its inner, living heartwood. With their productive flesh thus exposed, temperate forest trees such as Oak, Chestnut, and Pine cannot move water and minerals taken up by the roots beyond the girdle to the green leaves, the site of photosynthesis and primary production. This situation had two important, immediate, effects on the microecosystem around the tree. First, no leaves grew on the tree that summer, removing the forest canopy's ability to block sunlight from the ground level where new plants might grow. Second, the tree's inability to continue primary production, while in the long-term killing it, removed from the new plants which farmers might introduce the possibly debilitating competition for soil resources from the larger trees and their associated species. The way toward immediate cultivation of the soil could thus be opened with a surprisingly small commitment of labor. Crops on both racial sides of the Virginia frontier were typically grown for a season or two amidst stumps or beneath the diminished shadows of still-standing, dying, trees.

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117Silver, A New Face on the Countryside, 46-47. Perhaps the most famous illustration of the Chesapeake region field is the 1798 sketch of a Fredericksburg area overseer and his charges made by English-born architect Benjamin Latrobe. The sketch details a pipe-smoking white man standing on a small tree stump overlooking the hoeing of two black women working in between other tree stumps while underbrush is burned nearby. Even after many Chesapeake farmers had begun to avail themselves of the productive benefits...
Beyond the competition of the big trees for sunlight and soil resources, only one more major obstacle lay in the path of the farmer's goal of directing the released potential of the forest ecosystem into the productive processes of crop plants. Despite their reputation in older ecology textbooks for colonizing bare rock faces and other denuded geological structures, the pioneer plants – _r_-selected species – common to eastern North American forests in fact thrive most luxuriantly upon disturbed, rather than destroyed soils. In such environments, their fragile and ephemeral root systems can quickly and easily find their way to water and nutrients through looser structures.118 Over the course of a forest ecosystem's development, rainwater leaching and long-term settling cause the upper layers of the soil become more tightly packed, while the root work of the plant species of the ecosystem increasingly concentrated in the heavy soil churning of the big trees below the organically rich upper layers. Simple vines and ferns could grow with roots spreading broadly in the thin layer of decaying leaf fall, but most crop plants demanded deeper root structures and the open soil capillaries which could accommodate them.119 Indians, Europeans, and Africans all answered the problem of loosening the soil of land clearing and plowing, cultivation of stumpy fields remained the norm for the first year or two of planting. Benjamin Latrobe, "An overseer doing his duty. Sketched from life near Fredericksburg," 13 March 1798. Latrobe Papers, Sketchbook III, 33. Maryland Historical Society, Annapolis.

118Chapman and Reis, Ecology, 35-37.

structure with simple hoes of various design.\textsuperscript{120} Scraping the upper levels of the soil with these tools, farmers gathered the surface dirt into small mounds 2-3 feet high.\textsuperscript{121} Depending upon the background of the farmers, seeds of plants such as corn, tobacco, beans, pumpkins, and squash were then planted in these ‘hills’, which removed the need for the roots of these introduced plants to dig into a hard-packed soil. The resulting improvement in crop yields through this technique of soil disturbance more than justified the labor invested for most farmers growing most crops on most soils.

Beyond girdling and hoeing, English farmers discovered another measure, from Native American example as well as from their own experience, whose results in terms of increased biotic productivity justified the invested labor: the coupling of land clearing with the burning of dead plant matter in order to release nutrients and reduce soil acidity.\textsuperscript{122} Virginia lived and lives—and often suffers—under an almost subtropical climate. While never approaching the extremes which typify the belt of equatorial rainforests which circle the Earth, Virginia east of the Blue Ridge is characterized by temperatures and levels of rainfall well above those which occur in the agricultural


\textsuperscript{122}Kirby, Poquosin, 111-114. Kirby cites the work of agricultural chemists R.C. Kedzie and A.B. Stevens, published in agricultural journals such as the Massachusetts Plowman and Richmond's own Southern Planter between 1885 and 1888.
regions of Northern Europe from which the second human settlement of the Chesapeake was primarily drawn. Within any soil structure, ions of various elements and molecules are bound together. Yet as rain percolates through the soil down to the water table, it dissolves various ‘base’ ions, particularly calcium salts, breaking their bonds with the other elements of the soil’s structure, and draining them away from its upper levels. In the absence of these salts, reserves of hydrogen and aluminum ions are then able to take the place of the salts in the soil’s chemical structure. The growing concentration of these ions in the upper levels of a well-watered, or "leached" soil, steadily lowers the pH (acidity measurement) of the soil, making it far more acidic than the originally deposited organic matter had been.123

Yet while rainwater leaching rarely reduces soils to such a level of acidity as to directly injure plants attempting to grow in them, the indirect harm can be considerable. The ability of growing plants to incorporate phosphorus and nitrogen, two essential soil nutrients, into their growth processes is greatly hindered by high levels of soil acidity. Phosphorus is normally very soluble, and thus easy to draw into the mineral solutions in a plant's roots and body. In acidic soils, however, phosphorus tends to bond with the large amounts of free iron and aluminum in molecular structures, making it much less soluble, and therefore difficult for plants to take up. A plant's intake of nitrogen, on the other hand, is controlled by the ability of certain soil bacteria to convert the nitrogen in

123 The most accessible discussion of soil acidification in a historical study is in William Mathew, Edmund Ruffin and the Crisis of Slavery in the Old South: The Failure of Agricultural Reform, (Athens, GA: University of Georgia Press, 1988), 69-74, 78-81. See also Wingo, Virginia's Soils and Land Use, 82-86.
decaying organic matter into the nitrate compounds which are incorporated into biotic production. Acidity, even at relatively limited levels, can severely impair the vigor and productivity of these bacteria, cutting the available nitrate supply, and placing limits on plant productivity as a result.\textsuperscript{124}

The soil structures, rainfall patterns, and temperatures typical of Virginia's various agroecosystems all contribute to the processes of soil acidification. The tidewater's soils, and to a lesser extent those of the piedmont, tend to be well-drained, hurrying the process of salt-leaching. High rainfall obviously also increases the rate of dissolution of soil bases. Desert soils, for example, are typically characterized by high, even biologically destructive, levels of alkalinity. Relatively high temperatures in Virginia's more humid climate, on the other hand, increase soil acidification in a number of ways. The absence of lengthy winter freezes in Virginia (in comparison with Northern Europe, for example) lets the process of base leaching continue year-round.\textsuperscript{125}

Land clearing and active cultivation of the soil during the seventeenth and eighteenth centuries, in turn, amplified the problems of acidification which Virginia's climate and geology initiated. In a mature forest ecosystem where much of the living biotic community's interaction with the soil takes place at the level of the deeper roots, the dissolution of salts from the more porous upper layers of the soil does less to inhibit primary production. Crop plants, on the other hand, have root systems that rarely reach below the couple of feet of the soil, and thus are much more vulnerable to rainwater

\textsuperscript{124}Mathew, op cit.

\textsuperscript{125}Ibid.
leaching through the many open capillaries which a loose soil provides. The disturbance of the uppermost levels of the soil which accompanied hoe cultivation made the soil even more open and subject to rainwater percolation and base leaching. Stopping primary tree production through girdling removed the equalizing effect which a mature forest had on the microclimates beneath it.

Both Indian and Euro-African farmers responded to the problem of natural and human-encouraged acidification of Virginia's soils by cutting down dead trees a season or two after girdling, or even immediately on the odd occasion when labor was abundant and demand for crops was high, and then burning the dead wood on the ground. This burning counteracted the problems of soil acidity in two limited, but in the short-run very important, ways. First, hardwood ashes contain significant amounts of phosphates, the most immediately useful form in which phosphorus appears in the soil. The immediate incorporation of potash-rich hardwood ashes into the hoe-mounds which served as the basic soil matrix for crop plant growth in Virginia provided a large potassium spike. Indeed, this spike was so large that the actions of salt-leaching, increased acidity, and the bonding of phosphorus into other compounds (which proceeded over a period of years in any event) was reduced to irrelevance in the first seasons of cultivation in a cleared field. Second, and even more importantly, wood ashes also consist of large amounts, (in some cases up to 70% of their volume) of calcium lime, whose leaching by rainwater did so much to increase soil acidity. The presence of large amounts of woodash calcium in the uppermost layer of the soil would therefore dramatically slow the process of acidification.
during the first years of the active cultivation of a newly cleared field.\textsuperscript{126}

Burning, however, was only a short term strategy for increasing the ability of the agroecosystem both to release stored biotic potential and remove impediments to crop plants tapping into that released fertility. The useful elements in wood ashes leached rapidly from the exposed soil. As a result, their impact on lowering acidity and making biotically stored phosphorus readily available rarely lasted at significant levels more than two or three years.\textsuperscript{127} Yet in comparison with laborious techniques of soil conservation and fertilization through the collection and spreading of additives, the burning of the big trees was a cheap and easy way of increasing the immediate productivity of a creatively disturbed ecosystem. Indeed, so valuable did it prove that English planters adapted it into a long-term technique for promoting the growth of their most important commercial crop, tobacco.

Euro-Virginians, dependent upon the crop for steady cash and credit, unlike the Powhatans and Monocans, who used it for religious and ceremonial purposes, put much more obsessive care into its breeding and cultivation. Tobacco plants were grown during the first weeks of their lives in specially prepared plant beds, with constant attention and nurture, before the maturing seedlings were transplanted into the main fields. In addition to bringing mulch and river mud into these 'plant patches' to increase their organic fertility, Virginia tobacco planters of all classes typically piled up cleared brush and

\textsuperscript{126}Kirby, \textit{Poquosin}, 111-114. See also Jordan and Kaups, \textit{American Backwoods Frontier}, 96-100.

\textsuperscript{127}Kirby, \textit{Poquosin}, 110-111.
branches onto the patches and burned them just before planting, taking advantage of the positive influence of wood ashes on soil fertility at a smaller scale.\textsuperscript{128}

The uses of managed fire was not limited solely to agricultural purposes in the frontier agroecosystem. Its use also played an important role in the management of fauna, whether wild or domesticated, in both Euro-African and Native American settlement. The various applications of low-level wild land fires set and to some degree managed by the Indian tribes of the Atlantic seaboard have been discussed in above. Such fires served as an even less labor-intensive method of releasing stored fertility into the active ecosystem and removing native competition than land clearing for actual cultivation. Burning off the lowest layer of underbrush while reducing the upper level of leaf litter to ashes brought many of the fertility benefits of fire discussed above. In addition, the removal of the underbrush and smaller trees freed up the forest floor for the growth of new plants. These new growths of grasses, herbs, and weeds such as dandelions, mulleins, goldenrods and asters, were the favored sustenance of the Indian’s favorite game animals, white-tailed deer and even buffalo for the sixteenth and much of the seventeenth century. The explosion of wild plant growth which accompanied limited land clearing and extensive ground-level burning supported greatly increased populations

of game which sustained Powhatan and Monocan subsistence and culture.\textsuperscript{129}

The English, with their greater commitment to permanent settlement and agricultural property, modified this system only to the point of insisting on the domestication and potential marketability of the animals supported by forest burning. White settlers in Virginia extended their diets with beef and pork, particularly high-protein supplements. This was especially the case as the abundance of land in the new world changed the traditional European agricultural mentality that had correctly viewed livestock as an inefficient use of land and feed in a crowded countryside.\textsuperscript{130} With relatively cheap land in Virginia, wealthy planters and poor farmers alike were able to afford what were, by European standards, large herds of cattle, hogs, and later sheep, as a supplement to crop cultivation and sale.\textsuperscript{131} These herds, however, never became the capital- and labor-intensive investments in commercial dairy and meat production that


\textsuperscript{130}See Tivy, \textit{Agricultural Ecology}, 115. As Tivy points out, the major reason for the continued use of livestock in high population areas was their metabolic ability to transform low-quality plant proteins into high-quality, easily digestible animal proteins. On the frontier, however, the labor issue probably outweighed nutritional concerns. Free-ranging animals could do the work of collecting plant nutrients with a minimum of human intervention.

increasingly characterized livestock raising in Northern Europe. Instead, Euro-
Virginians adapted themselves to the frontier by bringing their system of pastoralism into 
close parallel with the managed game economies of the region's native peoples.

Rather than importing the minute management, careful feeding, and planned 
breeding of European stock-raising to America, the settlers turned their cattle and pigs 
loose into the surrounding woods to fend for themselves. The limitations of such a 
system were obvious: feeding of animals on richer grasses, grains, and slop became 
impossible, health care was at best sporadic, and breeding was left to the animal's, rather 
than the farmer's, choices. The cattle and hogs turned out into this open-range system 
went feral to various degrees, breeding for survival rather than meat quality, and wound 
up stunted, scrawny, and mean in comparison with the products of European stock

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132 Kerridge, The Agricultural Revolution, 117-120, 311-325. See also Tivy, 
Agroecology, 231-241, for a broader discussion of the ways in which industrial 
agriculture has drastically sped up the capital and ecological intensification of livestock 
rearing.

133 This "open-range" system of pastoralism was one of the key adaptations to the 
North American environment common to all the British colonies. See Cronon, Changes 
in the Land, 128-131, Lois Green Carr, et al., Robert Cole's World, 45-48, or Mart 
Stewart, "'Whether Wast, Deodand, or Stray': Cattle, Culture, and the Environment in 

134 All that was typically possible was to bring in cattle and hogs during the winter, 
feeding them on various kinds of fodder in crude pens, in order to prevent starvation. 
Many farmers neglected to even pursue this course. See Carr, et al., Robert Cole's 
World, 46-48, for a description of one farms' stock practices in seventeenth-century 
Maryland. See the discussion of William Cabell's Commonplace Books below for the 
only surviving information on livestock rearing in eighteenth-century Amherst County.
pens. Yet the product was abundant when compared with the microscopic amount of labor required for the animals' upkeep. Beyond chasing half-wild cattle and hogs down at branding and slaughter time, the main labor investment made in colonial Virginia's pastoralism was precisely the same kind of woods burning practiced by the Indians of the region. Bringing the same benefits of increased forage, woods-burning became the accepted practice among farmers across Virginia and the entire South. In later days, as the managed cultivation of timber resources became a more valued part of the southern economy, the region's economic leaders and their supporters in the United States Forest Service waged a long battle against the "incendiaryism" of the region's common folk, who sought to maintain open range pastoralism by burning southern forests well into the twentieth century. Indeed, so productive was the open range that the English land system, so rigidly maintained in other respects in early Virginia, was largely abandoned in relation to livestock. Fence laws required crops, rather than animals, to be fenced adequately, and open-range livestock were allowed to wander the countryside without


136 Martha von Briesen, ed., The Letters of Elijah Fletcher, (Charlottesville, VA: University Press of Virginia, 1965), 20. Fletcher describes the process of catching feral hogs in the early nineteenth-century Tye Valley region as being a mirror of the techniques for hunting other animals.

137 Pyne, Fire in America, 143-160.

attending to property lines. While considerable effort went into branding or ear-cropping as a means of marking ownership of cattle and hogs, Virginians didn't take the matter seriously enough to attempt to stop the inevitable losses from strays.

The most pressing danger posed by the explosion of unregulated livestock across the countryside was the fact that their ability to expand their population on the bounty of disturbed ecosystems would lead to a corresponding increase in their predators. Indeed, colonists's cattle faced constant menace from wolves, who appear to have increased in number in relation to the growing herds of semi-domesticated herbivores in the woods. Most of Virginia's county governments began paying bounties for the heads of wolves, and occasionally other predators, throughout the seventeenth and eighteenth centuries. Human predators were also closely watched by stock owners and the authorities. While it was difficult for farmers to steal stock from neighbors in order permanently to add to


140Carr, et al., Robert Cole's World, 46. The probate inventories from eighteenth-century Amherst County, which will be discussed in greater detail below, frequently note the various brands and markings identified the ranging livestock of a deceased person.

141See Hardin, "‘Alterations They Have Made at this Day’," 241-252, Cronon, Changes in the Land, 132-134, Silver, A New Face on the Countryside, 175-177.

their own herds, killing and immediately eating hogs in the woods could be a valuable addition to subsistence—even occasionally a substitute for agricultural labor. Despite the watchfulness possible in a small, local society such as colonial Virginia, hog stealing became an entrenched habit among the common folk—black, white, and red—of the Old Dominion and the Old South.\textsuperscript{143} Yet despite their railings against hog thieves, who came to be seen as the lowest of the low, the respectable property of owners of Anglo-Virginia accustomed themselves to the occasional drain on their livestock enough to forbear for almost three hundred years enforcing stricter attentiveness to matching the boundaries of property in animals to those of property in land.\textsuperscript{144}

Yet those compromises which early Virginians made in their property system were never absolute. The techniques of agricultural ecosystem management borrowed from the Powhatans and Monocans in the interest of maximizing biotic return on limited investments of labor were constrained by the property system and commercial focus of the early modern British Empire. When slowly expanding populations and increased tobacco production pressed up against those systems, the Virginia agricultural system began slowly, but surely, to veer away from Native American models. While the frontier

\textsuperscript{143}See for example, Carr, et al., \textit{Robert Cole’s World}, 141.

\textsuperscript{144}Virginia’s legislature ended the open range in piecemeal fashion, beginning in 1858 with legalized ring-fence association, and culminating in 1886 with a local option fence law that gradually closed the open range by the early twentieth century. See Kirby, \textit{Poquosin}, 76-78. Every Virginia county in the eighteenth century had its own fence inspector, and office which young or new men used as a stepping stone into more prestigious roles in local government. Yet the inspector’s task was to ensure that fences \textit{around crops} were in adequate condition that a cultivator agrieved by pushy livestock might be certified to seek quick and efficient redress in the courts.
calculation which measured limited labor against abundant land remained predominant in their thinking, Virginia farmers began to look for ways to enjoy more stable property in land while continuing to make money in unsettled crop markets.

For their part, the Powhatans and the Monacans had long understood, of course, that cultivation of any crop, particularly nutritionally demanding ones such as tobacco or corn, could not be maintained for any extended period of time on a single piece of unameliorated land. As a result, Virginia's Indian communities moved their crop fields from place to place along the bottomlands, only returning to old fields after extended periods of time had allowed the forest and soil to be replenished. When population expanded beyond the point that the fields could be recycled into adequate production, famine, warfare, or extended migration served to reduce a region's population back to sustainable levels. Furthermore, the limited information available on Indian subsistence techniques comes almost entirely from the period of European colonization, after old world epidemic diseases had done an enormous amount to reduce Native American populations. The apparent spread of agriculture in the eastern half of North America after 1000 A.D., along with the fall of such urban-imperial systems as Cahokia,


indicate that the sustainability of the subsistence systems of even the most spiritual of ecologists was not immune to the pressures of population expansion.\textsuperscript{147}

English settlers, on the other hand, lacked many of the harsher mechanisms of self-reduction. Once a 'seasoned' population was established during the last quarter of the seventeenth century, the disease environment of lower Virginia ceased to be an obstruction to the colony's population, which expanded slowly, but quite steadily, thereafter.\textsuperscript{148} Systems of transportation and trade had largely eliminated the threat of famine, and the development of complex state and legal structures had gone a long way toward eliminating local warfare over natural resources.\textsuperscript{149} Furthermore, the colonists'...
almost invariably victorious wars against the Indians did little to keep Euro- and Afro-
American populations in check.\textsuperscript{150}

This expansion of population within the confines of the agricultural and property
system of the Virginia colony led to two developments which compromised the purity of
shifting cultivation. In the first place, as noted above, poorer farmers shut out of the
richest soils by gentry domination of the land system pushed their way up the creeks and
onto the forested interior ridges of the tidewater peninsulas. Once there, they began
disturbing and cultivating ecosystems which the Powhatans had largely left to game
animals – ecosystems with impoverished soils which could not support cultivation as
long as the bottomland forests, or recover their ‘maturity’ as quickly after being
abandoned. Furthermore, while there was a cash market for land in the English
commercial system, more often such property was transferred within family lines from
one generation to the next. As the families of Virginia colonists slowly grew across the

\textsuperscript{150}Indeed, after the killing of one-fourth of the Virginia colony's population in the
Indian uprising of 1622, the colony moved from victory to victory over the Virginia
tribes, and the Indian presence in the region, while it might limit the geographic
expansion of the colony, did little to limit its population. See Warren Billings, et al.,
\textit{Colonial Virginia}, 44, 82-84.
seventeenth century, and as even the back lands began to fill up, settlement expansion
and outmigration emerged as the alternative to the reduction of landed estates through
partible inheritance.\footnote{While many Chesapeake scholars have focused on high mortality levels in arguing for severe and lasting social dislocation during the seventeenth century, others have pointed to a growing stability of family and community after 1660. See in particular Darrett B. Rutman and Anita H. Rutman, \textit{A Place in Time: Middlesex County, Virginia, 1650-1750}, (New York: Norton, 1984), especially 94-106.}

This reduction, of course, washed back into the land market, slowly raising
relative values even in areas well outside the zone of significant settlement.
Furthermore, as commercial agriculturalists seeking out profit if only to purchase more
land, the Virginia colonists grew not for their own subsistence but for an external
demand, which dramatically limited their ability or willingness to \textit{adapt} their agricultural
techniques to shifting ecological circumstance in a search for social stability. In addition
to the grinding stones of property and population, commercial considerations would also
force Virginians out of a pure system of shifting cultivation.

The Chesapeake's original commercial boom in frontier agriculture, beginning in
the 1610's and petering completely out in the 1660's, was driven by English demand for
Virginia-grown tobacco.\footnote{Russell Menard, "The Tobacco Industry in the Chesapeake Colonies, 1617-1730: An Interpretation," \textit{Research in Economic History} 5(1980): 109-177.} This demand, however, proved to have limited elasticity,
particularly when compared to the growing ability of the European and African
populations in Virginia to push against the tidewater ecosystem's limited ability to

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support commercial tobacco cultivation at the highest levels. Well into the eighteenth century, smoking pipe tobacco or dipping snuff remained largely English fashions. A significant re-export trade in Virginia's crop did not develop until well after the essentially fixed English demand had been saturated by expanding American production. Returns on Virginia tobacco continued to decline steadily during the second half seventeenth century, reaching the point by the 1690's that the weed's cultivation hardly repaid the colonists' investment of land and labor. This trend proved particularly true for smaller farmers cultivating land outside the center of the colony. While prices for the best tobacco varieties commanded good prices into the early eighteenth-century, the lower-quality types grown on marginal lands and outside of the central tidewater quickly saturated the demand of a luxury market.

The long European wars which accompanied the dynastic struggle between William of Orange and Louis XIV of France (beginning in 1691 and not ending until

153 Apart from Jacob Price's more intensive studies of the tobacco shipping and export business in the eighteenth century, the best short work on role of the fluctuations in European demand for Virginia tobacco in shaping prices remains Charles Wetherell, "Boom and Bust in the Colonial Chesapeake Economy," Journal of Interdisciplinary History, 15 (Autumn, 1984): 207-281. Yet despite the influence of this work, most Chesapeake scholars still look to supply issues as having been key to price trends. See Menard, "The Tobacco Industry in the Chesapeake Colonies," for a study of the way in which prices reflected production trends.


nearly a quarter-century later) added further burdens to the tobacco trade. Shipping the annual crop became dangerous and expensive, while luxury consumption in England was curtailed.\textsuperscript{156} The temporary end of these wars between England and France after 1714 did help to return English demand to its seventeenth century levels. More significantly, the hard labors of London, Bristol, and Glasgow merchants early in the eighteenth century opened a larger market for tobacco in Northern Europe, particularly France.\textsuperscript{157} This re-export trade helped sustain a slow but steady growth in tobacco cultivation down to the Revolution.\textsuperscript{158} Yet this trade's development was too slow, and Virginia's population was expanding too rapidly, for the colony ever to hope for a return to the

\begin{table}
\begin{tabular}{|c|c|}
\hline
Year & 1000's of lbs. \\
\hline
1711 & 30,424 \\
1721 & 41,382 \\
1731 & 45,691 \\
1741 & 68,374 \\
1751 & 65,977 \\
1761 & 73,337 \\
1771 & 105,362 \\
\hline
\end{tabular}
\end{table}

From: Price, \textit{France and the Chesapeake}, 843-845.

\textsuperscript{156}See John M. Hemphill III, "Virginia and the English Commercial System, 1689-1733: Studies in the Development and Fluctuations of a Colonial Economy under Imperial Control." (Ph.D. diss., Princeton University, 1964), 5-51, for a thorough discussion of the colonial tobacco trade during its most depressed era, and 310-314, for the best available tobacco price history for the era.

\textsuperscript{157}Price, \textit{France and the Chesapeake}, op cit. See also data on tobacco re-export in Herndon, \textit{William Tatham}, 296-297.

\textsuperscript{158}Gray, \textit{History of Agriculture}, 213-215. Jacob Price provides the following figures for tobacco imported by Great Britain from the Chesapeake:
remarkable profit margins of the first few decades of tobacco farming.\textsuperscript{159}

At the more practical level of cultivating commercially valuable tobacco plants, the boom of the early- to mid-seventeenth century had rested on a narrow agroecological base. As that base was exceeded the commercial agroecosystem burst the bonds its natural surroundings just as it had earlier burst the bonds of its market. Like all consumers of luxury goods, English tobacco connoisseurs could be quite particular about the quality of the weed they were willing smoke or dip. The tobacco which found the readiest market and highest prices throughout the colonial period was a mysterious (and now apparently extinct) variety of the genus \textit{Nicotiana} known at the time as ‘sweet-scented’ tobacco. Sweet-scented, known for its light-colored leaves and delicate flavor, proved to be cultivable only on the narrow peninsulas between the James, York, and Rappahannock Rivers where the Virginia colony was first seated.\textsuperscript{160} Within this regional ecosystem, the best sweet-scented tobacco could only be grown on those, dry, well-drained, loamy soils deposited on and below low ridges near the river lines.\textsuperscript{161} Indeed, sweet-scented tobacco proved so sensitive to the climate and soil conditions of the


\textsuperscript{160}Breen, \textit{Tobacco Culture}, 64-65, Herndon, William Tatham, 4-5, 118. The most detailed and authoritative discussion of sweet-scented tobacco and the patterns of its cultivation, however, is in Hardin, ""Alterations They Have Made at This Day','" 99-154.

\textsuperscript{161}Craig Lukezic, "The Effects of Soil on Settlement Location in Colonial Tidewater Virginia," (M.A. Thesis, College of William and Mary, 1986). See also Hardin, "Alterations They Have Made at This Day," 106.
ecosystem in which it was grown, many prominent planters on the peninsula found it advantageous to ship their crop under a personal mark, as the best English customers were willing to pay even higher prices for the best of the best.\footnote{Breen, Tobacco Culture, 64-67.} When the limitations on the supply of suitable land and the need of the frontier agroecosystem continually to renew its base in a mature ecosystem were combined with Virginia's expanding population and labor supply, the ability of the tidewater ecosystem to support the economy of Virginia was quickly outstripped by the region's growing labor supply.\footnote{Nelson, "'Then the Poor Planter hath Greatly the Disadvantage!'," 130-132.}

This imbalance took the shape of an increasing pressure that tobacco farmers placed upon the biotic fevers which borrowed methods of disturbance had created. As the tobacco market became glutted, and more and more planters found themselves unable to produce high quality weed from low-quality soils, they responded as commercial farmers have always responded to depression: they continued increasing production in order to maintain income levels. More and more land was planted in tobacco, and the stored fertility of cleared forests had to be pushed to its limits in order to make both labor and pay.\footnote{Ibid.} While cultivators of sweet-scented tobacco on prime soils might invest their labor in maintaining high quality, the growing majority of smaller farmers were forced to cultivate larger crops to maintain income against falling prices. This, of course, exhausted the poorer soils they farmed even more rapidly. Without the imperatives confronting commercial farmers, Indian farmers had been blithely able to

\footnote{Ibid.}
simply abandon lands for decades after farming it. Late in the eighteenth century, however, the pressure which crop markets were bringing to bear on Anglo-Virginia’s adaptation of shifting cultivation collided with the limits placed on the colony’s settlement system by private property and the land market. In the face of these problems, Virginians were forced to take the first, ever-so-tentative steps back down the road of intensification.

The alternative Virginia farmers created to shifting cultivation and land abandonment focused on improving the efficiency of resource diversion and on lessening waste by turning small investments of attention, labor, and financial sacrifice onto soil maintenance and amelioration. Historians of the agricultural system of seventeenth-century Virginia have taken to calling the system of frontier agroecology that was developed, “long falling.”165 Long falling combined simple crop progressions (as opposed to rotations) with periodic land abandonment and re-cultivation within a coherent system of European-style private property.

While unprepared to adopt crop rotations that aimed at permanently maintaining the productivity of cleared fields, Virginia farmers had noticed during the first decades of settlement that their crops – tobacco, Indian corn, and certain hard grains – had widely

165 For the original discussion of long falling in relation to the colonial-era Chesapeake, see Carville V. Earle, The Evolution of a Tidewater Settlement System: All Hallow’s Parish, Maryland, 1650-1783. (Chicago, IL: Department of Geography, University of Chicago, 1975), 24-29. Earle refined his ideas considerably in, “The Myth of the Southern Soil Miner.” See also Silver, New Face on the Countryside, 164-165. One recent scholar has been sharply critical of the effectiveness of long falling in restoring useful fertility, even concluding that the routine was never adopted by most Chesapeake farmers. See Hardin, “‘Alterations They Have Made at this Day’,” 133-152.
diverging nutrient and soil structure needs. Tobacco certainly thrived on high levels of fertility, but its commercial value was quality- as well as quantity-sensitive. As a result, the useful fertility of tobacco fields was typically exhausted after two to three years of planting. Yet the soil still retained sufficient nutrients to support crops that were not being scrutinized by connoisseur consumers. Indian corn, also an exhausting crop in terms of its demands for nutrients such as nitrogen and phosphates, but only yield sensitive, could be gainfully cultivated for another couple of years after tobacco had been abandoned. Once corn plants were no longer viable, a year, perhaps two, of subsistence or local market hard grains like wheat or oats could be wrung from the almost enervated soil. By carrying out similar progressions on several fields simultaneously – while clearing more land during the winter – farmers could maintain both commercial and subsistence cultivation while more thoroughly exploiting the fertility that had been created.166

Once the crop progression had been run through, however, land abandonment remained the only practicable option. The Virginia labor market and supply was still a long way in 1700 from being sufficiently depressed to allow farm operators to invest in labor intensive soil ameliorations like manuring. Furthermore, manuring was not yet a commercially-viable practice, as many consumers of sweet-scented tobacco complained that manured tobacco lots gave the leaf an unpleasant taste.167 As a result, serious


167 For the problems manuring apparently created for the taste of marketable tobacco, see Silver, New Face on the Countryside, 164, and Robert, The Tobacco Kingdom, 30.
attempts to institute artificial means of soil amelioration had to wait until after the middle of the eighteenth century. Yet the constant appetite the resulting pattern of abandonment created for new, undisturbed forest land ran directly counter the established property system. Some small farmers were able to duck out of the system by migrating beyond the range of effective local government and squatting on unclaimed— or claimed but unregulated—lands. Yet in so doing, these squatters moved out of the colony’s commercial system, often beyond its military protection. Even then, they still ran the risk of having nothing but a mean survival to show for their efforts when the authorities finally did appear to evict them from land which suddenly appeared to be the property of a prominent member of the eastern gentry. Those who were unwilling to drop out had to own or at least honestly rent the land they were cultivating. As land prices began to rise while tobacco prices steadily dropped, simply abandoning purchased land in order to make new purchases of fresh soils came to seem less and less profitable. Furthermore, systems of individual property combined with the admittedly truncated but undeniably important development of a commercial infrastructure in early Virginia to command significant investment in, and considerable benefit from, geographic

Interestingly, the notion current at the time that growing tobacco on lots previously used as cattle pens produced low-grade leaf came under attack early in the nineteenth century. See Herndon, ed., William Tatham, 4-5. Tatham, however, (writing around 1800) insisted that the popular prejudice was incorrect, and the practice of heavily manuring tobacco lots became much more widespread during the antebellum era. One possibility is that the problems created by manured soils applied only to the cultivation of sweet-scented leaf in the tidewater. The use of heavy manuring after the turn of the century centered in the new tobacco zone on the red clays of the interior Southside and central piedmont.
stability. Farmers then began to consider the possibility of long fallowing, a strategy whereby they would purchase enough land to maintain stable cultivation by regularly cycling worn crop fields back to forest, allowing the ecosystem to mature naturally (and without human effort or investment). As a result, Virginia planters quickly began to calculate the amount of land they would need to maintain such fixity. Fields were cleared, farmed until the quality of the tobacco produced declined beyond the point of commercial return, then planted in subsistence crops until those gave out as well, and then were finally abandoned for new grounds. The 'old fields', which in their various states of secondary succession became the trademark of the Virginia landscape, were allowed to return to forest for a period of twenty or more years before being cleared and cultivated again. Calculations varied, but most planters guessed that a minimum of forty acres per adult male hand on the plantation was required to keep the system working. As a result, planters worked diligently to pull together the cash, credit, and influence necessary to obtain the land they needed.

Yet the attempts made to establish long-fallowing as a workable system of soil

168 For the importance of local stability to developing kin networks, see Rutman and Rutman, op. cit. For the importance of kin and neighborhood networking to the stability of even the earliest colonial communities, see James Perry, The Formation of a Society on Virginia's Eastern Shore, 1615-1655. (Chapel Hill, NC: University of North Carolina Press for the Institute of Early American History and Culture, 1990), especially 70-143.

169 See in particular the descriptions cited by Craven, Soil Exhaustion, 82-85.

170 Carville Earle provided the original land-to-labor ratio estimate, placing it at a rather low 20:1 for tidewater Maryland. Earle, The Evolution of a Tidewater Settlement System, 29. More recent scholars working in more diverse Chesapeake landscapes have revised the figure up to 40:1. See, for example, Silver, A New Face on the Countryside, 164.
fertility maintenance were limited by two factors. First, the amount of time allotted for the ‘re-maturation’ of the denuded agroecosystems of the colonial tidewater was never long enough to achieve a permanent restoration of their biotic potential. Likewise, the diffusion of settlement which would have been brought on by population expansion alone drove commercial tobacco cultivation onto soils that could probably not have supported any form of long-fallowing. Second, attempts at long-fallowing were only the smallest of baby-steps down the road toward agroecological intensification. Commercial calculations were still made within a strongly frontier context – cheap land and expensive labor – and that structure continued to drive extensive cultivation. As a result, the long-term inevitability of land abandonment was never fully challenged during the early eighteenth century. Settlement, land clearing, and cultivation therefore continued to spread beyond the tidewater into the forest ecosystems of the piedmont, which were to create an entirely new set of problems for frontier farmers.

The twenty years which scholars have suggested as the likely period which long-fallowers allowed their old fields to progress back into forest, reconstruct their soils, and restore their reserves of biotic potential, is hardly sufficient to heal the damage done by several years of heavy crop growth. In most tidewater and piedmont ecosystems, twenty years of regrowth after agricultural disturbance typically yields little more than middle-aged growth of various southern pine species – particularly loblolly – which hardly matched the biotic potential of the fully mature hardwood forest. Furthermore, while the grasses which colonized the clearings might in many cases have done some worthwhile work erasing damaging soil exhaustion by restoring nutrients to the organic horizons, the
impact of soil acidification lasted much longer than the early stages of forest succession could repair. This was particularly true in the case of the pine trees which typically preceded deciduous hardwoods on reforested old fields. The pines dropped needles onto the soil which killed off understory growth, which retarded the reconstitution of the upper soil horizons. In addition, as those needles decayed, they exuded highly acidic compounds which were then leached into the soil. The low pH of pine forest soils seriously retarded all manner of crops, and earned such forests the sobriquet, 'pine barrens'.

The pine barrens were particularly prevalent along inland stream sides and backwoods sand ridges. While hardwood forests regenerated more quickly on moist, but not sodden, soils, creek swamp succession was marked by varieties of ‘slash pine’ while loblolly and other dry-soil evergreens lasted much longer on the well-drained uplands. These, of course, were precisely the soils held down by small, family-labor farmers who had pushed back from the main river fronts in an effort to obtain their own property. The combination of a higher biotic potential in low-ground forests, greater raw amounts of

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172 For analyses of creek swamp succession patterns in this region, see Kricher and Morrison, Eastern Forests, 67-70, 76-80, 82-84. See also Hardin, “‘Alterations They Have Made at this Day’,” 140-142.
land, and quicker hardwood succession on those plots, allowed the members of the tidewater gentry to maintain their plantation estates for decades at a time. Yet the lower classes were forced to continue something approaching full shifting cultivation with accompanying land abandonment through much of the eighteenth century in order to remain commercially competitive.¹⁷³ Those frontier-defined commercial concerns also influenced the more stable plantation gentry, who sought to make up the money they were losing from declining tobacco profits through frontier land speculation, while pushing their sons and surplus slaves onto backcountry quarters hacked out of mature forest ecosystems. By 1720, surveyors, lawyers, and settlers were pushing up the valley of the James past Richmond, and would reach the Tye Valley in force two decades later.¹⁷⁴

This movement into the piedmont brought on a noteworthy series of changes for the frontier agroecosystem of colonial Virginia. Most important, the move of agricultural settlement beyond the Fall Line brought cultivators into an entirely different

¹⁷³ For evidence of the steadily declining tobacco yields obtained by lower class farmers in tidewater Virginia, see Nelson, "'Then the Poor Planter hath Greatly the Disadvantage'," 127-128.

soil regime from that which they had experience with in the tidewater. While the hardwood forests of lower Virginia built thin layers of black loams over deep, sandy soils, in the piedmont those loams overlay deep beds of the red clays which were and are so typical of so much of the American South. In the first place, the red clays proved entirely unsuitable for sweet-scented tobacco cultivation. Their structure was far too dense for more delicate root structures – drainage was too slow to provide the kind of dry, well-aerated soil sweet-scented tobacco appears to have demanded. In its place, farmers could only grow less-desirable varieties of Oronoco and dark tobaccos. Prices for piedmont tobacco would lag behind those offered for sweet-scented, only approaching genuine competitiveness as tidewater cultivation declined after the Revolution.\(^{175}\)

With returns and profits on tobacco cultivation deteriorating in much of the piedmont, many areas of the region turned to other cash crops. One option was the cultivation of corn, which had begun during the seventeenth century as a rotation supplement to tobacco (cutting excessive fertility in the first years after clearing and taking up ground wasted by tobacco after two or three years\(^{176}\)), began to engorge resources previously committed to the sot

\(^{175}\)See Wingo, *Virginia’s Soils and Land Use*, 110-115. Dark tobacco would retain its hold on the middle James River Valley’s declining agriculture until after World War Two.

While the rapid growth of Virginia's population after 1700 kept the gross amount of tobacco production expanding throughout the eighteenth century, the old exclusive commitment of labor and land to the weed was abandoned. Most importantly, corn began to beyond the rural neighborhoods of the Chesapeake, lessening the dependence of farmers cultivating poorer lands on ecologically-demanding tobacco crops for commercial returns. The explosion of sugar cultivation and slave importation which accompanied the opening of large scale plantations on Cuba, Hispaniola, and Jamaica during the early eighteenth century created a market there for North American crops. As had occurred during the first sugar boom during the previous century, Caribbean planters found any land or labor invested in crops other than cane to be a drain on their finances, and therefore took at various times to importing food. Corn provided a particularly useful, low cost, high protein dietary base for the steadily growing population of enslaved Africans in the region. Furthermore, corn was found by many Chesapeake planters to be serviceable as livestock feed. Cattle and hogs left to

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178For a detailed discussion of the switch tidewater planters made from sweet-scented tobacco to commercial corn production, see Hardin, "'Alterations They Have Made at this Day'," 302-320.


reproduce and mature in the woods beyond the plantation's fences could be brought in to
fatten on corn grown in excess of the plantation's human needs. Their meat might then
be salted, sold, and shipped off to embellish the diets of planters and overseers in the
Carribbean.\textsuperscript{182}

Many settlers outside the old tobacco core of the Virginia colony also adopted
this program of large-scale corn cultivation supplemented by continued, but smaller-
scale, cultivation of varieties of dark tobacco.\textsuperscript{183} Yet in addition to this tobacco-corn
complex, other farmers took a different approach as the eighteenth century passed its
mid-point. A growing market in wheat and other flour grains had opened in southern
Europe in the wake of the long wars between England and Louis XIV, and many
Chesapeake planters rose to meet its demands.\textsuperscript{184} Two regions in particular chose the
hard grain road: farmers in the upper Chesapeake valleys of the Potomac and the
Delaware, and those of the inner piedmont regions of Virginia like the Tye River
Valley.\textsuperscript{185} The former group adopted grain cultivation largely in response to their
proximity to the merchants and Atlantic connections possessed by the commercial

\textsuperscript{182}McCusker and Menard, \textit{The Economy of British North America}, 129-133.

\textsuperscript{183}Amherst County (Va.) Will Books, 1-4. Yields per laborer remained quite high in
the recently-disturbed ecosystems of the piedmont, and the gross production of the region
overtook that of the tidewater during the second half of the eighteenth century. Many
individual producers, however, appear to have limited the role of tobacco cultivation on
their own farms.

\textsuperscript{184}McCusker and Menard, \textit{The Economy of British North America}, 79-80, 194. See
also Clemens, \textit{The Atlantic Economy and Colonial Maryland's Eastern Shore}, 174-183.

\textsuperscript{185}Clemens, \textit{The Atlantic Economy and Colonial Maryland's Eastern Shore}, 218-221.
communities in Philadelphia and later Baltimore. Yet if the agricultural response of this region was driven by market and transportation considerations, that of the piedmont group was most likely ecological. To the extent that the red clay soils which underlay much of the southern piedmont were of limited value for most kinds of commercial tobacco cultivation, to an even greater extent it was discovered by the mid-eighteenth century that they could be put into grains much more profitably than had been the case in tidewater sand.186 Beginning in small ways in the 1730s and 1740s, and expanding rapidly after 1760, large amounts of land and slave labor in the newly-settled piedmont frontier were put first into wheat, and then into lessening quantities of oats, rye, and barley.187 As a result, the exclusive cultivation of sweet-scented tobacco on which the Virginia agroecosystem had been founded never made it to the Tye River frontier, and it was the demands of these two responses to the first market's collapse which shaped the adaptations of the frontier agroecosystem which defined the European reshaping of nature in the Tye Valley.

Yet those two responses, while developing in a quite different ecological context in the piedmont than in the tidewater, still presented problems similar to those which had undermined long fallowing in the low country of Virginia. Soil exhaustion, of course, remained an intractable problem for frontier cultivators hoping to establish some permanence to their landed estates. The nutrient demands of tobacco and corn remained just as high above the Fall Line as below, and red clay soils were just as susceptible to

187Amherst County (Va.) Will Books 1-4.
nutrient depletion. The high iron content of the clays, combined with their poorer
drainage qualities, limited the impact of acidification beyond the tiny but growing river
town of Richmond.\textsuperscript{188} While the particular susceptibility of hard grains to elevated levels
of soil acidity continued the problem – the burning of fallen timber remained popular
among piedmont cultivators, while their nineteenth-century successors would pioneer the
use of lime to raise the pH of agricultural soils – it was only when tidewater planters
began to try their hand at commercial wheat growing after 1800 that the problem of
acidification separated itself from the other symptoms of the over-exploitation of
agroecosystems.\textsuperscript{189}

Yet the piedmont clays presented their own possibilities for long-term soil
damage caused by human cultivation. The relatively level topography and coarse
consistency of tidewater soils limited the extent of damaging erosion in the region for

\textsuperscript{188} Acidity continued to be a problem, of course, but interestingly, the use of intensive
marling never spread to the piedmont. Instead, progressive commercial farmers sufficed
during the later antebellum years with limited applications of various refinements of
lime. By the twentieth century, Virginia state soil scientists chose hardly to discuss the
problem of acidity in relation to piedmont soils, focusing instead almost entirely on

\textsuperscript{189} A considerable amount of research in recent years has focused on the problems
encountered by tidewater planters attempting to participate in the international trade in
cereal grains. Most of this research has centered on the life of agricultural reformer
Edmund Ruffin, who popularized the use of high pH marls to combat soil acidity in grain
fields. It is important to note that the issue of soil acidity, which had obviously been
operative in the tidewater since the first tobacco boom of the seventeenth century, did not
become a serious crisis for the region’s agricultural economy until the post-
Revolutionary era. See in particular Kirby, \textit{Poquosin}, 65-76, and Mathew, \textit{Edmund
Ruffin and the Crisis of Slavery}, 93-126.

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most of the seventeenth and eighteenth centuries.\textsuperscript{190} The piedmont was a much different story: hillside grades added the force of gravity to the soil washing occasioned by regular downpours, while the fine structure of clay soils made them particularly water-soluble. When cultivation was inevitably pushed out of the most fertile black loams of the piedmont river bottoms, clearings on the slopes of the red hills quickly began to erode. Soils left bare by clearing and cultivation dissolved in the rain and washed down into the creek bottoms, flooding out the bottoms and creating swampy slashes out of formerly valuable pieces of land. The slopes added to the problem by channeling such sheet erosion into forceful washes that steadily dug down into the soil creating ugly, bare, unplowable and uncultivable gullies that spread across recently-cleared fields without hope of arrest.\textsuperscript{191}

\textsuperscript{190}Both Grace S. Bush, “Geology and Paleoecology of the Chesapeake Bay: A Long-Term Monitoring Tool for Management,” \textit{Journal of the Washington Academy of Sciences}, 76(1986), 146-160, and Henry M. Miller, “Transforming a ‘Splendid and Delightsome Land’: Colonists and Ecological Change in the Chesapeake,” \textit{Journal of the Washington Academy of Sciences}, 76(1986), 173-187, have reported data from siltation studies in the Chesapeake Bay which suggest that chronology for the development of serious erosion in the region. Carville Earle, “Myth of the Southern Soil Miner,” 285-287, has used this data to argue that the contemporaneous introduction of plow technology and permanent fields in Maryland was to blame for the emergence of the problem. Yet another possibility is that the spread of heavy cultivation into the more erosion-vulnerable soils of the piedmont also played a major role.

Even when abandoned to forest succession, such eroded and gullied fields took several more decades to recover than their owners could afford. The only plants which could colonize the exposed and eroded clays were pernicious pests such as briars, broomsedge, and the evocatively-named 'Poverty Grass', which did little to replenish the upper soil horizons, and kept out the grasses that could for years. The gullies, where erosion had dug down deep into the clay, often through it down to the sandy gravel below, appeared to be permanent damage, and continued to grow even after active cultivation was abandoned.

As a result, attempts to incorporate natural processes of soil and ecosystem regeneration into a commercial agroecosystem and private property regime in a piedmont context failed the test of commercial and frontier viability as well. Profits from hard grains and dark tobacco were too low to justify either meaningful labor investment in soil maintenance, or financial sacrifices in the search for property permanence. Attempts to reintegrate abandoned old fields back into active cultivation do not appear to have begun on even the oldest plantations in the Tye Valley until near the end of the colonial era. The fact that the planters involved in these apparent attempts were among the first to turn to the gospel of intensive 'high farming' early in the next century indicate that those attempts brought unacceptably diminished returns.

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American Geophysical Union, 15(1934), pt. 2, 505-509.

192 See the discussion of the agricultural practices of William Cabell, Jr., in Chapter Two, below.
The frontier agroecosystem that emerged in seventeenth century Virginia reconciled the demands of the English property and commercial systems with the inescapable logic of a settlement frontier. Land was plentiful, particularly after Virginia’s successful expulsion of Indian tribes from east of the Blue Ridge. Labor, on the other hand, was in desperately short supply. Throughout human history, communities in such situations have responded by dramatically de-intensifying their agricultural ecosystems. Ecosystem resources are exploited with much less thought as to minimizing waste—either in terms of taking more resources into crop growth or eliminating extraneous loss of biotic resources. Yet the Virginia colonists, driven by the need to bound the land and procure marketable products from it, created a steady stream of minor adjustments to the almost pure shifting cultivation practiced by post-contact Indian peoples. Yet as their experience in the Tye Valley will show, Virginia’s frontier agroecosystem was never able entirely to resolve the contradictions between private property and the frontier. The land abandonment and migration which kept the agricultural ecosystem profitable would continue to grate on conservative sensibilities.
CHAPTER II

VIRGINIA'S FRONTIER AGROECOSYSTEM IN THE
TYE RIVER VALLEY, 1750-1800

By the time the frontier agroecosystem of colonial Virginia arrived in the western piedmont, considerable alterations had been made to it. While still working within the commercial framework of a cash crop frontier, Tye Valley farmers created different adaptations to the ecological circumstances of the piedmont. Yet as much as these adaptations were marked by altered agricultural approaches to distinct ecosystems, they continued to be bound within the logic of frontier commerce: cheap land and expensive labor. Evidence relating to the agricultural technology and livestock husbandry of the broad mass of the region's cultivators, as well the farm routines on even the most advanced of Tye River plantations, supports a picture of a frontier agroecosystem. That agroecosystem, despite small changes in the direction of intensification, continued to maximize returns on labor by exploiting biotic fevers and denuding ecosystems, while sustaining the system's viability primarily by means of land abandonment and shifting cultivation.
Commercial Agriculture in the Eighteenth-Century Tye Valley.

With navigation on the James River at best seasonal¹, and the tobacco inspection station at Shockoe Bottom in Richmond over a hundred miles away², ecological adaptation doubtless paid no more of a role in determining crop choices among 'Tye Valley Farmers than did market dictates. The desire for hard-to-obtain agricultural profits acted as a powerful motivator among the Valley's cultivators during the colonial and revolutionary eras.³ Confronted with the problems transporting their commercial crops out of their backcountry neighborhood, farmers in the 'Tye region became the most prominent innovators in southern river shipping during the eighteenth century. In 1749, carpenters working for local land speculator and planter Parson Robert Rose at his "Rose Isle" plantation halfway up the 'Tye built three double-dugout canoes, which connected two traditional river canoes with a stable plank platform for carrying tobacco hogsheads.

¹McLeroy and McLeroy, More Passages, 5.

²See Gill, Tobacco Culture in Colonial Virginia, Appendix 2, and McLeroy and McLeroy, More Passages, 28.

³The whole question of the commercial outlook of frontier settlers is a highly contested one, particularly in the wake of scholars like James Henretta and Michael Merrill. For the middle colonies and the Upper South, of course, their viewpoint has been opposed by Mitchell (Commercialism and Frontier) and James Lemon, The Best Poor Man's Country: A Geographical Study of Early Southeastern Pennsylvania, (Baltimore, MD: The Johns Hopkins University Press, 1972), both of whom argue strongly for the decisive role of crop markets and commercial production in the earliest European settlements of the backcountry. This view can be reconciled with the later underdevelopment of Appalachia by considering the possibility that subsequent developments in the region contributed to a retreat from the commercial mainstream. See for example, David Hsiung, Two Worlds in the Tennessee Mountains: Exploring the Origins of Appalachian Stereotypes, (Lexington, KY: University of Kentucky Press, 1997), 74-102, for an excellent discussion of the rise and decline of commercial "connectedness" on the early nineteenth-century frontier.
Following Rose's example, double-dugouts of various similar designs quickly covered the James, and Virginia's other major rivers, bringing the crops of the piedmont down to growing fall line towns like Richmond, Petersburg, Fredericksburg, and Alexandria.4

The Rose double-dugout proved difficult to handle during occasional high water, but its most serious limitation was revealed during the 1771 James River flood. The greatest 'fresh' of the eighteenth century, in addition to killing nearly a hundred people and destroying bottomland crops and buildings all along the river, grounded and destroyed most of the canoes involved in the colonial river trade.5 Planters and merchants looking to replace the boats soon discovered that clearing along the James for bottomland cultivation during the two decades since the Rose double-dugout's invention had destroyed most of the large, bottomland oaks which provided trunks large and stable enough to suit the dugout construction methods adopted from the Powhatans and Monocans. While the slow development of road networks in the Richmond region eased transport problems among commercial farmers in the lower piedmont, those in the 'eye Valley still felt the pinch. Into this breach rushed local planters Benjamin and Anthony Rucker, who pioneered the first of Virginia's famed batteaux. Large, flat-bottomed board


5McLeroy and McLeroy, More Passages, 38-39. Colonel William Cabell, Sr., wrote of the disaster, "the greatest flood in the River that has been known, by 12 feet perpindicular at least it carried away almost every house on the Lowgrounds, destroyed all the orchards, Many people were drowned, fences intirely carried off, and the land when uncovered with the water presented the most melancholy appearance everything being entirely swept off and the [...] to all appearance ruined." Colonel William Cabell, Sr., Commonplace Books, Virginia Historical Society, Richmond, Virginia, vol. 3, May 26, 1771.
boats made of readily available, sawed plank form assorted smaller trees, the success of the Rucker batteau in shipping bulk goods up and down the James had by 1775 attracted the attention of Thomas Jefferson just down river in Albemarle County, who publicized it even more widely. Variations on the Rucker batteau design would remain the basis for Virginia's river navigation until the spread of steam-powered packet boats along the state's canals during the 1840's and 1850's.⁶

While the first settlers in the 1'ye Valley appear to have concentrated on the cultivation of dark tobacco,⁷ the limitations of the upper piedmont's soils for profitable tobacco agriculture mentioned in Chapter One soon became evident. While the longstanding markets available for the weed – and the ready credit available for its cultivation – retained a place for tobacco in the Valley's agriculture throughout the eighteenth century, the neighborhood's first commercial farmers began exploring other options almost immediately. The limited evidence available indicates that the 1'ye Valley's planters pushed into wheat and rye farming despite Virginia's tobacco traditions. Suitable soils even for dark tobacco seem simply to have been too limited in quantity to maintain the weed's exclusive hold on the interior piedmont's commercial agriculture.

As markets for grain expanded during the plantation colony’s “golden age”⁸, significant

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⁷Gill, Tobacco Cultivation in Colonial Virginia, Appendix 1.

numbers of 'Iye Valley farmers abandoned tobacco cultivation either temporarily or perhaps entirely.

Reliable, comprehensive data on the agricultural production of small communities like the 'Iye Valley is almost non-existent until the advent of the national Agricultural Census in the middle of the next century. The best sources available for a broad sampling of what 'Iye Valley farmers were growing during the latter half of the eighteenth century are the county probate inventories. In the numerous cases when the financial settlement of a recently deceased man or woman's estate was disputed or uncertain, his heirs might ask the county court, or the court might order on its own initiative, an inventory and appraisement of the expired individual's moveable property. Appraisers appointed by the court went to the person's farm, listing and appraising for cash value all of his or her moveable possessions. In addition to the usual assortment of slaves and household goods, these estate inventories also recorded agricultural equipment, livestock, and, when applicable, harvested or unharvested crops on hand.

9 Government records, notably the export statistics generated by the British Board of Trade, are inadequate since the farmers of the Tye Valley shipped their crops to landings at what was to become Richmond or even points below, and any assembled data therefore included the entire central piedmont and much of the interior Southside. See, for example Robert P. Thompson, “The Tobacco Exports of the Upper James River Naval District, 1773-1775.” William & Mary Quarterly, 18(1961): 393-401. Eighteenth-century tobacco inspection records are spotty for the entire colony, and since once again Tye Valley tobacco was shipped to the Shockoe inspection warehouse in Richmond throughout the colonial era, the previous problem of lack of specificity still applies. See Colonel William Cabell, Sr., Commonplace Books, 1769-1822, vol. 7, January 27, 1778, Virginia Historical Society, Richmond, Virginia. Merchants accounts and private papers are also rare.

10 The inventories are far from a perfect basis on which to build a statistical analysis of crop production. First, the reporting habits of the appraisers were rarely consistent.
These inventories are particularly useful for the study of crop choice. When the study is reduced to discovering which crops were being grown, those problems relating to partial sales and inconsistent reporting methods which make information about crop yields questionable are smoothed over. Analyzing the crops recorded in the Tye Valley probate inventories reveals a clear pattern in the region's agricultural production. The

Crops might be recorded in cash values (subject to inflationary change from year to year), bushel or pound values, or even just as a "parcel of corn", or of wheat, or simply "tobacco growing in the field." Second, an appraisal of crops was only made when those crops were both on the estate and in a form that might be evaluated (no sprouts or seed in the ground) at the time of the man's death. As a result, the sample is both limited as to number, and contaminated as to the relationship between crops which might have been shipped out of the region at different times. Finally, there is a class bias in the range of the inventory reports. Disputes or confusion over the minimal personal property of the poorest of farmers arose infrequently, leading the surviving inventories to represent the wealthier and more established members of the county community disproportionately. Yet with all these limitations considered, the inventories remain a somewhat random, and therefore useful, sample of crop production in the local communities of eighteenth- and early nineteenth-century Virginia. See Gloria L. Main, "Probate Records as a Source for Early American History," William & Mary Quarterly, 3rd series, 32(1975), 89-99, and Main, "The Correction of Biases in Colonial American Probate Records," Historical Methods Newsletter, 8(1974), 10-28.

There are numerous difficulties involved with calculating precise crop yields for regions like the colonial-era Tye Valley from the probate inventories. In the first place, with the colony providing little in the way of a formal structure for record keeping, estate appraisers were rarely regular in the recording habits. As a result, important crops are frequently recorded in consistent categories. Tobacco or corn crops variously totaled in pounds, barrels, hogsheads, "parcels", "in the field," and so on present amounts that cannot be easily collapsed into comparable amounts. Furthermore, crop yields recorded in the probate inventories cannot be assumed to represent an entire harvest. Subsistence crops would have been partly consumed between harvest and the estate owner's death, while commercial crops like tobacco were often sold in parcels to different markets and at different times. When dealing with a large number of crops, analysis of crop choices and combinations are probably the best that can be done in terms of statistical evaluation.
inventory data recorded in Amherst County's court house between the county's founding in 1761 and the end of the eighteenth century reflects the pattern of crop choice adjustment which the farmers of the Virginia piedmont made to the agroecological and commercial compromise of the tobacco empire. Farmers searching for a viable cash crop substitute faced an number of choices. As noted earlier, the fact that tobacco was supported by long-standing demand, entrenched credit markets, and generations of experience, maintained a prominent place for it in the Tye Valley's agricultural economy. On the other hand, the most important of the commercial hard grains, wheat, was also frequently cultivated, as were oats and rye, as well as non-edible commercial crops like flax and hemp. More than a handful of farmers even appear to have tried their hands at growing cotton before 1800. (See Table 2.1)

Yet it is only when one analyzes which crops were grown simultaneously, and thus appeared together in the listings of single inventories, that a clear picture of the agricultural choices facing Tye Valley farmers begins to emerge. By and large, the

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12 The first unit of local government which effectively isolated the Tye Valley from larger administrative regions was Amherst County, formed in 1761 out of old Albemarle County. "Old Amherst" — the formation of Nelson County from it split the Tye Valley politically in two in 1807 — while including during the second half of the eighteenth century the smaller Rockfish and Pedlar river drainages (both of which run parallel to the Tye from the Blue Ridge down to the James) was predominantly composed of the Tye and its three primary feeders, the Buffalo and Piney Rivers, and Rucker Run. See Michael F. Doran, Atlas of County Boundary Changes in Virginia, 1634-1895. (Athens, GA: University of Georgia Press, 1985).

commercial crops adopted by the Valley farmers narrowed down to two farm types: the tobacco grower on the one hand, and the man who raised hard grains—wheat, oats, and rye—on the other. Rarely did the two types of agriculture overlap. Out of a total of thirty-four inventories reporting tobacco on the deceased farmer's estate, and twenty-eight reporting wheat, only five contained both of the Valley's most popular commercial crops. Of those twenty-eight listings of a wheat harvest, in contrast, fully a dozen also listed oats, and of that dozen another ten also reported rye among the estate's produce on hand. Indian corn, in its role both as subsistence and occasional commercial crop, was the main link between the two kinds of cultivation. Fully fifty-five of the total of ninety-eight inventories listing any farm produce reported some amount of corn on hand, often running into significant numbers of the large barrels used to store and transport the crop. Corn cultivation appears to have provided a subsistence base for both wheat agriculture, appearing in eighteen of the twenty-eight inventories listing wheat on hand, as well as tobacco, appearing alongside it in twenty of the thirty-four inventories in which the sorghum was reported. (See Table 2.2)

On the one hand, the willingness of so many farmers to sacrifice flexibility in their crop and market choices in order to concentrate on commercially questionable hard grains certainly indicates the limitation on the widespread agroecological feasibility of tobacco, the more palatable choice from the perspective of commercial stability. The red clay soils which dominated the arable portions of the Southwest Mountains were simply too poor in organic material and too poorly drained to make extensive cultivation of low
grade dark tobaccos more attractive.\textsuperscript{14} On the other hand, however, when one digs beyond the significance of crop choice in determining the ecological outlook of Old Amherst's planters, it becomes clear that this split between tobacco and grain cultivation did not contain the seeds of a larger abandonment of frontier agroecological methods.

Certainly this is the case in terms of agricultural equipment, also listed by type and value in many of the Amherst probate inventories. The most crucial ecological impact changes in farm technology in the Chesapeake region during the late colonial period are alleged to have had was the emergence of various plow designs into widespread use.\textsuperscript{15} This spread of plows among tidewater farmers coincided with the beginning of widespread destruction of northern Chesapeake soils through sheet erosion.\textsuperscript{16} Yet no correlations can be drawn linking these technological developments to changes in crop selection in the late colonial Tye River Valley. In the first place, hard grain cultivation appears to have been present along the Blue Ridge almost from the first stages of settlement, and tobacco and wheat agriculture continued in nearly balanced coexistence throughout the period. \textit{(See Table 2.3)} Furthermore, the evidence on


\textsuperscript{15}Bush, "Geology and Paleoecology of Chesapeake Bay," and Miller, "Transforming a "Splendid and Delightsome Land,'" both focus of recent geological research which reveals the timing of the first serious erosion-based sedimentation in the Chesapeake Bay region to have dated from the period immediately after the Revolution, rather than from the first serious settlement of the piedmont, as had been previously thought. See also David O. Percy, "Ax or Plow?: Significant Culture Landscape Alteration Rates in the Maryland and Virginia Tidewater," \textit{Agricultural History}, 66(1992), 66-74.

\textsuperscript{16}Bush, "Geology and Paleoecology of Chesapeake Bay," and Miller, "Transforming a "Splendid and Delightsome Land.'"
Amherst County farming implements derived from the probate inventories indicates that the two kinds of commercial cultivation were pursued with almost the same basic techniques. (See Table 2.4) Indeed, far from being tied to the continued use of hoes for purposes of hill building and weeding, old Amherst's tobacco planters in fact owned more plows, on the average, than their counterparts who grew wheat. Furthermore, the distinction between tobacco and wheat growers is of minor statistical note when compared with the gap between their ownership of hoes. On average, in fact, wheat cultivators owned more than thirty-five percent more hoes than tobacco farmers. And while this disparity might in some degree be explained by a noticeably higher standard of wealth among wheat farmers, no adjustment along that line can reconcile the data with the accepted picture of the spread of wheat cultivation in the Chesapeake, which links the hoe directly to tobacco cultivation. Recent research, in fact, links the introduction of plows in the Chesapeake to the spread of large-scale corn production,17 as opposed to a shift toward hard grains.

Only two more noteworthy exceptions appear to this picture of technological homogeneity. First, the average value of the plows owned by wheat growers was slightly higher than that of tobacco cultivators. Second, wheat growers owned significantly more "plowhoes" than did tobacco growers. There are two possible explanations for the first phenomenon. It may have been that wheat cultivation did in fact reward more diligent plowing, and farmers who committed their commercial fortunes to hard grains found it

advantageous to keep up with the innovations in plow technology being developed in America or borrowed from Europe\textsuperscript{18}, in order to produce more soil disturbance and deeper furrows. Yet, on the other hand, the disparity between the two ratios is small enough, particularly in light of the absolute numbers of plows themselves, that it more likely indicates the greater ability of the wealthier sample of wheat planters both to maintain older plows and purchase or build new equipment of the same, crude design. There were certainly enough old, rusty, broken-down plow irons, frames, traces, and the like lying around Amherst farms by the second half of the eighteenth century to account for significant differences in value on the basis of age and maintenance alone.\textsuperscript{19} This explanation of the difference in tobacco and wheat farmers' plow values would certainly be supported by the subsequent history of American grain farming. The kind of deep plowing towards which advanced plow innovation was straining during the eighteenth and nineteenth centuries promoted vertical soil distribution. This practice did not prove immediately applicable to the cultivation of wheat, with its shallow roots and thick, close, growing quarters. The goal of deep plowing was long-term soil maintenance, rather than prompt yield improvement. As soon as disc plows became available in the early twentieth century, their shallow, but thorough, pulverizing of the soil quickly


\textsuperscript{19}In a region like the mid-to late-eighteenth-century Tye Valley, distant from iron forges, even the most rusted out pieces of bar iron continued to have a value reflected in their appearance in the probate inventories for Amherst County. Many old plow traces, plow irons, and other pieces of broken-down agricultural equipment continued to be reported into the early years of the nineteenth century.

Certainly the range in plow values available from the Amherst inventories hardly indicates the kind of widely diverging plow technologies available in the county which would support the image of grain farmers bringing new plow designs to the I'ye Valley. Only a handful of Amherst farmers appear to have purchased or built more advanced equipment, and even then the values reported pale in comparison with the technologies available a half-century later. For example, the estate appraisers of Amherst County did not think it worth their while to identify plows by type and make until well into the second decade of the nineteenth century.\footnote{Amherst and Nelson County appraisers did not begin to distinguish between a wide variety of plows until the second and third decades of the nineteenth century. By that time, varieties such as ‘Scoop’, ‘Dagon’, ‘Dutch’, ‘Three’- or ‘Four-Horse’, ‘Hillside’, began to appear, followed soon by the name-brands, particularly those of Gideon Davis in Georgetown and the McCormicks in Rockbridge County.} With the colonial- and revolutionary-era upper piedmont generating next to nothing in the way of scientific or technical literature pertaining to agriculture, little information regarding equipment is available beyond the appraised values.\footnote{While the private correspondence of Thomas Jefferson and George Washington, among other luminaries of the Virginia gentry, contains considerable reference to agricultural questions, serious discussion of the general state of piedmont farm technology had to wait until the formation of regional farming associations like the Albemarle Agricultural Society in 1817, or the publication of agricultural journals like the \textit{American Farmer} (out of Baltimore) in 1819.} These values do little to paint a picture of a rapidly advancing...
agricultural technology.

The incidence of 'plowhoes' in the Amherst inventories reinforces the contention that frontier conditions were dramatically slowing the advance of agricultural technology. With all hoes and mattocks of other types common to the colonial Chesapeake listed by name in other Amherst inventories\textsuperscript{23}, it seems improbable that the Amherst "plowhoes" were simply a local name for a more common agricultural implement.\textsuperscript{24} The most likely explanation is that the local term 'plowhoe' referred to an English name for an entirely different piece of agricultural equipment. Famed agricultural reformer Jethro Tull had publicized and popularized an implement which he called a "hoe-plough", in his book, \textit{New Horse-Hoeing Husbandry}, published in London in 1731.\textsuperscript{25} The hoe-plough was precisely what its name implied – a series of hoe blades attached to a plow frame and drawn between growing crops by a team of horses. Tull used the hoe-plough to weed wheat fields, but only after planting with the most advanced seed drills of the mid-eighteenth century.\textsuperscript{26} The fact that not a single such drill appears in the Amherst inventories makes a direct transfer of the most progressive techniques of

\textsuperscript{23}Amherst County (Va.) Will Books 1-4. The types of common hoes listed in the colonial Amherst inventories include: grubbing, weeding, and hilling, as well as the physical categories of broad and narrow. See Pryor, "Agricultural Implements," 36-40, and Egloff, "Colonial Plantation Hoes," 10-12.

\textsuperscript{24}Pryor, "Agricultural Implements," 40-44.


\textsuperscript{26}Fussell, \textit{Jethro Tull}, 72-79.
modern agriculture directly to the piedmont frontier implausible. Of little use to hill-planted crops like corn or tobacco, Tull’s device would have served even less of a purpose in the casual cultivation of broadcast-sown grains. Yet it is among ‘I’ye Valley grain farmers that the plowhoe makes by far its most frequent appearances. Given that fact, it seems likely that the Amherst plowhoe was an adaptation of the idea popularized by Tull for a purpose much better adapted to the Virginia frontier. While seed drills were too expensive, and hand-sowing too labor-intensive, piedmont grain farmers found they needed some means of covering broadcast-sown seed with soil before it would be washed away in the next rain. The method common in Europe at the time – further plowing of the fields, was too difficult on recently-cleared land only lightly cultivated with scratch plows. Instead, anecdotal evidence from around the Chesapeake suggests planters adapted Tull’s idea to create a primitive new ground cultivator by attaching hoe blades to a plow frame. When dragged across the grain fields after late summer planting, the plowhoe would stir the upper layers of the soil and bury winter wheat seed. This practice adapted grain cultivation to the frontier in two ways. First, the plowhoe filled the function of more advanced and expensive agricultural equipment like harrows or cultivators, which would not appear in the ‘I’ye Valley inventories until the nineteenth century. Second, it saved labor time by making it unnecessary for farmers to invest the time needed for hand seeding. Despite borrowing its name from Jethro Tull, the ‘I’ye Valley plowhoe was far from being a marker of agricultural modernization. In fact, it

27 Amherst County (Va.) Will Books, 1-4.

was part and parcel of the adaptation of the frontier agroecosystem to the market in cereal grains and the soils of the Virginia piedmont.

The common factors in agricultural technology and cultivation techniques should not, however, completely obscure some of the important agroecological distinctions made by planters' crop choices. The significance of the widespread cultivation of wheat and other grains, and the apparent use of plowing in tobacco and corn cultivation as well, needs to be emphasized. The initial stages of the land clearing for the hoe cultivation of tobacco and corn in the seventeenth-century tidewater involved only the killing and burning of the major above-ground tree growth. Tree stumps were typically left in the ground and planting hills hoed up amongst them. This practice cost agriculturalists little in terms of labor or equipment, considering that fields were rarely farmed for more than five to seven years before being abandoned.29 The stump removal necessary to create a clear field for even the most minimal of row plowing involved an enormous amount of time-consuming heavy labor. Larger roots had to be cut with axes and mattocks, oxen had to be bred and trained in teams, and then driven to pull half-dug stumps tied with bulky, expensive chains out of a resistant soil.30 While this labor might have justified its investment in the deeper bottomland soils along the piedmont rivers, beyond the flood plains the soil was so thin, wore out so quickly, and eroded so disastrously, that the process was to all appearances not even remotely worth the effort during the eighteenth century.


century. And before in-migration began seriously to pressure the availability of bottomland soils, it is highly doubtful that the effort would have been made there, either.

By the later stages of the colonial era, however, markets for American commercial crops had expanded to the point that when those prices were combined with rising land values in the backcountry, they made the maintenance of semi-permanent bottomland fields in several regions of the Tye Valley a practical possibility. Correlating the crop and equipment evidence in the Amherst inventories with the county's landholding records bears out this logic of this argument. The cultivation of both wheat and tobacco with the plow was concentrated on the ample flood plain soils of the Rockfish, Tye, and Buffalo Rivers. Farmers without plows, on the other hand, were concentrated in two agroecosystems. Those wheat cultivators who grew the crop but owned no plows were concentrated in the longer-settled bottomlands of the lower Rockfish Valley, which had developed what appears to have been a thriving grain economy by the later decades of the eighteenth century. Plows would have been

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31While the idea that real estate on the early American frontier was so close to free as to make no matter has become deeply ingrained through the work of Turnerian scholars, important reservations need to be made. While backcountry land prices were low in comparison to developed regions around major cities, or particularly in relation to capitalist agricultural regions in northwestern Europe, prices were high enough to shut large numbers of people out of landownership. See Willard Bliss, "The Rise of Tenancy in Virginia," *Virginia Magazine of History and Biography*, 58 4(October 1950): 427-441, and Turk McCleskey, "Rich Lands, Poor Prospects: Real Estate and the Formation of a Social Elite in Augusta County, Virginia, 1738-1770," *Virginia Magazine of History and Biography*, 98 3(July 1990): 449-486, for a discussion of some of the ways in which access to landed property was limited in piedmont and western Virginia during the eighteenth century. For rising land prices in the backcountry, see Richard R. Beeman, *The Evolution of the Southern Backcountry: A Case Study of Lunenburg County, Virginia, 1746-1832*, (Philadelphia, PA: University of Pennsylvania Press, 1984), 64-65.
Crop Neighborhoods in Old Amherst, 1761-1799.

T - Tobacco in inventory
W - Wheat in inventory

- Tobacco Row Mtn.
- Peavine Mtn.
- Rockfish Valley

Note: Inventories for which the location of the document's farm property could not be determined have been omitted.
available to this handful of farmers – only nine of the twenty-seven inventories reporting wheat – through borrowing from neighbors. Indeed, while their inventories reported no crops, the four estate appraisals that reported plows owned as shares with other farmers all appear to have lived within the Rockfish grain neighborhood.

The picture for tobacco was significantly different. With a full fourteen of thirty-three inventories reporting tobacco failing to report any plow ownership, a notable amount of the region's tobacco cultivation seems to have been carried on by the old methods of hill-hoeing, even while more of their neighbors adopted some measure of plowing. Yet this more primitive tobacco husbandry appears to have been concentrated in an agroecosystem consisting of a single human economic class as well as a single forest and soil type. The smaller mountain hollows of the Tye River region, as noted earlier, contained a large number of semi-isolated micro-forests much richer in species and soil content that either the surrounding hillsides or even in some cases the streamside bottomlands below. These hollow forests, which included dogwood, gum, and a wider variety of oaks than the chestnut-covered slopes around them, supported a soil known to the soil surveys of this century as Porter's Black Loam. Porter's, as its name suggests, is a dark, heavy soil with both a high organic content and considerable physical depth. The coves of the Blue Ridge foothills began to support the cultivation of several forgotten

32 Amherst County (Va.) Will Books, 1-4.

33 Amherst County (Va.) Will Books 1-4, Deed Books A-K.

34 For a definition of Porter’s Black Loam, see Mooney, Soil Survey of the Albemarle Area, 209-211, and Wingo, Virginia’s Soils, 115-118. See also the more recent soil series descriptions provided on-line by the National Resource Conservation Service.
varieties of dark tobacco quite early in the settlement period.\textsuperscript{35}

Tobacco Row Mountain, which lay at the western edge of the Tye River's drainage basin, had already earned its moniker while land was still being patented in the 1740's and 1750's.\textsuperscript{36} During the later colonial and Revolutionary periods, its coves appear from the inventory data to have supported a noteworthy neighborhood of dark tobacco farmers, including John Daniel Coleman, Peter Carter, Henry Franklin, as well as assorted members of the prolific Higginbotham clan.\textsuperscript{37} Another tobacco-growing neighborhood cultivating similar soils also appears to have existed over in the Rockfish Valley, on its lower branches in Piney and Peavine mountains.\textsuperscript{38} Indeed, the lower appraised values of tobacco farmers, in comparison with wheat cultivators, appears largely to be explained by the comparative poverty of these cove tobacco farmers.\textsuperscript{39} Studies of neighborhood landholding in the Tye Valley indicate that coves containing Porter’s Black Loam-type soils were often not patented in the initial rush of large-scale speculation which focused on the bottomlands. Farmers of smaller means appear to have patented or purchased the coves during the 1760's and 1770's in several areas,\textsuperscript{40} and their

\textsuperscript{35}Mooney, \textit{Soil Survey of the Albemarle Area}, 209-211.
\textsuperscript{36}Amherst County (Va.) Deed Books, A-K.
\textsuperscript{37}Ibid.
\textsuperscript{38}Amherst County (Va.) Deed Books, A-K, Will Books, 1-4.
\textsuperscript{39}Amherst County (Va.) Will Books, 1-4.
descendants continued to farm the fertile but inaccessible hollow soils in corn and dark tobacco until the early decades of the twentieth century.41

The appearance of distinct crop neighborhoods during the early Virginia settlement of the Tye River Valley indicated the adaptability – if not necessarily the ultimate sustainability – of the colony’s frontier agroecosystem. To be certain, the strong similarities between tobacco and grain farming in the eighteenth-century piedmont reflected a common approach to the equations of land, labor, and markets. While Old Amherst’s agricultural neighborhoods were organized both for social reasons (wheat in the lower reaches of the Rockfish Valley) and ecological ones (cove tobacco farming), farming methods and their agroecological rationales seem to have been substantially akin across the boundaries between them. As noted above, the available evidence on agricultural technology strongly indicates a common approach to the land. The almost non-existent investment in the most advanced plows of the period combines with the sturdy commitment to hoeing among even the wealthiest wheat farmers to define a narrow spectrum of cultivation techniques applied within the basic rationale of the frontier agroecosystem.

Evidence related to farm livestock drawn from the Amherst inventories provides even more concrete evidence for a common commitment of Tye River region farmers to the frontier agroecosystem across class and geographic lines. One of the basic features of agricultural intensification across times and places is the increased emphasis farmers

place on the efficient management of livestock. Domestication of various animal species was obviously a step that even preceded the shift from hunting and gathering to agricultural settlement. Yet within primitive systems of animal domestication — and certainly Virginia's open range system of livestock-rearing must rate alongside any stone age practices in that regard — many key life decisions are left to the animals. Feeding, breeding partners, social hierarchies, patterns of movement; all remained outside the purview of human management as long as Virginia's settlers were unwilling or unable to invest labor in more intensive supervision. Modern stock raising places all of these practices under human control, and the goal of evolution is redirected from survival and reproduction to those qualities in the individual animal dictated by the market for their meat, hides, speed, work rate, or whichever other qualities are in fashion.

With no comprehensive statistical information on livestock sales in the 1ye

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42 Extreme cases of agricultural intensification, such as the heavily populated irrigation systems of India and China, often abandon meat livestock to divert all biotic productivity to human consumption. Yet most intensifying farmers chose to divert some considerable amount of their increased labor investment into the breeding, penning, and feeding of livestock in return for the increased consumption of meat protein. See Tivy, Agricultural Ecology, 123-133, for a discussion of human manipulation of the productivity of domesticated animals.

43 Tivy, Agricultural Ecology, 116-121. For a more detailed discussion, see also Peter Ucko and G.W. Dimbleby, The Domestication and Exploitation of Plants and Animals. (Chicago, IL: Aldine, 1969).


45 Ibid. See also Kirby, Poquosin, 98-105, and McWhiney, Cracker Culture, 51-79, part. 64.

region available from this period, and with no detailed descriptions of the local practices of animal husbandry surviving, evidence regarding the intensity of the open range system is difficult to come by. The most valuable information available relates to broad patterns of stock improvement. The inventories from old Amherst frequently contain notations of groups of hogs, sheep, horses, cows, and so on. Furthermore, almost all the inventories give pound sterling values for groups of animals from which average values can be calculated. Some farmers may have been moving in the direction of pastoral intensification by adopting breeding techniques such as allowing only prize males to impregnate females, practicing selective infanticide, and gradually culling the herd through the sale or slaughter of less desirable animals. Obviously such endeavors would have entailed crucial changes in the agricultural and ecological practices of the entire farm. Animals would have to have been penned up for long periods of time and carefully watched by workers who couldn't then go to the fields for other chores. Cleared land formerly devoted to cash crops such as wheat or tobacco would have to be switched into less-valuable corn or oats in order to feed penned animals. Abandoned fields would have to be reserved as temporary pasture for the animals, whose grazing might well slow the regeneration of the mature forest. The farmer would have to begin to train himself in the judicious health care of prize animals. Ultimately a commitment would have to be made to the development of permanent pastures, frequently fertilized and sown with the

47 As livestock grew in commercial value on Tye Valley farms, appraisers recording of them grew more complex and sophisticated. Swine began to be separated into sows, hogs, boars, shoats, and the like, while by the 1830s and 1840s, cattle were often listed individually, with brief descriptions based on age, size, and coloring.
imported grasses best-suited to English animal breeds.48

Yet this kind of investment of labor and organic resources demanded extensive commercial return from the livestock produced. If any farmers were following this road, the evidence would quickly appear in the average per-animal values calculated from the inventory appraisals. Yet the evidence which would be anticipated from the intensification of livestock management consistently fails to emerge throughout the 1760-1800 period. (See Tables 2.5, 2.6, and 2.7) Average animal values within each of the four main species "domesticated" on Old Amherst farms - cattle, hogs, sheep, and horses - remained remarkably constant across this time frame. Furthermore, there seems to have been little difference in the average value of key domesticated animals between tobacco and wheat farmers. The most likely suspects for agricultural improvement and intensification have always been the wealthy, rich in capital and labor resources. Yet correlations between the appraised value of the deceased's estate and the average value of his (or occasionally her) cattle and hogs reveals only minor statistical significance - advanced animal husbandry in embryo, if at all.

Horses on the other hand, do reveal strong, and, more importantly, consistent, evidence of breeding among the wealthy. Yet no animal was ever identified in the inventories as a work horse (draft horses begin to be listed separately during the 1810's),

Prior to the advent of techniques of industrial agriculture, involving the mass use of imported additives and equipment, the modernization of livestock raising was closely linked to other measures designed to ensure the technological, nutritional, and ecological self-sufficiency of a farm. See for example Taylor of Caroline, Arator, passim, for the labor investment necessary to set up the cycle between soil amelioration, pasturage, and livestock management.
while draft oxen begin to be listed separately on an occasional basis in the 1790's. Given this fact, it seems unlikely that elite horse breeding represented a fundamental commitment to a different kind of agriculture. To be sure, regular housing and feeding of valuable horses demanded greater agricultural production and labor commitment.\footnote{In his inaugural address as the first president of the newly-formed Albemarle Agricultural Society, former U.S. President James Madison was particularly critical of piedmont planters for keeping excessive numbers of horses, which demanded such special provisions in terms of corn and oats for adequate feeding. Madison proposed that the greater use of oxen as draft animals would considerably reduce plantation expenditures and waste. See James Madison, "An Address Delivered before the Agricultural Society of Albemarle, (Va.) On Tuesday, May 12, 1819. By Mr. Madison, President of the Society," reprinted in the Farmer's Register, 7(1837), 420-421.}

Yet few farmers appear to have been intensifying their plow-cultivation of permanently cleared and tended fields by taking advantage of the intellectual superiority and speed of horses when compared as draft animals to work oxen.\footnote{The breeding and keeping of domesticated animals specifically for draft was a practice land in coming to the Tye Valley – draft horses and oxen were not listed separately in probate inventories until the 1820s. Yet this is not to suggest that horses were \textit{never} being used for draft, just that they were not being bred specifically for that purpose, in all likelihood.} Instead, Tye region horse breeding was most likely an affectation of the upper class – the frontier elite transplanting the stereotypical fascination of the English and tidewater gentry with their horses and horse races.\footnote{McWhiney, \textit{Cracker Culture}, 36. See also Isaac, \textit{The Transformation of Virginia}, 98-101, and T.H. Breen, "Horses and Gentlemen: The Cultural Significance of Gambling among the Virginia Gentry," \textit{William and Mary Quarterly}, 3rd series, 34(1977): 239-257.} Horses were doubtless frequently \textit{used} as draft animals during the later eighteenth century, but breeding focused instead on producing mounts for the
local aristocracy.52

Some aspects of the information recorded about farm animals in the probate inventories do suggest the kind of closer attention paid to different grades of livestock which indicate expanded interest and practice in animal breeding and management. Cattle and hogs, listed simply *en masse* in the earliest Amherst inventories, begin to be broken down into sub-grades after the American Revolution. Court-appointed appraisers began to divide hogs into categories such as sows, shoats, pigs, hogs, boars, and so on, while cows were even occasionally described and appraised individually.53 Yet given the fact that this apparent growing interest in the varying qualities of animals is not noticeably reflected in the average values reported for them, it seems another explanation than a dramatic intensification of Tye Valley animal husbandry is in order. Given that even the most casual system of colonial open range ranching included some homestead feeding and fattening of animals for slaughter, few herds were allowed to stray far from the farm.54 As long as the region's population of human farmers remained sparse, herds would mix little. This separation, combined with a primitive system of branding or

52See Colonel William Cabell, Sr., Commonplace Books, vol. 3, December 4/21, 1771. Cabell mentioned “Work Horses” in his copy of instructions to overseer David Reynolds, but two weeks earlier, when purchasing a riding horse from a man named John Lewis, Cabell paid a full 30 pounds sterling, while including a detailed description and noting three witnesses to the sale.

53Amherst County (Va.) Will Books, 1-4. The practice of listing cattle individually, however, did not become standard among Amherst appraisers until the second decade of the nineteenth century.

marking, would suffice to identify animal property. Yet as farm units multiplied in the 'I'ye Valley countryside, and animal herds began to brush up against each other and occasionally intermingle in the river and creek swamps, hillsides, and backcountry forests, closer attention had to be paid if the system of private property in animals was to be maintained over one in pasture land. A farmer not wishing to see his more valuable animals branded and surreptitiously swiped by careless or unscrupulous neighbors had to pay closer attention to the exact composition of his herd. This growing concern would no doubt have been reflected in the practices of appointed county appraisers, even if it did not reflect a fundamental change in the nature of Old Amherst's animal husbandry during the eighteenth century. For example, after the Revolution appraisers appear to have insisted with increasing frequency that they be able to see all the animals they were recording. Instances of cattle and hogs being appraised but noted as "not here" or "in the woods" show up much more regularly, indicating that appraisers might earlier have been willing simply to take the word of wives, children, or slaves and overseers as to the deceased's animal possessions in a sparsely settled neighborhood. Marked evidence of the intensification of 'I'ye Valley livestock rearing would not appear until the early nineteenth century.

This postponement of livestock intensification on the Virginia frontier

55See Stewart, "'Whether Wast, Deodand, or Stray'," for a discussion of the development and slow improvement of a similar livestock system in the Deep South. Just as in Virginia, as cattle began to assume more value in the commercial farm economy, property lines in animals were slowly drawn with greater attention in seventeenth-century Georgia.

56Amherst County (Va.) Will Books, 1-4.
demonstrated the continuing role which frontier conditions played in shaping the region's agroecology. Important adaptations had to be made to the agricultural ecosystem developed in tidewater Virginia as settlement moved onto those red clay hillsides which stretched from the Fall Line to the steep slopes of the Southwest Mountains and the Blue Ridge. Hard grains were adopted to make up for the declining yields and profitability of dark tobacco, and primitive plows were introduced among both groups of farmers to break up the stiff soils for broadcast and row planting. Yet at the same time, the openness of the Virginia land system combined with the scarcity of labor in backwoods communities like the 'Tye Valley to maintain an agroecosystem that was unmistakably 'frontier' in its orientation. Intensifications of the farm system that were adopted, such as long fallowing and plow technology, were barely baby steps down the road toward the intensive cultivation being practiced in northwestern Europe or the Far East at the time.57 The processes which would transform the agriculture of the 'Tye Valley were still in their infancy during the eighteenth century.

**Plantation Farming on the Tye Valley Frontier: Colonel William Cabell, Sr.**

Even the most advanced and prosperous farmers of the 'Tye region, while broadening their technological – and methodological – options by tentatively adopting row planting and plow cultivation, chose not to take the further steps necessary to

57European visitors to Virginia were particularly appalled by what they perceived as the slovenly and wasteful agricultural practices of eastern Virginia. See in particular, Craven, *Soil Exhaustion*, 34, 56-58, 82-85, and Taylor of Caroline, *Arator*, 65-67. For the perception of elite Virginians as to their own agricultural backwardness, see Madison, “Address ... before the Agricultural Society of Albemarle,” 416.
establish a permanent cultivation which might have maintained soil fertility without long
fallowing and its black sheep sibling, land abandonment. The best, albeit superficial,
description of the farming techniques of the wealthiest of the Valley's planters comes
from the documents surrounding the life and career of Colonel William Cabell, Sr., son
of the founder of the Tye Valley's most prominent planting and political family. Dr.
William Cabell first patented land in the Tye region during the early 1730's, moved there
permanently and built an unnamed house near his river town of Warminster during the
early 1740's. Colonel William Cabell, Sr., for his part, was born in 1730, and lived at
"Union Hill," the plantation home he built near his father's lands, until his death in
1798. In addition to the information contained in the Amherst County land records,
which document Doctor Cabell's career both as the longtime county surveyor for
Albemarle and Amherst Counties as well as a consistent engrossers of local properties,
the younger William Cabell also left a lengthy series of commonplace books. In these
small volumes, Cabell recorded the timing of many of the basic agricultural tasks

58 Marlene Heck, "Palladian Architecture and Social Change in Post-Revolutionary
See also Brown, The Cabells and Their Kin, 34-78. For a more general discussion, see
University of Virginia, 1939.

59 See Hughes, Surveyors and Statesmen, 85-90, 168-171 for a narrative discussion of
the cabal of county surveyors which developed in the eighteenth-century piedmont,
including the members of the Cabell family. For details on the Cabells' land-engrossing
activities in the Tye Valley, see Seaman, Tuckahoes and Cohees, 69-73, as well as Bailey
Fulton Davis, ed., The Deeds of Amherst County, Virginia, 1761-1807 and Albemarle
abstract of the Cabell family's patents and grants can be found on-line at the web-site of
the Library of Virginia.
performed on his plantations, providing a small knothole in the wall of backcountry obscurity through which the operations of an eighteenth-century Tye Valley plantation can be observed.\textsuperscript{60}

Cabell's notebooks paint a picture of a frontier agroecosystem moving toward intensification at a snail's pace. Already plowing his corn grounds in the 1780's — but apparently not his tobacco fields — Cabell's slaves did make use of a technique known in eighteenth-century American as "listing".\textsuperscript{61} A forerunner in some ways of the techniques of ‘deep-plowing’ which would gain great popularity among advanced agricultural intensifiers early in the next century, listing utilized a heavier moldboard plow than that commonly in use for the more basic kinds of scratch plowing. This heavier, frequently double, moldboard, turned out large furrows which aided in disturbing the upper layers of soil and providing a loosened soil matrix for corn growth. This process added to the stability of agricultural soils by mixing organic matter deeper into the soil matrix, which slowed the soil exhaustion brought on by erosion up the upper soil horizons. Furthermore, the deeper furrows combated erosion by providing channels to carry off rainwater, rather than allowing it to flow unrestrained across cleared fields, leading to devastating sheet erosion and gullying.

Yet two important cautions need to be introduced to the consideration of Cabell's

\textsuperscript{60}Colonel William Cabell, Sr., Commonplace Books, 1769-1822. Virginia Historical Society, Richmond, Virginia. After the death of the elder Colonel Cabell, Union Hill was inherited by his son, Colonel William Cabell, Jr., who lived there until his death in 1822, and maintained his own set of commonplace books. The identical name and militia rank of the two men probably explains why the two sets of records are conflated.

use of listing before it can be seen as evidence of a serious move towards agroecological permanence. In the first place, the level of technological innovation really implied by Cabell’s use of the term needs to be questioned. With probate data from Cabell’s own estate not available until his death in the early 1820’s, the possibility that alone among his revolutionary-era neighbors he was using the most advanced plows available to undertake significant alteration of the soil structure cannot be discounted. Yet the evidence of his contemporaries around Old Amherst suggests this possibility to have been unlikely. Investment in plows, even among the wealthiest of farmers, remained limited during these years. Furthermore, while Cabell mentions the application of this kind of heavy plowing to his corn crops, a healthy portion of which was up for sale, particularly during the Revolution, he never mentions the techniques in relation to his other commercial crops. If heavy plowing was not consistently applied to the other cash crops grown along the banks of the James – tobacco, wheat, flax, hemp, and for a brief period, cotton – it seems unlikely that Cabell would have made large scale investment either in technology or in labor. Plow technology developed slowly, and locally, during this era. It seems more probable that Cabell used the term listing to refer to a kind of

62 Cabell’s estate inventory was recorded by the Nelson County Clerk on the 28th of March, 1823. He was recorded as owning ‘dagon’ and scoop plows, as well as six yokes of oxen and one of the first mules in the Tye Valley. Nelson County (Va.) Will Book C, 80-84.

63 Certainly the members of the Cabell family were, and would remain, in the forefront of agricultural improvement and modernization in the upper piedmont. Joseph Carrington Cabell, for example, as well as family cousin William Cabell Rives, would as young men be among the founding members of the Albemarle Agricultural Society in 1817. See Rodney H. True, “Early Days of the Albemarle Agricultural Society.” Annual Report of the American Historical Association for the Year 1918. (1921): 241-259.
plowing that most serious agricultural reformers of eighteenth-century England or the antebellum United States would still have regarded as scratch plowing, no matter that Cabell saw himself plowing deeper than his neighbors.

Second, on other occasions in conjunction with corn field plowing, Cabell recorded ordering his field slaves to "cross-plow" his corn grounds. Cross-plowing was a quintessentially frontier technique of soil disturbance, and one that would come in for enormous criticism from the agricultural reformers of the nineteenth century. Cross-plowing involved digging additional furrows at right angles to the original plow-pattern, creating a checkerboard. Cross-plowing enabled farmers to further break up heavier soils, as the typical moldboard plows of the period did little more than turn over a solid layer of soil, which could come down in an uncultivatable lump, particularly in moist bottomlands or heavier piedmont clays. Yet while it loosened the soil, cross-plowing did have disadvantages when continued beyond the first seasons of cultivation. The difficulties in plowing over large furrows already laid down made the use of heavy plows with the technique impractical, and so cross-plowing essentially remained a system which merely scratched the most organically-rich upper layers of the soil. Furthermore, cross-plowing eliminated the possibility of any kind of contour plowing. With few fields in Old Amherst other than the most valuable bottomlands being anywhere close to flat, cross-plowing left scratched surface soils desperately vulnerable to sheet erosion. These problems came to the fore when cross-plowing was used in conjunction with the proto-"listing" Cabell appears to have been practicing. As noted above, one of the most basic

64Colonel William Cabell, Sr., Commonplace Books, vol. 8, May 1 - May 19, 1781.
purposes of deep plowing on hillside soils in the upper piedmont lay in providing resilient ridges to channel storm waters. Yet as Cabell applied it in his search for short term yield increases, cross-plowing would have undone much of the advantage to be gained from listing. A sound technique in a frontier context, cross-plowing's record in terms of soil conservation, both in terms of mineral fertility and physical structure, was miserable. Its continued use into the nineteenth century remained one of the most visible causes of what agricultural reformers would identify as the state's agricultural crisis.

Given that his application of both listing and cross-plowing to his less commercially valuable corn grounds represented one of Cabell's greatest commitments to the intensification of cultivation, it comes as little surprise that his other agroecological practices exhibited the cavalier attitude towards permanence typical of frontier farm communities. Despite farming some of the most valuable river bottomlands in Old Amherst, the flood plain forests on the north side of the James River just below the Tye's mouth, Cabell appears to have done little during the eighteenth century to protect his family's real estate investment. The James River bottomlands, like river floodplains throughout the South, were notorious for their vulnerability to regular inundations during the spring and summer storm seasons. Freshes such as the great flood of 1771, and

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66Flooding remained a persistent problem in the South through the early twentieth century. Today, southern rivers are among the most heavily dammed in the United States, as southern congressmen have aggressively used their influence to bring flood control projects to their states. See for example Nelson M. Blake, "Flood Control and Drainage," in Charles Reagan Wilson and William Ferris, eds., *The Encyclopedia of Southern Culture*, vol. 1, (Chapel Hill, NC: University of North Carolina Press, 1989),
others occurring every nearly every Spring, regularly washed out newly-planted crops and outbuildings on the bottomlands, as well as carrying away valuable soil in their most violent manifestations. Yet Cabell appears to have made next to no effort to defend himself against even the mildest of floods. Levees, such as would be constructed regularly by the neighborhood's wealthier planters in the next century, never were built.

Cabell only mentions the practice of "ditching" – the digging of drainage canals which could divert rainwater away from planted crops and occasional rising waters into side streams – only once. In 1773 he hired a local man named Hugh McKie to dig for him. Yet ditches were laborious undertakings, and needed constant maintenance as they filled up with soil and debris. The one-time hiring of a single ditcher, even given

568-571.

67In addition to the great fresh of late May 1771, Cabell also mentioned severe flooding on the 28th of February and 10th of March that same year. Colonel William Cabell, Sr., Commonplace Books, vol. 3.

68Of the great fresh of 1771, Cabell reported, "the greatest flood in the River that has been known, by 12 feet perpindicular at least it carried away almost every house on the Lowgrounds, destroyed all the orchards. Many people were drowned, fences intirely carried off, and the land when uncovered with the water presented the most melancholy appearance everything being entirely swept off and the [...] to all appearance ruined," Colonel William Cabell, Sr., Commonplace Books, vol. 3, May 26, 1771. Roger Atkinson wrote that the same flood had stripped soil from valuable low ground fields even further down the river. Atkinson quoted in Craven, Soil Exhaustion, 28.

69See Crop Memoranda for 1854-1858, William Massie Papers, Barker Texas History Center, University of Texas, Austin, Texas, for a late-antebellum planter who made extensive use of flood-control levees to protect low ground fields.

70Colonel William Cabell, Sr., Commonplace Books, vol. 4, June 22, 1773.

71For the extremely labor-intensive nature of ditch construction and maintenance, see Taylor of Caroline, Arator, 287-291, for a description.
Cabell's large slave holdings, seems more likely to indicate a quickly abandoned experiment rather than a concerted policy.\textsuperscript{72} Another possible explanation is that Cabell ordered ditches to be dug around and in his tobacco plant beds, the one aspect of Virginia's frontier cultivation that did receive intensive labor investments. Either way, a concerted, comprehensive policy of protecting soils from sheet erosion would not be implemented until well into the nineteenth century.

The same spirit of labor-hoarding holds even more true for the possibility of irrigating longer-lived bottomland fields. Even in the absence of mechanical pumps, the digging and maintenance of adequate irrigation ditches from the James upstream down to low ground fields was technologically possible, if extremely laborious. Certainly smaller streams flowing down from Hawkins and Findlay's Mountains across his lands down to the James were profitably dammed for mill races,\textsuperscript{73} and with longer ditches might have supplemented the rainfall on his low ground tobacco and grain fields.\textsuperscript{74} There would definitely have been some incentive to undertake the tasks of developing minor irrigation supplements, as Virginia's capricious weather subjected the upper piedmont to debilitating drought as often as to devastating flood.\textsuperscript{75} Cabell's frequent complaints

\textsuperscript{72}While Cabell was never systematic in his recording of plantation labor in his commonplace books, his notes were both frequent and extensive. Ditching labor among his slaves was never mentioned.

\textsuperscript{73}See "Mills," Files of the Nelson County Historical Society, Nelson County Regional Library, Lovingston, Virginia.

\textsuperscript{74}Cabell appears to have been one of the few men in the Tye Valley who grew both tobacco and cereal grains.

\textsuperscript{75}Craven, \textit{Soil Exhaustion}, 27-29.
regarding both drought and flood could only be made to God, however, since he apparently felt that investment in the techniques whereby humans might answer the agricultural deficiencies of nature would have been prohibitively unremunerative.

Cabell's only apparent response to the vulnerability of his bottomlands to flooding was to shift some cultivation onto less valuable soils on the creek runs in the hillsides above the flood plain. This practice, of course, left those fields vulnerable to quick erosion and soil exhaustion. As a result, Cabell retained the practice of shifting cultivation in the recorded aspects of his farm operation throughout the eighteenth century. While most of his commonplace book entries about agricultural activities refer to the schedules of planting and harvesting, occasional mention of the clearing of new lands does peek through. For nearly six months in 1779, for example, his slaves hacked away at what Cabell termed the "slash before my door." The term "slash" during this period most often referred to a stretch of swampy low ground covered with pine. Indeed, the ecological community described by the term was the origin of the common name of Slash Pine. Slash Pine, however, was not the typical 'climax' species of low grounds and swamps in the pre-industrial piedmont. Instead it grows very quickly on disturbed soils and is in the course of time typically succeeded by many of the marker species of the

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76 In 1779, for example, Cabell reported that his slaves had, “sowed my highland hemp patch.” Colonel William Cabell, Sr., Commonplace Books, vol. 8, June 2, 1779. Later that same year, Cabell purchased a two hundred acre farm in ‘Findlay’s’ Gap in the nearby ridge line from a man named William Loveday. Ibid., September 4, 1779.

mature bottomland forest such as Black Oak, Dogwood and Gum.\textsuperscript{78} In the most likely event, especially given this particular tract's proximity to his long-standing home, the slash Cabell was referring to was a stream bottom previously cleared and abandoned. Furthermore, the swampy nature of this particular slash may well have resulted from eroding soil washed down from clearings on the nearby hillsides filling up and drowning the stream bottom.\textsuperscript{79} In an earlier year, Cabell had referred to his slaves "clear[ing] up the hillside before my door as far as the branch by my hog pen,"\textsuperscript{80} probably another reference to the reclaiming of an old field for possible further cultivation. Permanent farming of single fields was never the goal of Cabell's eighteenth-century agricultural system. Indeed, in 1777 he was impressed enough to comment that he was able to sow flax in a field which had been put into hemp for four previous seasons - hardly sustainability by any standard.\textsuperscript{81}

Cabell's animal husbandry was the most agriculturally advanced part of his plantation system. Yet it too retained strong elements of the Virginia frontier's open range 'ranching'. Many of Cabell's horses, hogs, and cattle appear to have roamed free in the woods for most of the year, as did the stock of his neighbors. The boundaries of the herds were not maintained with nearly the strictness common with the more scientific

\textsuperscript{78}Kricher and Morrison, Eastern Forests, 69.

\textsuperscript{79}For the role of agriculturally-accelerated soil erosion in creating back swamps behind the courses of piedmont streams, see Trimble, Man-Induced Soil Erosion, 77, 117, 129.

\textsuperscript{80}Colonel William Cabell, Sr., Commonplace Books, vol. 7, August 29, 1778.

\textsuperscript{81}\textit{Ibid.}, vol. 6, May 4, 1777.
pastoralism of the next century. In 1779, for example, "a stray old red cow" wandered onto one of Cabell’s quarters with a bull calf and died, leaving Cabell with her hide and a young addition to his stock.82 Cabell did move tentatively beyond the most primitive system of open-ranging, regularly bringing his stock in from the woods during the winter, both to avoid the starvation which had always afflicted stock during the Virginia winters, and to fatten them up on marginally-maintained pastures and shares of plantation corn.83 Cabell appears to have also made some attempt at controlling the breeding of his sheep, keeping rams and ewes separate for much of the year.84

The dangers and losses inherent in the open-range system of animal husbandry remained ever present. Depredations by wolves, for example, were a threat throughout the colonial period. Yet labor remained too scarce for planters to commit their personal resources to systematic protection of their stock whether through penning, fencing, or regular shepherding. The losses planters suffered were great enough, however, that they, like gentry across the piedmont, dictated that bounties drawn from county levies be paid

82Ibid., vol. 8, April 12, 1779.

83On April 10, 1779, for example, Cabell noted that apparent good weather had resulted in, “plenty of grass and the cattle not come home to be fed from the first of this instant.” On other occasions he reported the quality of the grass in old field pastures surrounding his plantation in April when he ‘turned out’ his animals – apparently from their winter pens. See Colonel William Cabell, Sr., Commonplace Books, vol. 2, April 20, 1770.

84Ibid., vol. 2, September 22, 1770. This practice might explain the heightened correlations of wealth and average sheep value among upper class sheep raisers recorded in the probate inventories.
for wolves' heads. Yet the battle against predators remained a difficult one, and the county court was continued to do a brisk business in wolf's heads through and after the Revolution. In any event, the quality of Cabell's livestock remained at the low market standards typical of frontier regions. Cabell's workers regularly slaughtered hogs and the pork from which he sold within the neighborhood, but the weights he recorded for the pigs averaged no more than 90-110 neat pounds. More systematic hog-breeders in the region were producing animals half again as heavy just forty years later.

Cabell mentioned on occasion putting animals out into his "pasture", but it remains unclear exactly what he meant by the term. His notations regarding plantation work certainly never mention the regular maintenance of mowing, grazing, reseeding, fencing, and so on needed to sustain a modern grass pasture over a long period of time.

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86For examples local to the Tye Valley, see a list of payments made by the Amherst County Court (1783), Cabell Family Papers, 1693-1913, Swem Library, College of William & Mary, Box 2, File 13, which mentions wolf's head bounties paid to local notables such as Isaac and Anthony Rucker and Cabell tenant and overseer Young Landrum.

87See for example Colonel William Cabell, Sr., Commonplace Books, vol. 2, November 30, 1770 (6 hogs, 511 pounds), December 1, 1770 27 hogs, 3300 pounds), December 18, 1770, 12 hogs, 800 pounds).

88See for example the hog raising of Thomas Stanhope McClelland and Thomas Massie, discussed in Chapter Three (below), and William Massie in Chapter Five (below).

In contrast to regular enumerations of the plantation routine with regard to crops such as corn, wheat, tobacco, and hemp, Cabell mentioned the stacking and binding of fodder only on occasion. Furthermore, the mention of ‘fodder’ on the Virginia frontier during this period did not indicate the conscious cultivation of grass hay as it would later in the next century. Mentions of fodder in the probate inventories of the late eighteenth-century probably already were referring to the bodies of corn plants after the harvesting of the ears.90 Certainly the collection and managed distribution of this crucial source of animal feed during the antebellum era did indicate an even more focused brand of animal husbandry than simply turning animals loose in the harvested fields, which in turn required more labor and land, of course, than the simplest process of letting them roam loose in the woods.

Given this entomology, it seems less likely that Cabell was referring to managed grass fields when he noted his "pastures." More probably he was modifying the long-fallowing scheme by practicing a primitive kind of shifting agriculture most akin to an infield-outfield system. The most sensible agroecological and commercial use of Cabell's landholdings would have been to clear fields on his bottomlands, maintain them in cultivation for longer periods through heavier plowing on top of their naturally greater fertility and soil depth, and use upland and hillside forests for occasional cropping and

90Fodder, as noted in the crop choice tables, was only mentioned on occasion in mid-eighteenth century inventories. That this ‘fodder’ probably referred to corn stalks and leaves is strongly suggested by the fact that as fodder increased in importance, the probate appraisers responded by breaking mentioning ‘corn fodder’ by name, before moving on to break it down into categories of ‘tops’, ‘shucks’, and ‘blades’ by the 1810s and 1820s.
regular pasturage. Formerly cultivated fields on the river bluffs Cabell owned below Findlay's and Hawkin's Mountains would have been havens to the kind of plant growth which best supported frontier livestock. Furthermore, their grazing would have kept the clearings free of large shrubs and small trees for long periods of time, keeping the animals close to the home plantations and in reasonable order. Such 'pastures' would have been dominated by thistles and other weeds common to Virginia old fields, and as such would have provided little nourishment when compared with more advanced livestock feeding systems. Yet if the estate possessed sufficient land to provide for cash crop cultivation elsewhere, such pastures could be maintained and exploited with a minimum of labor investment for comparatively long periods of time.

The key to this system of barely intensified animal husbandry, of course, was the ability of a planter like Cabell to engross sufficient quality land to allow for the maintenance of his river bluff pastures. On a fluid frontier like the eighteenth-century Tye Valley, investing money and power in the acquisition of more land often proved to be more rewarding than attempting to purchase labor. Yet as the neighborhood began to fill up with settlers, their crops, their animals, and their old fields, what had been a


93 See in particular McCleskey, "Rich Lands, Poor Prospects," for a detailed discussion of the role which control of the developing frontier land system played in shaping local power structures in the Shenandoah Valley of Virginia. See also Hughes, *Surveyors and Statesmen*, 84-105, for the manner in which surveying was made into the basis for significant personal fortunes, and 156-165, for the role which surveyors played in the ruling piedmont gentry.
very simple calculation for Tye Valley planters grew much more complex. As the
Revolution came and passed, obtaining land sufficient to maintain varying systems of
crop progression, old field pasture, long fallowing, and land abandonment in the face of
high labor costs became an overriding economic and political concern for farmers of all
classes, and a source of growing conflict between them.

The Virginia Land System and the Localization of the Virginia Agroecosystem.

The extensive land transactions undertaken by the elder William Cabell and his
sons in Old Amherst during the eighteenth century provided for this supply of surplus
land on the family plantations was accomplished by Dr. William Cabell, the founder of
the clan's exalted position as the first family of Old Amherst, and later Nelson, Counties,
slowly built the foundation of his family's fortune by patenting from the colonial
government numerous substantial properties along the James River above Richmond
during the 1730's.\(^94\) The elder Cabell's slaves cleared and farmed the properties, the
crops from which made possible the purchase of lands further up the river. By the
1750's, as piedmont lands were taken up and Iroquois and Cherokee militarism
rejuvenated Native American resistance to Virginia's expansion west of the Blue Ridge.\(^95\)

\(^94\) For a detailed discussion of the expansion of Doctor William Cabell's landed empire
into the Tye Valley region, see Anna Marie Mitchell, "Doctor William Cabell: The
Pioneer and Founder." (M.A. thesis., University of Virginia, 1939). See also Seaman,
Tuckahoes and Cohoess, 164-168, and Seaman, ed. The Lee Marmon Manuscript, 41-42,
66, 90-98.

\(^95\) For a discussion of the problems created for Virginia expansion to the west and
southwest by revived Indian resistance late in the colonial period, see Turk McCleskey,
"Across the First Divide: Frontiers of Settlement and Culture in Augusta County,
Major Land Grants in Old Amherst, 1730-1760.
Major Cabell Family
Land Grants & Purchases,
1730-1780.
Cabell slowed his geographic advance, if not his purchases. In the ensuing decades, in conjunction with his sons, William Jr. (author of the commonplace books), Joseph, and Nicholas, Dr. Cabell patented or purchased numerous parcels of land in the Tye River region. In order to maintain the kind of frontier agriculture practiced by Colonel William Cabell, Sr., the family plantation masters first had to develop a large landed empire in order to make the most profitable use of the labor of their slave forces. That done, the Cabell men then had continually to expand that land base in order to accommodate population growth in their slave communities as well as the slower ecological decline of lands within the rotation of a long-fallowing system.96

As noted earlier, Dr. Cabell had patented James River bottomlands between the mouths of the Tye and Rockfish in the late 1730's (the foundation grant of 4800 acres came in 173897), and built his permanent home five miles west of Warminster on the bluffs overlooking the river below Hawkins Mountain.98 Using family and business contacts in the colony's elite to secure appointment as the assistant surveyor of Albemarle

Virginia, 1738-1770.” (Ph.D. diss., College of William & Mary, 1990), especially 249-344.

96In 1787, several members of the Cabell family were among the Tye Valley's slaveholding elite. Nicholas owned 74 slaves, William, Sr., 93, and William, Jr., 21. These totals made the two elder Cabells the largest slaveholders in old Amherst, with only Robert Rose's two sons, Hugh and Patrick, and Edward Carter, being close. Amherst County (va.) Property Tax List, 1787.

97Virginia Land Office, Patent Book 18, 34.

98Seaman, Tuckahoes and Cohees, 71.
when shortly after county was formed in 1745, the elder Cabell – and subsequently his son, William Jr. – applied the knowledge gained from their fieldwork to add impressively to their local landholdings. Numerous land grants and private purchases followed the formation of Albemarle County, fleshing out holdings along that stretch of James River bottomland and bluff that remains to this day closely identified with the Cabell family. Subsequently, Dr. Cabell and his sons and grandsons picked up land tracts in the interior of the Amherst region which included prime bottomland and red clay open country soils to maintain the base of their tobacco and wheat agricultural system, mountain tracts as an investment in timber and for summer grazing, and the occasional piece of cove land for grazing and prime dark tobacco soils.

Yet the Cabell patriarch appears to have remained aloof from the heavy work of large-scale land speculation – apart from surveying enormous tracts for even wealthier members of the colonial gentry – that went on in the territory of Old Amherst County during the 1730's, 40's, and 50's. Enormous stretches of uncultivated forest, with total acreages running into the tens of thousands, were patented in the Tye River region by men such as Parson Robert Rose, John Carter, Ambrose Lee, George Braxton, and the Bristol merchants John Hamer and Walter King. Dr. Cabell was not financially involved in these speculations, and his own land patents remained at a more modest scale than the kind of massive land-grabs represented by the so-called Secretary's (Carter) and

99Hughes, Surveyors and Statesmen, 89, 169-170.

100See Seaman, ed., The Lee Marmon Manuscript, 39-50, 62-74, for a detailed discussion of the major land patenters and settlers of the Tye Valley before the formation of Amherst County.
Nassau Tracts (Harmer and King). Furthermore, while he did to some degree continue his policy of pushing his holdings of prime bottomlands further up the river by patenting 1000+ acre tracts along Horsley and Harris Creeks (which emptied into the James on the western edge of Amherst above what was to become Lynchburg), Dr. Cabell made most of his patents in a manner that indicated a desire on his part to establish at least a regional permanence to his frontier plantation ventures. The Cabells patented islands in the James River for their fishing rights (which according to William Jr.'s commonplace book entries continued to provide his plantations with a cash and kind income from shad well past the Revolution), in addition to the smaller tracts of creek bottomland and hillside in the interior of the Tye Valley, and several large parcels of mountain land. The largest of the speculative tracts in Old Amherst (apart from Parson Rose's) were owned by absentee speculators, who looked to them for a short-term cash flow as much as for an ecological reserve for continuing frontier cultivation within their own plantation empires. Concentrating their landholdings in Old Amherst during the eighteenth century, on the other hand, Dr. Cabell and his sons built a base of landed property that managed to balance the frontier agroecosystem they practiced with the economic, social, and political standing they wished to maintain.

101 Seaman, Tuckahoes and Cohees, 190-193, for a discussion of the Nassau Tract as first patented by William Randolph, and later sold in large part to Harmer and King. See Seaman, op cit., 79, for a brief mention of John Carter's ownership of the "Secretary's Tract."

By all appearances, the Cabells did not assemble their real estate holdings primarily for investment purposes, as very few sales were made by the family during the eighteenth century, in contrast to an abundance of patents, grants, and private purchases. Instead they developed the kind of extensive landholdings which would support shifting cultivation practiced by an ever-expanding labor force. William Jr. mentioned crop plantings, harvests, and other plantation activities at numerous locales removed from the quarter near "Union Hill", which he typically referred to as "home." Indeed, he appears to have hired a number of overseers to manage operations on several plantations and quarters strung along the James and up the Rockfish Valley and along Rucker Run in the Tye. Despite the campaign of mansion building Dr. Cabell's sons pursued along the James River bluffs between 1790 and 1810, perambulations between sundry farms remained part of the regular routine of Cabell men during the first half of the nineteenth century, as it had been for William Jr., and no doubt his father before him.

103 See Davis, Deeds of Amherst County, passim. For the Cabell family's land activities in the Tye Valley after the formation of Nelson County in 1807, see the excellent Nelson County Deed Index, Microfilm, Library of Virginia, Richmond, Virginia.

104 Cabell mentioned other quarters throughout his commonplace books, for example in vol. 3, September 13, 1771, December 21, 1771, vol. 4, July 20, 1773, vol. 5, September 5, 1775.

105 Names like David Reynolds, Young Landrum, Theoderick Scruggs, among others, appear repeatedly in the commonplace books as overseers at Cabell's various plantations.

106 The building of the Cabell mansion houses on the James River bluffs and its implications for the local social structure of the Tye Valley is the subject of Heck, "Palladian Architecture and Social Change."
The steady expansion of the Cabell family's agricultural base in the Tye River region between the 1750's and 1770's, however, anticipated rather than reflected a broad-based trend towards agricultural localization among the gentry. As noted above, while Dr. Cabell's sons began to build large homes in the region and replicate their father's role as Old Amherst's leading public citizen, large amounts of the county's cultivated land remained in the hands of absentee proprietors. As late as the mid-1780's, major Amherst landholders such as Thomas Colt Addams, Thomas Barrott, Robert Bowling, Charles and Edward Carter, and others, kept quarters with sizeable slave communities in the county without maintaining residence. Nor did the Cabell clan's commitment to securing their system of shifting cultivation by developing a foundation of local landownership fully represent the investment priorities of their neighbors. While the Cabells expanded their real estate holdings in apparent anticipation of the expansion of their own families and those of their slaves, many other Tye River farmers appear to have regarded landownership as an ornate wing added onto a house built upon profits derived from bonded labor. Again, as late as the 1780's, several of the neighborhood's slave-owning planters were also renters, rather than owners, of land. Men such as Henry Davis, John

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107 See Alexander Brown's descriptions of the labors and daily perambulations of Mayo Cabell in the mid-nineteenth century, in Chapter Four, below.

108 Heck, op cit.

109 These names come from comparisons of the land tax and property tax listings of 1787 for Amherst County, the latter of which lists contained entries for numbers of slaves.
Gilmer, and others, took out leases on valuable pieces of river and stream bottomland, sent a number of their slaves to clear and plant them, and then apparently moved these 'communities' on to greener pastures or, more accurately for this frontier, mature forests and richer soils.\textsuperscript{110}

The large numbers of tenants, both large and small, who exploited the local ecosystems of the Tye River Valley in the immediate post-Revolutionary period without going to the trouble of purchasing land raises an interesting question for Virginia's creation of a frontier agroecosystem. The issue is not, however, why so many farmers were willing to waste money or crops on rent when land was so relatively cheap, but instead why landownership played any role in determining the agricultural system at all. For all the love children of Old England had for owning land, the Virginia colony had with momentous success abandoned the system of landownership while developing the region's pastoralism. Why did the colony's settlers not follow the example of the Powhatan and Monacan Indians and scuttle rigid lines of landed property for purposes of cultivation as well? As noted in Chapter One (above), some certainly did, squatting on frontier lands and cultivating them in defiance of the law.\textsuperscript{111} Yet in so doing, they largely eliminated themselves from participation in the commercial and financial development of the colony. Why then, as appears from the map of the Tye Valley region's land grants, were so many of the \textit{leading} men of the colony and state willing to invest large amounts

\textsuperscript{110}Amherst County (Va.), State Land and Property Tax Lists, 1787, 1795.

\textsuperscript{111}Doctor William Cabell himself had problems securing title to, and use of, some of his Tye Valley lands, because of recalcitrant squatters Thomas Jones and a Mr. Irvine. See Seaman, ed., \textit{The Lee Marmon Manuscript}, 41.
of economic, political, and social capital engorging lands that, unlike the Cabells, they lacked the ability to cultivate and moreover lacked the future intention of cultivating?

The answer lies back in the practice common among frontier leaders for abandoning markets in labor in favor of coerced workers. Certainly Virginia's politically powerful men had followed this path throughout the seventeenth and early eighteenth century. Indentured servants, typically bonded to agricultural labor for periods of seven years, were shipped to the colony from England. Furthermore, land was viewed during the period as a direct appendage of bound labor: land grants were handed out to the importers of labor on that direct head right system for much of the century. Yet the course of the late seventeenth century proved to the colony's leading men that absolute control of the supply and application of labor was impossible. Despite their desire to remove market considerations from the system of distributing labor, in a commercial system defined by English economy and English law, it proved impossible to completely eliminate exchange values being attached to people and their labor. White Christians could not be legally enslaved, and their transport to the colony for a mere seven years of service had to be purchased at considerable expense. Furthermore, events of the 1670's proved that servants could not be cast aside as soon as their term had expired, but rather demanded that further individual and social investment be made in order to integrate them into a stable society.112 When this expense and investment exceeded the returns on

112Morgan, American Slavery, American Freedom, 215-234, has one of the best, and most influential, descriptions of the difficulties encountered by the Virginia colony in integrating freed white servants into its social and economic structure.
their labor, planters were able to turn to an even more coercive system, race slavery.113 Yet with Native American populations contracting steadily from war and disease, slaves had to be obtained from distant sources, which demanded investment in capture, 'care', and transportation. Without the wherewithal to make such investments on their own, Chesapeake planters had to obtain African slaves at a market-determined price. When the cost of labor was in turn balanced against profits from tobacco, the investment return from coercion was further reduced. Tobacco was far less profitable than Caribbean sugar, and hence the Chesapeake received an uncertain supply of the least desirable, most overpriced slaves. Chesapeake planters and overseers quickly realized they lacked the Barbadian and Jamaican luxury of working expensive slaves to death, and were forced into more conscious care and cultivation of population growth within stable African-American slave communities.114

With imports limited, and population growth slow, coerced labor could not supply the ability of eastern Virginia's ecosystem to support frontier cultivation during the eighteenth century. As a result, prominent Virginia planters began to turn to another means of effectively binding labor: tenancy. Through a variety of means, Virginia's leaders were able to seize control of the colony's land system, controlling access to

113For the economic factors behind the transition from indentured servitude to slavery, see McCusker and Menard, The Economy of British America, 135-139, and Kulikoff, Tobacco and Slaves, 37-43, and Russell Menard, "From Servants to Slaves: The Transformation of the Chesapeake Labor System," Southern Studies, 16(1977), 355-390.

landownership and, in many cases, land use.115 Land grants from the royal governor and his council evaded acreage restrictions and placed tracts of tens, even hundreds, of thousands of acres in the hands of wealthy, well-connected men.116 Furthermore, whereas conscious attempts by the colonial elite to limit Virginia's frontier settlement had failed during the 1670's, imperial concerns worked a similar effect during the 1760's and 1770's. As the military strength of the inland Indian tribes stabilized during the middle of the century, their strength, combined with the proclamation Line of 1763, limited the ability of settlers to move beyond the protection of local militias authorized and organized by the landowning elite.117 Linked directly to those local governments, not surprisingly, was control of the system of land distribution.

Distributing lands to tenants offered a way for the leading men of the colony to bind otherwise free labor to the exploitation of ecosystems for which the colonial economy could not supply more formally coerced workers. The returns were reaped, then, not directly by crop sales, but rather through rents paid and the 'improvements' short-term occupants might make to the land. While the number of lease agreements surviving from the middle and late eighteenth century is limited, those remaining few offer an intriguing glimpse into the goals of land speculators who chose to rent their

115See McCleskey, "Rich Lands, Poor Prospects," and Bliss, "The Rise of Tenancy in Virginia," for brief, evocative discussions of the power members of the colonial gentry exercised over the land system.

116See for example, McCleskey, "Across the First Divide," 54-96.

properties. Colonel William Cabell, Sr., for example, did not rent out large stretches of his property, preferring to keep most of it for future family use, but did lease out four or five farms in the Tye region on a regular basis, and kept brief notations on the terms of several rental agreements in his commonplace books. To Young Landrum, one of his long-term overseers, he rented a farm for the period of a single year, "with liberty only to clear (and plant) a hill side above the branch [...] above his house." 118 Landlords in the region typically kept their leases for very short periods — indeed, leases for a period longer than a crop year are rare 119 — in order to maintain closer control over the long-term use of the land. In the short run, rental agreements also included terms such as those Cabell imposed on Landrum which dictated the type and location of the cultivation which might be practiced. 120 Tenants, with no capital investment in landownership, and hence with little social investment in the neighborhood while including a generous helping of the lazy and shiftless along with the young and the poor in their ranks, had always been notorious in Virginia and elsewhere for practicing frontier cultivation at its most brutal extreme. 121 Landlords wishing to retain intact any of the biotic resources of their properties had to keep a close eye on tenants ever ready to balance their inability or


119 All of the various lease agreements recorded by Cabell throughout his commonplace books appear to have been for a single year, and were noted as such.

120 Colonel William Cabell, Sr., Commonplace Books, vol. 4, July 13, 1773.

121 Tenant farmers were, and continued to be, notorious for their abuse of the soils of Virginia. For the extension of this image down into twentieth-century Virginia scholarship, see Bliss, "The Rise of Tenancy in Virginia," and Wingo, Virginia’s Soils and Land Use, 159-162.
unwillingness to invest extra labor in land clearing and soil conservation by squeezing the ecosystem for all it might give up.

Yet tenants who were unwilling to invest that extra labor were only one side of the coin. The same year he was renting to Young Landrum, Cabell rented a farm known as "Bushes" to John DePriest, with terms dictating where he might clear and fence land, but also adding these conditions: "... he is not to rent any part of it to any other person, nor to work no hand on it but his own ..." 122 With the productive potential of an agroecosystem such a transient commodity under frontier conditions, farmers not surprisingly figured the productive potential of their farms in the more stable terms of the labor potential of their workers, whether familial, hired, indentured, or enslaved. A farmer with an eye towards his own profits therefore attempted to amplify them by limiting the capital he invested in land while maximizing the production of his supply of labor. Small as the price of land rental might be, it still bit deep into profits. DePriest, for example, was charged two thousand pounds of inspected tobacco by Cabell for a single year's rental of "Bushes", 123 the year's field labor of two grown men. 124 As a result, landlords leasing their properties had to keep a close eye not only on the tracts which might be cleared, but also the number of hands which could be allowed to work on those already denuded of trees. The management of the amount of labor allowed to a tenant


123 Ibid.

124 For calculations of the amount of tobacco grown by a single hand on Chesapeake plantations, see Earle, Evolution of a Tidewater Settlement System, 26-27, and Clemens, The Atlantic Economy and Maryland's Eastern Shore, 84-86, 150-151, 171-173.
could be quite precise. In 1774, Cabell rented a property to George Tapscott on condition that "he agrees to work 4 negroes and himself and is to give me L25 for each unless they should be under 16 years and in that case only 50%."\textsuperscript{125} A landlord's hopes to see his rental properties retain their biotic-financial value through judicious long-fallowing even while providing rental profits could be quickly frustrated by unregulated tenants who maximized labor return by cultivating cleared ground to the last ounce of its stored potential. Denuded properties were prey to erosion, slow regrowth of grasses and shrubs less palatable to cattle, and tree growth of various pines which did little to reduce the acidity of leached soil. Three or four years of unsupervised tenant cultivation could cripple the agricultural capacity of a plot of land for decades.

Landlords who understood the ravenous appetite of the Chesapeake frontier farm for wood to feed its rotting buildings, endlessly shifting fences, and home, tobacco cure, and smokehouse fires,\textsuperscript{126} also had to control their tenants' use of their rental's timber. In 1773, Cabell threw a tenant named Richard Murrow off one of his properties and rented the land to one Julian Neale on the condition that "He [is] not to clear any land or destroy any tree that will make Boards, hhds, staves, shingles, or planks ..."\textsuperscript{127} While managing the tenant's personal use of the land's timber was difficult, extra attention to keeping wood from leaving the property did pay dividends. Little incentive existed for a tenant

\textsuperscript{125}Colonel William Cabell, Sr., Commonplace Books, vol. 4, June 27, 1774.


\textsuperscript{127}Colonel William Cabell, Sr., Commonplace Books, vol. 3, Jan 13, 1773.
planning to leave the property in subsequent years to keep timber poachers out of the hillside forests above his low ground clearings. The less scrupulous tenants, and there were plenty of those, could bring in a little extra by trading surreptitious access to the chestnut forests in return for a little cash or kind. Some even went as far as to cut the timber and then sell it in small quantities around the neighborhood. Chasing down small-time timber pirates was a continuing occupation for the overseers and other local agents of major absentee landlords up and down the Blue Ridge face of the western piedmont.  

Obviously landowners were quite aware of the fact that while rents might be fixed by simple agreement, managing the amount of biotic wealth skimmed from the land in return for that rent was a much trickier process. Yet allowing tenants onto one's property did offer some intriguing possibilities for binding valuable labor to the task of 'improving' the property to an extent that might counterbalance the damage that their clearing and hoe and scratch-plow cultivation might do. In 1779, Cabell rented another piece of land to Young Landrum, with the requirement that he build a fence around the already cleared ground "10 rails and a rider high, with stokes," a quite ambitious barrier. Tenants renting properties for longer periods of time could be, and often were, required to make improvements to the property which would increase its value

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128 See, for example, the problems encountered by Battaile Muse, the main agent for the Fairfax proprietors in the northern Blue Ridge and lower Shenandoah Valley, with timber pirates and woods-burners. Battaile Muse Papers, Alderman Library, University of Virginia, Charlottesville, Virginia.

independent of its basic ecological potential. Rental agreements often demanded the construction of sizeable fences and buildings which would be left on the property once the lease expired. Deeds of sale typically included the transfer of all buildings on the property in order to prevent their disassembly and transport off the farm. Many rental agreements concluded for the lease of uncleared forest properties in the region also provided the provision that the tenants clear ground and plant orchards of apple and peach trees.\textsuperscript{130} Fruit might be used for home consumption, or for making the kinds of fruit brandies which brought a steady, if small, cash income to the Tye River region throughout the late eighteenth and early nineteenth century.\textsuperscript{131} Furthermore, orchards represented a use of thin hillside soils even more lucrative than forestry. After the collapse of Tye River tobacco cultivation in the face of North Carolina competition after the Civil War, orchard products, particularly the famed Albemarle Pippin apple, provided a commercial agriculture for the region through much of the twentieth century.\textsuperscript{132} Other period leases demanded the construction of buildings, the fencing of old field or natural meadows, and other similar improvements which might increase the financial value of

\textsuperscript{130}David, \textit{The Deeds of Amherst County}, contains some brief notations of the requirements of lease agreements he and his associates recorded.

\textsuperscript{131}Colonel William Cabell, Sr., Commonplace Books, vol. 3, November 8, 1771. See Chapter Four, below, for the recollections of a planter from the 1830s of the local liquor trade which flourished in the post-Revolutionary decades. The planter focused on the problems of drunkenness caused by cheap brandy, but his recollection of its abundance does give some idea how widespread production of various liquors had become in the piedmont.

\textsuperscript{132}See, for example, “Agricultural and Horticultural Possibilities Great in Nelson county,” \textit{Nelson County Times}, special issue, July 1925, 31-33.
the property.

Tenancy was manipulated, therefore, as a means to use ownership of the natural world to bind labor to it, and skim the commercial rewards from that labor in the form of rent. Yet all this lease evidence drawn from the Cabell commonplace books needs to be distinguished from the practices of other rentiers. The localization being practiced by the Cabells during the era probably led them to pay closer attention to the care of their rented lands than others might have. Yet while absentee landlords would sacrifice ecological protection for quick rent returns on tenant labor, the locals might well aim at balancing the two. The terms of the various lease agreements served to manage agriculture, i.e., the interaction between labor and land, beyond the ability of even the leading men of the frontier to own or contract for either. This managerial potential allowed landlords to divide the labor of plantation-building into discrete components, using varying rent rates to direct labor into orderly tasks without the expense of the oversight and sustenance demanded by bound laborers.

Landlords owning tracts of virgin forest could lease the land to poor tenants on easy terms, while still dictating the amount of land that might be cleared, the timber that could be cut and the improvements that had to be made. If, at the conclusion of this process, the tenant lacked the capital to exploit an improved farm, the improved land could be rented to a better established planter, such as one of the numerous small slaveowners who farmed the River Valley land during the revolutionary and early national eras under rental agreements. Such farmers no doubt paid a higher rent for cleared grounds, for bottomland soils kept from cultivation, and for buildings and fences.
ready for occupation and use. In addition to skimming profits in the form of rents, landlords could limit the amount of wealth those tenants could take away from the land by dictating the crops that could be grown (eliminating particular soil exhausters such as tobacco), the land that might be farmed from year to year (protecting the richest forest soils from extended use), and the number of laborers that might be employed (keeping the system of shifting cultivation or long fallowing vital). With further improvements having been made, the landlord faced three inviting possibilities for his well-managed frontier holdings: continue to rent to trusted, closely-managed tenants, move in and farm the land with one's own slaves under one's own overseer, as did many absentee rentier planters such as Edward Carter and Peter Field Trent\textsuperscript{133}, or simply sell the farm outright, a hefty profit having been made from rents beyond surveying charges, patenting fees, and quit rents over the years even before the sale of 'improved' land was figured.

Despite their ability to manipulate the land system and land culture within the frontier context in the short term, the last of these options was to prove the most attractive to large absentee landholders in the Tye Valley after the Revolution. The desire to obtain land and the openness of the land system conspired to keep a functioning labor market almost non-existent of the Tye Valley frontier. More and more planters and farmers began to follow the lead of Dr. Cabell and his sons, localizing their agricultural operations while trying to maintain the frontier agroecosystem. As with the Cabells, among more ordinary farmers this brand of localization led them directly toward landownership. Land tax records kept by the new state of Virginia record an enormous

\textsuperscript{133}Amherst County (Va.), Deed Book F, 383.
rush of small-scale land patenting in the decade following the Treaty of Paris. The tax lists of 1783 record just over one hundred and ninety thousand acres of Amherst County land having been patented and being subject to taxation. By 1795, that figure had exploded to over four hundred and twenty thousand, and the trend continued for the rest of the decade, topping five hundred thousand patented acres by the turn of the century.¹³⁴ Nor did this explosion reflect a new wave a land speculation on a scale similar to that practiced by Parson Rose or the Albemarle Carters. While the average landholding among all farmers increased significantly between 1783 and 1800, the rate among the wealthier men of the region was smaller by comparison. Instead, the expansion of landownership in the last decades of Old Amherst’s existence appears to have reflected a combination of an influx of middle class farmers into the Tye Valley from the tidewater, combined with attempts by local farmers of moderate means to expand their agroecological base. While the numbers of Amherst’s residents subject to land and property taxes increased from 1176 to 1833 between the 1783 and 1795 tax censuses, the percentage of those people who owned land increased from a mere thirty-two percent to just over half by the latter date. This process stabilized during the last years of the 1790’s, with the percentage of landholders dipping just below fifty percent by the turn of the century.¹³⁵

The question arises, of course, whether this increase in landholding in the county represented a profound intensification of the agroecosystem in the region. Pressure for

¹³⁴ Amherst County (Va.) Land and Property Tax Lists, 1787, 1795, 1800.
¹³⁵ Ibid.
landownership obviously reflected an increased value of land in relation to labor, pushing farmers at least for the moment out of the financial drain of tenancy into at least semi-permanent landed property. This investment in added land would appear to encourage its more intense use and direct more wary eyes towards conservation. Yet as the inventory data discussed above reveals, the last two decades of the eighteenth century do not appear to have brought any noticeable change in the agricultural techniques and choices of Amherst's farmers. This observation is further supported by tax census information. Property taxes collected along with land levies demanded censuses that enumerated both slaves and numbers of white male titheables in each household, making possible a crude calculation of the laboring population of the county. When this calculation is made, it shows a sizeable, but steady, increase in Old Amherst's labor force during these years, but no leap to mirror the explosion in total landholding between 1783 and 1795. Indeed, the county-wide ratio of acres to worker expanded during those years, from just over 47:1 at the close of the Revolution to over 60:1 at the time of the 1795 tax census. The ratio then stabilized at that level for the rest of the decade.136

The best explanation of this phenomena appears to be that, rather than intensifying their cultivation in a scramble for the remaining Amherst County land, farmers were looking to maintain the frontier agroecosystem by consolidating their agroecological base in the face of increasing population. The process becomes clearer when analyzing the development of landholding patterns along Hatt Creek, one of the

136 Derived from comparisons of the Amherst County (Va.), Land and Property Tax Lists for 1783, 1795, and 1800.
agricultural neighborhoods along the middle reaches of the Tye as it flowed from its source near the Blue Ridge crest. In 1765, after Parson Rose patented a twenty-three thousand acre tract containing much of the lower reaches of the Hatt, Thomas Mann Randolph, along with his partners, Bristol merchants John Harmer and Walter King, received a land grant from the royal governor’s lieutenant, Francis Fauquier, for a tract of 3220 acres.\textsuperscript{137} This tract stretched from just below the headwaters of Hatt Creek in the Horseshoe Mountain along the length of the run to the lines of the Rose heirs above the Parson’s mid-eighteenth century mill where the Hatt emptied into the upper reaches of the Tye.\textsuperscript{138} Taking up the most valuable stream side and hill soils in the upper half of the Hatt Creek hollow, the "Hatt Creek Tract," along with the Rose family’s properties, served as the foundation of the neighborhood’s landholding system. Randolph and his partners added stretches of stream and hillside soil to the property before selling it all to merchant Peter Field Trent in 1778. The deed of sale reflects that Randolph rented out large sections of the property to tenants, while also putting some of his own slaves to work farming the land, practices which Trent continued during the 1780’s.\textsuperscript{139}

Lands of considerable agroecological value did remain in the Hatt Creek Valley after the Randolph patent, however. The predominant soils of the valley floor were Meadow soils deposited on the stream bottom and Cecil Sandy Loam on the slopes just

\textsuperscript{137}Virginia Land Office, Grant Book 36, 906-908.

\textsuperscript{138}Fall, ed., Robert Rose Diary, September 12, 1747.

\textsuperscript{139}For the land transactions of Peter Field Trent, see Amherst County (Va.) Deed Book E, 126, and Book F, 383.
Landholding on Hatt Creek.
ca. 1780.
above the bottoms. Both soils were very valuable for agriculture both in tobacco and wheat, as well as providing excellent pasture after their rotation out of active cultivation. On the hillsides above the Hatt Creek Tract, however, the soil profile tended into red Cecil Clay, which offered much more limited yields and quickly baked to hardpan when cleared and cultivated. Above the clay soils on the sides of Horseshoe, Cat Rock, and White Top Mountains, the soil became the thin, gravely, nutrient and organic matter poor structure known to twentieth century surveyors as Porter’s Sand. Porter’s Sand was largely useless for active cultivation, but supported oak and chestnut timber and providing good forage for livestock, particularly hogs. This relatively simple progression from the Hatt Creek stream side up the slopes to the tops of the surrounding mountains was complicated, however, by the presence of a number of mountain stream valleys such as Ginseng Hollow. These hollows, often small glacial or erosional remnants, frequently descended to the valley floor in fits and starts, leaving small sections of comparatively flat land nestled among the hills. Soil, and particularly organic matter, washed into these small hollows and was deposited there in that deep, black soil known as Porter’s Black Loam. This structure, a poor cousin of the wonderfully rich soils of the Appalachian cove forests best-known in the Great Smoky Mountains, supported a wide diversity of tree and plant life. More to the agroecological point, as noted above, Porter’s Black Loam soils proved quite suitable for cultivation, despite their rugged isolation. Indeed, similar soils further down the ‘Iye Valley had been serving as the basis for the dark tobacco farming neighborhoods that clustered around Tobacco Row and Pea Vine

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140Mooney, Soil Survey of the Albemarle Area, attached soil map.
Mountains.

Linking reconstructed patents and deeds to Geological Survey maps is difficult, given the different survey and projection methods used, making later linking landholdings to later soil surveys an imprecise exercise. Yet these ecological patterns are also revealed by data reported in the land patents and deeds from the eighteenth century. With the corners of primitive land surveys typically marked by trees, plotting out tracts gives the best available picture of the landscape at the time of settlement.

Landholdings with boundary corners typified by a much richer forest structure than occurred on either the valley floor or the upper hillsides indicate their correlation with the Porter's Black Loam soil profile. While much of the rest of the Hatt Creek forest was dominated in the eighteenth century by Chestnut with associated Red and Chestnut Oaks, the forests on the Cat Rock Mountain slopes north of the Creek or in Ginseng Hollow on the other side of the valley included a much wider variety of trees, including a higher concentration of Black, White, and Spanish Oaks, as well as species even more indicative of the cove soils such as Dogwood, Poplar, Gum and Black Gum, and even the occasional Laurel.

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142 See David Hardin, "Alterations They Have Made at This Day", 80-89, for another example of reconstructing colonial-era landscapes using the corner trees from land patents and deeds.
During the 1770's and 1780's a number of middle class farmers in the Amherst region identified, and then either purchased or patented tracts of these cove forests to expand their landholdings. As in other landholding and land use patterns in the 'I'ye Valley, the sons of Dr. Cabell led the way. As early as 1759, even before the patenting of the Hatt Creek Tract on the hollow bottom below it, Joseph Cabell patented land "on the Horseshoe Mountain" on its Davis Creek side.\textsuperscript{143} William (the author of the commonplace books) followed suit in 1765, patenting the Black Loam soils of Ginseng Hollow.\textsuperscript{144} In 1772, middling planter Charles Sims purchased two tracts near the upper end of Hatt Creek, along a stretch of Porter's Black Loam Soil which stretched across a terrace in the valley.\textsuperscript{145} James Montgomery, a farmer of similar means, followed suit by patenting a large tract bordering the Hatt Creek Tract on the Cat Rock Mountain side in 1782.\textsuperscript{146} By the end of the 1780's, the bulk of the most valuable cove forests and their soils had been seized upon. Yet with the exception of free black farmer, Tobias, who owned land adjacent to Montgomery (and later sold out to him)\textsuperscript{147}, most of the farmers who patented or purchased the hillside coves of Hatt Creek were adding to real estate held in other parts of Amherst County. In 1795, for example, the Montgomery clan owned nearly 1500 acres of land in Amherst County, only 317 of which were below the

\textsuperscript{143}Virginia Land Office, Grant Book 33, 631-632.

\textsuperscript{144}Ibid., Grant Book 37, 162-163.

\textsuperscript{145}Amherst County (Va.) Deed Book C, 537, 540.

\textsuperscript{146}Virginia Land Office, Patent Book 35, 332-333.

\textsuperscript{147}Amherst County (Va.) Deed Book I, 301.
slopes of Cat Rock Mountain near Hatt Creek. Farmers who sought to own property on the borders of the Hatt Creek tract did so for the most part not to establish an initial base for permanent farming operations, but as a way to add to the agroecological base of their properties, as a hedge against the future growth of their families and labor supplies.

The move many Hatt Creek and Tye Valley farmers made to expand their real estate portfolios during this period was largely a response to the confluence of two factors: the increasing land pressure generated by an expanding population, and the benefits which were derived when frontier farmers abandoned migration for localization. Following the lead set in the region by Dr. Cabell and his sons, the attempt to maintain the continuity of the frontier agroecosystem while establishing geographic stability brought many at least short term benefits. Dr. Cabell, and particularly his son — William, Jr.'s father — were able to provide abundant property to their offspring before death, and passed away at Union Hill surrounded by sons, sons-in-law, and their families. While to men of the Cabell's ample financial resources, this familial proximity mainly offered emotional comfort and sociability, to men of lesser wealth it meant a great deal more. Building up reserves of landed property in a neighborhood allowed men to preserve family continuity, build political influence, and solidify those relationships of neighborliness, credit, patronage, and clientage which brought both security and opportunity to commercial farm life.

148 Amherst County (Va.) Land Tax Lists, 1795. For locations of Montgomery family land, see Davis, The Deeds of Amherst County.

149 Perry, op cit. For other work analyzing the role of family settlements in pre-Civil War rural America, see Daniel Snydacker, "Kinship and Community in Rural
Such benefits as could be derived from the localization were pioneered in the T'ye River region by the Cabell clan, and soon followed by other prominent kin groups such as the Higginbothams of the Buffalo River region, the Colemans in the Rockfish Valley, or the Riveses along Rucker Run. These increasingly apparent benefits worked to change the economic calculations made by absentee landowners and speculators as well. Attempting to manage large properties from a distance had always created problems for men like Edward Carter and Thomas Mann Randolph. Trespassing, timber and livestock pilfering, as well as the difficulties in enforcing the kinds of lease conditions which Colonel William Cabell, Sr., imposed on his tenants, all combined to undermine the ability of absentee landlords to maintain a high agroecological potential and financial value to their properties. When farmers of middling means began their push to add to their personal real estate, returns to be realized from outright sale of such tracts began to look very attractive when compared with the stagnation or even decline of their rental value. Most of the big speculators in the T'ye Valley, with localization investments rooted elsewhere, chose to sell off most of their properties in the decades after the Revolution.

Parson Rose's children and grandchildren led the trend, breaking up their

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150Seaman, Tuckahoes and Cohees, 164-208, charts the development of these family neighborhoods in eighteenth-century Amherst County. Many of these kin settlements proved to be remarkably stable, as evidenced from land tax lists and census manuscripts from the later years of the antebellum era.
ancestor's enormous holdings in the upper Tye Valley in the 1790's. A chunk of nearly four thousand acres of the family's most valuable land on both sides of the Tye near Hatt Creek was sold in 1796 to Thomas Massie, a smaller slaveholding planter from Frederick County in the Shenandoah Valley.\textsuperscript{151} Massie then moved his family and slaves to the Tye Valley in 1803, planting his children on farms around him before his death in 1834, and establishing one of the neighborhood's most prominent planter families in the decades before the Civil War.\textsuperscript{152} Such developments were mirrored across the Tye and further up Hatt Creek. Seven years before John Rose sold a large portion of his family's lands to Thomas Massie, Peter Field Trent unloaded the Hatt Creek tract onto local planter Richard Dobson, who quickly moved to sell chunks in the upper stretches of the Tract to James Bunt, as well as to already established neighborhood landowners James Montgomery and John Shields.\textsuperscript{153} By the first two decades of the nineteenth century, most of the largest stretches of speculative landholding had been broken up and sold off. The largest landholders left in the Tye Valley were those who were following the example of the Cabells, collecting a wide diversity of smaller properties to sustain local residence and commercial planting.

Yet localization, as will become clear in the next chapter, was not without its deeper flaws, although these would not emerge during the eighteenth century. The upper

\textsuperscript{151}Amherst County (Va.), Deed Book H, 29-32.


\textsuperscript{153}Amherst County (Va.), Deed Book F, 383, Book H, 165, 467, 519.
piedmont was not a fruited plain with endless vistas of quality farmland. With the bulk of the Valley's best soils and ecosystems already taken either into cultivation or at least involvement in some system of long fallowing by the 1760's, the increase in the land to labor ratio achieved in the 1780's and 1790's was purchased at the cost of pushing landholding and cultivation onto the thin, marginal, clay or thin, sandy hillside soils which occupied so much of the mountainous Tye region.

On the fringes of the Hatt Creek Valley, a number of land transactions reflected this problem. Lee Harris, a prosperous farmer who owned and farmed properties along Davis Creek just across the Horseshoe Mountain from the Hatt, pushed his boundaries onto the marginal Porter's Sand soils on the ridge line just below White Top Mountain above Ginseng Hollow. Similarly, Alexander Reid, brother of Hatt Creek landowner John Reid, whose family had a number of properties on the South Fork of the Rockfish River just beyond the Hatt Creek Gap, also extended his holdings up the mountainside onto the ridge line gap which overlooked the upper end of the valley.

Furthermore, while farmers of middling means began to find the ridge lines attractive for limited farming and grazing, men of more substantial wealth began to consider the growing timber scarcity affecting the long-farmed tidewater, and apparently spreading without

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155 Ibid.

156 Amherst County (Va.), Deed Book E, 101.

157 Virginia Land Office, Grant Book 13, 422, Book 37, 707-708.
check into the piedmont. In response, a number of planters and merchants began to purchase those stands of mature timber still growing on the steeper slopes and mountaintops. In the first year of the nineteenth century, Thomas Fitzpatrick patented large tracts of mountain land south of Ginseng Hollow, while prominent lawyer, merchant, and planter David S. Garland grabbed timber land on the ridges south of Cat Rock Mountain. Just in time, it would appear: two corners of Garland's newly patented woodlot were marked by the stumps of trees probably cut by farmers in the Valley below looking for free lumber on unclaimed lands.

Although evidence is sketchy and after-the-fact, it also appears that piedmont farmers did at times chose another tiny step toward intensification as an alternative to pushing crop progressions onto unsuitable soils. In the farm journals which began to publish in the Chesapeake region during the second and third decades of the nineteenth century, essayists and correspondents described their recollections of the cultivation system as it had existed during their youth three decades or more before. Interestingly, most of the piedmont Virginia farmers who reached maturity during the 1830s and 1840s did not recollect a simple system of crop progressions and long fallowing. Instead, a number referred to what they called the “three-field system,” as the standard cultivation

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158See Herndon, “The Significance of the Forest to the Tobacco Plantation Economy.”

159Virginia Land Office, Grant Book 35, 119-120.

160Ibid., Grant Book 44, 49.
practice in 1800.161 The three-field system was a kind of primitive crop rotation which took advantage of the dramatic decline in tobacco markets and profits in the years after the Revolution to attempt to create a more permanent approach to cultivation. Tobacco barely returned the cost of labor during the wars of the French Revolution, and the military conflict contributing to a volatile and speculative, but often lucrative, market in cereal grains and Indian corn in Europe and the Caribbean. In response, farmers appear to have reduced tobacco cultivation to smaller, intensively burned, plowed, and manured lots annually cleared from the forest as new ground.162 On the bulk of their arable, they created a simple rotation of wheat, corn, and unmanaged pasture. In the piedmont especially – where most of the recollections of the three-field system originate – such a strategy would have done a good deal to slow the decay of soil fertility. Soil acidification, which would prove to be the key variable crippling cereal grain production in the tidewater, was less of a problem in the less-well drained piedmont clays. Furthermore, by moving tobacco out of the main crop rotation, the weed’s heavy demands for soil fertility was no longer a burden, and relatively-debilitating exhaustion was postponed. To make the three-field system worthwhile, of course, the heavy labor of stump-pulling and deeper plowing would have to be embraced with much more vigor than had been the case during the colonial era, but the extended use of the fields made possible would have rewarded the investment at least to some degree.

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161 For an example, see Farmer’s Register, 3 (1835), 612. Quoted in full in Chapter Three, below.

162 See Robert, Tobacco Kingdom, 32-36.
Yet when looked at from another direction, the three-field system apparently adopted to a varying extent across the piedmont between 1780 and 1820, approximately, was in fact an amplification of the frontier outlook on agricultural economics. In areas like the Tye Valley, in the midst of the Southwest Mountains and at the foot of the Blue Ridge, the dramatic expansion of private landholding and population in the years after the Revolution incorporated large tracts of highly marginal land into the agricultural ecosystem. Crop fields carved from steeper hillsides were marked by thin, easily eroded soils. As a result, crop progressions pursued on them would be very limited in their effective extent, and the much greater permanent damage done to the soil by cultivation would have made their reintegration into long fallowing schemes extremely difficult. As such, many farmers contemplating clearing such hillsides would have begun to make the rough calculations necessary to judge whether the labor of clearing and planting would have even been worth the effort. This would have been particularly true as the eighteenth century turned into the nineteenth, and the decline of tobacco markets made the constant push of cultivation into the mature ecosystems of new grounds less commercially pressing. In such commercial and ecological circumstances, labor invested in "intensified" cultivation like the three-field system might well have paid better than the more constant clearing involved in crop progressions and long fallowing.

That the three-field system was in fact a consistent adaptation of the frontier agroecosystem becomes clear when one considers the fact that it was an intensification of cultivation only in a short-term sense, and was a *sustainable* agroecosystem in only in a sense so limited as to be trivial. Subsequent commentators on the three-field system
noted two key problems that it created for attempts to sustain farm and family localization. In the first place, the single-year grass fallows were very poorly maintained ones — no manure was dug in, no quality grasses, particularly leguminous ones, were sown. As a result, very little was being done by these fallows to restore soil fertility when compared, for example, to the five- and even seven-field systems advocated and adopted in later decades which called for fallow fields to be manured, plastered, and sown in nitrogen-fixing grasses for three years in five, or four or even five years in seven. Second, and in part because of the limited coverage provided by unmanaged grasses and weeds on fallow grounds in the three-field system, erosion remained a very serious problem. Shallow plowing and cross-plowing led to devastating erosion and gully- ing on the arable fields. Grass fallows then would have to colonize denuded clay soils, and often would have limited success in slowing sheet erosion, and none at all in preventing the spread of the gullies.163 As later commentators complained, the three-field system was devastating to land market values, and, as such, typical of the cavalier attitude of frontier farmers toward preserving investment in land in comparison with preserving cash flows from labor.164 Indeed, the three-field system cannot really qualify as a crop rotation at all, since erosion problems meant that land abandonment remained a constant aspect of the agricultural ecosystem throughout the period. The agricultural strategy

163 For attempts by early national Virginia agricultural reformers to abolish the three-field system, see Craven, Soil Exhaustion, 97-99.

164 Nineteenth-century farm reformers complained consistently about frontier methods of cultivation resulting in declining property values. See for example Mathew, Edmund Ruffin and the Crisis of Slavery, 106-108.
which continued to provide the best yield returns on labor within a frontier agroecosystem – shifting cultivation – remained the basis of piedmont, and almost certainly Tye Valley, cultivation throughout the eighteenth century.

Yet by the turn of the century, crucial developments were beginning to take place which would signal the eventual demise of the frontier agroecosystem. The original fluidity of settlement and planter movement had given way to an attempt by many of the Tye Valley's settlers to preserve the easy profits of frontier agriculture while building a permanent settlement system. Population in the region steadily increased as large numbers of farmers moved in after the Revolution, and as noteworthy numbers of sons and grandsons of the original settlers chose to remain in the Valley rather than move on during the same years. Yet this increase in population did not immediately lead to any significant changes in the manner in which land was cleared and cultivated. Instead of changing their technology and techniques, planters seeking to benefit from localization chose to expand their landholdings at the expense both of larger, speculative tracts and marginal forest soils. Indeed, it can be truly said that all evidence points to the fact that true 'long fallowing' – the creation of permanent settlement by containing field abandonment and regrowth within a fixed land system – was never fully consolidated in the Tye River Valley. The more essential commercial logic of the frontier agroecosystem undermined it at almost every turn.

The frontier agroecosystem had to face down a wide array of challenges in order successfully to adapt itself to the Tye River Valley. The red clay of the southern
piedmont, difficult to plow but easy to erode, forced changes in cultivation techniques. The rocky slopes and dense forests which covered much of the Tye Valley required that farmers rethink some of the basic calculations of land and labor productivity. Changing crop markets obligated the region's planters to chose between different production strategies, and make additional land, labor, and equipment investments accordingly. Finally, a burgeoning farm population in the Tye Valley in the years after the Revolution filled the countryside with landowning farmers, and compelled them to pay stricter attention to lines of property in land, animals, and goods than before. Yet the frontier agroecosystem, with its ability successfully to solve the frontier equation of cheap land and expensive labor by exploiting the biotic potential of mature ecosystems, adapted itself to these challenges, and remained quite vibrant in 1800. Yet as soon became clear, farmers in piedmont Virginia were rapidly approaching the system's limits. Land costs rose as labor costs fell, and some small degree of agricultural intensification was already creeping into Tye Valley farm practice in the years after the Revolution. Yet this movement, as necessary as it would prove both to maintain the competitive position of Virginia planters in world crop markets and to support a growing population within a capitalist economy, was still almost imperceptible at the turn of the century. For the leaders of plantation Virginia, who had staked their careers and their status on the commercial and political vitality of their native state, agricultural intensification would prove too slow in its progress and too conservative in its approach. The endurance of agroecological strategies determined by the eighteenth-century commercial frontier would create a crisis for their class and for their state's social order.
CHAPTER III

LOCALIZATION AND THE ECOLOGICAL CRISIS
OF THE TYE RIVER VALLEY

For all the apparent vitality of the frontier agroecosystem in the latter half of the eighteenth century, by the early 1800s the leaders of piedmont Virginia were demanding that it be abandoned. Responding to more competitive crop markets, more demanding electorates, and more involved family lives, in large numbers the progressive planters of central Virginia began to abandon the pattern of land abandonment and frontier migration which had sustained their class for generations. Yet when combined with extensive techniques of cultivation, this strategy brought on agroecological impoverishment, diminished yields, and declining incomes. In response, the plantation gentry turned to local commerce and petty industry within complex webs of business and finance to attempt to balance their accounts. These ventures, however, were entirely dependent upon the overall stability and prosperity of the neighborhoods into which the elite of early national Virginia were settling. Small farmers who continued exploiting the disturbance of mature ecosystems while reducing consumer spending in the hopes of eventually purchasing land on newer frontiers, did little to promote that stability and prosperity. Members of an articulate elite of rural leaders became convinced that Virginia was caught in a moral, financial, and political crisis which had its roots in the
inability of the agricultural ecosystem to support their strategies of economic
development and class dominance.

1. Migration and Localization Among the Tye Valley Gentry.

In 1828, hard-pressed Tye Valley planter Abram Cabell sold his lands on Rucker Run to family friend Robert Rives and moved his household and slaves to northern Florida.¹ Having pioneered a plantation outside of Tallahassee, Abram reported to the Cabell family back in Virginia that in the farm’s first year of cultivation his slaves had produced a cotton crop worth four thousand dollars, an enormous sum by the standards of the tobacco and hard grain agriculture of eastern Virginia.² Abram Cabell’s newfound prosperity, combined with the bankruptcy which had previously faced the young man, caused members of the Cabell clan still managing plantations in the Tye region to begin to hem and haw about their commitment to the Valley. A year before Abram’s move to Florida, his uncles Joseph and William Cabell³ had agreed with resignation that the best

¹Jan Lewis, The Pursuit of Happiness: Family and Values in Jefferson’s Virginia, (Cambridge: Cambridge University Press, 1983), 144. See also William H. Cabell to Joseph Carrington Cabell, July 28, 1827, Cabell Deposit, Alderman Library, University of Virginia, for some details about the prospective sale. Unless otherwise noted, all further references to the letters and other papers of the Cabell family come from this collection.

²William H. Cabell to Joseph Carrington Cabell, November 7, 1830.

³Among the political and economic leaders of the Cabell family during the antebellum era, William H. Cabell (1772-1853) and Joseph Carrington Cabell (1778-1856) were the sons of Colonel Nicholas Cabell, the youngest son of the original Doctor William Cabell. Hence they were the cousins of Colonel William Cabell, Jr., but were born much later. See Alexander Brown, The Cabells and Their Kin: A Memorial Volume of History and Genealogy, (Richmond, VA: Garrett & Massie, 1895). passim.
that could be hoped from the intelligent management of the Rucker Run farm would be the increase of its sale value.\textsuperscript{4} Abram, in fact, had followed another of his uncles down to Florida, and his aunt Agnes was forced to support the migration of her male relatives and their connections away from the family lands in Nelson County. "In [Virginia]," she wrote, "I see but little chance for my poor sons - and they will have to seek their fortunes elsewhere."\textsuperscript{5}

Many elite Virginians expressed similar sentiments during the early decades of the nineteenth century. In the face of more volatile and competitive crop markets, the long-cultivated and easily-depleted agricultural ecosystems of eastern Virginia no longer seemed capable of supporting the financial, social, and political pretensions of their owners. The sons of planters hoping to reproduce the affluence of their fathers and grandfathers found their home state lacking in economic opportunity. When Cabell family friend Garrit Minor was considering leaving Virginia, the young man wrote to Joseph Carrington Cabell, one of the Tye Valley's most prominent planter-politicians, that, "there is no prospect of successful enterprise for poor young men in cismontaine Virginia ... all who can emigrate will retire westward, and the tide water country will have nothing but slaves, overseers, and a class of poor whites as disgraced as vice and ignorance can make them."\textsuperscript{6} Improving transportation networks opened commercial agriculture on the trans-Appalachian frontier, and these new lands threw the agricultural

\begin{footnotesize}
\textsuperscript{4}William H. Cabell to Joseph Carrington Cabell, July 7, 1825.
\textsuperscript{5}Quoted in Lewis, \textit{The Pursuit of Happiness}, 143-144.
\textsuperscript{6}Garrit Minor to Joseph Carrington Cabell, March 9, 1832.
\end{footnotesize}
impoverishment of eastern Virginia into bold relief. The agrarian prosperity which had sustained the Old Dominion's plantation gentry during the pre-Revolutionary decades grew increasingly elusive, and those urban and rural professions still reliant on the agricultural economy -- i.e., all of them -- suffered in proportion. As the confidence of Virginia's agriculturalists in their state's potential became enervated, the lure of the easy prosperity Abram Cabell found managing the cotton fields of a Deep South plantation grew stronger. Slaves, slaveowners, and yeomen farmers flooded out of the state in a torrent between the end of the Revolution and 1830. The agricultural workforce of the

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7 Tobacco grown in Kentucky and Missouri, for example, had become a powerful competitor for Virginia by the early decades of the nineteenth century. See Lewis Cecil Gray, History of Agriculture in the Southern States to 1860 (Washington, D.C.: Carnegie Institute, 1933), 754-759, and 912-914, for the importance of fresh soils in making this competition possible.

8 Surprisingly little has been written specifically on the economy of antebellum Virginia. Key popular texts on economic history, such as Douglas North's, The Economic Growth of the United States, 1790-1860, (New York: Norton, 1966), and Jeremy Atack and Peter Passell's A New Economic View of American History, 2nd ed., (New York: Norton, 1994), given post-Revolutionary Virginia barely a mention. Most of what is available is scattered through works devoted to broader issues, and is mostly anecdotal. See, for example, Craven, Soil Exhaustion, 73-81, Gates, The Farmer's Age, 104-105. Robert, The Tobacco Kingdom, 135-143, contains some specifics on tobacco prices during the first three decades of the nineteenth century.


10 See Gates, The Farmer's Age, 105-106, or Craven, Soil Exhaustion, 118-124. See Joan Cashin, "Landscape and Memory in Antebellum Virginia, Virginia Magazine of History and Biography, 102(1994), 492-493, for a brief discussion of the impression elite Virginians had of the mass migrations of the 1820s and 1830s. See also Peter D. McClelland and Richard J. Zeckhauser, Demographic Dimensions of the New Republic;
Tye Valley, which had expanded dramatically in the decade-and-a-half after the Treaty of
Paris, stabilized just after the turn of the century, and did not begin to rise again until late
in the 1820's. Many of the farmers and slaveowners of the Tye Valley found the high
price of easily-cultivated cotton and the biotic fertility of previously uncultivated lands
enticing when compared with the impoverished crop markets and worn soils on the edge
of the Blue Ridge. As tidewater and piedmont planters watched their estates stagnate
and their neighborhoods disintegrate around them, the self-confident aristocracy of the
eighteenth-century gave way to a disheartened class pessimistic about a future that
promised either insolvency in a decaying homeland or migration to an undeveloped,
uncertain frontier.

Now, to be sure, the push-and-pull factors explaining the reasons for the mass-
migration out of early nineteenth-century Virginia have been fully analyzed and
discussed. Considerably less attention, however, has been paid to the tobacco and grain
farm families who remained in the hard-scrabble rural communities like the Tye
Valley. Certainly some credit must be given to the many difficulties which attended

(Cambridge: Cambridge University Press, 1982), 141-143, for a more precise discussion
of the scope of out-migration from Virginia during this period.

11Amherst and Nelson Counties (Va.), Property Tax Lists, 1783-1830. Rough
estimates of the population trends within the Tye Valley are derived from comparing
year-by-year totals of heads-of-household, white titheables, and adult slaves for the two
counties. Population in the region, as mentioned above, appears to have soared during
the 1780-1800 period, then stabilized through the early 1830s, when another spurt of
growth ensued prior to the Panic of 1837.

12Whereas the 'Chesapeake School' of colonial historians have produced a enormous
number of detailed studies of colonial and revolutionary Virginia, the apparent decline of
migration to, and settlement in, the frontier regions to the west. And contemporary commentators drew eloquent word-pictures of the sons of Revolutionary patriots too intoxicated, indolent, and depressed to even maintain, let alone improve, their fathers’ estates, and too lazy to uproot themselves in order to build an better life elsewhere. Yet the picture Garrit Minor drew of a commonwealth denuded of men of talent, as only the lazy and stupid would find the struggle of uprooting themselves outweighing the enormous financial benefits, proves upon examination to be a considerable distortion. Indeed, after 1800 it was just as often the worst the plantation gentry had to offer, the shiftless, incompetent failures, who removed their decaying roots from Virginia’s soils and headed across the mountains to repair their fortunes and standing. Abram Cabell, for example, was far from the most energetic of the Cabell men, and it was his impending bankruptcy rather than his pressing ambitions which drove him to Florida. Indeed, his uncles William and Joseph had little but contempt for the young man’s

the state in the new nation has led to a conspicuous lack of recent scholarly studies of the Old Dominion during the antebellum era. See for example, Edward L. Ayers, ed., The Edge of the South: Life in Nineteenth-Century Virginia, (Charlottesville, Va.: University Press of Virginia, 1991), 1-9, for a discussion of this gap in the historiography, and a few recent attempts to close it, as well as William G. Shade, Democratizing the Old Dominion: Virginia and the Second Party System, 1824-1861, (Charlottesville, VA: University Press of Virginia, 1996), 2-4.


14Craven, Soil Exhaustion, 19, considers the contradiction between the image of men of energy and ambition leaving the state with the fact that the possibility of migration often acted as a drug depressing innovation and enterprise at home.
abilities as a farmer. William wrote to his brother concerning Abram's plantation management that his young nephew had, "no more judgement than a child in such matters." It was his failures as a planter that drove Abram Cabell to Florida, where fresh soils and high cotton prices could make up for his deficiencies as a businessman.

Nor did the gentry of the Tye Valley use their apparently diminished opportunities as an excuse to descend into the degradation, vice, and ignorance Garrit Minor and others had predicted for them. Despite Agnes Cabell's assessment of her family's prospects, many of her most prominent male relatives rejected flight or despair and remained in the Cabell plantation houses built on the low bluffs which overlooked the James just below the mouth of the Tye. The clan's political leaders, such as Virginia Governor William H. Cabell, State Senator Joseph Carrington Cabell, and U.S. Senator William Cabell Rives, all retained their farms in the lower Tye Valley. The Cabells' outstanding agricultural entrepreneurs, such as mid-century agricultural activist and historian Nathaniel Francis Cabell and antebellum planter-merchant Mayo Cabell, persisted in trying to make the best of the James River bottomlands patented or purchased by Doctor William Cabell and his sons nearly a century before. Despite the region's economic and ecological problems, the Tye Valley retained a sizeable number of aggressive and talented men of business and agriculture right down to the Civil War. Indeed, a relative's later description of Mayo Cabell's daily routine sounds like a precise

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portrait of the kind of disciplined, ambitious man Garrit Minor would have expected to leave the Tye Valley during the Jacksonian era: "He habitually rose several hours before day, wrote up his account-books, attended to his correspondence and such business, until daylight; then he saw to all the business of the day on his own place until breakfast, after which he rode over to "Glenmore" and to "Montezuma," seeing to the daily routine of business at each place; then to his store at the Tye River warehouse, and in after years to his boats and freighting business on the canal, his sawmills, etc. It is a question if he was ever idle for ten minutes at a time in his life ..."\(^\text{17}\)

If an enterprising man like Mayo Cabell chose to seek his opportunities at home in the western piedmont, there must have been considerable advantages to be found in remaining beyond faintheartedly avoiding the uncertainties of migration. In fact, the benefits of permanent residence in Virginia’s early nineteenth-century rural communities continued actively to retain agricultural families, agricultural workers, and agricultural capital in place in spite of the whirlwind of migration. The strategy of localization which the first and second generations of the Cabell family had applied in the lower reaches of the Tye Valley after 1740 were developed and expanded during the early nineteenth-century and became the tactic of choice among prosperous farm families across the pre-Civil War piedmont.\(^\text{18}\)

\(^{17}\)Brown, The Cabells and Their Kin, 423-4.

\(^{18}\)The Cabell family, who had pioneered localization during the mid- to late-eighteenth century, and expanded it during the early nineteenth, were followed in the Tye Valley by several other clans who replicated their experience at a more modest level. The Massie family will be discussed at length throughout the rest of the dissertation. Families like the Higginbothams in Amherst and the Colemans in the Rockfish Valley included both...
That remaining in post-Revolutionary Virginia was for many a positive option, needs to be emphasized. Migration, despite the protests of the early national Old Dominion’s abundant corps of Jeremiahs, was no revolution for the agricultural population of Virginia. They had been pushing up the river valleys and onto upland hillsides since the first tidewater tobacco clearings were denuded of nutrients and base compounds. By 1800, for over a century the sons of the gentry had been sent with a patrimony of slaves onto patented frontier lands to build new plantations with the commercial profits obtained from the frontier agroecosystem. With these profits so high in comparison to the high amounts of labor needed to wring lesser returns from denuded fields back east, the new estates often grew to match the old. During the same era, yeomen farmers had regularly refused to retire on the lands they had long farmed, choosing instead to cash in their gains and patent or purchase lands on the frontier on which their sons could be seated.\(^1\)

Instead, it was the willingness of families such as the Cabells to seek permanent settlement on the piedmont frontier during the revolutionary-era and after that represented aggressive innovation in Virginia’s agricultural society. The mass-exodus men of wealth and influence in the region, as well as large numbers of local farmers, throughout the antebellum period.

from the Old Dominion during the early-nineteenth century was a seasoned phenomenon. Only the fact that after the Revolution this stream of migrants had to leave the state's boundaries, cross imposing mountain ranges, and thereby take its participants out of the commonwealth's economic, social, and political networks, that made it seem new and threatening to commentators concerned with the loss of agricultural capital and national political clout.²⁰ Confronted with agricultural and commercial troubles after 1790, many of the least imaginative of Virginia's farmers took the old way out of their troubles, even if it took them far from 'home'. Thousands of Virginia's planters and farmers discovered, however, that while the steady decline in yields which accompanied the exhaustion of the stored biotic potential of mature ecosystems did cut into agricultural profits, localization of family and economy did offer considerable opportunity to sustain their social and political positions, while continuing to prosper from the state's rural economy.

Non-commercial factors played a large role in stimulating the growing taste of post-Revolutionary Virginia planters for localization. As the growing competitiveness of international crop markets made worldly success elusive, the piedmont gentry began to

²⁰See Craven, Soil Exhaustion, 118-119, and Cashin, "Landscape and Memory," 492-493. William Ballard Preston, whose family had done so much to encourage migration out of the tidewater onto the frontier of southwestern Virginia during the late-eighteenth century, would write on the eve of the Civil War: "Those of us ... who have witnessed the scene can never forget, how year after year we beheld the anxious struggling crowd, pressing forward through sunshine and through storm, over mountains, and valleys, in long continuous crowds of carriages and waggons, rich and poor, young and old, white and black, master and slave, hastening with impetuous ardor and zeal to this fancied El Dorado and Elysium of the West, till we seemed, as we beheld the stream, to be left desolate and alone, amid the depopulated and abandoned scenes of our youth." Southern Planter, 14(1854), 357.
elevate the importance of stable and fulfilling home lives as a substitute for the inevitable
disappointments encountered on the treacherous path toward personal advancement.21
This developing significance of gentry family life magnified the influence of plantation
women in family affairs. Less driven by the public ambitions closed to them personally,
the wives and daughters of post-Revolutionary Virginians built webs of friendship and
support with female relatives and acquaintances. Nourished by frequent letter-writing
and visits, these networks had to be defended against the constant disruption caused by
the patterns of continual migration which had been demanded by the search for economic
success in the frontier agroecosystem.22 For example, family tradition held that Sarah
Massie, the wife of planter-miller Thomas Massie who moved to the I'ye Valley from
Frederick County around the turn of the century, never forgave her husband for taking
her from the dynamic gentry society of the lower Shenandoah Valley to the social
wasteland of the upper Tye.23 With their wives and daughters pressing them to stay at
home, domestic concerns entered into the economic and ecological decision-making
process in a manner the patriarchs of the eighteenth century would never have allowed.24

21See Lewis, The Pursuit of Happiness, 106-168, for an extended discussion of the
manner in which early national Virginians viewed the threatening world of business and
affairs, and its impact on personality and family life.

22For women’s construction of close networks of companionship and visitation on the
eastern seaboard of the South, and for their negative reaction to frontier migration, see
for particular example, Joan Cashin, A Family Venture: Men and Women on the

23“Massie,” Files of the Nelson County Historical Society.

24See Daniel Blake Smith, Inside the Great House: Planter Life in Eighteenth-Century
Chesapeake Society, (Ithaca, NY: Cornell University Press, 1980), 21-22, for the
The planters of the antebellum I'ye Valley became increasingly concerned with constructing the stable farmsteads and rural neighborhoods which underpinned comfortable domestic arrangements and convivial male and female society. In 1826, young Nathaniel Francis Cabell wrote to his uncle, the aforementioned Joseph Carrington Cabell, explaining the unsuitability of the Cabells' James River bottomlands for building such a local social circle. Despite the prime soils along the river bank, he opined, "the sterility of the back lands render it impossible that [the neighborhood] should ever be thickly settled, or at least by such persons as would constitute a part of the same society which would possess the bank of the river." At the center of his concerns lay the personal visits so crucial to extending the circle of kind and friendship beyond the immediate family. "You cannot go over the river for neighbors," Nathaniel explained to his uncle, "and those whom you have on your side live at such a distance that a visit almost becomes a journey."25 William Cabell Rives reinforced his young cousin's sentiments with deeds: when upon his marriage he inherited an estate in Albemarle County, he moved his family there – most likely to be in the circle of Charlottesville society.26

Diarists and letter-writers among the Virginia upper classes grew obsessed with building plantations and farms that could sustain their families across generations, strictness of patriarchal authority before 1750. See also Lewis, The Pursuit of Happiness, 25-39, for the role of that authority within the pre-Revolutionary family.

25Nathaniel Francis Cabell to Joseph Carrington Cabell, August 20, 1826.

providing themselves with the security of loving and supportive kin both in formative and declining years. In 1841, Thomas Massie's son William wrote to a friend in Richmond about the anguish caused by his alienation from his brother who farmed land just across the river from his own plantation. "One of my greatest earthly desires would be consummated," he declared, "that of living with my only brother on terms of unsuspecting and affectionate intercourse ... it is a most horrible reflection to think of raising up two broods in sight & in strong scent of each other & derived from the same grand Sire, who know as little as they care for each other." The conflict between William and his brother proved particularly disruptive to his plans for improving his plantation. "Indeed so mortifying are my reflections on the subject," he continued, "that I sometimes have strong thoughts of selling out my possessions & moving off from here -- which I would do, except for having spent all my best days in preparing this spot in a way to render the evening of my life comfortable." 27

And while localization served such unaccustomed gentry goals as the building of a close, supportive domestic life, it also abetted the pursuit of a more traditional hobby of upper class society — politics. The freeholding planters of the eighteenth-century Dominion had often chosen as their representatives men of wealth and standing at the level of the entire colony, seeking an influential advocate in Williamsburg.28 These choices were therefore often made without regard to the interest of the gentleman in the

27William Massie to James Heath, Oct 14, 1841, William Massie Papers, Barker Texas History Center, University of Texas, Austin, Texas.

28For the best discussion of election practices and the choice of representatives in eighteenth-century Virginia, see Sydnor, American Revolutionaries in the Making.
provincial community, or his contacts and standing within it. Many frontier counties, for example, chose for their representatives to the House of Burgesses absentee land speculators who carried more weight at the royal governor's dinner table and the Williamsburg taverns than might the local clerk or surveyor. The politicization of the ordinary farmer that accompanied the revolutionary era, however, demanded for a time a much closer relationship between candidate and community. Until the emergence of Jacksonian national issues such as the tariff and the Bank allowed less well-known men to take a leading role in local politics, the gentry still dominated Virginia's legislature. Yet members of the upper classes had to an increasing degree to treat voters, solicit their opinions, and call upon their contacts and clientage in order to secure election. Social standing still played an important role in early national politics, but it was a standing based on concrete local power which had to be carefully maintained in order to persevere.

The kind of personal campaigning which emerged during the later eighteenth-century was without question supported by stabilizing residence among extended gentry

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29David Alan Williams, "The Small Farmer in Eighteenth-Century Virginia Politics." Agricultural History, 43(1969): 92-3. For a specific example, see Beeman, Evolution of the Southern Backcountry, 51, for his discussion of frontier Lunenburg County's selection of William Byrd III to represent them in the House of Burgesses during the 1750s.

30See Williams, op cit., and Heck, "Palladian Architecture and Social Change," 168-186, for the growing demand voters in the Tye Valley made for personal contact and responsiveness from their state-level representatives.

31Heck, op cit. For a more general discussion, see Sydnor, American Revolutionaries in the Making.
clans. Informal political organizations had to be developed, based upon kin networks and commercial and professional contacts among members of the elite, and in turn upon the social- and business-oriented patron-client relationships between those political captains and farmers of influence in smaller rural neighborhoods. Joseph Carrington Cabell, for example, built such an organization in the Tye River region to secure possession of his seat in the Virginia state senate for more than a quarter of a century after 1800. Led by prominent planters such as Mayo Cabell and Thomas Penn in the eastern part of the region, as well as attorney David S. Garland from his base at Amherst Court House, Cabell's network canvassed local farmers before every election, calling upon favors owed them and praising the character of their friend and associate.32 Without the longstanding position of regional leadership first established by his grandfather, Joseph Carrington Cabell would never have been able to carry his national republican politics to victory over his great opponents, the Riveses, who built political support on the basis of their local milling and mercantile businesses. As Virginia politics grew more demanding, members of the gentry who wished to carry on elite traditions of public service had either to rely on the contacts developed through stable residence and local reputation, or else move to the frontier where they might build those networks on the even playing field afforded by less developed regions.33

32See Chapter Six for an extended discussion of the nature and role of Cabell's political organization in his campaign for Nelson's seat in the State Senate in 1834.

33For an extended discussion of attempts of members of the Virginia gentry to replicate the families' social and political success on the frontier, see Gail S. Terry, "Family Empires: A Frontier Elite in Virginia and Kentucky, 1740-1815," (Ph.D. diss., College of William & Mary, 1992).
The geographers and rural sociologists who have researched the question of the motivations behind non-migration have emphasized the pull of tradition and social ties over progressive ambitions.\(^3\)\(^4\) Certainly the desire to build stable, rewarding family and social lives while maintaining their dominance of public life fit well with the kind of mental conservatism that might inhibit emigration. The planters and prominent farmers of the Tye Valley may have been in part backed into localization by their adherence to family and local status during a period of changing social and political circumstances. Yet their active embrace of localization and the new economies that accompanied it should not be underestimated. Simply settling down without aggressive efforts to improve agriculture, business, and social organization would have led directly to the kind of apathy and decline Garrit Minor imagined in his letter to Cabell. Localization brought many benefits, economic as well as social and cultural, to Virginia farmers, but demanded labor, investment, and patience before those returns could be realized.


The more traditional charms of Old Virginia continued to engage the loyalty of men of talent and ambition because there were opportunities for commercial profit and family prosperity. Yet post-Revolutionary Virginia would prove to be quite unlike on the cotton frontier of the trans-Appalachian South, where both the cheap, uncultivated land

and uncompetitive markets were still available to make the frontier agroecosystem a feasible venture. Localization proved to have inescapable commercial and financial dimensions which demanded new approaches to the land and the markets which rewarded its exploitation. The lengthy efforts made in localization's behalf did much to reshape antebellum Virginia's agriculture, rural business practices, rural social networks, and, finally, its environment.

One of the most considerable benefits to localizing residence and business enterprises in early nineteenth-century Virginia lay in the possibilities for investing in the processing and improvement of agricultural products. Grist- and saw-milling, tanning, distilling, improving livestock and meat – all provided opportunities for men with capital to obtain profits from ventures other than cash crop agriculture based upon the direct exploitation of mature ecosystems. Yet as profitable as these ventures could be, they were enormously difficult to pursue when moving from place to place with the agricultural frontier. Land speculation and the legal and medical professions drew sons of the gentry to the trans-Appalachian frontier with the promise of quick profits from undeveloped societies in immediate need of organization and experience. Cotton fields of the kind created by Abram Cabell's slaves brought even more obvious rewards, and many upper class emigrants combined the two ventures. Agricultural commodity processing, on the other hand, demanded extensive investment in equipment, buildings,

land development, credit, and personal relationships before a worthwhile return could be realized. While profits from migrating to the cotton frontier might be abundant, wealth could be also obtained in older neighborhoods, but only by pursuing a course of localization supported intensive investment and development. Following the old agricultural tactics on the same lands — the path between the other two roads — led most assuredly to poverty.

The efforts that had to go into distilling quality hard liquor are an excellent example of the steps that were necessary to turn basic agricultural processing into a profitable enterprise in the antebellum piedmont. To be sure, producing liquor for its own sake was not a demanding venture. At the time of the settlement of the Tye Valley in the mid-eighteenth century, both the cultivation of corn for sour mash whiskey and the planting of pioneer orchards for apple brandy had become ubiquitous skills among Virginia's farming population. Leases recorded in the early deed books of Albemarle and Amherst County frequently recorded requirements that tenants plant apple and peach trees in considerable numbers. Many of the soils of the Tye Valley proved particularly suitable to orchard trees. Hillside slopes in Nelson and Amherst Counties, especially those smaller coves with Porter's Black Loam soils, remain solid bases for market apple production at the end of the twentieth century. Nor was primitive distilling equipment beyond the means of pioneer farmers. The orchards that were planted in the eighteenth-century Tye Valley were partnered by the stills of varying sizes and qualities which made frequent appearances in the Amherst County probate inventories from the period. By the early nineteenth century, drinking large amounts of bad home-brewed liquor was a
constant among the region's agricultural population. One planter of Caroline County reflected upon riding through his neighborhood in his old age that, "I recollected some fifteen, or more, men, the yeomanry of the country, since dead, who were all much addicted to strong drink, and the greater part of whom either died from drink directly, or, as I believe, indirectly."  

Yet this base of young orchards and pewter stills didn't lead directly to abundant profits for the distiller. As much as the later southern tradition of casual, small-scale moonshining had taken root in the colonial-era piedmont, the I'ye Valley's distillers had not turned their enterprise into a generously profitable concern during the revolutionary era. Local markets were awash in low quality liquors during the early nineteenth century, and prices remained too low to attract the kind of substantial investment needed to finance an immediate move beyond primitive technologies and family-sized operations. One antebellum commentator recalled the liquor market in the turn-of-the-century piedmont where, "Orchards ... were much attended by many -- apple and peach brandy were sold out to tavern keepers by the barrel; and retailed in the neighborhood by the gallon, or less, at $1 a gallon."  

Certainly a lucrative market was available for quality spirits -- getting soused was an essential element of gentry life throughout the eighteenth

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36 Farmer's Register, 3 (1835), 612. For a more general discussion of the extremely high drinking rates which characterized the post-Revolutionary American population as a whole, see W. J. Rorabaugh, The Alcoholic Republic: An American Tradition. (New York: Oxford University Press, 1979), 3-22, esp. 8-9.

37 Farmer's Register, ibid.
century. William Cabell, Jr.'s mentions of his farming activities in his commonplace books were spotty and erratic. Yet drinking was significant enough to his personal economy to warrant regular notations as to the liquor he had bottled and stored in his cellar, and the number of bottles he and his friends socked away during "entertainments" that might last days at a time. Yet local alcohols rarely appeared in Cabell's pre-Revolutionary notations — he drank imported rum and rum-based arrack punch instead of the local whiskeys and brandies. Only when the Revolutionary War cut off imports of rum from the Caribbean were Cabell and the Warminster gentleman-drunkards forced back on whatever came to hand, and they quickly abandoned corn whiskey and apple brandy when more alternatives more suitable to gentry palates and pretensions such as madeira reappeared later in the 1780's.

To be certain, Cabell and other members of the piedmont gentry were willing to pay significant sums for quality liquor. In an age before mass transportation and industrial prosperity, luxury goods were still the path which led to bounteous profits. Yet taking local distilling beyond common spirits to the class of refined product that could wean elite consumers off of imports was a difficult task. Distillers had first to acquire the funds and purchase quality equipment — the small pewter stills left over from the colonial era could not produce the kinds of liquor which might garner a sufficient

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reputation to carve out a slice of the market supplied by mercantile agents and
wholesalers based in Richmond. Expensive copper stills with porcelain worms,
moreover, had to be matched by equally advanced skills among the plantation work
force. Planting the seeds of orchard trees was simple enough, but obtaining top quality
seedlings, then pruning and tending them to produce high qualities and quantities of fruit,
was a much more involved process. Conscientious planters of antebellum-era Virginia
spent as much ink charting pruning schedules for individual trees as they did on rotation
and fertilizing schemes for the crop fields, and as much money on top quality trees from
the famous nurseries on Long Island as they did on improved livestock and crop seed.⁴⁰
Nor were the orchards of the Virginia piedmont entirely susceptible to the book-farming
of well-educated planters. While the orchard manuals which sold in increasing numbers
during the nineteenth century might offer constructive advice on the care and upkeep of
fruit trees, adapting such abstract systems to local soils, climates, pests, and individual
trees, was a profession that took decades to master. Even more complex and important
than the planting and pruning techniques were the distilling skills.⁴¹ Prominent Tye
Valley planters began during the early nineteenth century to hire local farmers on a
casual, or even a full-time, basis to handle their stills, and most likely to train trusted
slaves in the calling as well.⁴²

⁴⁰For an example from the Tye Valley, see the Orchard Books of William Massie,
William Massie Papers, Barker Texas History Center.


⁴²Colonel William Cabell, Sr., for example, when first attempting to make fruit
brandies in 1771, hired a local man named Richard Murrow to do the distilling for him.
Investing in land, orchards, equipment, and advanced skills were an absolute necessity if liquor producers wished to exploit high-paying markets. With the piedmont drowning in cheap alcohol, it was vital for serious distillers to stand out in the crowd in order to attract the attention of discriminating consumers. Such distillers had to continue investing in production long enough to develop enough of a reputation for a top quality product. In the smaller and more personal commercial world of the early nineteenth-century Chesapeake, wholesale merchants tried to identify individual producers of superior goods, and sold to customers on the basis of their client's reputation for quality. Such a reputation would have been essential in order for producers of backcountry liquors simultaneously to attract a prominent wholesale buyer as well as developing a large base of consumers willing to insist upon their particular product. Yet building that reputation compelled ambitious planters to make the kind of investment, care, and patience described above. In sum, commercial distilling demanded the kind of investment of capital and labor which frontier farmers had built their agroecosystem and


43 In 1807, for example, Richmond factor Robert Gamble wrote to his client, Major Thomas Massie, explaining the vicissitudes of developing a personal reputation in the liquor markets of early nineteenth-century Virginia: "the quantities of Brandy from fruit-making brought from the country will be considerable indeed from the scope of the country that might be steadily supplied from your excellent whiskey it would generally be their interest ... not to send here whilst you could vend at home." Robert Gamble to Major Thomas Massie, August 29, 1808, Thomas Massie Papers, Virginia Historical Society, Richmond, Virginia. For a discussion of the origins of wholesalers personal product identification in the eighteenth-century tobacco trade, see Breen, Tobacco Culture, 65-69. Later in the antebellum era, Major Massie's son, William, would have his hams identified by name on the Richmond market. See William Massie, Plantation Memoranda, William Massie Papers, Barker Texas History Center, Pharsalia, November 10, 1858.
agricultural economies around avoiding. Furthermore, it demanded an investment of
time on the land and in the community — frequently extending into decades and reaching
across generations — which the frontier agroecosystem developed in the piedmont during
the eighteenth century had never before attempted to sustain.

Such a commitment to developing profitable agricultural processing was a
daunting project. Indeed, only the wealthiest members of the 'Tye Valley community
were prepared to undertake this kind of liquor production. For example, not only were
the wealthy more likely to own distilling equipment, the most valuable stills recorded in
Nelson and Amherst County inventories were concentrated among the wealthiest of the
distillers. (See Table 3.1) Furthermore, the focus on high quality distilling did intensify
as the 'Tye Valley ceased to be an isolated, undeveloped frontier farm region, and became
better connected with regional markets. (See Table 4.2) These statistics come as little
surprise. Making the investment necessary to produce top quality liquor, or top quality
anything, demanded finances far beyond the means of most ordinary farmers. Moreover,
few common farm families working within the frontier agroecosystem could afford to
wait the long periods of time needed before such localized capital and labor might begin
to pay a return. Declining yields extracted from soils denuded by the three-field system
and soil erosion would have driven profit-minded farmers from the community long
before they could build a truly profitable distilling operation. Those who did chose to
remain on their enervated lands would see their financial position diminished to the point
that continued investment in the various kinds of improvement attached to liquor
production would have become impossible.
Yet if commercial improvement and processing of agricultural products was only feasible for the most concentrated and connected of rural capital, the returns on this kind of enterprise – once developed – could be ample enough to begin to draw the resources of many prominent planters away from the purchase of more slaves and additional uncultivated lands further south and west. The first, as well as the most important and lucrative, agricultural processing business into which piedmont planters ventured was milling. Building small-scale water mills to provide coarse flour for corn and small grain farmers who did not own their own grindstones was a profitable, if minor, enterprise available to the planters and land speculators of the piedmont frontier: both William Cabell, Sr., and Parson Rose had constructed mills on their property by the late 1740's.44

Yet such small beginnings served as the basis for pushing beyond the mildly remunerative gentlemanly duty of providing a local service toward setting oneself up in the fruitful calling of commercial milling. As the volume of grain production in the Tye Valley expanded after the Revolution, a number of planters began building much larger milling enterprises than Cabell or Parson Rose had aspired to.45 Major Thomas Massie, for example, was a prominent Virginia gentleman and Continental Army officer who had developed a profitable business as a planter and grain miller in the lower Shenandoah


45"Mills," Files of the Nelson County Historical Society.
Valley breadbasket of post-Revolutionary Frederick County. Despite his success west of the Blue Ridge, however, Massie saw enough potential in the grain economy of the Tye Valley to purchase land and mill seats from the Rose family in the late-1790's, and gradually moved his family and operations to the upper Tye in the first years of the new century. Even before his slaves and local hirelings had completed building him a home and clearing crop fields at the foot of The Priest, they erected a mill on a creek which fed into the Tye. Through a series of improvements and reconstructions, this mill would remain at the center of Major Thomas' business enterprises over the next three decades.

Massie's primary dealings with his Virginia agents, the influential Richmond merchant Robert Gamble and his successors, were for flour ground from grain in part from his own fields and those of his sons, but also from wheat and rye he had purchased from farmers in his immediate neighborhood. As the elder Massie established two of those sons, Thomas Jr. and William, on nearby plantation lands purchased from the Roses, the family added to its mills, owning and operating a total of five in their remote corner of the Tye Valley by the beginning of the Civil War. Indeed, so central did the Massie family's rural industry become to the commercial economy of the upper Tye Valley that

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46 For a general discussion of his life, see Margaret Belmore, "Major Thomas Massie, A Gentleman of the Old South," (M.A. thesis, University of Virginia, 1932).


48 See Refsell, "The Massies of Virginia," 165-168. See also, Thomas Massie Papers, Virginia Historical Society. The files for accounts include a large collection of receipts from the Major's Mills between 1805 and 1825, approximately.

49 "Mills," Files of the Nelson County Historical Society. See also Refsell, "The Massies of Virginia," passim.
the region's post-bellum settlements above Lovingston and the Orange & Alexandria Railroad clustered around Massie mills at Montebello, 'Tyro, and, of course, the original Massie's Mill.50

Yet the Massies' sizeable ventures were by no means the largest of the 'Tyre Valley's commercial mills in the pre-Civil War decades. A shifting variety of Virginia merchants and planters, including influential piedmont entrepreneurs James Cocke and Shelton Crosthwaite, found an outstanding mill seat on Rucker's Run just below Canada Gap in Findlay's Mountain during the last years of the eighteenth century.51 The settlement they founded, which came to be called Variety Mills, grew slowly until purchased by a partnership of local merchant-planters going under the name of Murphy, Brown & Company in 1809. The partners, who included members of prominent lower 'Tyre Valley families such as the Higginbothams, Riveses, and Cabells, built up the operation until it included saw- and gristmills, a tanyard, distilleries, shops, and the "Nelson-Albermarle Union Factory," which appears to have spun thread from the wool

50Massie’s Mill remained a sizeable settlement of two to three hundred people during the early twentieth century. It, along with several other small towns in Nelson County, was still a noteworthy "urban" center right down through the 1960's, when the community was destroyed by the flooding associated with Hurricane Camille. It is now only composed of a few buildings and a church, as well as the remnants of the mill, which was operated by Massie descendants as a saw- and gristmill until after World War II. See "Mills," and "Massie’s Mill," in the Files of the Nelson County Historical Society.

51See Amherst County (Va.), Deed Book K, 123, for the sale of Variety Mills from James Cocke to Shelton Crosthwaite. Cocke had earlier purchased the land from Colonel William Cabell, Sr, in 1802, but the main property appears to have been developed by its later purchasers.
production of local sheep raisers. With a base at Variety Mills, Murphy-Brown and its successor, Robert Rives & Company, came to dominate the economy of the lower reaches of the Tye and Rucker's Run, building up the river town of New Market at the Tye's mouth, purchasing and renting extensive local properties, and extending substantial credit to smaller commercial farmers on either side of Findlay's Mountain and on both sides of the lower Tye.

Numerous smaller gristmills also sprang up throughout the Nelson and Amherst region to serve neighborhoods whose farmers could not get their grain to the Massie or Variety Mills. Their owners traced the success of the Variety Mills project on a smaller scale, using rural industry and agricultural processing as a base on which to build their personal fortunes. In 1815, for example, there were 35 mills in Nelson County recorded on a rather singular list kept by the taker of that year's property tax census. Most of the mills were small affairs, with their annual productive value appraised at between fifty and one hundred dollars. Thomas Massie's mill, on the other hand, was listed at two hundred and fifty dollars, while Variety Mills easily topped the county's roster at five hundred dollars. The Smith brothers, Joseph and William, also owned large mills in the

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52 Nelson County (Va.), Deed Book 1, 100, for the deed which transferred the Variety site and the surrounding land to the partnership of Murphy, Brown & Co., which would in time evolve into Robert Rives & Co.

53 See the Nelson County (Va.), Index to Deeds, for a detailed accounting of all the land deals made by the Variety Mills partners in the lower Tye Valley. Particularly prominent were deeds of trust, in which local debtors secured loans from Rives and his various partners by putting up their land as collateral.

54 It should be noted, however, that these appraisals are formulaic enough strongly to suggest that they bear no precise, or even particular, relation to actual income generated
Rockfish Valley. Yet despite the small size of most of the county's early national mill operations, their owners were still overwhelmingly drawn from the elite of the Tye Valley. Owners of smaller mills included prominent planters such as Nicholas Cabell and Thomas Goodwin, and the Valley's most prominent physician, Hawes Coleman. Twenty-eight of the county's thirty-two mill owners were slaveowners, and fifteen of them owned more than ten. Operating these kinds of smaller mills was not an avenue for upward mobility, but it was becoming a way in which men already made wealthy through frontier agriculture could diversify and augment their personal economies. The greatest of the county's millers, Robert Rives, William Smith, and Thomas Massie himself, were all plantation owners who invested some of their profits in sizeable and up-to-date gristmills rather than slaves or lands on the cotton frontier.\(^{35}\)

Local milling also offered prominent men the opportunity to build their position as community economic leaders in other ways. When combined with the capital base of a large plantation operation, purchasing and milling grain served as a starting point for obtaining small-scale profits from a variety of petty mercantile ventures. In cash-poor rural communities, grain transactions were rarely handled in cash, but running accounts with yeoman farmers brought many of the local services prominent planters had provided by these mills. This is particularly true given the free-wheeling style of census-taking common to Virginia record keepers at the local level.

\(^{35}\) Miller List, Nelson County (Va.) Land Tax Lists, 1815. Slave data from the 1815 personal property tax listings for Nelson.
to their neighborhoods in the eighteenth century into the commercial sphere. Smaller grain growers who dealt with Major Thomas Massie, for example, regularly had the payments on their grain sales debited in return for the products of Massie's ventures into distilling whiskey and managing livestock in order to produce saleable surpluses of bacon and beef. The returns the Massie patriarch realized were not negligible. After obtaining the high-protein portion of their diet from his smokehouses and stills, few of Massie's yeomen customers were able to claim more than a few dollars from the mill owner for their grain, while the barrels of flour he sent down the river to Richmond brought thousands of dollars of cash and credit. Furthermore, water power could be diverted from the Massie gristmills to sawing lumber for local house and barn builders, while also aiding some basic tanning of hides occasionally purchased from farmers who had slaughtered the animals for home consumption.

Once tied to the mercantile and financial systems of men like Thomas Massie through their dealings with his mill, Tye Valley farmers frequently were drawn into

\[56\] For a brief, but helpful, discussion, see Gray, *History of Agriculture in the Southern United States*, 410-411.

\[57\] The mill receipts kept by Major Thomas Massie's employees are particularly instructive as to the extent of only one of the local credit and petty mercantile operations which dominated the smaller neighborhoods of the Tye Valley. By the antebellum era, Robert Rives & Co. at Variety Mills, the Tye River Warehouse at New Market, and Higginbotham & Co. at New Glasgow in Amherst were doing an even more spirited business than were the Massies. See Amherst County (Va.) Records, Higginbotham & Co. Account Books, Library of Virginia, Richmond, Virginia, and Tye River Warehouse Account Books, Rare Books and Special Collections, University Library, University of Illinois, Champaign-Urbana, IL.

\[58\] See Accounts, Thomas Massie Papers, Virginia Historical Society, passim.
turning over a not inconsiderable portion of their grain-growing profits to him in return for the goods and services he could provide. Yet those running accounts also served as a starting point for developing the local reputation for credit-worthiness that might lead into the larger sums of capital needed for real upward mobility within a maturing rural community. Across the antebellum piedmont, country mills served as one of the starting points of the mercantile capital that could survive the vicissitudes of the crop markets. So central did the mills and associated enterprises become for Thomas Massie and his sons that beyond the initial purchases of Tye Valley and Hatt Creek land made from the Roses between 1795 and 1810, the family did little to add significantly to their arable landholdings during the rest of the antebellum era. In the first place, these ventures were profitable enough to draw capital away from the continual acquisition of fresh lands needed to accommodate growing slave and slave-owning families within the commercial frontier agroecosystem. Furthermore, local agricultural processing in a commercial farm economy generated enough income not only to divert elite capital away from the purchase of new crop lands, it also provided enough surplus profits to begin intensifying production on their remaining properties. It was this process of intensification which, as will be seen below, served as the basis for the abandonment of the frontier

59See Nelson County (Va.) General Index to Deeds, Index to Grantees, for the land purchases made by the Massies after 1807. While William Massie in particular did make some sizeable land purchases after 1820, almost all of them were for tracts of mountain land which he did not intend to farm. Major Thomas did purchase some land near Chillicothe, in eastern Ohio, on the advice of relative Nathaniel Massie, and his eldest son did move to the area for a brief time. Yet Doctor Thomas Massie returned to the Tye Valley when his father passed away, and William Massie moved to sell the Ohio property during the 1840s. See William Massie Papers, General Correspondence, Barker Texas History Center.
agroecosystem and the transformation of the Virginia landscape.

Yet as lucrative as country mill entrepreneurship could be, the investment of money, labor, and time, could be, as in the case of distilling hard liquor, daunting. Mills were enormous investments for rural planters — mill seats sold for vastly higher prices than even the most fertile of river bottomlands, mill houses had to be constructed with hired labor, millstones and other equipment had to be purchased from distant sources at great expense, and qualified millers had to be hired on a full time basis at good wages to manage the enterprise. Furthermore, the demand of national and international markets for ever-higher grades of flour remained a source of constant concern for country millers. With Virginia's system of tobacco inspection established and accepted by the middle of the eighteenth century, flour inspection was a logical and largely unchallenged next step. By the early nineteenth century, when Tye Valley operations such as Variety Mills and the Massie gristmills began shipping large amounts of wheat and rye flour down to the Shockoe Bottom warehouses of the prominent Richmond factors and wholesalers, the inspections system graded Virginia flour into categories of Superfine, Fine, Middling, Ship-Stuff, and Rejected (the latter of which could not be transported out of state).

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60 When appraised for the purposes of the Virginia state land tax, isolated mill seats in Nelson County were often valued in hundreds of dollars to the acre, while even the best cleared, improved low grounds rarely rated more than thirty.

61 See in particular, Hensley, "Grist Milling in Eighteenth-Century Virginia Society," for extended discussions of the technological demands of even the most primitive of commercial country mills, as well as the bargaining position of millers in Virginia labor markets of the period.

62 For the details of the flour inspection system of early nineteenth-century Virginia, see "An Act Reducing into One The Several Acts for Regulating the Inspection of Flour
These categories were based on the consistency of the flour, as well as its freedom from bran, qualities best achieved by the most expensive equipment and the most experienced millers. As a result, Virginia's rural mills were in a constant race to stay technologically current while larger, better capitalized industrial competitors emerged in cities like Richmond, Fredericksburg, and Alexandria. In addition to having to purchase expensive new equipment on a frequent basis, planter-mill owners such as the Massies, Smiths, Cabells, and Riveses had to develop with their millers a business relationship even closer and more trusting than with their overseers. The former grew to possess enough arcane knowledge to make close supervision of their activities difficult for employers. A drinking man, for example, might be tolerated as an overseer until the habit led to inattentiveness or unproductive violence; a sodden miller had to be discharged immediately. Furthermore, millers' understanding of their own bargaining power led them to abstain from offering the kinds of obsequious deference members of the Virginia gentry expected of their hirelings, to the frequent consternation and disgust of planter-mill owners. William Massie, for example, showed a great deal of concern about the quality of his millers. In 1850, for example, he wrote to an unnamed correspondent, "It is very difficult to get a first-rate miller at any time or for any price." A number of millers, "of very high celebrity," for example, "having ... that reputation of honesty, sobriety, decency, and industry," were demanding wages beyond his means to pay. William Massie draft letter, January 1, 1850. General Correspondence, William Massie Papers, Barker Texas History Center.
of their employers. 65

Conversely, hiring the skills and purchasing the equipment necessary to grind quality flour far from the river towns did not ensure that the operation could find a market among the urban factors ready enough to repay on the investment. At each step of the process, the construction of gristmills and the development of the skills necessary to use them effectively had to be matched by generous credit and purchases from those well-capitalized merchants. The enterprise took too long, and the investment required was too great, for rural planter-entrepreneurs to undertake it without long-term lines of credit. Furthermore, the willingness of these urban merchants and factors to extend such annual accounts to country millers was critical to their long-term ability to build up the cash reserves necessary to hire workers, purchase grain, and pay a competent miller. Covering the investment and clearing substantial profits took time, a resource which hard-pressed members of the plantation gentry had to acquire in cooperation with larger businesses, rather than relying on their own finances.

Rural businesses, then, whether agricultural, mercantile, or industrial, could never be built in isolation. The close, continual involvement and investment of all the parties extending credit to, and making purchases from, a distiller or miller was indispensable to improving production and to building the markets for that production. In the early

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65Joseph Carrington Cabell had troubles with the Cabell family miller at Liberty Hall. See Heck, “Palladian Architecture and Social Change,” 157-159. For his part, Massie found that despite their experience and efficiency, he much preferred millers drawn from east of the Blue Ridge, perhaps since they were more accustomed to the deference members of the Tuckahoe gentry demanded from their employees. William Massie to draft letter, op. cit.
nineteenth century, these sorts of cooperative business relationships had to be founded upon one of the most unwieldy of commodities, personal trust and respect. Even as affluent and experienced a planter and mill owner as Thomas Massie, who arrived in the Tyre Valley with over a decade's background as a grain farmer, mill operator, and flour shipper in the Alexandria trade, faced a lengthy task in building his relationship with Richmond factor Robert Gamble. While the precise terms Massie extracted from Gamble cannot be confirmed from their surviving business correspondence, the tone of the letters Gamble sent to the Tyre Valley tell a good deal. During the first years of Thomas Massie's settlement at the foot of The Priest, Gamble's letters to him remained formal and curt, despite the reputation the planter had made as a Continental Army officer and ambitious businessman. Apparently, however, at some point in 1806-7, Massie made a visit to Richmond and dealt face-to-face with Gamble for the first time. After that point, discovering in particular that they shared a simmering dislike of President Jefferson, their relationship grew closer. Gamble's letters thereafter combined a much more generous (and personal) solicitude with regard to Massie's financial and mercantile interest with willingness to supply him with the latest political and social gossip from Richmond. After Robert Gamble's death in 1810, his son succeeded him as


67See for example, Robert Gamble to Major Thomas Massie, January 26, 1807, and March 30, 1807, for a lively Federalist perspective on Aaron Burr's trial for treason then taking place in Richmond, or Gamble to Massie, August 3 and September 4, 1807, for Gamble's family news.
Massie's factor. The young man apparently viewed the Major as the senior Gamble's peer, and obsequiously asked for his business, going out of his way in subsequent years to give his aging client detailed explanations and justifications of his dealings on Massie's behalf.68

The decades of investment in personal dealings with the Gamble and Gibson firms proved valuable to the Massie family. For indeed, without their backing, their financial investments on Massie's behalf, and their regular willingness to ship livestock, nursery trees, construction materials, and consumer goods on credit to the upper lyce, Massie's attempt to take his neighborhood and his personal business beyond frontier agriculture would have failed. The fact that his son William would be able, during the prosperous 1830's and the depressed 1840's, to choose among a number of Richmond factors actively soliciting his business69 testified perhaps more to his father's decades of work building his enterprises than to any eagerness of creditor interests to invest in risky and never overwhelmingly profitable rural farming and commodity processing.

Business relationships built upon extensive past dealings and personal reference were the basis of expanding systems of credit in this early modern society.70 Before the

68See for example, Robert Gamble, Jr., to Thomas Massie, December 11, 1809, Thomas Massie Papers, Virginia Historical Society.

69Massie shifted between a number of factors during the antebellum era, searching for the one who might offer him the best service. See for example, Refsell, "The Massies of Virginia," 802-807, for a brief analysis of one of his switches, and the solicitations of his business that accompanied it.

70One of the best recent analyses of the importance of personal relationships, particularly kin ties, in shaping early American business networks is in Thomas Doerflinger, A Vigorous Spirit of Enterprise: Merchants and Economic Development in
advent of standardized banking practices and corporately-generated credit ratings, networks of individual trust and knowledge, such as the one developed between Major Massie and Robert Gamble, provided the necessary recommendations upon which loans could be extended. Indeed, so crucial were these recommendations and references to the reputation of antebellum Virginia's planters that beneath the veneer of the gentry's pro forma republican criticism of commerce and the speculative life lay an obsession with their real and perceived standing in that world. Virginians saw the base of personal honor among gentlemen not in terms of aristocratic holdovers like lineage, taste, and the like, but in the very concrete terms of their trustworthiness in financial matters. Abram Cabell's uncle, Governor William H. Cabell, after years of Richmond living and inattentiveness to his Nelson County estate had driven him into bankruptcy court in his own right in 1825, wrote in anguish to his brother Joseph: "As to the humiliation of the proceeding, that is less than nothing compared with what I have already felt in the awful reality of my having involved myself in debts which I am unable to pay ... Whatever may

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have been my former imprudence, I feel I can take the oath with as safe a conscience as any man breathing."\textsuperscript{72} Built upon that trustworthiness was a man's public reputation. Despite his personal embarrassments, Cabell reserved a measure of ire for the plaintiff in his case, "Higginbotham" (probably Samuel, who after having been a partner of Rives & Murphy in Variety Mills moved on to run his own mercantile firm out of New Glasgow in Amherst County), who was betraying the long relationship of trust between them by hauling Cabell before the bar. "I know not, however, whether it will be more to his credit than to his profit," Cabell wrote, "that he should be the only man who should deem it necessary to pursue any coercive measures whatever toward me." His bitterness boiled over as he went on, "I could not, however, have believed that he would (as he has done) selected as his agent to conduct the business, such a man as Jas. S Lynch, who is known as one of the most unfeeling and malignant men on earth, & who would sooner have a pound of my flesh, than great pecuniary treasure."\textsuperscript{73} That Cabell could look at the breakup of a longstanding business relationship, and the turning of one of the parties to the harshest measures of the law, as evidence of malignancy of character, revealed the extent to which personal trust was the indispensable oil for the wheels of early modern commerce. William Cabell felt he was a man of fiscal honor who would still have been responsible for his debts had Higginbotham and Lynch extended the courteous flexibility to which he felt their long association had entitled him. Instead they insisted upon publicly exposing his debts, and thereby ruining his reputation and future prospects. To

\textsuperscript{72}William H. Cabell to Joseph Carrington Cabell, August 17, 1825.

\textsuperscript{73}Ibid.
Cabell, such an action was inexplicable purely in business terms, understandable only as an expression of a personal hatred which extended far beyond the terms upon which gentlemen dealt with one another.

In a volatile economy, men with money to lend were extremely reluctant to move outside these kinds of relationships — or at the very least references once removed to such a relationship — and so an intricate web of letters and personal visits provided the only foundation upon which new business ventures could be built in pre-Civil War Virginia. At the local level, millers, distillers, overseers, and other hirelings were employed only after resort to letters of reference circulated among the networks of gentry kin and acquaintances that tied together piedmont society. Doing business without these personal contacts was a disconcerting experience for Virginia entrepreneurs, both rural and urban. In 1845, for example, Thomas Massie's son William received his first piece of junk mail. Parrow & Company, an orchard tree nursery on Long Island, having most likely obtained William's name from a neighboring nursery he had dealt with before, sent him a form letter and a catalogue offering valuable trees on credit. This new method of doing business puzzled Massie greatly: "I received a catalogue of trees from you not long since," he wrote, "Why you sent it, or how you came to know of me, I can't tell." Never one to pass up a good bargain, however, Massie did order from Parrow, but informed them somewhat uncomfortably, "I have nobody to refer you to in New York, being a Planter and Farmer in an interior region — but if you are afraid I will not pay you ... you can ... retain [the trees] as indemnity until you receive the check."\(^{74}\) Only at the end of

\(^{74}\)William Massie to Messrs. Parrow & Co., October 15, 1845.
the pre-Civil War era were southern businessmen taking the first steps out of this world of personal contact and reputation. During the period when onetime frontier planters and land speculators were first laying down permanent roots in the Virginia piedmont, networks of friendly business acquaintances and patrons were still the most valuable form of capital entrepreneurs of any standing had to develop in order to succeed.

So far, of course, only the role of the networks of personal business association which the planters and entrepreneurs of the rural piedmont had patiently to cultivate with larger and more centralized concerns has been considered. Yet if planters found such relationships with powerful mercantile and financial interests to be the best basis for credit and market production, the advantages of intimate business networks flowed in the other direction as well. In order to build the kinds of planting, industrial, and mercantile operations that could seize hold of commercial opportunity, those rural entrepreneurs had also to develop networks of supporters among the common farmers of their own communities. As early as the first serious tobacco depression during the late seventeenth century, larger planters began to look for ways to use their capital and resources to draw smaller farmers into commercial networks which profited the colony's big men.73 And across the eighteenth and early-nineteenth centuries, planters' dealings with their neighborhood's yeomanry and landless families continued to open the way for regular labor hires, leasing of surplus lands, and small-scale consumer and agricultural credit.

Yet the same need for trust based on patiently-acquired personal experience applied to such dealings. These kinds of petty business relationships were most productive and secure when based on long-term patron-client arrangements between the parties reinforced by, and reinforcing, the stable social hierarchies of gentry-led Virginia. The Massies, for example, developed such a several-decades-long understanding with members of the Coffey family, who owned and rented lands in the upper reaches of the Tye Valley and its forks as early as the 1780s. Coffey men worked for Thomas and William Massie in varying capacities, helping build the family's homes and mills, its fences, levees, and ditches. Members of the family rented farmland from William Massie, and brought their grain to his mills, in turn receiving credit as cash loans, as well as whiskey, beef, and bacon for the Coffey dinner table. Yet the Massie-Coffey alliance did more than bring the benefits of a well-connected, comparatively cash-rich plantation operation to a small farm family. For their own part, the Massies were able to turn a small profit on distilled liquor and meat sold to the Coffeys. Coffey grain was guaranteed to the Massie mills, and somewhat reliable tenants could be found for valued rental properties (even if the mountain overseers had to be warned to watch for occasional pasture trespassing by the "Coffey gang").

Certainly the profits the Massie family derived from their dealings with the

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66See the William Massie Papers, Barker Texas History Center, for abundant references to the economic relationships between Massie and the Coffey family.

77Massie in fact mentioned the Coffey gang in a contract with an overseer he hired for his mountain plantation, "Montebello", in 1844. See William Massie and Nelson Munroe, Memorandum of Contract, June 26, 1844. General Correspondence, William Massie Papers, Barker Texas History Center.
Coffeys were slight in terms of the capital invested. Yet those profits did serve to provide a needed supplement to the localizing planter’s income during those years of market and production development needed before the real profits could be realized from improved agricultural processing and associated ventures. The active engagement of neighboring farmers of lesser means proved to be just as crucial to localization as capital and credit handed down from more prominent sources. The patron-client relationships planters built with their lesser neighbors could become quite complex as prominent planters pooled community resources to sustain and promote local capital development and commercial production. This complexity could emerge, for example, during the laborious and expensive process of turning subsistence-oriented woods running of cattle and hogs into a commercially profitable pastoralism. While the gross returns on the penning and corn and pasture feeding of livestock were enormous — as early as the 1810's Thomas Massie's plantation notes reported his penned and fattened hogs at more than twice the weight of animals in the woods\(^78\) — the necessary investment was considerable. Valuable lands had to be cleared, and then set aside from tobacco and hard grains for corn, hay, or pasture. These pastures and hay fields had to be stumped, fenced, plowed, plastered and limed before expensive grass seed could be sown.\(^79\) Stock pens and barns had to be constructed, and slaves pulled from the cash crop fields to be trained to tend


\(^{79}\)For a discussion of issues relating to the effort and investment necessary to develop improved pastures in early nineteenth-century Virginia, see Taylor of Caroline, \textit{Atrator}, 130-175.
them. Considerable expense had to go into purchasing breeding stock, and considerable patience into culling less desirable animals over the years. And all of this effort had to be made in the face of local meat markets that were either stunted by ordinary farmers who subsisted on low-quality hogs and cattle in the running in the woods, or glutted by the sizable hog and cattle drives coming into eastern Virginia from the West. As with distilling and milling, all of this effort had to be made with little return before the planter-stock man could even think seriously about marketing his meat beyond his penurious immediate neighbors.

Yet during those years of unremunerative investment, some return could be realized, or at least the burden of developing advanced production lightened, by making alliances with smaller farmers. The activities of Thomas Stanhope McClelland, a neighbor and relative of the Cabells and a prominent planter in his own right during the early nineteenth century, illustrate a series of such alliances as they related to the improvement of hogs in the Tye Valley. In his own commonplace book, which he kept erratically between 1812 and 1827\(^{80}\), McClelland recorded a complex series of interactions between his own livestock rearing and that of neighborhood yeomen and tenants. For example, McClelland tied the land and labor of small farmer Lindsay Griffin to the improvement of his hog-rearing operations. Apparently, instead of running low quality hogs himself, Griffin bartered corn grown on his fields on the low ridge below Findlay's Mountain which separated Joe's Creek from the south fork of the

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\(^{80}\text{Thomas Stanhope McClelland, Commonplace Book, 1812-1827, Virginia Historical Society, Richmond, Virginia.}\)
Rockfish River in exchange for bacon from McClelland's meathouses. With corn crops and home-ground corn meal ubiquitous throughout eastern Virginia, little in the way of local markets for corn existed. McClelland therefore almost certainly put the bulk of Griffin's barter directly into his corn houses. One the face of it, this no-cash exchange might seem to be the antithesis of market-oriented stock rearing. Indeed, some scholars looking at the local economies of early national Virginia have seen such transactions as evidence of a deepening distrust for, and rejection of, the competitive marketplace. Yet when considered in agroecological terms, for example, this was not an arrangement which supported community subsistence alone. During the 1810s and 1820s, McLelland owned prime James River bottomland patented by William Mayo in one of the 'lye Valley's first land grabs. Managing such valuable agricultural property, had he wanted to improve the quality of his hogs, bacon, and hams by penning, feeding, and breeding them, McClelland would have had to commit large tracts of precious low grounds to commercially unremunerative and agroecologically ruinous feed-corn cultivation. Through his arrangement with Griffin, however, McClelland could obtain his feed and continue to improve his pork production, while forcing the ecological costs of row-crop

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81 Thomas Stanhope McLelland, Commonplace Book, 33. Another farmers living in the Joe's Creek area involved in similar arrangements with the owner of 'Montezuma' plantation included Thruston Dickinson and Nelson Anderson.

82 For an analysis of the role of local exchange in defending rural 'independence' against the marketplace in post-1800 Virginia, see Schlotterbeck, "Plantation and Farm," 53-78.

83 See the Nelson County (Va.) General Index to Deeds, for complete records of McLelland’s landholdings and transactions during the early nineteenth century.
corn farming onto the lands of other men, while either sparing his fields, or putting them into more profitable cash crops.

Patron-client pastoralism could also help McClelland to cut down on the amount of valuable labor he had to commit to stock improvement. His dealings with another small farmer in the Joe's Creek neighborhood, William Dennis, strongly suggests that he was engaging in regularly improving the quality of his own hogs through his neighborhood contacts. In 1817, for example, Dennis purchased nearly three hundred pounds of beef from McClelland, but was credited with selling his wealthier neighbor a rather uncommon hog. McClelland recorded in his commonplace book that the hog Dennis had sold him weighed fully one hundred and forty-one pounds. This beast was therefore more than forty percent larger than the hogs which the neighborhood's most advanced stockman of the Revolutionary era, Colonel William Cabell, Sr., had been slaughtering. A man like William Dennis - a transient tenant farmer - was almost certainly running animals in the woods, yet his hogs had apparently by chance bred an outstanding specimen. On the eve of the Civil War fully forty years later, Virginia's most advanced commercial hog rearers would only have improved their slaughter stock to average weights around that of this animal. By buying Dennis' hog, McClelland was able to accomplish several assignments toward successfully commercializing his stock.

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84 Thomas Stanhope McClelland, Commonplace Book, 39.

85 For an analysis of the progress of hog breeding in pre-Civil War America, see Gates, The Farmer's Age, 216-221. Note, for example, how the weight of Dennis' hog compares with the weights recorded by Thomas Massie in his hog slaughtering records for the same period, or the even lower weights reported by Colonel William Cabell for the Revolutionary era.
raising. In the first place, he was able to add an outstanding animal to his own breeding stock, thereby jump-starting the laborious and time-consuming process of breeding improved hogs from within his own herds. Yet he was able to do this without assuming the risks (recessive genes, breeding problems, premature death, etc.) and high costs associated with purchasing a breeding animal from a more advanced producer. In fact, McLelland's alliance with Dennis and others like him enabled the planter to avoid drains on his attempts to build up agricultural capital almost entirely. The best animals of the neighborhood surrounding 'Montezuma' plantation went into McLelland's growing stock herds. They were fed on cheap corn purchased from men like Lindsay Griffin while McLelland's own fields were rested or put into higher-priced crops. And McLelland was able to pay for all this with bacon made from the low-grade hogs he was willing to slaughter from his own stock. By establishing himself on the banks of the James for several decades, McLelland was able to build a network of support within his immediate neighborhood that allowed him to concentrate agricultural resources and enter into commercial production while building the relationships with more powerful capitalists that would be needed to undertake further improvements.

McClelland dealt frequently and repeatedly with neighbors like Griffin, Dennis, and others, and their support and participation was crucial to the development of a diversified plantation economy which could survive the growing commercial competition and ecological problems Virginia faced in the early nineteenth century. To be sure, plantation owners were always striving to reduce expenses through increased self-
sufficiency for their own farms. Yet as the enterprises of the Massies and McClelland revealed, these cooperative ventures with small-farming clients served also as a means to begin the slow development of advanced agricultural processing and production – not just attempts to retain financial independence by avoiding the market. The fact, however, that such a significant degree of retrenchment had to underpin rural commercial development that it might easily be interpreted as a rejection of commercial life – and conflated with republican rhetoric – reveals the degree to which patient, long-term localization was crucial to successful commercialization. All aspects of a cash crop farm's evolution pointed towards its eventual participation in the market, and even its non-commercial functions had to serve to build capital, whether ecological, agricultural, or social, which could then be put to work generating profits.

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86 Scholars studying the outlook of the Revolutionary and post-Revolutionary gentry of Virginia have gone to great lengths to outline the concept of 'independence' in relation to financial matters, and to stress its centrality to the planter mind. See Lewis, *The Pursuit of Happiness*, 108-120, Isaac, *The Transformation of Virginia*, 131-133, 145, and Breen, *Tobacco Culture*, 91-94. The freedom from indebtedness which this independence entailed required an almost complete self-sufficiency on the plantation, and certainly many planters were working throughout the eighteenth and early nineteenth centuries to attain it. Madison's address to the Albemarle Agricultural Society, with its discussion of the fixed biotic wealth of the plantation, and the need absolutely to conserve it, expressed that ideology of plantation self-reliance and its relation to republicanism in the most basic agroecological sense. Yet the application of the ideal of fiscal independence to plantation management did not necessarily entail the rejection of commercial life some scholars have assigned to it. Yet viewed from another angle – and certainly from the angle most practical planters seemed to have considered the question – plantation self-sufficiency was a simple cost-cutting measure, designed to increase profits by reducing expenses.

87 See for example, Schlotterbeck, "Plantation and Farm," 289-290.

88 There is a tendency within the current 'mentalité' debate to view the question of market participation from the perspective of the contemporary consumer household.
During the colonial era, the amount of the different kinds of capital needed to build a farm into a market operation was minimal. Bound labor and cultivation skills, to be sure, took time to secure, but once they had been, the profits from an otherwise undeveloped agriculture were relatively abundant. Yet as tobacco prices bottomed out after the Revolution, and grain markets became volatile and risky, before eventually collapsing after 1819, the returns on such minimal capital declined. More advanced capital and commercialism was needed to keep the state prosperous, and its development -- whether through agricultural processing, webs of credit, or the development of neighborhood networks of patrons and clients -- demanded a kind of investment to which white Virginians were unaccustomed. Particularly they required a stability of residence and society which the plantation operations of the eighteenth century rarely achieved. Commercial localization involved investments that demanded that rural entrepreneurs wait years, even decades, before the payoffs began to emerge. Furthermore, those investments had to be made within a context of complex credit and commercial networks that could only be erected upon a foundation of personal acquaintance developed over years of association and relation. Neither the investments or the networks that supported based upon wage labor. From that perspective, of course, and particularly in the aftermath of the counter-culture, "doing-for-yourself" did represent an attempt to escape from the marketplace. Yet when considering the early American farm as a business and capital investment, self-sufficiency was an essential aspect of making good on that investment. John D. Rockefeller's famous instruction to his subordinates in the Standard Oil Company to purchase nothing from outside vendors certainly did not make him an anti-capitalist.

them could be made to work if planters insisted upon remaining in continual geographic
motion. Yet it was this very kind of mobility which the frontier agroecosystem
demanded of its human managers. Even such localizing expedients like long fallowing
or the three field system were constrained by a commercial logic which sacrificed the
long-term fertility of land at the altar of short-term returns on labor. The contradiction
which therefore emerged between localization and the frontier agroecosystem became
the context in which a growing number of Virginia's economic and intellectual leaders
interpreted their state's apparent decline specifically as an agroecological crisis. If
localization was necessary to sustain Virginia's prosperity and social order, then the
frontier agroecosystem would have to go.

3. Localization and the Agroecological Crisis of Early National Virginia.

Localization proved to be incompatible with the frontier agroecosystem in two
crucial – and intimately connected – ways. In the first place, as much as the economic
leaders of Virginia's early nineteenth-century rural communities might want to expand
their incomes through various services provided to their neighbors – professional,
mercantile, industrial, and the like – the piedmont economy was still too backward to
support a gentry lifestyle entirely from these sources. Planter-entrepreneurs remained
precisely that – cash crop agriculture endured as the foundation of their personal
finances. Thomas Stanhope McLelland, for example, was one of the 'I'ye Valley's most
prominent lawyers during the first three decades of the nineteenth century, yet
'Montezuma' plantation attracted easily as much of his attention as did court sessions in
Lynchburg and the surrounding county seats. Hawes Coleman was a doctor and a miller, yet also invested much of his income in maintaining his farms along the Rockfish River. Robert Rives, Sr., of course, was the main partner behind the Variety Mills enterprise during much of the early nineteenth century, yet continued to sink a fair amount of his resources into building his estate along Rucker Run into the largest and most productive plantation in the Tye region.

Yet striking a balance between farming (to maintain an abundant cash flow) and building the kind of stable local networks and investments needed to profit from localization was not an easy task. The frontier agroecosystem created profits by cutting expenses – particularly labor, equipment, food, and so on – to the bone, but made up the difference by denuding mature ecosystems of their stored fertility until the abandonment of exhausted and eroded land became an ecological and financial necessity. Yet that kind of trade-off – the kind that eventually drove Abram Cabell to Florida – was the antithesis of localization. Abram was forced to put hundreds of miles between himself and a close and supportive family, as well as abandoning the kind of local network of yeoman farmers that might have bolstered his personal economy in other ventures. Yet in order to remain in Virginia and take advantage of those opportunities, Abram would have had to abandon the frontier cultivation to which he was accustomed in favor of the more intensive and expensive brand of cultivation that might have kept him solvent in the Tye Valley. His uncles’ descriptions and pessimistic analysis of Abram Cabell’s Rucker Run farm paint a very clear, if bleak, picture of the frontier agroecosystem in the Tye Valley during the third decade of the nineteenth century.
After a visit to the 'I'ye region in 1824, former Governor William H. Cabell wrote of the Rucker Run farm: "That plantation has so much worn & exhausted land, & there is ... little land to clear." Abram had apparently sustained a generous income over the years by growing large crops on extensive fields, continually clearing new grounds while farming others without adequate amelioration. Yet the limits of the property’s agroecological potential had clearly been reached by the 1820s, and declining yields were curtailing Abram’s cash flow. His long-time overseer, a man named Wilbourn, "has never made one till half rich enough," his uncle wrote, "He has failed now for two years of making a good crop, because he has spread his little manure over too much ground, that none of it would bring Tobacco – He has worked down the old lots, without making any new ones." Abram’s family connections in the 'I'ye Valley had presumably kept him in Virginia when bankruptcy began breathing down his neck, yet the cavalier attitude toward soil amelioration and farm improvement necessary to maintain permanent residence that typified the frontier agroecosystem continued to mark his agriculture. For example, permanent farms needed good plantation roads that eased transport of crops and equipment while using a minimum of land that might otherwise have been planted. Yet, as his uncle wrote, "They have had a dreadful way of frequently changing the scale of the roads on [Abram’s] farm ... Instead of laying out the road in the proper place, & keeping it there, they have allowed the cart men to break out of it where they pleased, and in some places it is nearly 50 yards wide." A fifty yard-wide stretch of farmland wasted on wagon ruts seemed a desperate waste to plantation owners hoping to remain

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*William H. Cabell to Joseph Carrington Cabell, August 19, 1824.*
and prosper in the long- and abundantly-settled Tye Valley. Yet to a frontier-minded planter like Abram Cabell— or more precisely to Wilbourn who knew a large crop would please his high-living employer more than well-maintained roads— those ruts represented valuable labor saved for the tobacco fields. Yet as the crops extracted from exhausted soils diminished and his income contracted, Abram had only two choices if he wanted to maintain the opulent lifestyle to which the grandchildren of Dr. William Cabell had become accustomed. He could either rebuild a frontier agroecosystem by moving his family and slaves on to fresh frontier lands, or he would have to find other sources of income within his home state. Yet even had he chosen the latter course, Abram Cabell would not have been able to support himself without a substantial income from his farm. Hence, he would have had to forsake the frontier agroecosystem and attempt to restore his farm's profits by slowly and laboriously rebuilding its biotic potential from the low ebb to which it had fallen.

Planters across the piedmont were facing the same choice during the early national era, and many chose to migrate rather than either chancing their fortunes on volatile crop markets (or collapsing ones after 1819), or committing themselves to the long and risky road of commercial localization. Yet even those who did stay behind and aggressively tackled the region's economic problems found that the frontier agroecosystem blocked their progress in yet another way. As Abram Cabell's uncles were discovering at the same time their nephew was heading off for the deep South, it was difficult to extract an income befitting a member of the piedmont gentry entirely from an agricultural base in eastern Virginia. Both men had committed themselves to
political careers at the expense of other, more lucrative, prospects, and were themselves beset by debt. For all the advice they tried to offer Abram concerning the techniques of profitable agriculture, commercial localization was also necessary to maintain a positive balance of payments. Yet as the planter-entrepreneurs of the Tye Valley were discovering, providing services to a primitive rural community did not produce a decisive addition to their incomes. All facets of commercial localization depended upon the general prosperity of an entire community – professionals needed affluent clients; petty lenders needed dependable borrowers; store owners needed paying customers; mill operators needed substantial grain producers. Even unsophisticated exchange networks like those developed between Thomas Stanhope McLelland and his yeoman and tenant neighbors depended on the ability of the latter to generate enough production and income to continue to avail themselves of the planter’s business while he improved his hog herds from year to year. Without that water of rural prosperity, localization would wither on the vine, since the community would simply not produce enough of a commercial surplus to sustain rural business interests.

Yet the frontier agroecosystem, when maintained within a limited area, gradually impoverished the neighborhood as a whole, just as it had come close to ruining Abram Cabell. As soils were depleted, yields and incomes dropped, and small farmers either accepted their ruination and slipped out of commercial production, or moved on to new regions. Either way, they formed a poor footing for commercial localization. Communities of frontier farmers were never stable, as farmers abandoned denuded ecosystems and moved on. This constant coming-and-going undermined the
development of the webs of trust and experience necessary to build complex and lasting credit and business relations within the community. Furthermore, as noted earlier, maximizing labor returns was only one side of the coin of frontier profit-making—reducing consumer spending also increased profits that could be plowed into further land or labor purchases. Small farmers looking to avoid debts that might restrict their ability to purchase land on the next frontier took less advantage of credit and mercantile services offered by the gentry, and avoided doctors and lawyers wherever possible. Frontier agriculture might support high incomes for a time, but those profits drifted with the migrating population, rather than taking root and growing in a single place. Localizing planters in regions like the Tye Valley were trying to confront the decline of their own farm incomes by exploiting the surplus incomes of farmers struggling with many of the same problems of uncertain markets and declining soils. As a result, the frontier agroecosystem also blocked localization beyond merely undermining the farm income of individual rural entrepreneurs. It also stifled the development of possible alternate sources of income by stunting the long term growth of the local economy.

This contradiction between the frontier agroecosystem and the movement toward commercial localization framed the growing belief among Virginia's leaders that the root of their state's problems was an ecological and agricultural crisis. The fact that the planters, merchants, and professionals of post-Revolutionary Virginia believed their state to be spiraling down into economic and agricultural catastrophe has been well documented. Gloomy prognostications such as those made by Garritt Minor were commonplace throughout the eastern portion of the state between the 1780's and the
1820's. Despite seeing a long string of its favorite sons placed at the head of the new nation's government, Virginia's editors, diarists, and correspondents believed that the foundation upon which these successes had been built was being destroyed. Virginia's agricultural economy sputtered during these years, and the state's relative economic preeminence in North America, largely unquestioned during the eighteenth century, was lost to the agriculture and industry of New York and Pennsylvania, and to the cotton fields of South Carolina and the rest of the Deep South. The explanations which Virginia's commentators offered for this decline were numerous. Some, like Jefferson, believed that slavery had sapped the physical and moral energies of white planters, leading them into sloth and wasteful dissipation.91 The South's Federalists, and later its Whigs, cursed the vigorous frontier policy the Jeffersonians pursued in the trans-Appalachian west, which drew capital and energy away from localized economic development into unproductive land speculation.92 And, of course, a large mob were ready simply to write off the younger generation as unworthy successors to their hardy ancestors. Yet it was a small, but growing, group of agricultural intellectuals who identified and publicized the problem which most contemporaries, and many twentieth-


92 See, for example, Daniel Walker Howe, The Political Culture of the American Whigs. (Chicago, IL: 1979), 242-245. The Whig Party, of course, opposed the annexation of Texas (despite defections from a handful of Deep South Whigs). In Virginia, eastern planters who opposed the extension of government funds to internal improvements in the western portion of the state voted Whig throughout the antebellum era. See Charles H. Ambler, Sectionalism in Virginia from 1776 to 1861. (Chicago, 1910), 123-127.
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20th-century historians as well, have come to see as the foundation of eastern Virginia's post-
Revolutionary deterioration.

Modernizing planters throughout the Chesapeake region insisted throughout the
antebellum era that the root cause of the economic, social, and political decline of the old
tobacco empire was the irresponsible abuse its farmers heaped on its soils. The frontier
economy of cheap land and expensive labor had expired, they argued, yet farmers
continued to cultivate their lands as though it were the 1620s. In one of the most famous
documents generated by the spokesmen of this movement, James Madison's address to
the first meeting of the Albermarle Agricultural Society in 1819, the former President of
the United States returned to the upper piedmont to pin blame for his native state's
problems on the obstinate traditionalism of its farmers. Madison succinctly explained
the economic justifications for creating a frontier agroecosystem within a commercial
economy, recalling that, "whilst there was an abundance of fresh and fertile soil, it was
the interest of the cultivator to spread his labour over as great a surface as he could.
Land being cheap and labor dear and the land co-operating powerfully with the labour, it
was profitable to draw as much as possible from the land."93 Yet the growth of the state's
population, and the depletion of many of its virgin soils, he concluded, had removed the
economic advantage attached to such practices. Puzzled by their continuation through
the early national years, however, Madison could only ascribe the problem to, "the effect

93Madison, "Address before the Agricultural Society of Albermarle," reprinted in the
American Farmer 1(1819), 22, 170.
of habit, continued after the reason for it has failed."94

The declining yields and incomes of farmers in the Southwest Mountains, Madison insisted, could be relieved by adopting simple but much more labor- and capital-intensive agricultural techniques, such as horizontal plowing and the collection and distribution of animal and vegetable manures. Eroded and exhausted soils might no longer return the yields they had when they were freshly-disturbed mature ecosystems. Yet labor was now much cheaper and might be invested in soil conservation and amelioration with greater hopes of a net return. Much the same argument was made in what was to become the greatest philosophical monument of Virginia agricultural reform, John Taylor of Caroline's Arator. Originally published as a series of newspaper essays during the 1810's, Arator included the progressive planter's extended discussions of the values of enclosing pastures, deep plowing, and manuring. Yet Taylor, like Madison, also struggled with the reasons for the survival of frontier agriculture into the nineteenth century, and tried to undermine its logic by demonstrating that greater per-acre and per-laborer yields could be obtained by a more intensive cultivation system.95 Yet Taylor was a hard-line Jeffersonian Republican, an ideology he had developed during brief sojourns in state and national politics. As such, he was unwilling to openly accuse Virginia's virtuous population of white farmers of obstinate incompetence. Instead, Taylor blamed the continuation of frontier methods on high Federalist tariffs drawing capital out of Virginia agriculture and impoverishing its practitioners to the

94Ibid.

95Taylor of Caroline, Arator, 189-193.
point they could no longer invest in such intensive schemes. Yet after the fluctuations in tariff policy during the first thirty years of the Nineteenth Century had little impact on farm practices in Virginia, many reformers were prepared to return to Madison's explanation.

Edmund Ruffin, who became the antebellum era's most prominent agricultural reformer by pushing the use of calcareous manures to relieve soil acidification in the Virginia tidewater, was outspoken in blaming the state's agricultural practices on mass ignorance. Taylor had consciously refused to make a critique of Virginia farm practice based on class snobbery, writing that, "the error ... [of poor farming], however egregious, cannot properly be termed vulgar, because it is common to men of the best, as well to those of the meanest understandings." Ruffin, observing the continuing flood of common farmers out of the state during the 1820s and 1830s, as well as the impoverishment and indigence of many who remained, was much less willing to absolve the ignorant. Throughout his career, Ruffin's writings were colored by a thinly-veiled elitism that exalted the wealthier, more educated members of the plantation gentry, while ignoring or discarding the common cultivators. And while Ruffin tended to retreat into a world of rarified discourse, others were much more ready to attack what they viewed as

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the regressive methods of ordinary farmers. Agricultural education became one of the
great crusades of the reformers, who organized fairs and demonstration farms through
their county agricultural societies, set up their own plantations as models of enlightened
practice, and peppered the state's newspapers with columns and essays on agricultural
topics, all so that young men might be exposed to the techniques of modern farming.\textsuperscript{100}

Only by spreading the good news of intensive agriculture to benighted farmers, many
believed, could the frontier agroecosystem be dismantled and replaced with a less
ecologically-destructive and commercially-enervating method.

While the views expressed by the agricultural reformers represented only the
fighting faith of a small elite, their perspective gained strength among scholars and
bureaucrats during the twentieth century. In 1926, a young southern historian named
Avery Odell Craven published his doctoral dissertation, \textit{Soil Exhaustion as a Factor in
the Agricultural History of Virginia and Maryland, 1606-1860}. In the book, Craven
wholeheartedly adopted the perspective of Madison, Taylor, and the others in damning
the continuing use of frontier agriculture -- shifting cultivation, shallow hoeing and
plowing, exhaustive corn and tobacco cultivation within a three-field system -- for the
state's declining soil fertility, which, he argued, lay at the root of its economic problems,
which in turn fed its political and social decline.\textsuperscript{101} Craven's work arrived at a politically

\textsuperscript{100}See for example, Rodney True, "Early Days of the Albermarle Agricultural
Society." \textit{Annual Report of the American Historical Association for the Year 1918},
(1921): 241-259, and A.J. Morrison, "Note on the Organization of Virginia Agriculture,
\textit{William & Mary Quarterly}, 26:3(1918), 169-173, for brief discussions of the attempts
local planters made to improve agricultural education in Virginia.

\textsuperscript{101}Craven, \textit{Soil Exhaustion}, 25-121, passim.
opportune moment. As problems of soil erosion crippled the farm economies of the cotton south and the southern plains during the late 1920's and 1930's, numerous activists were ready to use his history to support the vigorous extension of government conservation from the nation's forests and waterways onto its threatened farmlands. The passage from academic history to public policy came in easy and uncomplicated steps. Historian Lewis Cecil Gray, working for the Carnegie Foundation during the early 1930's, adopted Craven's analysis of the destructive nature of frontier agriculture in the Chesapeake in his monumental History of Agriculture in the Southern United States, 1607-1860. By the time the work was published in 1933, Gray had moved into public service, and for the remainder of the thirties he worked in various capacities in the Department of Agriculture. The critique of the agroecological consequences of primitive cultivation which he and Craven had originated were adopted as received wisdom by the crusading director of the Soil Conservation Service, Hugh Hammond Bennett. Bennett, in turn, pushed Congress to allow the Service to sponsor a massive research project into the history of soil erosion in the United States. Not surprisingly, that study reached the expected conclusion that ignorant attachment to regressive

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102 See Trimble, Man-Induced Soil Erosion, 92-104.

103 Gray, History of Agriculture in the Southern United States, 438-444.

104 See Worster, Dust Bowl, 186-192.

farming was destroying American soils. The Soil Conservation Service moved on to build up an enormous program within the Department of Agriculture designed to spread the gospel of reformed farming techniques to the ignorant masses of rural American cultivators.

With the weight of government propaganda now behind it, agricultural reformers' explanation for early national Virginia's decline became accepted throughout government and the academy. Yet this interpretation conceived by the planter elite had heaped a heavy weight of criticism onto the shoulders of common farmers. This fact, not surprisingly, attracted the fire of a wide variety of scholars and commentators who reacted against capitalist liberalism during the 1970's and 1980's to the farm reformers'

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106 Stanley Trimble based much of his study on the data generated by the project, and concluded as well that poorer farmers, particularly tenants, were responsible for the worst excesses of soil abuse. See Trimble, Man-Induced Soil Erosion, esp. 69-94. Back in the early 1930s Lewis Cecil Gray had anticipated the Soil Conservation Service's argument by stressing the education-based distinctions between different classes of southern farmers. See Gray, History of Agriculture in the Southern United States, 481-507.

107 For a brief introduction to the farm education and conservation campaigns of the 1940s and 1950s which attempted to provide solutions for the soil erosion crises of the early twentieth century, see in particular Worster, Dust Bowl, 181-230. Other contemporary scholars have concluded that some of the assumptions about class inherent in the ideology of agricultural conservation and education played themselves out in a bias toward big farms and big farmers in Department of Agriculture policy. See Paul Bonnifield, Dust Bowl: Men, Dirt, and Depression, (Albuquerque, NM: University of New Mexico Press, 1979), and Jack Temple Kirby, Rural Worlds Lost: The American South, 1920–1960, (Baton Rouge, LA: Louisiana State University Press, 1987), 51-79.

108 Certainly many historians agreed that it was only the efforts of agricultural reformers in spreading the gospel of modern farming that saved Virginia from complete collapse. See Kathleen Bruce, "Virginia Agricultural Decline to 1860: A Fallacy." Agricultural History 6(1932): 3-13, and, of course, Craven, Soil Exhaustion, 122-161.
stress on popular conservatism and ignorance. And as a host of thinkers lauded the virtues of folk ecological wisdom over modern, scientific agriculture in the modern world, some of this critique washed back onto the historiographic roots of the agricultural education movement.

In the course of creating a defense of the Old Dominion's common farmers, Virginia historians such as geographer Carville Earle raised an interesting question. Craven had traced the beginning of the state's economic decline to the agricultural population running out of fresh land to exploit. Yet agricultural properties in many areas of eastern Virginia, particularly the central tidewater, had been fully occupied well before the Revolution, and yet prosperity seemed to continue right down to 1775. If, as Craven had concluded, it had been the conflict between destructive cultivation and expanding population that had brought on ecological decline, how then, some wondered, had the wasteful tobacco and corn agroecosystem been maintained in so many areas of the state for well over a century, before Jefferson, Madison, and the other early nineteenth-century reformers even called Virginia's ecological crisis by its name?109

Earle and others reemphasized the importance of long falling to the Chesapeake agroecosystem, arguing that the twenty year falls allowed by the land:labour ratios studiously calculated by concerned eighteenth-century planters allowed for the full recovery of the land's agricultural potential.110 Complete farmland abandonment, which Craven had argued was the standard practice of Chesapeake

farmers throughout the colonial period, had been abandoned itself in favor of rotation and long fallowing during the third quarter of the seventeenth century. In fact, Earle concluded, Madison's eloquent prosecution of the persecutors of Virginia's soils had reversed the truth one hundred and eighty degrees. Long fallowing and hoe cultivation had protected the tobacco fields of old Virginia against exhaustion and erosion, and it had only been the attempts of so-called "improving" planters to establish permanent cultivation on plowed fields that had led to serious problems of soil erosion and agroecological decline. The folk wisdom of common farmers was in fact the best defence against what Earle termed "destructive occupance."

Earle's argument, of course, has serious problems, many of which are discussed in Chapters One and Two, above. Yet his willingness to focus attention on the timing of the perception of agroecological crisis – after nearly two centuries of largely uninterrupted frontier cultivation – is an important one. Virginians had built an enduring agricultural system on the basis of land use that had serious, long-term consequences for the fertility and productivity of the ecosystems which they exploited. In light of this, an agroecological crisis needs to be understood in broader terms simply than the human-induced reduction of biotic productivity and potential. As the successful application of the techniques of fertilization, long fallowing, or simple land abandonment proved, a wide variety of rates for the maturation and restoration of ecosystems could be adapted to human agricultural and social systems. An agroecological crisis resulted, then, when the

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111 Craven, Soil Exhaustion, 32-39.

natural or managed cycles of restoration and decline within the agricultural ecosystem and the expectations the social and economic orders placed on the ecosystem’s productivity grew seriously out of phase. In the case of early national Virginia, it was the expectations that began rapidly to change, rather than the agroecosystem. Despite all the ecological problems that accompanied frontier cultivation, Virginians had incorporated declining yields, land abandonment, and migration into their society for generations before they became critical difficulties. It was, in fact, the innovation of the progressive gentry of the piedmont in pursuing and promoting commercial localization that turned the endurance of a frontier mentality among the state’s cultivators into an agroecological crisis.

By further considering the situation in the Tye Valley, a more complex explanation for the timing of upper class Virginian’s perception of their ecological crisis than that offered either by Avery Craven or his critics can be constructed. As the recent critics of agricultural modernization have pointed out, the cultivation techniques used to create the frontier agroecosystem cannot bear the entire weight of blame for the state’s distress. Hoe cultivation amidst the rotting stumps could do some work to delay the erosion and gullying of vulnerable soils by not breaking the surface or inverting the structure of the uppermost horizons.\(^{113}\) The three-field system could retard soil exhaustion by giving agricultural fields some rest from cropping and the consequent removal of organic matter. Furthermore, long fallowing of agricultural properties could

\(^{113}\) On the potential role of hoe cultivation in slowing erosion, see Earle, “Myth of the Southern Soil Miner,” 282, and Silver, New Face on the Countryside, 164.
restore some degree of natural fertility to an ecosystem by allowing time for the buildup of surplus biomass and a more complex soil profile. Such a system could be maintained for extended periods of time as long as population levels within the system remained stable or declined, and as long as the people's economic and social expectations of their agricultural system did the same.\footnote{While expectations of the agroecosystem might demonstrate a considerable cultural inertia, populations rarely remained stable. The key scholarly work on the introduction of shifting cultivation to early America, Jordan and Kaups, \textit{The American Backwoods Frontier}, traces the origins and migration of a slash-and-burn system from the eastern frontier of Finland through Sweden to New Sweden in the Delaware Valley. Interestingly, it appears to have been the need for land within ‘crowded’ regions that drove these frontier farmers halfway around the world. See also Boserup, “Environment, Population, and Technology,” 34-38, for a more general discussion of the impact of demography on long following systems.}

Population expansion and resultant ecological collapse, moreover, which ecologists and environmental historians have routinely convicted of bringing about the downfall of a multitude of human subsistence systems,\footnote{A recent popular environmental history, Clive Ponting’s \textit{A Green History of the World: The Environment and the Collapse of Great Civilizations}, (New York: Penguin Books, 1991), adopts the issue as its organizing theme. See in particular his brief bibliography, pp. 408-412.} was also not the alpha and omega of the dilemma in the Tye Valley. To be certain, before the advent of cheap and effective contraception, the steady growth of human populations could, and often did, push agricultural ecosystems to their limits and beyond. Yet such crises occurred only within closed agroecosystems, where an effective outlet for surplus population could not be found, and farmers were forced first to use up stored biotic mass and then farm beyond the means of the agroecosystem to continue providing such potential from year to year.
year. Yet piedmont Virginia was not built upon such a closed ecosystem during the early national era. The development of short-staple cotton production, combined with a vigorous program of Indian removal, had opened the deep South to agricultural colonization, and migration became, as in the case of Abram Cabell, the first choice for many desperate Virginians. Out-migration after 1800, while never causing a serious decline in the black or white populations of the Tye Valley, did effectively drain off the surplus agricultural labor which had been building in the region since the Revolution, and stabilized the rate of human occupancy of the Valley for most of the first three decades of the nineteenth century.\textsuperscript{116}

On the other hand, while population pressure and primitive cultivation cannot fully explain the growing sense among Virginia's farm leaders that their state faced an environmental crisis between 1780 and 1830, their dual impact did lay part of the foundation for the region's problems. In the first place, the difficulties attendant upon out-migration did slow its progress to some extent (while not entirely shaping its character), and forced adjustments to the agricultural system which accelerated the destruction of local agroecosystems. While migration and the various modifications of frontier agriculture adopted in Virginia – long-fallowing, three-field system, etc. – might in the short run have slowed the decline of frontier agroecosystems, at the same time the pressure which population placed on the cultivation system was still working to destroy

\textsuperscript{116}See Amherst and Nelson Counties (Va.), Property Tax Lists 1783, 1795-1820. The data on the Tye Valley's agricultural population is drawn particularly from the totals of white titheables and slaves contained in the property tax lists (taken in samples at five year intervals).
its sustainability in the long run. Outmigration did not do nearly enough to open the agroecosystem and maintain its productive potential.

For example, the land and property tax censuses of Old Amherst County, which encompassed the entire Tye Valley watershed during the later eighteenth century, recorded a significant population expansion in the neighborhood. Between the end of the Revolution in 1783 and the middle of the next decade, Amherst's titheable white population increased nearly sixty-five percent. As noted in Chapter Two, however, this increase in the numbers of adult white men, however, did not reflect an intensification of the labor system on the same lands, since the increase in inhabitants was exceeded by an explosion in land patenting during the same period. In 1783, just short of two hundred thousand acres of Amherst land had been patented with the colony and state governments. By 1795, that figure had surged to over four hundred and twenty thousand, and easily topped the half-million mark by the end of the century. While agricultural intensification is typically accompanied by a decrease in rates of landownership and the size of farms, the percentage of Old Amherst's white men who owned landed property increased from just under a third during the Revolution to over half by 1800, while their landholdings expanded markedly.117

This kind of population increase, even when combined with a considerable expansion of cultivated acreage within the same ecosystem, led to the over-extension of the agricultural ecosystem. In piedmont Virginia, this process occurred in a number of ways. First, crop cultivation was pushed from the richest and most resilient soils of the

117Amherst County (Va.), Land and Property Tax Lists, 1783, 1795, 1800.
stream bottoms onto the thinner, more vulnerable soils of piedmont hillsides. As noted above, the post-Revolutionary increase in the amount of patented land in the Tye Valley did not just reflect the existing landholders expanding and diversifying their holdings. Instead, the two hundred thousand patented acres at the end of the Revolution represented the bulk of the deep, level, and stable agricultural soils in the region.\textsuperscript{118} Therefore, the increase in the number and percentage of independent landholders which accompanied the increase in land patenting indicated migrating farmers in search of landed independence carrying their axes, hoes, and plows onto the red clay hills above the Tye Valley's original cleared fields. Analyzing the post-Revolutionary development of landholding patterns in Hatt Creek, the Tye Valley watershed discussed in Chapter Two, this process can be illustrated.

By 1765, of course, the Thomas Mann Randolph tract and the properties of the heirs of Parson Robert Rose dominated Hatt Creek. Both centered on the bottomlands and deeper Cecil Sandy Loam soils along the banks of the creek and spreading out into the Tye Valley as the Hatt emptied into that larger river. Only a small handful of tracts, including William Cabell's patent of Ginseng Hollow, had been added to the land system by the early 1770s. While evidence strongly suggests that much of the two largest properties, particularly the Randolph tract, were rented out to tenant farmers down to the end of the Eighteenth Century, by the 1780s other farmers began to patent the lands on the thin sandy loam or Cecil Clay soils on the benches of the low mountains that

\textsuperscript{118}See Mooney, \textit{Soil Survey of the Albemarle Area}, for an analysis of the varying amounts of different soil types in the Southwest Mountain region, including much of the Tye Valley.
surrounded the creek. With ambitions for independent landownership and capital brought from earlier residences, but without the funds available to purchase prime bottomland, they clustered around the edges of Hatt Creek's most valuable soils, attempting to scratch a profitable living from them.

The most interesting case of this appears on the lower slope of Cat Rock Mountain, where prosperous yeoman farmer James Montgomery had first inherited land patented by his father, William, in the 1760s. Montgomery apparently freed one of his slaves, a man named Tobias, sometime in the 1770's, and sold him a small piece of property bordering his tract in 1779. Yet while Montgomery himself went on to purchase a large section of the Randolph tract as it was broken up during the later 1790s, Tobias could only afford to buy a few acres of clay soil on the hillside above Montgomery's original patent. While Tobias remained in the neighborhood into the 1790's, he struggled to make a living, and eventually sold the property and appears to have left the region by 1796.119

This kind of hillside cultivation was particularly destructive, rather than simply exploitative, of soil resources. Serious damage to piedmont agricultural soils from cultivation-based erosion has typically not resulted from the farming of stream bottom fields, which have deep organic profiles and a level topography protecting them against the worst violence of steady sheet erosion. Instead, soils were denuded when farmers pushed cultivation onto the hillsides and bluffs above the low grounds. The soil complex

119For the land dealings of Montgomery and Tobias, see Amherst County (Va.) Deed Book A, 74, Book H, 616, and Book I, 301.
typical of the less mountainous stretches of the Tye Valley region is a combination of two Cecil soil complex types: Cecil Clay and Cecil Sandy Loam. By and large, the deep red Cecil Clay covers the entire region, but emerges at the surface only where it is not covered by the more friable, organically rich, and fertile Sandy Loam, typically marked by a yellowish gray color. Generally, modern soil maps of the piedmont reveal Cecil Sandy Loam concentrated along stream sides and pushing tentatively onto the slopes above, while Cecil Clay dominates the steeper hillsides and tops. Cecil Sandy Loam's looser structure makes it particularly vulnerable to being dissolved into solution in normal rains, particularly when its upper horizons have been broken up by plowing and harrowing. When this occurs, steady erosion of the upper layers of the soil can occur until the Cecil red clay is exposed, which the Virginia summer sun then bakes into a tough, infertile hardpan—a 'soil' enormously resistant to pre-mechanical plows and fragile crop roots. At best, such hardpans could only support broom sedge, briars, and what piedmont farmers took to calling 'poverty grass'. Often, even those tough-minded weeds could not break up the hardpan, and the farmer was left with what they called "galled" land—ugly stretches of rock hard red mud bare of both vegetable growth and hope for renewal.\textsuperscript{120}

Cecil Sandy Loam soils are most vulnerable to erosion when exposed at the outer reaches of their extent on the hillside slopes of the upper piedmont. The combination of the steeper topography and less developed soil structure made the destruction of the Sandy Loam easiest when cultivation moved beyond the stream valleys. The reason for

\textsuperscript{120}Hall, “Early Soil-Erosion Control,” 8.
this extension of agriculture into more fragile agricultural ecosystems was not, it would appear, the introduction of new technologies or the efforts of agricultural reformers, as Earle and others might have suggested. Indeed, Virginia's farm reformers struggled throughout the antebellum era to discourage crop cultivation anywhere but on the most productive of the region's soils. Upland hillsides they hoped to reserve for pasture and timber, while only the low grounds and a small range of other suitable tracts alone were to be used for cultivation. Population increase without agricultural intensification and soil conservation served mainly to carry a system of cultivation most successful on deep, level soils of the bottomlands onto piedmont hills which could never sustain it.

While population expansion undermined the productivity of frontier agriculture by pushing traditional farming onto ecologically vulnerable terrain, it also weakened the old system from within. The idyllic picture environmental historians have sketched of the ecological wisdom of frontier long-fallowing has overestimated the ability of eastern Virginia's ecosystems to recover their fertility. The expansion of the state's agricultural labor force within the frontier farming system worked both to eliminating long fallowing without introducing compensating means of soil amelioration.

As noted earlier, by 1800 many holders of piedmont land had begun to force their best soils with continuous cropping or over-simplified rotation schemes. Just as William Cabell appeared to have been developing a number of permanent or semi-permanent

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122 See Nelson, "'Then the Poor Planter hath Greatly the Disadvantage'," 131-134.
fields on his properties along the James River, other planters followed, often on soils of lesser quality. One man from Caroline County, writing into the Farmer's Register in 1835, recalled the agricultural system of his youth. "When I was a small boy," he reported, "more than thirty years ago, the three-shift system, so called, was generally pursued ... large stocks of cattle, sheep, and hogs — corn and wheat were the crops, and a manured lot for tobacco, and another for cotton." The forcing of even the better piedmont clays into grain under the older methods of cultivation left them vulnerable to erosion: "The land being clean grazed, the half-share [plough] answered the purpose of listing, and ploughing through the season ... the land was generally laid off with a view to facility of ploughing, rather than a regard to prevent its washing away by rains." "So soon as the ploughs got over," the correspondent continued," they were turned about and the whole field cross-ploughed — and so again, and again ... under the system of agriculture above described, the lands which were ... originally poor, were ... reduced to sterility. Many of the hillsides bordering on creeks or rivers, naturally the best land, were gullied, and past cultivation."123

Furthermore, the longer cultivation was pushed on cleared fields by land-hungry farmers, the more essentially permanent damage was done to it. Obviously, the serious erosion which scarred bare fields destroyed vegetable structure, exposed poorer soils, and encouraged hardpan formation and soil compaction just below the surface. All of these impacts were felt for many decades afterward, and demanded either enormous investments of capital and labor in amelioration, or else half-century long stretches of

123 Farmer's Register 3(1835), 612.
fallow time that farm families of any status simply could not afford. As lands around them were bought up, as taxes rose, and as the distance to the cheap, fertile lands of the frontier grew greater, farmers could no longer calmly calculate strategies in terms of decades and generations. Instead they had to pursue the cultivation needed to meet more exacting demands of both subsistence and cash income to the point that the frontier farming they practiced began to decline in returns and migration was forced on them.

In Hatt Creek, for example, the first three decades of the Nineteenth Century saw the beginning of the breakup of the hollow's two major land tracts. Parson Rose's heirs sold most of their ancestor's lands on the upper Tye River to Thomas Massie during the late 1790's, who had, in turn, begun to break the property up between his sons Thomas and William by 1830. The Thomas Mann Randolph tract saw even more activity, as a large chunk of it was first sold to a local man named Richard Dobson, who both broke it up among his heirs and sold parcels to others upon his death. Dobson's beneficiaries, for their own part, farmed much of the land themselves but sold some of it off to other cultivators of solid, if unspectacular means. Rough estimates from property tax lists indicate that by the end of the Eighteenth Century the population of Hatt Creek had reached a peak, and in line with the stagnation of population growth in the Tye Valley as a whole, remained rather constant over the next three decades. Tenants might have been replaced with regular landholders, particularly in the Randolph tract, but as they

\textsuperscript{124}For the sell-off of the 'Hatt Creek Tract', see the Amherst County (Va.) Deed Books, H-I.

\textsuperscript{125}Amherst County (Va.), Property Tax Lists, 1783, 1795, 1800.
moved in on already cleared lands and quite probably depleted soils during a period of agricultural depression after 1815, it is unlikely that men like Montgomery, John Shields, and James Brent found the living abundant.

It was in contemplating the hard-scrabble living of otherwise solid yeomen and small slaveholders like the men who obtained control of the Randolph Tract along Hatt Creek that commercial localizers began to perceive an imminent crisis. Out-migration kept the situation from reaching an immediate population crisis, while the slow intensification of the three-field system kept that migration from resulting in community disintegration. Yet the rapid financial impoverishment of rural communities was unmistakable. The Farmer's Register correspondent remembered, "The man who had a small farm and a large family ... was the first to feel the pressure, and off he went. His more frugal neighbor, or neighbors, purchased his land, which though poor, afforded a larger field for cultivation, and at least for a time, helped to sustain him who purchased it." Slaveowners could maintain themselves by reducing their labor force to both ease the pressure of labor on the land, as well as bring in a little cash to compensate for declining yields and prices for cash crops. The Caroline County correspondent recalled "a profane old gentleman," in the habit of selling a slave or two over the mountains every year to pay for food on the plantation, "swearing that his negroes should never eat him, but one the other." Yet the possibilities for long-term ecological damage inherent in this kind of pressured agriculture counter-balanced any additional income derived from slave sales, and forced Virginia decision-makers to confront a serious decay of their prospects. As "things progressed from bad to worse," the ability of gentry and yeoman farmers to
replicate the standard of living and power enjoyed by their fathers eroded, particularly as external markets grew less supportive of older agricultural methods.126

Diminished wealth and opportunity were galling, but could be incorporated into the frontier agroecosystem. The ambitious or desperate could, as Garrit Minor intimated, leave, while the those who remained could accept the smaller slice of a diminished pie they would have to accept by pursuing an extensive agricultural system in immature ecosystems. For those planter-entrepreneurs who wanted to seek personal fortunes through localization, on the other hand, the declining ecological and commercial returns of frontier agriculture could not be tolerated. As long as retrenchment preparatory to out-migration retained their effectiveness as the accustomed responses of Virginia's farm families to the ecological problems created by the frontier agroecosystem, those problems could be tolerated. Localization, on the other hand, placed demands on the region's agricultural productivity which the frontier agroecosystem could not meet. Income from agriculture had to be generated from denuded ecosystems before ventures like agricultural processing, mercantile ventures, and the like could be made to turn a robust profit. For planter-entrepreneurs who were obtaining large-scale credit, improving plantations, building mills and opening stores, and developing business networks that might pay off for years to come, the indifference of their neighbors toward the resale value of their land or their long-term place within the community economy was a crisis whose most obvious cause and manifestation was the piedmont crop field, gullied and choked with weeds after years of extensive cultivation had drained its stored fertility.

126 Farmer’s Register, 3(1835), 612.
abandoned by its departed owners and unwanted by neighboring farmers unable to pay the price in labor and capital required to restore it to cultivation.

In December of 1810, a farmer from the upper Tye Valley named Henry Harper brought a wagon load of wheat to Thomas Massie's mill on Castle Creek. Massie's miller at that time, a man named, of all things, Jacob Miller, measured out Harper's grain at 14 bushels and a peck. On closer inspection, however, Miller the miller discovered that the wheat was filled with the seed of a number of common weeds. Miller accepted the grain, but noted on the receipt he kept for his employer's records that Harper's wheat had been ground "with Cockle sufficient to reduce it to the price of rye." This was no minor reduction: Harper received £2.19.0 for his 14 bushels of wheat and cockle, while that same week a farmer from the lower reaches of Hatt Creek named John Jenkins received £2.14.2 for a mere six bushels of apparently uncontaminated grain.127

This minor incident is a revealing one for understanding the agroecological crisis which the leaders of the Virginia piedmont perceived during the decades following the American Revolution. The hard grain crops which English colonists brought to Virginia during the seventeenth century had originally been wild grasses domesticated by stone age farmers in the Near East some seven thousand years ago. With such ancestry, crop species such as wheat, barley, rye, oats, and the like remain in essence what they had been one hundred centuries ago — weeds.128 Evolved to grow and reproduce quickly and


128 For brief, instructive discussions of the evolutionary genealogy of major grain crop species, see Jack R. Harlan, The Living Fields: Our Agricultural Heritage, (Cambridge: Cambridge University Press, 1995), 30-34, and Daniel Zohary and Maria Hoff,
abundantly on disturbed soils, they put maximum effort into producing large numbers of protein-rich seeds to increase their chances of establishing themselves. As such, crop plants are able in cleared fields to out-compete more long-lived species that might try to gain a foothold, and with a little help from humans ready to grub out other, undesirable weeds, can almost completely divert the biotic production of a disturbed ecosystem into their own growth for extended periods of time. Yet their co-evolution with human agriculture over the last several millennia has left crop plants dependent upon that kind of conscious care. Soils have to be adequately disturbed, and weeds kept out. Of particular importance, grain crop species have become accustomed to being provided with rich soils, whether through the long fallowing of the frontier agroecosystem or through the rotation schemes and fertilizers of more modern cultivation. In turn, many weeds not valued by humans have evolved to take advantage of this weakness in crop species. At the risk of anthropomorphizing weeds, many, such as common cockle, have learned where the gaps in the symbiosis of human cultivators and domesticated plants lie, and move in whenever possible to take advantage. Specifically, one of the surest signs of an exhausted agricultural soil is not just a diminished crop yield, but the appearance of larger numbers of weeds in the field. Weeds with different nutritional needs, or those who needed less of key nutrients than the wheat or rye, are able to move in and take up an increasing proportion of the exhausted field's admittedly diminished primary


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Henry Harper, therefore, was apparently forcing a wheat crop out of an over-cultivated, under-rotated field, and paid the price for exhausting his land at Thomas Massie’s mill. It certainly seems unlikely that he was just slovenly, given how drastic his losses were. Cockle sieves were beginning to make an appearance in Tye Valley probate inventories during these years, and although they would not become a regular part of standard farm equipage until the 1840s, they were cheap and doubtless easy to borrow. Harper owned three slaves in 1810, and would have been unlikely to indulge them in any mid-summer hoe leaning that he might have allowed himself. Furthermore, his agricultural career up to the winter of that year gave little indication of a drunken incompetent. Harper was the son of Henry, Sr., who owned 150 acres in the neighborhood as early as 1783. That property lay along the Porter’s Black Loam soils that lined a small creek that flowed from Three Ridges Mountain into the Tye below Tyro, and came to be known as Harper’s Creek. When Harper Sr. died, he apparently divided his land between his other sons John and William, while Henry, Jr., presumably received the family’s slaves and perhaps whatever cash his father might have spared. Using this bequest, Henry, Jr. moved during the first decade of the nineteenth century to establish himself as a solid petty planter. Owning three slaves but no land at the turn of

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129 See Tivy, *Agroecology*, 99-103. Most analyses of the coevolution of weed species with crop plants have tended to focus on the phenomenon of ‘mimicry’ – crop field weeds develop structures and life cycles similar to crop plants in order to take advantage of the niche created by cultivation. See Harlan, *The Living Fields*, 39-44. Important distinctions remain, however. Virginia planters facing soil exhaustion faced continual battles against field invasions by weed species that would later come entirely to dominate the abandoned old fields.
the century, in 1801 he purchased several tracts along the Tye and Cub Creek totaling 384 acres. In 1804 he added another 186-acre tract of Tye River land by patent entered with the state land office.\textsuperscript{130}

Yet by the end of that same decade he was clearly struggling. He had lost one of his slaves and been unable to obtain a replacement. After he sold all his grain at Massie's gristmill by the end of 1810, he still had to pay £2.2.0 in cash interest on a loan extended to him by the wealthier man in the form of bacon and whiskey. Harper was hardly alone in purchasing meat and liquor from Massie, but few farmers with his kind of landed estate found their crops so inadequate that they were unable to clear at least a small bit of cash. A clue to his problems lies in the records of his land purchases. The 384 acres he bought in 1801 was purchased for £200 from a man named David S. Garland. Garland was a prominent attorney at the Amherst Court House who later relocated to a steadily growing practice in Lynchburg. Garland owned extensive properties in the Tye Valley (such as timber tracts on the mountain slopes above Hatt Creek), but appears not to have farmed them himself. Given the fact, however, that the land Harper purchased from him included some of the last real bottomland to be found as one ascended the Tye into the Blue Ridge, it is unlikely Garland had left the tract unused. Instead, he almost certainly had leased it out to tenants who had farmed it on their own account. Tenants, of course, as noted before, had no interest in the long-term productivity of the farms they used, and were therefore notorious for exploiting the agroecosystem right up to the point of

\textsuperscript{130}Amherst County (Va.) Land Tax Lists, 1783, 1795, 1800, and Nelson County (Va.) Land Tax List, 1810. For the 384-acre tract, see Amherst County (Va.) Deed Book I, 207. For his land patent three years later, see Virginia Land Grants, Book 53, 477.
complete breakdown. If Garland's law practice took so much time that he was unable to keep a close enough eye to prevent timber poaching on his lands near Hatt Creek (see Chapter Two, above), it is also quite possible that he let the Tye River property run to ruin. Certainly the £200 pounds Harper paid for the land was a large sum for a man of moderate means, but for a sizeable farm including prime Tye River bottomland it was more than a little on the low side.

For Harper's part, while he had established a ratio of fifty to sixty acres per worker in his 'family' by 1801, not all of that land was prime agricultural land, and much of it may well have been substantially exhausted by callous cultivation. Whatever Harper's hopes for restoring the soil, or at least maintaining a living from the property, by 1804 he was having to patent more land, this time less desirable soils tending up onto the slopes of Three Ridges Mountain which would have been even more vulnerable to erosion when cleared for cultivation. His extended family was struggling as well. His brother, William, had moved with his wife, Joice, from the Tye Valley to Wilkes County, Georgia. When William died, there was apparently no thought entertained of her moving back to the family hollow. Instead, Joice instructed Henry to sell the Harper's Creek property for whatever it would bring, and forward her portion of the proceeds to Georgia.\textsuperscript{131} For his part, John Harper appears to have disposed of his land at about the same time,\textsuperscript{132} and Harper's Creek ceased to have any Harpers living in its hollow. For

\textsuperscript{131}Amherst County (Va.), Deed Book I, 586.

\textsuperscript{132}No record in the Amherst or Nelson County Deed Books indicates a date of sale for John Harper's land, but by 1815 his name had disappeared from the Nelson County land tax listings.
Henry, who had been able to borrow £200 back in 1801, was reduced to small scale credit from Massie by 1810, loans he had to make good annually.

So far, the story of the decline of the Harper family during the first decade of the nineteenth century reflects many of the difficulties farmers faced as the Tye Valley’s frontier agroecosystem came under increasing pressure from population expansion in the post-Revolutionary decades. Yet one has to wonder what Thomas Massie was thinking, as he glanced at the receipt Miller had written out, and looked up the river flats toward Henry Harper’s fields in the shadow of the mountains. Massie had purchased Harper’s cockle-filled wheat, but the flour made from it probably could not be sold to the Richmond wholesalers, and would serve as an annoyance to Robert Gamble as much as anything. The Richmond flour inspection had been established by that point, and it is doubtful Gamble could have gotten Cockle-filled wheat past the inspector at the Fine and Superfine grades and prices to which Massie had become accustomed to. The neighborhood from which Massie drew grain to his mill was not extensive. The larger operation at Variety Mills drew off much of the produce of the Tye Valley below the river’s confluence with the Piney. Little could be hoped from mountain lands either uncultivated or held by lower class woodsmen who grew corn for subsistence and got their cash from tobacco grown on the black Porter’s soils of the hollows. Massie’s mill attracted customers from Hatt Creek, the Tye River bottoms around Roseland, and the bench lands below Little Priest Mountain: fertile, but not extensive properties. In his situation, Major Massie must have been frustrated seeing Harper’s share of the neighborhood’s scarce bottomlands depleted by over-cropping. If Thomas Massie hoped
to profit enough from his mills to support his slaves, plantations, and gentry lifestyle, while also providing for the education and establishment of his three maturing sons, declining soils and yields in his neighborhood had to be a source of constant worry.

In the kinds of concerns Massie must have had lay the root of eastern Virginia's ecological crisis. As planters attempted to localize their personal economies, improve their own production of various agricultural commodities, develop networks of credit and labor, and build agricultural processing operations, the declining productivity of a frontier agroecosystem pressured by an expanded population became a crisis. While ordinary farmers like Henry Harper might grudgingly accept diminished agricultural productivity, the lack of personal opportunity that accompanied it, and eventual migration out of the community, localizing planter-entrepreneurs could not accept it. If Massie was to profit from commercial milling, he needed top quality grain from men like Harper. If he was to develop advanced production of whiskey, bacon, and beef, he needed prospering yeoman customers who did not have to scrimp on the family dinner table. If Massie wished to make money by loaning cash-on-hand at interest to local clients, those men had to be credit-worthy, not going financially downhill like Henry Harper. At the broadest of scales, if Thomas Massie wanted to profit from the Bank of Virginia stock he had purchased through Gamble, that Bank had to be able to make loans to rural merchants and manufacturers. Those men in turn depended upon the

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133Major Massie's purchases of bank stock and the performance of those issues are frequent topics in his correspondence with Robert Gamble. See Thomas Massie Papers, Virginia Historical Society.
expanding, not contracting, prosperity of rural farmers, who for their own part, would need increased, rather than diminished productivity from their agroecosystem to join in a modernizing economy.

Profitable investment in rural localization demanded expanded production of high quality crops and livestock. The quality could be built through the greater labor inputs that could be provided by the larger population of the post-Revolutionary piedmont. The expanded production, on the other hand, was impossible as long as out-migration for some, and conservatism for others, sustained the frontier agroecosystem. While the population of early national Virginia could be sustained within the existing agroecosystem, that sustainability came at the price of declining economic profitability and financial and social stability. It was that price that men like Thomas Massie and the other entrepreneurs of the Tye Valley proved unwilling to accept during the nineteenth century. While ordinary farmers would continue to search for gradual modifications of the frontier agroecosystem as a solution to their own perceived problems, a growing number of prominent planters began to seek and publicize more radical solutions.
CHAPTER IV

AGRICULTURAL INTENSIFICATION
IN VIRGINIA AND THE TYE RIVER VALLEY, 1790-1830

With their hopes of prosperity from local entrepreneurialism darkened by the commercial limitations of Virginia's eighteenth-century slowly dissipating agroecosystem, eastern Virginia's antebellum planters commenced hostilities against frontier farming with the same spirit of aggression with which William Cabell had attacked the pine swamp before his door fifty years before. As the Civil War approached, increasing numbers of the plantation gentry noisily busied themselves trying to eliminate the extensive agriculture which characterized the state's farm practice. In place of the dying frontier agroecosystem, they hoped to build an intensified agricultural environment managed by the most modern methods, and a profit-generating rural economy fully competitive with the most advanced regions in the developing world commercial system. It was this crusade, and its implications for Virginia's economy, society, and government, that proved decisive in shaping the Old Dominion's struggle with both modernization and sectionalism during the antebellum era.

The announced intention of elite farm reformers was to eliminate the cultivation methods of the eighteenth-century frontier. Yet their quest to profit financially from a new, intensive agroecosystem was blocked not only the commercial instability created by
shifting cultivation, but by a different, but equally threatening, evolution of the Virginia agroecosystem. As the population of the piedmont expanded in the immediate aftermath of the Revolution, farmers throughout the region began to use their power as landowners, slaveowners, and family patriarchs to pursue a slow transformation of the region's agroecosystem. Yet this transformation, an intensification of the cultivation system based almost exclusively upon increased labor investment, worked as much as massive out-migration to undermine the power and position of the Virginia gentry. In time, the leaders of piedmont Virginia and the Tye Valley would be forced to differentiate their brand of intensification from that being practiced by the mass of farm operators, and to transform their political economy in the interests of their new approach to the agroecosystem. That differentiation, however, was a slow and almost subterranean process which led to considerable conflict and soul-searching before breaking out into the open by the middle of the nineteenth century.

**Agricultural Reform in Virginia and the Tye Valley.**

The quest of planter-entrepreneurs like Thomas Massie, Thomas Stanhope McClelland, or the Cabells to modernize Virginia farming was referred to then, like now, as reform. Agricultural reform, reformed cultivation, reformed farm methods, and similar phrases were repeated by the movement's activists until they became the catch-phrases of the twentieth-century generation of Virginia's historians.¹ ‘Agricultural

¹For the use of the term ‘reform’ by twentieth-century historians in reference to the publication and adoption of high farming in antebellum Virginia, see for a few conspicuous examples, David F. Allmendinger, *Ruffin: Family and Reform in the Old*
reform', through the farm records, letters, journals, and newspaper accounts of its advocates, left an formidable testimony of its plans and ideology. That record has repeatedly drawn the attention of scholars\(^2\) seeking to understand the intellectual climate of antebellum Virginia, a commonwealth which, having made the nation in the late eighteenth century, proceeded eighty years later to help unmake it.\(^3\)

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\(^3\)Explaining the reasons for Virginia's choice for secession has dominated the admittedly limited historiography of the antebellum Old Dominion, and agricultural reform has been to some degree been drawn into this debate. Craven, for example, expanded upon \textit{Soil Exhaustion} with a biography of farm reformer Edmund Rufin, titled \textit{Edmund Rufin, Southerner: A Study in Secession}, (Baton Rouge, LA: Louisiana State University Press, 1966). Eugene Genovese incorporated his analysis of agricultural reform into his broader study of the distinctiveness of slave society, arguing that successful farm modernization and slavery were incompatible, and farmers would be forced to choose between high farming and free labor on the one hand, and slavery and southern independence on the other. See Genovese, \textit{The Political Economy of Slavery: Studies in the Economy and Society of the Slave South}, (New York: Vintage Books, 1967), 85-105, and Genovese, "The Limits of Agrarian Reform."
In those written records, agricultural reform fulfills the classic model of the Enlightenment: the Virginia gentry as educated gentlemen, seeking to apply the most advanced scientific knowledge of the day to the resolution of their state's pressing problems.¹ The most cosmopolitan of the Revolutionary generation, particularly Washington, Jefferson, and Madison, sought part of the answer to the declining yields and mounting debts of their plantations in the writings of the 'high farmers' of eighteenth- and early nineteenth-century England.² Landed gentlemen across the water had for some decades been appointing themselves experimenters in, and publicists of, a system of agriculture that sought both to stabilize English rural society and increase its prosperity. By adopting improved stock and seed varieties which could turn more of the agroecosystem's primary productivity into commercially useful biomass, by developing farm equipment that could maximize the efficiency of labor invested in managing the directions of that biotic productivity, and by introducing techniques for preserving and reintegrating plant and animal manures back into the system to minimize agroecological


²For the contacts between English high farmers on American agricultural reformers, see in particular Rodney Loehr, "Influence of English Agriculture on American Agriculture, 1775-1825," Agricultural History, 11(1937), 3-15.
waste, men like Jethro Tull, Arthur Young, Viscount Townshend, and Thomas Coke, succeeded in pushing England's grain economy to the forefront of the developing European market in foodstuffs. High farming, with its enclosed fields, seed drills and other advanced equipment, carefully developed beef and dairy cattle, turnips and other leguminous crops, well-bred pasture grasses like clover and timothy, and odoriferous but profitable manure piles, seemed to the makers of Virginia's revolution to provide a track out of the wilderness of marginally-productive old fields. These men imported the texts, corresponded with their authors, visited Europe, experimented with the techniques on their own plantations, and publicized the results among a small but steadily widening circle of acolytes through letters, local societies, newspapers, farm journals, fairs, and any other means that came to hand.

Despite its relative isolation, the Tye Valley felt the influence of this public crusade for agricultural reform almost from the first. A few miles down the James River in Albermarle and Orange Counties, Jefferson and Madison were among the state's pioneers in acquiring general and local knowledge of high farming. And when their

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7Increasingly, leading Virginians shared the assessment of outside observers that the patchwork of successional old fields which characterized the state’s rural landscape symbolized the ugliness of decay and destitution. See Craven, Soil Exhaustion, 82-84, for the impressions of travelers and Virginians of the early national landscape. For elite Virginians growing sense of the ugliness of their landscape, see Cashin, “Landscape and Memory,” 480-481.
students among the piedmont gentry formed Virginia's first local farm club, the Albermarle Agricultural Society, in 1817, Tye Valley planter Joseph Carrington Cabell (an associate of Jefferson's in founding the University of Virginia) and his neighbor William Cabell Rives were among the small band of seventeen charter members. Both men retained their interests in high farming throughout their lives. Some decades later, for example, Rives, the son of prominent Tye Valley planter and manufacturer Robert Rives (of Variety Mills fame) would, after a distinguished political career which included stops in the U.S. Senate and the Cabinet, recall with particular pride that he had been the man to introduce the use of Shenandoah Valley lime as a soil additive to the Tye Valley. The Massie clan was drawn in as well, as Thomas's youngest son William was devouring regional and national farm journals as early as the 1820's, and remained one of the Valley's most progressive cultivators right down to the Civil War. Itinerant school master Elijah Fletcher brought a Yankee's horror at the wasteful effects of frontier cultivation to the Tye Valley when he arrived to teach at Amherst Court House in 1811. When he moved on to become editor and publisher of a regional newspaper, the Lynchburg Virginian, in 1825, he kept the pages of the region's leading newspaper open


to agricultural reform publicity, and turned his home-place, ‘Sweet Briar’ Plantation (a few miles south and west of Amherst Court House) into a model of high farming.11 As early as 1834, enough local interest had developed in progressive agriculture to enable Tye Valley farmers to break free from the Albermarle-Orange crowd and form the Amherst Agricultural Society, under the leadership of prominent Amherst Court House planter-merchants John Ambler and Abraham Penn.12 When, during the later 1850’s, Virginia’s agricultural reformers began to reflect on their struggles and successes, it was a Tye Valley gentleman farmer, Joseph and William Cabell’s nephew Nathaniel Francis Cabell, who appointed himself to the task of writing the first general history of agriculture in Virginia.13 In pursuing his research, he was able to open correspondence with an extensive network of reforming planters in the region, particularly William Massie, on topics such as terracing hillside fields and levying off valuable bottomlands from volatile mountain streams.14

The evident successes of the leaders of enlightened, reformed farming had in spreading their gospel of reformed cultivation to the elite of rural neighborhoods like the

12“Amherst Agricultural Society,” Farmer’s Register, 2 (1834), 155.
14For a listing of the surviving correspondence of Cabell collected during his research, see Virginia State Library Bulletin, 6:1 (1916). See also Nathaniel Francis Cabell to William Massie, 17 December 1853, General Correspondence, William Massie Papers, Barker Texas History Center, University of Texas.
Tye Valley shaped the thinking of twentieth-century historians regarding antebellum Virginia. In particular, the massive bulk of farm journals, crop rotation tables, overseers handbooks and field plats which litter the surviving papers of prominent planters, helped form and document a story of the state's leadership boldly confronting the primitive cultivation which was corroding its prosperity, and successfully adapting its rural economy to a modern age.\(^\text{15}\) The steady increase in Virginia's gross agricultural production in the decades before the Civil War, as well as the rapid development of its network of high farmers, reinforced this perspective.\(^\text{16}\)

During the last thirty years, however, critics of this picture of a triumphant farm reform revolution led by the state's plantation elite have emerged. Despite Virginia's improvements in farm productivity, they have noted, the state's relative position among the United States's agricultural regions fell steadily behind both the expanding cotton frontier and particularly the modernizing grain farm regions of New York and the Midwest during the antebellum era.\(^\text{17}\) And if the economic data did not provide

\(^{15}\text{See Craven, Soil Exhaustion, 72-161, passim. See also, Bruce, "Virginia Agricultural Decline to 1860."}\)


\(^{17}\text{For more critical views of the progress of southern agriculture relative to the North, see Genovese, "The Limits of Agrarian Reform," and Julius Rubin, "The Limits of Agricultural Progress in the Nineteenth-Century South." Agricultural History 49(1975):}\)
unassailable proof the ability of Virginia's agriculturalists to match the commercial success of England's high farmers by copying their methods, then their own journals were also hardly composed of endless hallelujah choruses in praise of Virginia's progress. Indeed, beside every essay that reported a new agricultural society, announced a new piece of domestically-developed farm equipment, or praised the reforms made by particular planters or rural communities, lay a diatribe protesting the fact that so many of Virginia's farmers, whether the swamp-runners of the eastern Southside, the piney-woods tenants of the piedmont, the dark tobacco farmers of the Tye Valley mountain hollows, or just dissolute, unimaginative members of the slaveholding elite, persisted in pursuing older methods of frontier cultivation. In fact, the dominant note of Virginia's farm journals was just as often frustration, failure, and martyrdom, as it was self-confidence and celebration. One celebrated farm journal publisher closed his career with bitterness, writing,

*But with the close of this volume, will end the Editor's labors for ten years of the best years of his life; and he will no longer obtrude, on the agricultural public, services which seem to be so little appreciated, and which have been so little aided by the sympathy of the great body of the members of the interest designed to be served.*

When the scholars who first brought these contradictions to academic attention continued their studies, and turned from the careers of Jefferson and Madison to that of the late antebellum era's leading agricultural reform publicist, Edmund Ruffin, they


18*Farmer's Register*, 10(1842), 155.
found an outline for a quite different story of the crusade. Unlike Jefferson or Madison, who left their public efforts on behalf of the political and scientific Enlightenment for peaceful careers as retired, respected, and even somewhat self-satisfied sages, Ruffin acquired no such serenity. Feeling that little of value had resulted from his efforts to bring Virginia farmers to the mark of the best standards of high farming, Ruffin grew increasingly frustrated, bitter, and fanatic as his years dragged on. Ruffin's life ended not in words immortalized in countless reprintings, but in a failed and largely forgotten farm journal, nor in monuments from a grateful nation he had helped to found, but in his own study where a self-inflicted shotgun blast killed him within weeks of the Confederacy's final defeat.

Ruffin's tragic end has come to personify the demise of Virginia's once-authoritative plantation gentry. Ruffin, like many of his peers, had supported slavery and the plantation South to the very end. While doing this, he fell in with those among the Old Dominion's conservative intellectuals, men like Nathaniel Beverley Tucker and Thomas Dew, who saw in the slave labor plantation the last levee holding back the dark

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21 Craven attempted to interpret Ruffin's mind during his last days, writing that, "He (Ruffin) also knew that an 'old South' of which he had been a part had run its course. The men in tattered gray who were turning their tear-stained faces southward were going back to begin all over again." (emphasis mine) Craven, *Edmund Ruffin, Southerner*, 257.
waters of a soulless modern world. In the minds of men of this stripe, Virginia's Civil War was a fight to defend the dying civilization of the eighteenth-century Old Dominion: its social hierarchy, its economy, its culture and faith, and its politics. If one searches for consistency in Ruffin's life as both farmer and southern revolutionary, concluding that the agricultural reform crusade of which he was the most prominent later leader was in fact the penultimate campaign to save the colonial slave plantation from the commercial world of the nineteenth century is an easy step to take.

**Agricultural Reform and Virginia Republicanism.**

The political economies created by Virginia's best philosophers between the tobacco colony's classical age and the outbreak of the Civil War offered a powerful and integrated narrative analysis of the state's decline into dependency and the remedies demanded by the times. During the eighteenth century, the plantation gentry had begun building for themselves what was, on a remote colonial frontier, an opulent and

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22 For a clear definition of the roots of the growing social conservatism among antebellum Virginia intellectuals, see Faust, Sacred Circle, 144-148.

cosmopolitan lifestyle. Yet as provincials, the planters of Virginia became acutely aware of their growing powerlessness in the Atlantic commercial system. Capital in the colonial economy was controlled by distant mercantile economies who sank their Virginia clients deep into debt. Commercial legislation was passed in London with little concern for the interests or opinions of Virginia's planters. In response to their declining influence and independence, therefore, the generation of Washington, Jefferson, Henry, Mason, and Lee made a revolution against the powers above them. To justify their cause, the revolutionary Virginians helped to elevate a republican ideology that looked to representative legislatures to defend private property in land and slaves against the depredations of markets, creditors, tax men, government legislatures, and similar infestations. And when the planters of Virginia subsequently discovered that the new nation they had created did not offer them complete protection from grasping capitalists and their political ambitions, they created a political party which embodied their

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25 For interpretations of the role played by planter debt in providing the psychological underpinnings of the Revolution, see Breen, Tobacco Culture, and Emory Evans, "Planter Indebtedness and the Coming of the Revolution in Virginia," William & Mary Quarterly, 3rd ser., 19(1962), 511-533.

republican principles, swept national elections, and helped them dramatically reform American government during the first decade of the nineteenth century in what they perceived to be the interests of their plantations.27

Yet Virginia's most powerful citizens found that even the planter-friendly government of the early nineteenth century could not provide permanent security for the plantation and all that institution implied for the Old Dominion and its residents. Tobacco markets disrupted by the Revolution continued sluggish well into the nineteenth century, and the wheat with which Virginia had been able to supply a war-torn, hungry Europe, began to drop drastically in price as Europe began to recover normalcy during the early 1820's.28 As more and more areas began to move into the international grain and tobacco trades, Virginia's agricultural aristocracy found themselves in an uncomfortable arena for extensive cultivators: a highly competitive marketplace.

With their profitability now dependent upon their efficiency in relation to other producers, Virginia's plantations proved to be a sorry lot. Old fields, reclaimed from forest regrowth too soon after too many years of tillage, could not provide the

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28 For tobacco and grain price trends during the early national era, see Arthur G. Peterson, Historical Study of Prices Received by Producers of Farm Products in Virginia, 1801-1927. (Blacksburg, VA: Virginia Polytechnic Institute, 1928), 17-35.
productivity being offered by fresh soils in the Ohio and Tennessee Valleys. Nor could their efficiency of their cultivation match that of the grain fields of England, Holland, or France, as long as the methods of the frontier agroecosystem were maintained—or only slowly modified—while Europeans expanded on over a century of aggressive investments in high farming. Nor did it seem that the harsh discipline plantation masters maintained over their slaves would suffice to sustain the increased labor investment needed for a more intensive brand of farming. A new frontier had opened to the Southwest, offering profits so high that even those who resisted departure for the cotton fields could hardly resist the temptation to sell their slaves across the mountains and down the river to maintain yearly incomes at the expense of long-term profits.

An active, indeed aggressive, campaign for agricultural reform seemed to a growing number of Virginia planters across the antebellum decades to offer the best way to sustain the economics of the slave plantation, and all the social and commercial benefits that went along with permanently seating it. Furthermore, an important and vocal handful had also become convinced that this would be particularly true if the crusade could be linked with the republican politics which defended the plantation in the public realm, and the private virtue which allegedly had to sustain the republican citizen. Agricultural reform could provide the productivity and efficiency needed to free

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30 For the emergence of western competition for Virginia farm products during the early nineteenth century, see Gates, *The Farmer's Age*, 1-21.

31 The primary argument about the role of slave sales in financing Virginia farms was made by Genovese, “The Limits of Agrarian Reform,” who insisted that capital for the improvement of Virginia agriculture was assembled from the profits of slave sales to the Deep South.
Virginia's farmers from dependence on disreputable capitalists, while the republicanism sustained by independent farmers would divert needed resources into the development of high farming in the Old Dominion. The search for politicians and theorists among the Virginia gentry who attempted to make these connections is not a difficult one. The young nation's most prominent Republicans, Jefferson and Madison, sustained a keen interest in the reform movement throughout their lives. Most explicit, however, were the writings and career of planter, politician, and essayist John Taylor of Caroline County. During the 1810s, Taylor wrote a series of newspaper articles on agricultural economics and reformed farming which he later collected and published under the title, *Arator: Being a Series of Agricultural Essays, Practical and Political*, in 1818. In *Arator*, Taylor outlined an entire program of Virginia high farming from his readings of the European authors and assorted successful adaptations of their methods to his own plantation: deep plowing, ditching and draining, hedges, manure collection, crop rotations, livestock breeding and rearing, pastures, orchards, and on and on. Yet Taylor did not view these utilitarian topics as isolated from the political principles of his state and his class. He also included a series of essays on "The Political State of Agriculture," which railed against the unjust sufferings of the agricultural economy of the Old Dominion under the tyranny of Federalist-inspired tariff and banking policies. The state's planters, he contended, were forced into desperate, inefficient, and uneconomical

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measures by the pressures of these demands. Freeing Virginia cultivators from them would open the road to the conservative, long-term thinking and investment necessary to reform and modernize agriculture.\textsuperscript{32} Farmers traveling down that road would provide, in turn, a much more secure base for a democratic republic. An irreconcilable Jeffersonian even as the author of the Declaration of Independence and his proteges began drifting away from the true faith of strictly limited government.\textsuperscript{33} Taylor expressed the link between classical republicanism and modern agricultural reform as explicitly as it could be stated. That it was friends, neighbors, and prominent supporters of Jefferson who formed the Albermarle Agricultural Society with the ex-President's blessing, and chose Madison for the group's first leader, only reinforced a conclusion that was difficult to escape in Taylor's writings.\textsuperscript{34} In large measure, Virginia's agricultural reform movement originally sprang from among the state's philosophical and political republicans, and those men saw it as a practical application of, and foundation for, those principles.

Against this backdrop, an coherent explanation of the peculiarities of Edmund Ruffin's fascinating career can be constructed. Ruffin reached adulthood during the depths of the Virginia plantation's economic and ecological decline. The search for solutions to the problems of that institution dominated the development of his personality

\textsuperscript{32}For John Taylor of Caroline's discussion of early national politics and its relation to agricultural reform, see Arator, 73-114, 308-324, 336-350.

\textsuperscript{33}For a discussion of Taylor's maintenance of the hard republican line into the 1820s, see Robert E. Shalhope, John Taylor of Caroline: Pastoral Republican. (Columbia, SC: University of South Carolina Press, 1980), 181-217.

and career. Early in his life, Ruffin had dabbled in the radical inheritance of the Virginia Revolution, affecting a polite, upper-class opposition to slavery during his college days at William & Mary, before marrying and inheriting a large (but debt-ridden) estate on the banks of the James River in Prince George County when he was 19. When exhausted tidewater ridge and bottomland fields refused to produce the amount of saleable wheat needed to support his growing family in the manner to which the plantation gentry had become accustomed, Ruffin concluded that the agroecological crisis he could see in his weed-infested fields was the cause of the descent of his state and his class. In Arator Ruffin discovered an interpretation of the political, social, and economic crises of the plantation gentry which gave form to his own thinking, as well as offering a practical way to restore his own finances.35

Hoping to advance his personal fortunes through plantation agriculture, Ruffin tried to practice at his home plantation at Coggin's Point the high farming Taylor had preached. His attempts to bring Taylor's adaptation of the English system of grain farming to the Virginia Southside proved unsuccessful, however. Wheat yields from Ruffin's increasingly well-manured, drained, and deeply-plowed fields failed to show anything close to the kind of improvement that might have justified the massive expenditure of labor needed to 'improve' his property, or the further contraction of debt

35For Ruffin's early life and career as a plantation manager, see Craven, Edmund Ruffin, Southerner, 2-5, 51-58, and Allmendinger, Ruffin: Family and Reform, 11-21, 23-27.
Ruffin had ventured into in order to finance that expenditure.\textsuperscript{36}

Yet rather than emulate men like Abram Cabell, cashing in his depleted landed estate and taking his slaves to the cotton country,\textsuperscript{37} Ruffin expanded on the practice of enlightenment farming that Jefferson, Taylor, and the others had brought to Virginia. Instead of continuing slavishly to transplant modern English husbandry into the Chesapeake tidewater, Ruffin concluded that his region's agricultural environment presented the cultivator with unique problems, and that a bold spirit of practical experimentation needed to be added to cosmopolitan learning. Discovering that the application of phosphate-rich substances like lime and marl (soil layers composed of weathered oyster and mussel shells) brought the dramatic increases in productivity which animal manures had failed to provide, Ruffin embraced contemporary soil chemistry. Gradually ascertaining that the phosphate answered the problem of soil acidification caused by rainwater leaching of unprotected soils, Ruffin became an apostle of 'marling', preaching its benefits in letters, public addresses and essays, and in the pages of a journal devoted to scientific agriculture, the Farmer's Register, which he founded in 1833.\textsuperscript{38}

Yet in the end, Ruffin's innovative approach to Virginia high farming was only


\textsuperscript{37}Despite Ruffin's intense commitment to the rural society of eastern Virginia, the possibility and potential of westward migration was discussed within his family. See Mathew, Edmund Ruffin and the Crisis of Slavery, 20.

\textsuperscript{38}Craven, Edmund Ruffin. Southerner, 61-62.
building upon Taylor's more practical arguments and advice. Marling was valuable only as a first step toward pursuing the kind of intensive agriculture the agrarian republican from Caroline County had called for. Having countered soil acidity, the plantation managers who scrutinized the pages of the Farmer's Register were instructed to proceed to the implementation of extended crop rotation schemes, the creation of permanent fields liberally manured, drained, and properly plowed, and to the cultivation of large quantities of cover and forage crops. Furthermore, the ultimate goal of Ruffin's version of agricultural reform remained saving Virginia's planters from the clutches of their creditors and political enemies. While the first numbers of the Farmer's Register focused on the discoveries of Ruffin and others in the new field of scientific soil chemistry, the apostolic publisher soon began making space in the journal for his increasingly dogmatic political views. Just as John Taylor of Caroline had insisted that republican politics were necessary, in turn, to support farm reform, Ruffin came to blame the nation's political economy for the movement's failures, particularly in the wake of the debilitating Panic of 1837. As hard-pressed financial institutions saved themselves by foreclosing on indebted farmers, cutting off credit to farmers attempting to improve their lands, and squandering the savings of solid planters in ill-advised soft-money issues, Ruffin began raucously to denounce irresponsible banks and banking. In so doing, he appeared to become one of the truest evangelists of the fear of modern commercial life which many of Virginia's farmer-citizens carried with them from the days of Jefferson into their

39 See, for an example of a complete scheme of improvement and high farming published by Ruffin, 'M.N.', "Suggestions for the Improvement and Profitable Culture of Poor Lands," Farmers' Register, 3(1836), 577-580.
allegiance to Jackson and Van Buren's anti-Bank Democracy.40

The case being presented— that like Jefferson, Taylor, and the others, Ruffin's agricultural progressivism was a function of his republicanism— gathered strength as the antebellum era wore on. Like most jeremiad preachers railing against the modern age, Ruffin was disappointed with the results of his ministry. Despite his continuing belief in the need for more extensive agricultural education, he quickly discovered that even the most outspoken propaganda was not enough to win over many Virginia's farmers to his program. By his own admission, common farmers continued obstinately to pursue either emigration or older, wasteful methods, rather than marling and high farming. "Rarely, if ever," he told the Virginia Historical Society in 1836, "has a general change [in agriculture] been produced by the clearest reasoning, if not attended by the pressure of necessity."41 Another of his correspondents called the mass of the state's cultivators, "unmoved by persuasion, — impregnable to argument in favor of experiments; and as fixed as fate in adherence to their own antiquated notions of husbandry."42 The Farmer's Register, Ruffin himself concluded sadly, had, "not served to push to car of agriculture higher up the hill of improvement; [but] merely 'chocked' up the wheels behind, and

40For Ruffin's opinions on bank practice during the depression of the late 1830s and early 1840s, see Ruffin, Desultory Observations on the Abuses of the Banking System, (Petersburg, VA: Edmund Ruffin, 1841), and the periodical Ruffin edited and published, The Bank Reformer, 1841-1843. For a brief discussion of Ruffin's anti-bank politics, see Craven, Edmund Ruffin, Southerner, 66-72.


helped to prevent a more rapid downward career."43 The depression which followed the Panic of 1837 crippled the already slow progress of agricultural reform. Markets collapsed, and the profits needed to sustain modern farming disappeared. With contributions and subscriptions to his journal declining, Ruffin abandoned the exhausting effort in 1842, and Virginia's economy and political influence continued to deteriorate.44

In the apparent failure of his crusade to link the most modern scientific approaches with eighteenth-century agrarianism during the hard years of the 1840's, Ruffin chose to side with the paranoid old Virginia Republican which rested at the center of his subconscious. Rather than looking for flaws in his own approach, or in the plantation production system overall, Ruffin began to seek out and castigate external enemies. His assaults on the banks during the early 1840's only served as the opening wedge of an anti-Yankee world view that Ruffin and colleagues like Tucker and William Fitzhugh helped perfect during the antebellum era.45 Ruffin's anti-slavery, which had been slowly disappearing since his youth, had been transformed during the 1830s into a virulently pro-slavery position. Seething in public and private against meddlesome, moralizing Yankee abolitionists and their troublesome allies among Southerners


44For the failure of the Farmers' Register, see Mathew, "Edmund Ruffin and the Demise of the Farmers' Register," Virginia Magazine of History and Biography, 94(1986), 3-24, and Craven, Edmund Ruffin, Southerner, 66, 70-72.

45Ruffin's suicide note included a last blast at Yankees, referring to them as a, "perfidious, malignant, and vile ... race." Quoted in Craven, Edmund Ruffin, Southerner, 259. Eugene Genovese has written extensively on the anti-modernism of the southern elite during the later antebellum era. See, in particular, Western Civilization through Slaveholding Eyes, and more recently and more generally, The Slaveholders' Dilemma.
themselves who dared to suggest that slave labor might be inefficient, Ruffin revived his public position as a southern fire-eater first, and a reformer second. While never abandoning the cause of high farming, Ruffin came to insist that the obstacles to its success came not from inadequate science or obstinate ignorance among planters, but rather from the machinations of outside industrialists, with their soft-money banks, discriminatory tariffs, and abolitionist stump orators.  

Ruffin grew convinced that the only path left open that still led through improved agriculture to security and independence for the plantation gentry was the road of southern independence. Invited to South Carolina by the triumphant secessionists in 1861, the now aging Ruffin struggled up the battlements on Morris Island in Charleston harbor and lit the first cannon of the bombardment of Fort Sumter. Yet even secession did nothing to realize his dreams of saving the plantation gentry. The military conflict devastated the Virginia countryside, destroying decades of investment in farm buildings and improved cultivation. The system of slavery was destroyed, leaving the plantation patriarchs without their chattels and adrift in a modern wage labor market in which other regions had decades of social and economic experience. With union soldiers and administrators beginning the conscious task of destroying the plantation society he and

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46For the emerging expression of Ruffin’s pro-slavery and the potential dangers of Northern intervention in the system and society of the South, see “Some Effects of West Indian Emancipation, as Stated by Friends of that Measure,” Farmers’ Register, 4(1836), 49-52, and later, “What Will Be the Results of the Northern Abolition Agitation?” Richmond Enquirer, 22 January, 25 January, 2 April, 1850, “Address to the Virginia State Agricultural Society, on the Effects of Domestic Slavery on the Manners, Habits, and Welfare of the Agricultural Population of the Southern States,” supplement to the Southern Planter, 13(1853), 8-16, and, most extensively and importantly, The Political Economy of Slavery, (Washington, D.C., Lemuel Towers, 1858).
his contemporaries had worked so hard to sustain, Ruffin went up to his study, put a shotgun in his mouth and pulled the trigger.47

In Ruffin’s death can be seen, if one so chooses, not only the end of the crusade for agricultural reform, but the demise of Virginia's plantation gentry as well. The practical republicanism of the late eighteenth-century Virginia revolutionaries had thoroughly infiltrated the politics and culture of antebellum America. Republicanism in varying guises had been the meddlesome bride of every candidate for office; it lurked between the lines of every speech; it provided the foundation stones of every civic institution; and in the end it could be found behind the door of southern secession.48 Ruffin's elevation of fire-eating above the apparently blighted promise of agricultural reform revealed an essential allegiance to classical Virginia republicanism. And if that were his ultimate loyalty, then the agricultural reform movement as a whole needs to be explained in the terms that John Taylor of Caroline had laid out nearly a half-century before the Civil War – by understanding the role it played in the political economy of republicanism – the political program to save the Virginia gentry.

To be sure, prominent agrarian republicans focused on those aspects of the

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48For discussions of the role of republicanism in antebellum American political life, see, for example, Watson, Liberty and Power, 42-72. One of the most direct analyses of the role of republicanism in driving Southern nationalism and secession is in J. William Harris, Plain Folk and Gentry in a Slave Society: White Liberty and Black Slavery in Augusta’s Hinterlands, (Middletown, CT: Wesleyan University Press, 1985), 125-131, 137-138.
Virginia program of high farming which reflected the virtues of the republican farmer: thrift, self-discipline, hard work, and above all, self-sufficiency. Again, one does and did not have to look far to find those qualities in the demands made by high farming. That an intelligent application of hard work might allow Virginians to survive and prosper off their own natural resources was a powerful vision among the earliest agricultural reform theorists. In republican theory, virtue rested on self-reliance.\textsuperscript{49} In agricultural terms, such self-reliance could be built upon a program aiming at the financial and particularly ecological self-sufficiency of the Virginia plantation. In Madison's inaugural speech to the Albermarle Agricultural Society, for example, he called upon scientific notions of the balance of nature as a basis for critiquing the wastefulness of the Virginia farm:

\textit{Although there is a proportion between the animal and vegetable classes of beings on our globe, and between the species in each class, with respect to which, nature does not permit such a change as would result from a destruction of the animals and vegetables not used by man; and a multiplication of the human race, and of the several species of animals and vegetables used by it, sufficient to fill up the void; yet that there is a degree of change which the peculiar faculties of man enable him to make, and by making which, his fund of subsistence and his numbers may be augmented; there being at the same time, whenever his numbers, and the change exceed the admitted degree, a tendency in that excess to correct itself.}\textsuperscript{50}

Agricultural reform was necessary, the fourth President argued, because nature, despite its vastness, provided only limited sources of sustenance for human beings and the plants

\textsuperscript{49}For a discussion of the role of independence and self-reliance in antebellum republican theory and political culture, see Watson, \textit{Liberty and Power}, 45-47, 49-50.

\textsuperscript{50}Madison, "An Address Delivered Before the Agricultural Society of Albemarle," \textit{Farmers' Register}, 5(1837), 416.
and animals which we had domesticated. Frontier farming curtailed human progress through its flagrant waste of those scarce resources in the quest for quick returns on minimal labor. Topsoil was lost to erosion when farmers did not plow deeply enough or provide cover crops of pasture grass. Soil fertility was wasted when animal manures were left uncollected and green manures not dug back into the soil. This waste of the enormous resources of the agricultural ecosystem forced farmers back onto purchases from outside — seed, fertilizer, livestock, and above all more land — all of which put them further into the debt which destroyed the republican citizen. Prosperity, progress, and independence depended not upon the ability of farmers to engender more biotic productivity, but in their ability more efficiently to channel that productivity already taking place either into expanded crop growth or back into soil maintenance and amelioration. By laboring to keep the agroecosystem's biotic resources down on the farm, self-sufficiency could coexist with commercial agriculture, since otherwise wasted primary production would be diverted into all manner of diversified subsistence production beyond that needed for cash crops.51

In line with republican political culture, of course, this kind of self-sufficiency demanded a virtuous self-discipline and frugality — waste of any kind had to be eliminated. When the members of the Albermarle Agricultural Society met for the first time in Charlottesville in 1817, their mentor Jefferson was well down the road to bankrupting Monticello and his family on the rack of expensive imported books and

51Madison, “An Address Delivered Before the Agricultural Society of Albemarle,” Farmers’ Register, 5(1837), passim.
fancy French wines. If a boldly progressive (if rarely thorough) cultivator like Jefferson could undermine his independence by frittering away his financial and agricultural resources, then the rash of bankruptcies afflicting the gentry was not solely a problem of shoddy cultivation. Extraneous expenses had to be eliminated — "it is doubtless proper," Madison told his listeners, "not to lose sight of the rule, that farmers ought to avoid paying others for doing what they can do for themselves." He found, for example, one particular extravagance in the Virginia horse. Long the symbol of the wealth and status of the agricultural gentry, breeding and ownership of riding and carriage horses spread down through the planters of the Old Dominion until they became almost omnipresent. Madison condemned both the large stud herds of the great planters and the superfluous horse or two of the small farmer. These extravagant animals ate up valuable corn and oats, forced farmers into exhausting cultivation and the purchase of outside seed and feed, and dragged farmers down into awful debt. Madison and many other authors advised planters never to subvert the ecological self-sufficiency demanded by republicanism by sidetracking any of their resources into unproductive, or self-indulgent, channels.

It is possible, when interpreting the farm reform movement, to run with the arguments for frugality and self-sufficiency which Madison tied to improved cultivation.

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52 On Jefferson’s financial difficulties, see Malone, The Sage of Monticello, 34-42, 301-315.


54 Ibid.
as early as 1817: agricultural reform was a bold, indeed desperate, response by a
republican economy to the decline of tobacco and grain markets between 1820 and
1850.\footnote{See Schlotterbeck, "Plantation and Farm," 53-78, 255-300, for his interpretation of
the role of agricultural reform in reinforcing what he termed the 'social economy' of
antebellum Virginia. As staple crop prices declined and profit margins evaporated,
farmers of all classes retreated into a kind of community subsistence that limited the
need for unfavorable commercial transactions. Agricultural reform succeeded,
Schlotterbeck argues, to the extent that it supported this social economy.}
If crop prices were down, and debt and bankruptcy loomed if expenditures could
not be curtailed without embracing penury, then agrarian self-sufficiency could be built
in part upon the otherwise wasted biotic resources of the frontier agroecosystem.
Agricultural reform, then, was an almost perfect corollary to republicanism. If the
hardest line of republican ideology had, on occasion, hoped to shut off the plantation
commercially, the agricultural reformers sought to complete the process by shutting it off
ecologically. Crop varieties and livestock breeds patiently improved from within
Virginia's existing herds lessened the need for purchases from others. Conservationist
cultivation techniques maintained land values and kept farmers off the land market and
therefore out of debt -- keeping them in clover in the literal if not the figurative sense.\footnote{Schlotterbeck has written of agricultural reform in Madison's home county of
Orange: "Agricultural reform, especially in the early decades of the nineteenth century,
was compatible with the emerging social economy. Both emphasized diversification and
self-sufficiency, neither value increased production for sale in external markets." 
"Plantation and Farm," 289.}
High farming could, in fact, rely entirely upon the resources available within the
admittedly denuded Chesapeake agroecosystem, rebuilding and redirecting them through
intelligence and hard work.

\footnote{See Schlotterbeck, "Plantation and Farm," 53-78, 255-300, for his interpretation of
the role of agricultural reform in reinforcing what he termed the 'social economy' of
antebellum Virginia. As staple crop prices declined and profit margins evaporated,
farmers of all classes retreated into a kind of community subsistence that limited the
need for unfavorable commercial transactions. Agricultural reform succeeded,
Schlotterbeck argues, to the extent that it supported this social economy.}

\footnote{Schlotterbeck has written of agricultural reform in Madison's home county of
Orange: "Agricultural reform, especially in the early decades of the nineteenth century,
was compatible with the emerging social economy. Both emphasized diversification and
self-sufficiency, neither value increased production for sale in external markets." 
"Plantation and Farm," 289.}
The program of agricultural reform pursued and publicized by men like Edmund Ruffin thus can in part be seen as a partner, or rather a corollary, of Virginia's republicanism. If Ruffin's suicide stemmed from his despair over the demise of the Confederacy, it therefore reflected the failure of his quest to introduce high farming to Virginia as well. Had Virginia's farmers rebuilt their prosperity and independence through high farming, he perhaps reasoned, then they would have retained sufficient political influence to keep Yankee agitators and demagogues at bay. If secession had been the last strategy to preserve the landed planter from the modern world, Ruffin's embrace of the cause must have resulted from his loss of hope in reformed cultivation alone. Ruffin never abandoned the belief that high farming could work in Virginia, and that progressive husbandry was crucial to saving slavery and the plantation gentry of the Old Dominion. Yet his disgust and frustration over the continued primitive practices of many of the state's less enlightened farmers throughout the 1840's and 1850's was a loss of faith that drove him to embrace southern nationalism with additional zeal.  

From just such an analysis of the development of Edmund Ruffin's politics and psychology, many scholars have reached the conclusion that the movement to modernize cultivation in the antebellum Old Dominion was a failure. Most of the state's planters in fact rejected or ignored the attempt to link scientific agriculture to republican political economy. That failure could be measured in, and was revealed by, the apparently overwhelming disinterest of Virginia's farmers -- particularly the yeomanry and smaller

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57 For an analysis of Ruffin's transfer of zeal from high farming to Southern independence, see Mathew, Edmund Ruffin and the Crisis of Slavery, 60-61.
slaveholders – in the high-flying theories of the most enlightened of plantation owners and high farming publicists. This rejection of modern farming can be attributed to a number of sources—plain ignorance, particularist values opposed to a cosmopolitan program, the higher loyalty of all classes of farmers to systems of individual property in land and particularly slaves, and so on. What Edmund Ruffin’s tragic career does reveal with some certainty is this: republican agricultural reform only scratched the intellectual surface of the Old Dominion, attracting a tiny number of elite dilettantes, while the mass of planters and farmers below that small club took their farming and their political culture in different directions. For all the paper and fury generated by Virginia’s politically-inclined agricultural reformers, elite-focused republican high farming was what one antebellum writer called "a 'dead faith'," sincerity in which was never, "evince[d] ... by corresponding works." Yet if the attempt to forge an alliance between republicanism and high farming ended in failure, Virginia farmers did develop dynamic approaches to the problems John Taylor of Caroline, Edmund Ruffin, and the rest had been hoping to address. Since Ruffin himself had tended to see the failure of agricultural reform in the attitudes of small cultivators, it seems logical to begin with an attempt to understand their attitudes toward high farming, and the alternatives to it they may have


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Agricultural Reform and the Common Farmer.

The conclusion that both Ruffin and recent historians have drawn, that high farming failed to make an appreciable dent in the frontier landscape of antebellum Virginia, certainly can claim a substantial body of evidentiary support. The disgust with which European observers had viewed the seemingly endless old fields of late eighteenth-century Virginia were echoed down the antebellum era. The most verbose and eloquent outside commentator on the cultivation and agricultural landscape of late antebellum Old Dominion, park promoter and landscape planner Frederick Law Olmsted, confirmed the continued use of shifting cultivation and low labor investment strategies in the reports he wrote of his travels in Virginia during the 1850's. In A Journey in the Seaboard Slave States, Olmsted described the aftermath of frontier cultivation on his way through the northern piedmont:

No more than a third of the country, visible on this route, I should say, is cleared; the rest is mainly a pine forest. Of the cleared land, not more than one-quarter seems to have been lately in cultivation; the rest is grown over with briars and bushes, and a long, coarse grass of no value.60

Of the old fields he found infesting the tidewater, Olmsted was even more disparaging:

... a coarse, yellow, sandy soil bearing scarce anything but pine trees and broom-sedge. In some places, for acres, the pines would not be above five feet high — that was land that had been in cultivation, used

up and 'turned out', not more than six or eight years before; then there were patches of every age; sometimes the trees were a hundred feet high. At long intervals, there were fields in which the pine was just beginning to spring in beautiful green plumes from the ground, and was yet hardly noticeable among the dead brown grass and sassafras bushes and blackberry-vines, which nature first sends to hide the nakedness of the impoverished earth.

He also found open-range stocking still in full use in the tidewater country:

*Of living creatures, for miles, not one was to be seen (not even a crow or a snow-bird), except hogs. These—long, lank, bony, snake-headed, hairy, wild beasts—would come dashing across our path, in packs of from three to a dozen, with short, hasty grunts, almost always at a gallop, and looking neither to right nor left, as if they were in pursuit of a fox, and were quite certain to catch him the next hundred yards; or droves of little pigs would rise up suddenly in the sedge, and scamper off squealing into cover, while their heroic mothers would turn around and make a stand, looking fiercely at us, as if they were quite ready to fight if we advanced any further, but always breaking, as we came near, with a loud boosch!*

Certainly the extremes of Olmsted's disgust at the sight of the dilapidated tidewater landscape can be written down to the obvious ax he had to grind with plantation slavery, and those who lived from its profits. Yet he could not have been imagining entirely a landscape bearing few, if any, of the marks of agricultural intensification. And while Edmund Ruffin would have taken issue with Olmsted's conclusion that slavery was responsible for the indolence of white Virginians and the

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61 Ibid., 72.

62 Ibid.

slovenliness of their cultivation, he could not have disagreed that eastern Virginia lagged far behind the North in the progress of its farming. Indeed, when Ruffin began, during the 1850's – and particularly after the publication of Hinton Rowan Helper's *Impending Crisis of the South*, and the continued vibrancy of the American Colonization Society, brought out into the open Southern suspicions about the system – to vociferously defend the productive efficiency of slave labor, he was forced into dubious rhetorical and statistical tricks that served mainly to re-emphasize Virginia's relative backwardness.

During the 1830's and 1840's, hoping to ruffle the patriotic feathers of Virginia's planters in the cause of farm profit rather than pro-slavery politics, Ruffin compared the statistical evidence of Virginia's agricultural productivity to that of New York State, which was racing ahead in its adoption of fertilizers, crop breeding, farm equipment, and the like. Virginia would continue to suffer by this comparison as the years passed, and in order to defend slavery, Ruffin was forced to switch to more flattering contrasts with the abolitionist-hotbed of late-antebellum Massachusetts, with its poor soils and steady drain of capital and labor out of cultivation and into industry. Even as Virginia's land values and agricultural production disregarded Olmsted's overwhelming skepticism by expanding energetically during the antebellum period, Ruffin was still forced to conclude

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65See, for example, Anonymous, "On the Causes of the Long-Continued Decline, and Great Depression of Agriculture in Virginia," 703.

66See Ruffin, "Slavery and Free Labor Described and Compared."
that Virginia had, "fallen ... from its former high estate," in the nation's political and economic life.

Yet for all their concern with their lack of progress, Ruffin and many other Virginia farm reform leaders, filled with messianic zeal, expended little effort imagining themselves into the minds of those who resisted conversion. Olmsted himself brought attention to the divide which had opened between high farmers and the mass of cultivators. In his account, the reformed farming which he did see took place on prosperous plantations that were islands of culture, education, and pastoral improvement in a depressing sea of pine forests, broom-sedge, and rickety shacks housing sullen white trash. Yet attempting to discern the outlook and assumptions behind the apparent conservatism of that frustratingly large number of antebellum Virginia's ordinary farmers opens important doors to understanding the place agricultural reform actually held within Virginia's practical and political economy, and whether the hard edges of the negativism of men like Ruffin and Olmsted need to be softened.

In a documentary record dominated by the account books, letters, pamphlets, and journals of the reformers, the voices of those who turned their backs on modern agriculture are largely mute. Yet in the pages of the agricultural periodicals there are occasional essays through which we can get some sense of the attitudes of those men most distrustful of, or even hostile to, Ruffin's crusade, from the responses of the crusaders themselves. Again and again across the antebellum decades, agricultural

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reformers felt it necessary to respond in print to the accusation that they were "book farmers". The derisive term was explained away frequently enough in the farm reform journals that one must suspect that it was the key attack made on modernizing cultivators in antebellum Virginia. One correspondent to the Farmer's Register could not understand how improved agricultural methods "of recent record," because, "they happen to be printed ... fall under the denomination of book farming," and were therefore, "on this account, less true." Ruffin himself described the mass of the state's common cultivators as members, "of a numerous class, most happily characterized ... as 'the gin-horse tribe'." These farmers, he wrote "[felt] and express[ed] an utter scorn for everything they call 'book-farming'" preferring "to tread the same eternal round -- the same uniform routine in all their agricultural operations, without deviating a hair's breadth to the right or left, which they have trodden from their earliest recollection, in pious reverence for ancestral usage." Book farming was clearly a method of cultivation which the common folk of eastern Virginia regarded with extreme suspicion, and, despite the incredulity of Ruffin and his short-list of subscribers, perhaps with good reason.

The emphasis which agricultural reformers placed on the rapid dissemination of scientific knowledge demanded that planters apply to their own fields, livestock, and accounts, techniques accepted from the monographs and journals with a large helping of

68 For a brief discussion of the perceived reactions against book farming and elite apologies for it, see Faust, A Sacred Circle, 95-99.

69 "Book Farming," Farmers' Register, 6(1838), 607.

faith — even when linked with the practical spirit of experimentation. When confronted with the diverse ecosystems of eastern Virginia, the customs established in English grain fields, or even on the plantation a couple of dozen miles down the river, frequently failed to produce anticipated results. Ruffin's struggles with John Taylor of Caroline's system were a case in point. Several years of hard experience and heavy debt taught Ruffin that Taylor's emphasis on the collection and application of plant and animal manures did little to answer the problems of acidification which afflicted the almost subtropical forest soils of the Chesapeake tidewater. Ruffin remained bold in defeat, of course, taught himself the rudiments of modern soil chemistry, and developed the program of marling to resolve the difficulty. Yet even marling was not a universal panacea. Different marls acted with different strengths and different fields had different levels of acidity. The problem could vary considerably within a single clearing, in fact. Too much base could be just as bad as too much acid, and fields over-treated with marl yielded even less than they had before. Ruffin was forced to refine the techniques of marling throughout his career, and repeatedly beg those who had tried and failed, or those who had observed the failures of others, to give the method just one more chance.

Confronted, therefore, with recurring failure only occasionally interrupted by poorly understood successes, Ruffin's progressive outlook must have been very difficult for planters to maintain. One frustrated would-be high farmer reported to the Farmer's Register his struggles, writing that,

\[71\]For a discussion of the effects of excessive marling, what farmers described as 'marl-burn', see Mathew, *Edmund Ruffin and the Crisis of Slavery*, 175-177.
I have been going on for something like eighteen years, ploughing well, clovering the best spots, making what manure I could, spreading and ploughing it in, making wheat on the best land, oats on the more indifferent, not grazing except on little spots in the fall... and the most I can now say of the farm is, that it looks as if it were in an improving state – and I think it has improved a little, but very little, except where I have actually manured it.72

The old techniques, on the other hand, offered diminishing but proven results to farmers desperately fighting against declining markets. Agricultural reform demanded, in fact, a degree of emotional faith in science and learning backed by extensive financial risk that practical men would have found hard to justify. The reaction against the academicity of farm reform can be easily understood. The first failure of techniques of high farming drove many of its practitioners back into methods endorsed by their fathers and immediate neighbors. The man who persisted in following Ruffin's advice could expect neighbors to gather at his fences to observe his struggles with amusement and derision, and to greet the inevitable failures with loud mockery of both 'book-farming' and the air-headed eccentric who would invest so much labor and suffer so much financial burden to pursue that kind of silliness. Ruffin himself was forced to concede of his fellow Virginia farm managers, "there are not many, having that sanguine temperament which is essential to make zealous 'improving' farmers." Yet it was only such as these who could face down the inevitable failures of agricultural experimentation without being, "induced to believe that their past efforts have been thrown away, and that there is no hope from persisting in similar attempts."73

72'T.B.A.', "Farming on Poor Lands," Farmer's Register, 2(1834), 613.
73Ibid., 614.
If we accept what is suggested by the evidence from the farm journals, that the reaction against agricultural reform that did spread among Virginia farmers poured for the most part into the negative image of book-farming and the book-farmer, the assumptions behind that derisive stereotype offer a clearer picture of the outlook of the state’s farmers as the frontier agroecosystem ground down during the early nineteenth century. If ‘book-farming’ was the problem, then simply writing off farm conservatism as the result of either unthinking stodginess or ideological reaction fails to be specific enough. Innovation in the techniques of cultivation was not opposed for its own sake, but rather for the suspect reliability of the system of knowledge which proposed such dramatic changes.\(^74\)

Antebellum scientific agriculture, particularly in that age before agricultural extension and experiment stations willing to test new methods with the government’s money and at the government’s risk, demanded that farmers be prepared to apply new techniques sight unseen, and then work from season to season to adapt them to unique local circumstances — all while still trying to run a profit. Moreover, considerably additional financial and labor investment was needed, as seed, fertilizer, bred livestock, equipment, and the like had to be purchased, usually on credit. Large amounts of labor

\(^74\)Certainly this kind of suspicion of enlightened farming was not without foundation. A number of twentieth-century scholars have turned to defending the crucial role of local folk wisdom in adapting agriculture to unique ecological circumstances, as opposed to attempts to adapt local ecologies to abstract plans for scientific improvement. See, for example, Earle, “Myth of the Southern Soil Miner,” 280-299, Silver, New Face on the Countryside, 194-198, or an older, path-breaking work, James C. Malin, History and Ecology: Studies of the Grassland, Robert P. Swierenga, ed., (Lincoln, NE: University of Nebraska Press, 1984).
had to be taken from cutting down second-growth forest and wringing a few extra pounds of tobacco or bushels of grain from exhausted fields and put into completely unproductive (at least in the immediate term) activities like draining swampland, planting and tending live fences, constructing pens for livestock, collecting, carting, and digging in their manure, and so on and so forth. For the wealthiest of planters, with large slave forces, cash reserves, and abundant lines of credit, such investments might have been more confidently entered into. For the mass of Virginia's farm owners, such investments would have been difficult undertakings, even if the payoff had been certain and secure. For prominent planters trying to get out of debt, slave and land sales combined with migration was a much safer path to a better balance of payments. For the state's tenant farmers, of course, making investments which would improve farm values in the long-term would probably only result in their being turned off the now valuable property for some better-paying tenant and with nothing to show for their efforts.75 Overseers, for their part, often faced cash flow demands from absentee owners that made far-sighted investments in reformed farming impossible.76


76William K. Scarborough, *The Overseer: Plantation Management in the Old South* (Baton Rouge, LA: Louisiana State University Press, 1966), 121-123. Most contemporary writers – plantation owners, for the overwhelming part – chose to blame their overseers for the destruction of soil fertility. John Taylor of Caroline was more charitable than most when he wrote, "I mean not to speak disrespectfully of overseers; they are as good as other people; nor is it their fault if their employers have made their wealth and subsistence to depend on the impoverishment of half a continent," *Arator*, 128.
who had complained to Ruffin of the ineffectiveness of improved cultivation on his plantation went on to conclude of his years of effort that,

_All this has been done at great expense: the plantation has never any thing like supported me; I have purchased corn and meat every year, and sold but little wheat... Possibly, had I reduced my horses, my living, &c., &c., to a certain standard, I might have made out to live upon my plantation. How then could I have made these expensive experiments? I hope now, sir, you will begin to see the difficulties a poor land farmer has to contend with, in improving his farm, and living tolerably well._

A healthy popular suspicion of new ways of thinking blossomed when the new faith began demanding excessive contributions and sacrifices. As another essay reprinted in the Virginia farm journal, the _Southern Planter_, explained as late as 1860, not all opponents of book-farming were motivated solely by obstinate, "blundering ignorance": "There are in every county," the correspondent wrote (with more sympathy than most reform-minded essayists considering the issue), "many industrious, hard-working men, who know that they cannot afford to risk anything upon wild experiments. They have a growing family to support, taxes to pay, lands perhaps on which purchase money is due, or they are straining every nerve to make their crops build a barn, that the barn may hold their crops." An earlier writer for the _Farmer's Register_, in a description of a ride through the farm district of an unnamed tidewater county reached the same conclusion from a different angle. In praising a "Mr. L---", the owner of a large, improved estate in the neighborhood, the narrator commented that while he put out capital for

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improvements, "to as great an extent as circumstances permit the use, without a lessening of profit." Yet he only did this, "when once satisfied of its being good and profitable," for when asked the secret to the man's profitable farm management, the narrator responded that he was, "abundantly cautious in testing the value of any new improvement." The "wretched managers" of the district, on the other hand, were "perfectly assured that if [they adopted] some particular improvement to a certain extent, that [they] could make a large profit." Yet they as well frequently held themselves back, claiming, among other things, that they could never find the "spare money" to make the attempt.

Financial impracticability, rather than simplistic, comprehensive folk conservatism, lay at the heart of the rejection of book farming which echoes in the pages of the farm periodicals. Much of the desperation which appears in the noisy defenses of book-farming in journals like the American Farmer, Ruffin's Farmer's Register, and its successor, the Richmond-based Southern Planter, reflected the fact that agricultural reformers understood and accepted the assumptions about farm finance and risk which lay behind the anti-book farming arguments. One "Book Farmer" agreed with reluctance that, "the fact is notorious that most of the men to whom the world has been most indebted for valuable improvements, have been such poor economists and managers of their business in general, as to have lived and died poor,"—Thomas Jefferson perhaps


80 Ibid.

being the unspoken example. Agricultural reform had to be financially practical, it had to achieve clear results in terms of increased productivity, and so the distance of printed knowledge from the unique agroecosystems created by individual farmers was a crucial problem. The same correspondent agreed that, "if Mr. Cocke, who has acquired and deserved so much fame for the excellent management of his Norfolk (U.K.) estate, could be placed in lower Virginia ... he could not by the apprenticeship of a long life, learn to make any clear profit. His general plans might be faultless ... still everything would fail ... because it would be impossible for Mr. Cocke [to] know how to provide for the most minute requirements."82

The response of the periodical editors was not solely to condemn the suspicious and reluctant for their ignorance, "malice,"83 and the like, but to base those condemnations on lengthy arguments demystifying the process of the development of book-farming techniques. Authors maintained that all the reform movement's knowledge was based upon the experiments and experience of real, practical Virginia planters, recorded and publicized. Book-farming, therefore, was not an air-castle crusade of dilettante scientists trying to impose their theories on day-to-day life. Instead, agricultural reform was just an extension, an improvement, of the oldest system of acquiring knowledge of cultivation and adapting farming to the land: watching and listening to the experiences of your neighbors and friends. In the late 1830s, an address reprinted in the Farmer's Register put the argument bluntly:

82Ibid.

83Ibid.
If a neighbor makes a palpable improvement, by which he doubles the value of his labor, you readily avail yourselves of his discovery, though you do it by stealth. Through the means of agricultural publications, the entire farming community stand in the relation to you of neighbors - you become acquainted with all their improvements, and are able to profit by their skill and science.⁸⁴

Yet as long as the numbers of those neighbors and friends successfully applying book-farming in remote rural communities like the Tye Valley remained small, the suspicion of published agricultural science would limit the spread of high farming to new techniques that both limited financial risk and whose results could be verified through the local networks of farm knowledge. Opposition to book farming, therefore, embodied concerns about the heavy financial risks which would accompany radical alteration of the frontier agroecosystem. Yet those financial risks had to be measured in turn against the gradual erosion of productivity and financial return caused by the overpopulation and over-cultivation of rural agroecosystems. Across the early nineteenth century, gradual decline in fact invoked gradual response, a steady but unspectacular movement of agricultural intensification which served to stabilize Virginia farm finance by slowly improving the agroecological efficiency of the state’s farm practice. Until agricultural reformers could successfully graft their ideologies and networks of knowledge onto the generation of local adaptation and custom, high farming would remain on the fringes of Virginia’s agricultural economy.

Republican Farm Finance and The Intensification of Virginia Agriculture.

⁸⁴“Book-Farming,” 607.
Beyond the occasional derisive description of revolutionary-era farming techniques like that of the Farmer's Register correspondent from Caroline County, literary mention of the course of intensification in eastern Virginia is close to non-existent. Most of the farm journal essayists were more interested in accentuating the differences between the most progressive schemes of high farming and the benightedness of the rural masses. Olmsted, of course, had much the same agenda, although for different reasons. The best place to find evidence for the more subtle transformation of the frontier agroecosystem, therefore, lies back in the probate inventories discussed in Chapter Three. Of particular interest is the evidence of increased attention to the breeding and care of farm livestock. The feral, 'piney-woods rooters' Olmsted discovered in the second-growth forests of the mid-century tidewater were efficient farm animals only from the point of view of the minimal labor demanded for their 'care'. While they could be left in the woods for months at a time, they produced little meat, and most of that would have been of unmarketable quality. Furthermore, what they did consume in the way of plant protein would have been expended dashing through the sedge, rather than being turned into the masses of fat and flesh which characterized the lazy, dissipated farm hogs so beloved of capitalist cultivators. During the early nineteenth century, however, farmers in the Tye Valley, at least, were abandoning this kind of casual pastoralism in favor of a strategy that made more efficient use of available land. With little fanfare or public discussion, all classes of Virginia farm managers

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85For a brief discussion of half-feral hogs in the pre-industrial American farm economy, see Gates, The Farmer's Age, 217-218.
slowly improved the quality and value of their cattle, hogs, and sheep, replacing low-grade animals and expending more labor in their care.

This trend can be seen in the changing average values of individual animals which inventory-takers reported to the clerks of Amherst and Nelson Counties. (See Tables 4.1-4.3) Adjusted for fluctuating currency rates, the average appraised values of Tye River region livestock shows an across-the-board, general increase over time. Two key aspects of this pattern of increase need to be emphasized. First, the picture of low-intensity, frontier agriculture being carried forward unaltered until its collision with agricultural reformers needs revision. If the steadily increasing number of animals in the Tye Valley was not matched by decreasing real value, but in fact by increasing worth, then considerably increased effort must have been being expended on breeding and care. Otherwise, livestock in the upper piedmont would have fallen victim to the same market glut and depressed prices which appear to have afflicted country liquor (See Chapter Three, above). Livestock appraisers would have had to have been responding to real improvements in the quality, and perhaps the marketability, of the Tye Valley’s animals. This improvement in the area’s livestock, in fact, far from appearing with the development of widespread activism in the cause of correcting the state’s agricultural problems during the 1820's and 1830's, in fact emerged just after the end of the Revolution. Second, in the face of the self-congratulation and self-imposed martyrdom of so many agricultural reform authors writing from the studies of their plantation mansions, this earlier trend toward improvement of livestock was not elite-driven. Although frequently (but not always) possessing the most valuable animals throughout
this era, during the period in which the population of the Tye Valley was pressing against
the carrying capacity of its frontier agroecosystem, the wealthiest ten percent of the
population was not providing much of a lead in intensifying the region’s farming. Efforts
at intensification of livestock farming emerged from across the spectrum of farm
operators.

A number of ways in which intensification of this type – *traditional
intensification*86 – could be carried out with little financial risk (although greater labor
investment) can be postulated. First, animals could be taken out of the woods, either
occasionally or permanently, and put into the stubble of harvested crops or recently
abandoned old fields to feed closer to home. Indeed, farm reformers were very critical of
this practice throughout the antebellum era, claiming that stock grazing needlessly
reduced the amount of vegetable matter in fallowed fields that could be plowed back into
the soil.87 For most farmers, however, this short-term strategy would have provided
noticeable dividends. Further improvements could be obtained if these animals were in

86 I use the word ‘traditional’ to describe this brand of intensification, since it followed
the model of ecological intensification practiced by pre-industrial human cultures
throughout history: using increased labor investments to achieve greater yields per unit of
land. Given that traditional intensification was typically a response to long-term
population growth, and that it was often practiced by hard-pressed peasantries attempting
to remain on the land, it has also been typified by an evolving tendency to aim for
sustainability. Yet at the same time, these higher yields and sustainability have usually
been bought at the cost of proportionally declining labor productivity. *Entrepreneurial
intensification*, which will be analyzed in the next chapter, attempts to break out of this
trap by introducing a variety of outside inputs to slow, or even reverse, declines in labor
productivity accompanying intensification.

87 See Taylor of Caroline, *Arator*, 235-247, for his objections to the apparently
common practice of grazing cattle and other livestock on plantation arable.
turn taken out of these pseudo-pastures and supported with feed crops. With the animals in the pens, lots, and enclosures that would have to be built to handle this kind of feeding, stock owners and their workers could pay more attention to breeding and culling, allowing only prime males to mate, and killing inferior offspring. Such a process was a slow way to improve the quality of farm animals, but it did offer the benefit of not requiring the expensive and risky importation of outside breeding stock. What it did require was significant increases in labor investment. Yet the program of slow intensification which Colonel William Cabell was following on the north bank of the James late in the eighteenth century (see Chapter Three, above) was clearly not out of the reach of less affluent planters. For the men like James Montgomery, Anthony Mullins, and John Shields, trying to support families and heirs on contracting farms on Hatt Creek during the 1810's and 1820's, the changing labor-to-land ratio inherent in even the earliest stages of livestock intensification allowed them to keep pace with the improvements being made by Cabell and other elite planters.

Another excellent place to view the process of intensification in the early nineteenth-century Tye Valley is in the region's changing sheep population. *(See Table 4.4)* Unlike hogs, and to a lesser extent cattle, sheep are particularly weak and stupid creatures, largely unable to survive in any sort of feral state. Usually, sheep were forced to keep close to the main house of any plantation or farm, and grazed either in grassy old fields or on the attractive front lawn which their feeding maintained.88 Cattle and hogs

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could manage in the forests during Virginia winters, as long as their owner was not over-
concerned with the near-starvation of his animals. Sheep, on the other hand, absolutely
required penning and supervised feeding during the winter, at the very least. As a result,
the large increases in the numbers of sheep each inventoried farmer possessed during the
1790-1850 period represented a considerably increased investment in the care of farm
animals. The class pattern of this particular intensification of livestock husbandry
repeated the pattern found in the animal values recorded in the inventories. The mass of
Tye Valley farmers were actually moving much more quickly than the elite to expand
their flocks during much of this period. The elite did not appear to be moving vigorously
ahead of their neighbors until the 1840s.

The fact that the wealthiest portion of the Tye Valley population was notably
slow to assume leadership of agricultural intensification in the neighborhood is also
revealed in inventory statistics for agricultural technology. The harrowing of fields,
which involved the use of iron-toothed harrows (essentially horse-drawn rakes) to break
up large clods of dirt, both aerating the soil and flattening the field, was an important
element of intensification (if not long-term conservation). Despite opening the topsoil to
greater erosion, harrowing rewarded the effort put into it with increased yields provided
by loosening the soil, which allowed crop roots a competitive edge in dealing with

55-56.

89 Silver, New Face on the Countryside, 174.
hardier weed species. Harrows first appeared in Tye Valley inventories during the first
decade of the nineteenth century, and steadily increased in number thereafter. Yet the
wealthiest farm operators in the Valley showed no particular predilection toward
adopting the technology. The same pattern held true for cultivators, a small device
somewhat similar to the earlier plow-hoe (although more specially designed to its
purpose), which was wheeled between rows of growing crops to loosen soil, impeding
weed growth and redistributing nutrients. Although cultivators did not appear in
Nelson and Amherst Counties until the 1830s and 1840s, once again the poorest of the
Valley's farmers nearly kept pace with their wealthiest neighbors in its adoption until the
1840s. (See Tables 4.5-4.6)

This standard was repeated in the case of plow technology. Enormous
improvements were made in plowing equipment between the Revolution and the Civil
War. The one-horse scratch plows used on the eighteenth-century frontier were gradually
replaced by large, well-tempered implements drawn by large oxen and horse teams,
which dug deep into the soil and turned large furrows which both channeled rain waters

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90 For Chesapeake harrows during the latter half of the eighteenth century, see Pryor,
"Agricultural Implements," 50-52. Discussions of the gradual development of American
harrors during the early nineteenth century can be found in R. Douglas Hurt, American
Farm Tools, From Hand-Power to Steam-Power, (Manhattan, KS: Sunflower University
Press, 1982), 19-23, and in Peter D. McClelland, Sowing Modernity: America’s First

91 Pryor, “Agricultural Implements,” 41-44, discusses the uses of cultivators. For
development of cultivator technology, again, see Hurt, American Farm Tools, 35-39, and
McClelland, Sowing Modernity, 106-128.
and rewarded vigorous harrowing.92 Yet despite their greater economic resources and cosmopolitan contact with more distant plow manufacturers, like the leader in antebellum Chesapeake plow manufacturing, Gideon Davis of Georgetown, D.C., the elite remained reluctant to take a bold lead during the immediate post-Revolutionary decades.93 Average values of the plows recorded in Tye region inventories increased only slowly, and across the economic spectrum, until late in the period. (See Table 4.7)

The impact of the agricultural reform crusade among the Tye Valley elite should not be entirely discounted, as the evidence on plow values from the last three decades of this period demonstrates. Similar patterns also emerge in the data for the adoption of harrows and cultivators, as well as the average values of hogs and numbers of sheep. While agricultural improvement had become a hobby for enlightened gentlemen before the turn-of-the-century, the elite did not to any noticeable degree lead this movement toward agricultural intensification. Yet by the last two decades of the 1790-1850 period the wealthiest men in the Tye Valley were moving to the forefront of agricultural improvement. Penning their hogs and other animals year round, developing permanent

92For the improvements in plow technology made during these years, see Gates, The Farmer's Age, 280-283, Hurt, American Farm Tools, 7-19. McClelland has completed one of the most extensive and definitive discussions, in Sowing Modernity, 14-63.

93These statistics hopefully shift the focus on plow improvement in the western piedmont away from elite sources. Craven, as well as other authors, have tended to focus on the interest that Jefferson took in plow technology, particularly in developing new mold-boards, as well as the responsibility of his son-in-law, Thomas Mann Randolph, for developing one of the first practical ‘hillside plows’. See McEwan, Thomas Jefferson, Farmer, 84-94, and Craven, Soil Exhaustion, 87-91. Yet despite the leadership of Albemarle-region high farmers in innovating in plow design, the regional gentry as a whole did not move vigorously to improve their plows during this era.
pastures for large flocks of sheep, and purchasing the latest and largest plows from the likes of Davis (as well as the McCormick brothers of Rockbridge County, who would soon begin paying more attention to reaper production), the owners of Nelson and Amherst Counties' great plantations were beginning to push beyond the limits of the traditional intensification which had been slowly transforming the region's cultivation since the Revolution. Yet this new movement was only becoming clear in the statistical record after the end of the Jacksonian era.

Another important aspect of the kind of traditional intensification being practiced by the Tye Valley's farmers in the decades after the Revolution was its increased emphasis on labor invested in self-sufficient production. The coincidence of agricultural intensification with suspicion of 'book-farming' in the mind and practice of the mass of Virginia's farm operators should refocus attention on the dangers of financial risk those farmers perceived in commercial production and off-plantation purchases. Many farmers, of course, chose to try and slowly improve production from within their own farm resources, rather than relying on expensive outside inputs. Moreover, a healthy chunk of the effort that went into agricultural improvement before the rapid expansion of the agricultural reform crusade after the 1820's went into subsistence crops. Forage and fodder crops and other home consumption items took an increasingly important part of the Tye Valley farm's productive energies. (See Table 4.8) Apart from the obvious increase in crop reporting rates across the board, a number of important points emerge from this table. As during the eighteenth century, tobacco and wheat shared equal place as the region's most important cash crops, although rye made for an interesting third
option. Corn, of course, remained the subsistence base of the Tye River's agroecosystem, being grown by most every farm, large and small. The uses to which the corn crop was put were changing during the period, though. The practice of collecting corn fodder, the stalks and leaves of the mature plant, became both regular and an important element in the farm economy. Fodder had almost never appeared as an appraised item in mid-eighteenth century inventories. Yet by the 1830s and 40s, not only was it being consistently collected, but appraisers were acknowledging the sorting practices of intensifying farmers by listing corn fodder as its component elements: tops, shucks, and blades. If farmers were unprepared to invest in full-scale pastures, they could invest the labor in collecting fodder to feed penned livestock during the winter months. Certainly the upsurge in the probate reports of corn fodder indicates that the older method of intensification, keeping livestock foraging on crop field stubble, was slowly being replaced by penning on many Tye Valley farms. The use of corn fodder was not the only way in which feed crops were integrated into the existing agricultural system with the application of more labor. Oats, used typically as feed for horses and cattle, appeared frequently in early inventories, and continued to occupy a place in Tye Valley farming along with tobacco and wheat, second only to corn itself. While oats' sale value was

\[94\text{There is, of course, the possibility that the emergence of probate reports of tops, shucks, and blades, merely represented a changing attitude on the part of the appraisers, who were now ready to assign a cash value to an item which had always been present in Tye Valley estates. Yet on its own merits, that perception of corn fodder having a cash value certainly suggests an intensification of livestock husbandry. Furthermore, although undifferentiated fodder had been present in Tye Valley inventories during the Revolutionary era, the instances had only been occasional, and went up considerably during the antebellum years as well.}\]
minimal, the crop's demands on soil nutrients were also limited, and could often be used to stretch the fertility of worn fields after tobacco and corn had done their damage. By investing an extra season or two of plowing, cultivating, and harvesting the oat fields, farmers could both avoid having to obtain new grounds for feed corn and still manage their livestock more vigilantly than before.

Other subsistence crops, particularly those with even heavier labor demands, also appeared for the first time around the turn of the century, and expanded their presence thereafter. Tye Valley beehives, for example, were rarely developed in numbers that could support real commercial honey production. Most beekeepers maintained only two or three hives for home use or a strictly local sale, but the attention they demanded was not inconsiderable. Farmers whose debts or inheritance had limited them to smaller, poorer properties could make more efficient use of those lands in a number of other ways, as well. Many planters found potatoes, which could be successfully grown on the poorest of mountain soils, to be an addition to plantation subsistence worth the labor that went into their cultivation. The same held true for bacon and other hog meat. Not all the bacon recorded in the inventories was concentrated among commercial producers like Thomas Stanhope McClelland. In fact, many marginal farmers doubtless continued to take advantage of Virginia's still-open range in order to run a few hogs in the woods and the old fields and use their meat for the home table or sale to neighbors. Yet the fact that the numbers of reports of bacon in the inventories was steadily on the increase indicates

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95 For the usefulness of small grains in bringing up the rear of Virginia crop successions, see Earle, "Myth of the Southern Soil Miner," 282.
that the amount of time and energy ordinary farmers were willing to put into chasing
half-feral hogs through the woods, penning and feeding them before slaughter, and
cutting and smoking meat, was in fact on the rise throughout the antebellum era.

The kind of intensification represented by bacon and beehives provided at least
stopgap measures against the ecological and financial problems facing many Tye Valley
farmers during the early nineteenth century. While many reacted to land pressure and
decreasing agroecological productivity by migrating, others stayed and used the increased
labor at their disposal to wring just enough extra useful growth out of their farms to keep
pace with their expanding families and slave communities. Yet this brand of
intensification also minimized the financial risk farmers had to take. Traditional
intensification relied on resources already existing within the agroecosystem, but only
applied greater human labor to conserving resources by more efficiently directing the
ecosystem's remaining potential productivity into crop and livestock growth. Outside
inputs could, from either desire or necessity, be kept to a minimum. This foundation of
financial risk-management then led farmers in other directions as well – forage crops
could be grown to sustain high-protein mean-on-the-hoof; livestock and crop plant
wastes could be collected and plowed back into exhausted soils; incremental
improvements in technology could maintain the productivity of fields even after long
use, and so on. Traditional intensification would help enormously to slow the surge of
out-migration which followed the Revolution, and provide some measure of stability for
Virginia's agricultural ecosystems and its rural communities.96

Yet while Virginia's agricultural system was being slowly adapted to both the region's expanded early nineteenth-century population and the loss of its frontier fertility, the state's reformers became increasingly dissatisfied with the solutions being quietly implemented. The standing of the localizing agricultural gentry relied only in part on the absolute authority of a slave master. The history of the Virginia colony had repeatedly proven that the leadership and status of the elite depended as well upon their ability to pilot their society through the treacherous waters of modern crop markets.97 Localization expanded this dependence: profits from local economic development demanded broad-based agricultural prosperity. Traditional intensification, while it might improve productivity per unit of land, bought those increases at the price of declining labor productivity. This, of course, meant declining surpluses that could be turned into consumer spending, and an expanding fiscal conservatism that aimed at preserving land

96 It is important to note, of course, that within Virginia's open ecosystem and settlement structure, traditional intensification was an alternative to migration, but not its antithesis. While most farmers intensified in order to stay on the land, others could, and doubtless did, use the fiscal conservatism traditional intensification supported to build up financial resources preparatory to a move to the Southwest, where elements of the strategy of heavy labor investment in land could be abandoned in the search for higher profits.

97 As a conspicuous example of the importance of market management to gentry leadership in Virginia, recent research on the introduction of tobacco inspection early in the eighteenth century has demonstrated how volatile a political issue management of crop markets was, and the extent to which these issues were quickly turned into class-based confrontations. See Kulikoff, Tobacco and Slaves, 110-111, Janis M. Horne, "The Opposition to the Virginia Tobacco Inspection Act of 1730," (Honors Thesis, College of William & Mary, 1977), and Nelson, "Then the Poor Planter Hath Greatly the Disadvantage."
ownership and the continuity of family status. The fact that the spread of more intensive
cultivation during the early nineteenth century coincided with the worst depths of the
crisis of eastern Virginia’s agricultural economy, evidences the fact that traditional
intensification was typically not a congenial partner of commercial progress.

This fact caused more than a little confusion to the earliest reformers.
Considered from one angle, working land harder with better adapted crops and livestock
– while aggressively conserving and reinvesting its unconverted biotic resources – was a
formula that was bringing enormous prosperity to the agricultural sectors of England and
the Low Countries. Yet this combination of intensive farming with rural prosperity was
not inevitable. In his inaugural presidential address to the Albermarle Agricultural
Society, James Madison commented on the problem in a revealing passage. To Madison,
a good agrarian republican despite his occasional apostasies from the Jeffersonian line,
the skills of cultivation and husbandry represented the progress of humanity out of
savagery.98 That coincidence between culture and cultivation seemed to be continuing in
the modern era: certainly the most prosperous and cosmopolitan men of both England
and the new world were busying themselves developing a scientific agriculture to support
a higher culture on a base of material prosperity.99 "But closely as agriculture and
civilization are allied," Madison commented in some perplexity, "they do not keep pace

99 The best recent American-based discussion of the obsession of the elite in the
Atlantic world with scientifically-based agricultural improvement is in Chaplin, An
Anxious Pursuit, 23-65.
with each other.” Madison was forced to note that the most intensive agriculture in the world was practiced not on the commercial grain farms of rural England, but by the peasants of China and Japan. Yet while these farmers had built their complex system of rice cultivation with its canals and dikes, its terraces stretching up the hillsides, its conscientious preservation of all forms of human, animal, and vegetable manures for the fields, and its careful use of all available local resources, such diligence had not translated into what Madison or his peers would have called an advanced culture. The Asian peasantry remained illiterate, wholly ignorant of the refinements which the European enlightenment had made in religion, science, and the arts. Even more worrisome, Asian politicians had built remarkably oppressive tyrannies atop such an ‘advanced’ system of cultivation. Most worrisome of all, intensive agriculture in the Far East seemed to have done nothing to bring prosperity to its peasant masses. Labor productivity had been reduced near to the break-even point of energy produced and energy expended. All that centuries of remarkable diligence in creating the world's most stable, sustainable, land-intensive system of agriculture had accomplished was to leave

100 Madison, “Address to the Agricultural Society of Albemarle,” 412.

101 Ibid.

the Asian peasant on the barest edge of utter destitution.103

Madison chose to avoid the implications of this apparent contradiction in the theory and practical results of enlightened high farming, turning the problem of the dissonance between the progresses of enlightened civilization and agriculture on its head. Instead, he offered a reproach to the nations of the West, charging that it was they that had failed in not matching their cultural progress with a more intensive farming.104 Yet the practical quandary created by the troubling history of agricultural intensification could not be evaded rhetorically. The adoption of agriculture, of course, represented an intensification of hunting and gathering systems, and agrarian philosophers were forced to concede the remarkable reluctance of most Native American peoples to adopt laborious cultivation practices. Despite those enormous benefits of modern European civilization which Madison did not question, he was forced to admit that, "there is a disinclination in human nature to exchange the savage for the civilized life."105

This disinclination, however, need not have been based solely on the sub-rational human nature Madison assigned it to. In fact, throughout human history, the adoption and intensification of cultivation, while increasing that percentage of the ecosystem's primary production which went into useful plants and animals, also created an

103See Harris, Cannibals and Kings, 235-236.

104"It is surely no small reproach to the [West]," Madison insisted, "that with so great a superiority in science, and in the fuller possession of the auxiliary arts, they should suffer themselves to be outstripped in the very art (agriculture) by which both (Asia and the West) are essentially distinguished from brute creation." Madison, "Address to the Agricultural Society of Albemarle," 412.

105Madison, "Address to the Agricultural Society of Albemarle," 413.
enormously increased workload to the rural masses while providing their expanding numbers with a steadily worsening diet. Indeed, in most cases, the exchange of the rich, varied diet and considerable ease of the savage hunter for one of endless labor for pitiful rewards which were often then seized by higher authorities was made only under the duress of uncontrolled population growth. The high farmers among Virginia’s rural gentry would have to confront the fact that Madison had danced around: around the world, the trend of traditional intensification of agroecosystems had almost always led in the end to impoverishment and tyranny.

Traditional intensification, the expansion of per-acre agricultural productivity through the increased investment of labor, led to declining standards of living in a number of ways. In the first place, the biotic fever which accompanied the extensive cultivation of mature ecosystems quickly burned up the stored fertility of those systems. Continued extensive farming, particularly without conservation measures, would of course only prolong and deepen the decline in levels of primary production. Intensive cultivation could at first arrest this declension, but only at a level of biotic production substantially lower than that offered by the frontier agroecosystem. Attempts to use the efficiency of intensified agriculture to restore per-acre yields to the level of the disturbed

\[\text{\textsuperscript{106}}\text{For rates of labor productivity in agricultural societies, see Bosserup, “Environment, Population, and Technology,” 30-33, and Harris, Cannibals and Kings, 103-105, 234-235.}\]

frontier agroecosystem could only succeed at the cost of dramatically reducing labor productivity.

Nor, history had proven, could intensification escape from the Malthusian snare that had led to agriculture in the first place. In the absence of modern means of contraception, human populations have repeatedly shown the ability to outstrip both their traditional means of subsistence as well as any improvements that might be made on them.108 Intensification might provide spectacular increases in yields on previously exhausted soils, while stabilizing that productivity for long periods of time. Yet population growth could, as it had in India and China, literally eat up those gains till the system could only be maintained by drastic reductions in the human numbers.109 Those reductions were typically accomplished by the kinds of means — war, pestilence, and famine — that destroyed the material abundance and cultural accomplishment Madison and his peers cherished before moving on to take human life.

To be certain, the process of intensification in antebellum Virginia went nowhere near the point of turning ordinary white farmers into starving coolies. Unlike China or India, the ecological, cultural, and political boundaries of Old Virginia remained quite


porous. Out-migration drained away enough of the population increase and frustrated greed of piedmont neighborhoods like the Tye Valley to slow necessity-driven traditional intensification to the crawl evident in the probate inventories. Yet certainly the "profane old gentleman," from Caroline County who reportedly swore in public that the slaves on his impoverished estate would eat each other before they ate him (see Chapter Three, above) saw perhaps where the logic of intensification might lead for the state's unfree population. Many farm journal commentators, for example, continually worried about the competing claims of expanding labor forces, consequently increased food needs, and limited ecological and financial resources. Farm managers who wished to adequately feed their slaves had to go into debt to do so, while many of those looking to maintain profits looked to pare down plantation rations.

The reduction in labor productivity that accompanied traditional intensification, of course, should be measured not only in absolute, but also in cultural terms. The Virginia system was an open one, in part because ordinary farmers unwilling to accept a peasant's prospects and standard of living, had forced it open.

The issue of slave feeding raises interesting questions about the relationship between slave management and intensification. Considerable literature, particularly the work of Eugene Genovese, has focused on the development of affective bonds within the hierarchical rule of slavery leading to more humane treatment - 'paternalism'. See Genovese, *Roll Jordan Roll: The World the Slaves Made,* (New York: Random House, 1972), 1-159. Joan Cashin, in particular, has insisted that plantation paternalism was a product of evolving gentry culture in the long-settled states of the eastern seaboard, and was undermined by the migration to the cotton frontier of the old Southwest. See Cashin, *A Family Venture,* 26-28, 119-121. Yet, in contrast, the move toward agricultural intensification in older agricultural regions like Virginia created powerful countervailing pressures. Agricultural authors mentioned the slashing of slave rations often enough to lead one to conclude it was becoming a widespread practice (although opposed by progressive cultivators concerned with capital return). Moreover, the overwhelming theme of agricultural reform on the topic of slavery and slave management was the need for tighter labor discipline, leading, one would assume, to greater work loads. 'Kindly old massa' might have become less so as he saw...
For most independent farmers, on the other hand, three more palatable options were on the table. Emigration was one of the most common: fresh lands to the southwest beckoned with the opportunity to maintain older living standards with older methods. It was the apparent energy and decisiveness of emigres in refusing to accept harder work and declining returns that so worried observers like Garrit Minor with the prospect of the best of the state's young men departing. Yet the energy of those young men was directed into reaction rather than the innovations of intensification. For those unwilling to make the bold leap to the cotton country, moving off of expensive lands provided a second alternative. Commercially-oriented farmers wanted to make use of river bottoms and piedmont slopes, not the swamps of the lower Southside or the mountains of the western part of the state. Retreating onto the mature ecosystems of these regions allowed many poor white farmers to continue frontier methods away from the pressure of expanding plantations and farms. Yet those soils provided less primary production, were more difficult to manage, and more quickly exhausted than lands in the agro-commercial mainstream. Recreating the frontier agroecosystem in the hills, swamps, and pine barrens preserved independence and helped farmers avoid the backbreaking work and increased investment of intensified cultivation. Yet those escapes came at the cost of accepting more primitive living standards and relative exclusion from a modern increasingly low-yield labor being wasted on extensive cultivation and pre-modern work rhythms.

\[11^2\] For an analysis of this process of yeoman retreat in the Virginia mountains, see Noe, *Southwest Virginia's Railroad*, 31-52, or Jack Temple Kirby, *Poquosin*, 95-161, for developments in the swamps and lowland forests of the older Southside.
consumer economy.\textsuperscript{113}

For most farmers, unwilling to abandon the mainstream of their culture and society and become the increasingly despised poor whites who populated the marginal agroecosystems, traditional intensification combined with republican fatalism provided the third, and most common, option.\textsuperscript{114} Adjusting their expectations of the agricultural ecosystem, traditional intensifiers accepted increased work loads and diminished opportunity in exchange for maintaining a financially-stable subsistence. Increasing labor investment in smaller pieces of land meant a heavier burden of labor for small farmers in antebellum Virginia. In addition to lacking the financial flexibility needed to invest in high farming, small farmers were reported to complain that they could never, "find time." Those financial constraints further drove the bulk of that increased labor

\textsuperscript{113}A growing body of work analyzes the exclusion (willing or no) of the common farmers of the white South who retreated (or were forced) onto marginal lands. See Stephanie McCurry, Masters of Small Worlds: Yeoman Households, Gender Relations, \& the Political Culture of the Antebellum South Carolina Low Country. (New York: Oxford University Press, 1995), 26-29, or Kirby, Poquosin, 110-111. For two articles that expand on this point by analyzing the manner in which the attempted integration of certain marginal Southern ecosystems into the capitalist economy of the post-Civil War era entailed powerful social and economic transformations for the existing local population as well, see also, Ann Patton Malone, "Piney Woods Farmers of South Georgia, 1850-1900: Jeffersonian Yeomen in an Age of Expanding Commercialism," Agricultural History, 60: 4(1986), 51-84, or Kathryn Holland Braund, "'Hog Wild' and 'Nuts: Billy Boll Weevil Comes to the Alabama Wiregrass," Agricultural History, 63: 3(1989), 15-39. See also, Kirby, Poquosin, 123-125. McCurry pointed on several occasions, to the literary 'invisibility' of yeomen households and farms in the travelers descriptions of the Carolina low country (McCurry, Masters of Small Worlds, 29, 37, 40), suggesting in passing what seems an important point – yeomen farmers were invisible because they had retreated away from the prime agricultural lands that were connected by the roads and rivers on which travelers moved.

\textsuperscript{114}This option being made feasible, in turn, by the work done by the other two approaches in siphoning off excess labor force.
investment into subsistence-oriented activities. The narrator recounted that though investing in improved seed varieties, new plows, stock, and the like, could often bring clear profits of over twenty percent, "yet all these persons are, in various ways, devoting far greater amounts of time or expense to other labors on their farms, which do not bring them 3 per cent clear profit, if indeed, any."\[115\]

"Wretched managers" though these men might be, they were, like all traditional intensifiers, also extremely hard-working. Remarkably, it is almost impossible to find in the Chesapeake's agricultural journals frustrated correspondents cursing the anti-book farming faction for being lazy and indolent — that most reliable rhetorical standby of elites trying to drag reluctant commoners into new programs of labor exploitation. Slaves, of course, were always described as being irredeemably slothful, while the marginal ecosystems from which poor whites scratches a living made them uninteresting apart from their labor, and so could also be condemned as intractable. The farm operators the agricultural reformers were hoping to convert, on the other hand, were unmistakably working harder than ever. Returning to the Farmer's Register essayist describing his perhaps imaginary ride through the tidewater county (see above), a rare, and surprisingly sympathetic, appraisal of a traditionally intensifying farmer is presented. The man, a "Mr. O---," had built a large, albeit ramshackle and architecturally eclectic, house, on land upon which, "his unremitting labors for thirty years have been applied." His strategy was classic traditional intensification — hard, hard labor, and earnest fiscal

conservatism. The narrator noted: "His whole means have been, to work every day, regularly, and to raise and train every child to do the like – and to spend nothing that was not necessary, or that could not be well afforded." In fact, the implied picture of ragged children slaving behind the plow, stump auger, or weeding hoe was so bleak that the narrator felt it necessary to somewhat over-qualify himself, insisting that, "his labors have never been greater than probably conduced both to pleasure and health, and his family have been in want of no necessity of life, or plain comfort, though otherwise living as cheaply as possible." Yet 'Mr. O—' was no enlightened high farmer. While he had been able to expand his operation over the decades of his adult life, "he has had no unusual facilities to make profit, nor exhibited any uncommon intelligence in devising or conducing his farming, or other labors."116 The other half of his formula had been the reduction of consumer spending that the essayist had tried to gloss over. John Taylor of Caroline was more direct in addressing this development among Virginia planters and farmers, writing that,

*Diminutions of comfort, necessaries and expense, are too often mistaken for the means of producing the ends they obstruct; and the rapacity which starves, frequently received the just retribution of a disappointment, begotten by a vicious mode of avoiding it ... The cottagers who inflict upon themselves and their families the discomfort of cold houses, bad bedding and insufficient clothing, to acquire wealth, destroy the vigour both of the mind and the body, necessary for obtaining the contemplated end, at which, of course, they can never arrive. The farmer who starves his slaves, is a still greater sufferer. He loses the profits produced by health, strength, and alacrity; and suffers the losses caused by disease, short life, weakness, and dejection.*117


Taylor, of course, was assuming commercial profit as the ultimate motive, but the Farmer’s Register’s correspondent’s confusion over the inability of ‘wretched managers’ to understand the basics of agricultural profit margins offers a clue to what was really going on. While elite high-farming publicists might have hoped to use their program to sustain Virginia republicanism, it was, in the end, the state’s ordinary farmers who had most fully ingested the lessons of virtuous, anti-commercial self-reliance. Working more and spending less, in both the financial and ecological senses, helped farmers maintain land ownership and avoid both debt and the risks of migration. Intensification could be married to republicanism, but only at the most basic level of farm finance. The commercial profits needed to promote enlightened progress and sustain political influence would prove harder to come by.

While the Farmer’s Register essayist could begin to explain and understand republican traditional intensification in the abstract or the imaginary, and the probate statistics from the Tye Valley provide its broad outlines, discovering specific applications of the practice is more difficult. The ordinary farmers of antebellum Virginia left few records of their thoughts and attitudes toward their place in the state’s declining agricultural economy. Certainly nothing from the Tye Valley appears to have survived. One contemporary document that does suggest the outlook and problems of many common cultivators in eastern Virginia, however, is the frequently-cited diary of Elliott Story, a part-time farmer, schoolteacher, and store owner from the southside
Virginia county of Southampton. Although Story lived in a different ecological zone, and within a somewhat dissimilar agricultural economy, the common strategies involved in intensifying a frontier agroecosystem make his career a close relative to those of the otherwise voiceless small farmers of the Tye Valley.

Story began recording the routine of southside farming during the 1830's while a teenager working for his father, Lemuel. Lemuel Story and many of his neighbors, like farmers of the Tye Valley facing the collapse of both wheat and tobacco markets, responded to the decline in prices of cotton, Southampton's primary early nineteenth-century cash crop, by profoundly intensifying the raising of hogs. According to Elliott's teenage diary, the Story family abandoned the practice of letting half-feral hogs run loose in the woods to feed on acorns and mast, began clearing land to plant sweet potatoes, peas, and particularly peanuts, to feed the animals. In addition, like so many farmers in the Tye Valley, the Storys expanded their cultivation of corn for the hogs and cattle, and taking the time to collect the tops, shucks, and blades for fodder. Yet at the same time the family kept their distance from the developing rural consumer market. While Elliott remained in school long enough (till the age of seventeen) to be able to go into rural teaching on a part-time basis, few other extravagances were available. In particular

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example, in what must have been a frustrating development for many larger meat
producers in the region – the Southampton equivalents of Thomas Massie or Thomas
Stanhope McClelland – the meat on the Story dinner table was overwhelmingly wild
game. Expenditures at local stores for sugar and molasses were kept at a minimum by
putting the extra work into keeping and maintaining beehives. 119

While the simple lifestyle practiced by the Story family kept Lemuel Story a
Virginia landowner until his death in 1845, the burden of hard work and material penury
told on his son. The self-discipline and self-denial demanded both by agricultural
intensification and spartan republicanism were heavy yokes to bear in the modern world.
While Elliott enjoyed farm management, after his father's death he did little of the field
labor himself, preferring to hire local youths as farm laborers. Furthermore, he insisted
on certain luxuries his father had denied himself, such as a riding horse and new house
on the family property. These and other expenditures made it difficult for him to make a
living solely from farming, and he therefore periodically taught school, and during the
early 1850's tried opening a store in order to make up the difference between his growing
expenses and the return on his farm. Elliott's frequent participation in the local fox hunt
with his agroecologically-wasteful riding horse indicated a desire to move up the class
and consumer ladder beyond what normal intensification would support. 120


120 Herndon, "Elliott L. Story," 526. Interestingly, Elliott's rejection of his father's
lifestyle appears to have carried over into politics as well. As will be discussed in
Chapter Five, localizing planters looking for a more vibrant rural consumer economy
were strongly drawn to Virginia's Whig Party and its program of economic development.
Would-be gentry consumer and local entrepreneur Elliott Story followed this path
Nor had Lemuel Story's intensification of hog production done much to dramatically improve the fertility of the family's properties. More land had to be cleared for feed crops, and corn fields had to be driven harder to support extra crops of peas (although these did work to fix more nitrogen in the soil). By the 1850's, Elliott was being forced to purchase guano and lime to restore his corn and peanut fields just to keep up with the local credit markets, and by 1859 had to return to school teaching to keep up his payments. He occasionally fantasized about the fertility of fresh lands in Tennessee and other spots west, but refused to leave his home state because of the, "ties that [bound him] to Old Virginia."121 Yet there was a price to be paid for trying to combine intensification with more modern consumerism. Throughout the antebellum decades Elliott, who had no children, struggled to escape from the burden of debt which his father had largely avoided while raising six children.122

The different approaches to rural living represented by Elliott and Lemuel Story had important implications for the reaction of the localizing gentry to the gradual process of intensification in early nineteenth-century Virginia. As noted above, Lemuel Story's brand of agricultural intensification must have been a frustrating one for men hoping to make a profit from improved agricultural production and farm product processing in Southampton County. Farmers who consistently denied themselves consumer expenditures as income from their cultivation declined made a poor market for store himself. See Crofts, Old Southampton, 47-51, 56-57.

121Elliott Story Diary, May 3, 1848.

owners and the producers of higher quality pork and whiskey. Elliott Story's debts might have made him an uncertain customer for local store owners, but at least he was taking advantage of their services.

The solution which the elite of the Far East had taken to the problem of a miserly peasantry was to exert greater and greater degrees of political power over them—controlling land, and extracting taxes, labor, other fees, and the like.\textsuperscript{123} Within the system of politics and law which the Revolution had established in the United States, grabbing that kind of power over white male farmers was extremely difficult. Large, leased out properties were difficult to assemble and maintain, and emigration was too easy to make heavy exactions possible.\textsuperscript{124} Planters might turn to their near absolute power over their slaves to extract more labor service, of course, but that was all that slaves could provide. They were workers, and only rarely consumers of products and services. And forcing more slaves to work harder on more land to produce more crops for an already competitive, indeed saturated, market, had been proving to be a strategy with rapidly diminishing returns ever since the 1790's.

\textsuperscript{123}For analyses of what Karl Marx called the 'Bureau for the Plunder of the Interior,' in Asian governments, see Harris, Cannibals and Kings, 233-240. For the work upon which Harris' accessible account is based, see Karl Wittfogel, Oriental Despotism: A Comparative Study in Total Power, (New Haven, CT: Yale University Press, 1957), especially 109-110.

\textsuperscript{124}Some recent analyses of the tenant farm economy of pre-industrial America have begun to emphasize the strong bargaining position of lease-holders in a land-rich and labor-poor economy. For the best example, see in particular, Sung Bok Kim, Landlord and Tenant in Colonial New York: Manorial Society, 1664-1775, (Chapel Hill, NC: University of North Carolina Press for the Institute of Early American History and Culture, 1978), especially 162-280.
So if income could not be generated and maintained from power and coercion, then it had to be acquired through the sale of those products and services Lemuel Story and farmers like him were avoiding. Yet farmers like the Storys were always an uncertain consumer market for those products and services. In their absence, maintaining profitable mills, stills, stores, meat houses, and the like, required a significant rural population of non-farming professionals, artisans, workers, and so on, who would, in the absence of their own production, purchase goods with their cash income. Yet the development of this class demanded surplus income and consumer spending from those very intensifying farmers who were avoiding the consumer market in the first place. The intensifying landscape of antebellum Virginia offered limited chances for the growth of such a class. Urban settlement in the Tye Valley remained extremely limited, for example – the county seats of Lovingston and Amherst Court House remained small hamlets right down to the Civil War. Most of the professionals in the region continued to farm for a large chunk of their income. As noted above, the most prominent doctors and attorneys in Jacksonian Nelson County, men like Thomas Stanhope McClelland, Lunsford Loving, and Thomas E. Massie, made the bulk of their livelihood from the sizeable plantations they maintained in the neighborhood, while the large bulk of Tye Valley artisans also farmed, or at least ran a few livestock, on the side.

Elliott Story's other career offers an interesting example. Teaching was for him a frustrating occupation – young scholars needed at home to meet the expanding labor demands of slowly intensifying farms were only sporadic attenders at school. The low level of commitment which the rural folk of Southampton County had to public
education was reflected in the poor salaries which made teaching only a part-time occupation for Story. While his work no doubt led him into greater consumer spending than his father had allowed, Elliott Story was certainly much less of a consumer than local producers and merchants might have hoped. The attraction that the image of the landed gentleman exerted on white male Virginians also slowed the development of an entirely independent non-farm consumer class. For reasons both practical and temperamental, Story regularly attempted to retreat from teaching and mercantile pursuits back into farming.

Profits from localization depended in large measure upon the development of consumer markets. Yet those markets could seemingly not be developed on the base either of the frontier agroecosystem or the various intensifications of it being practiced across the eastern part of Virginia. Low-intensity, extensive cultivation yielded little return in the long-settled parts of the Old Dominion, while intensification, for its part, seemed to only grudgingly match the increases in population and declines in frontier fertility. Having done that, it snatched back most of the gain stabilized or increased yields might have meant for the commercial system by emphasizing self-sufficiency on the farm. Yet in the meantime, that anonymous Farmer's Register correspondent describing his ramble through a depressed agricultural countryside was prepared to give traditional intensification its due, if for nothing else than saving the agricultural population of Virginia from entirely abandoning the Old Dominion. His conclusion with

regard to 'Mr. O——' summed up the divergent agricultural strategies of advanced agricultural reformers and intensifying common farmers before the end of the Jacksonian era:

_There are few such intelligent and judicious, and wealthy improvers, of their own and the public wealth, as L——, the owner of the last farm we passed by; but there are numerous individuals of the same class, and general habits, of this poor and laborious man. And it is well that there are, for, but for the general waste and destruction of God's bounties, caused by others, being partially repaired by the humble, unostentatious, (often ill-directed,) and scarcely noticed labors, of such economists as O——, this would already have been a ruined country._

Yet reforming planters hoped both to break out of the stagnation represented by traditional intensification, and to profit from localized development in prospering agricultural neighborhoods. For them, traditional intensification represented not an inferior but beneficial copy, but rather a serious threat, to the high farming program. Virginia was tied to slave communities and therefore lacked the capital to break quickly out into heavy industry or mercantile ventures. As a result, there was no place to look for economic development but to the agricultural sector. Localizing planters, therefore, had to break those ties between increased labor supply (relative to useful land) and increased labor investment which both drove and retarded intensification. Labor productivity — in terms of the amount of primary biotic production which might be directed into 'useful' growth — had to be dramatically increased, so that the surplus of productivity over subsistence need could be turned into cash incomes and commercial consumerism. Over the course of the antebellum era, this need broke the link between agricultural reform

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and eighteenth-century republicanism, and transformed the high farming movement into an entrepreneurial venture.
CHAPTER V
THE CAPITALIST AGROECOSYSTEM
IN VIRGINIA AND THE TYE RIVER VALLEY, 1820-1850

The inability of traditional intensification to support localization, either in the agroecological or the consumer-commercial senses, demanded new approaches to agriculture if the status of the Virginia gentry was to be maintained. For many planters like Abram Cabell, of course, emigration was an option, but one that demanded abandoning the political and social position, and severing the family contacts, which were crucial to sustaining an informal aristocracy in a capitalist economy. For those who chose to remain in Virginia, another course of action was available. They could begin to use the political, social and financial capital that their fathers and grandfathers had built up over the preceding century to invest heavily in a different form of transformation of the frontier agroecosystem than that practiced in the decades following the Revolution. An entrepreneurial brand of intensification, based on the rapid increase in both immediate yields and fertility stabilization through the purchase of outside equipment and agroecological inputs, offered localizing planters the opportunity to break out of the financial conservatism which underlay traditional intensification. High profits from sustainable agriculture would rebuild gentry finances, attracting capital to attempts at commercial localization. That latter project might, in turn, be made profitable, if
neighboring farmers were drawn into the extension of intensive capitalist cultivation. Yet such efforts demanded a considerably more concentrated brand of capital investment than that created by Virginia's rural communities during the early nineteenth century. That investment, the steps needed to attract it, and the actions needed to build the infrastructure necessary to make it profitable, would hobble agrarian republicanism among the piedmont upper class and draw them into adherence to a decidedly capitalist ecology and political economy.

**The Entrepreneurial Agroecosystem.**

The bulk of the scholarly literature on agricultural reform, whether from the old school which celebrated its successes, or from the new one convinced of its failures, looked for sources in the most comprehensive, theoretical — and elite-focused — of its literary production. The bulk of the practical essays which filled the pages of the *American Farmer*, published out of Baltimore beginning in 1819, have been shunted aside in favor of the thought of Madison and the essays of John Taylor of Caroline. The continued success of that journal, as well as other nationally-based publications such as *The Cultivator* of Albany, New York, which sold well among Virginia planters, has been slighted in favor of looking at the most abstractly scientific — or aggressively political — pieces published in Ruffin's ill-fated Petersburg-based *Farmer's Register*. Certainly this

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1Certainly the publications of the outstanding men in the ranks of the agricultural reformers deserves close attention, and the *Farmer's Register* occupies a very special place among antebellum American periodicals. For an analysis of the quality of the *Register*, see Albert Lowther Demaree, *The American Agricultural Press, 1819-1860*, (New York: Columbia University Press, 1941), 359-363. Yet at the same time, the work
study has followed this pattern as well—the theoretical, ideological, and analytical
perspectives offered in some of those essays are extremely informative—but they do not
represent the central purpose or message of the Chesapeake farm journals.

Interestingly, a number of the more recent critics of Chesapeake agricultural
reform have seen that very failure of Ruffin's journal as the prime evidence that the seeds
of high farming publicity fell on barren soil.2 Indeed, the fact that Ruffin would emerge
from the apparent wreck of his career as an enlightened journalist-crusader as a southern
fire-eater has led some to date the fall of reformed agriculture to 1842, when the last
numbers of the Register appeared. Yet, on the other hand, in the 1840’s Ruffin might
well have consoled himself with the fact that he left the Virginia reform movement in
good journalistic hands. The Southern Planter, published out of Richmond by C.T. Botts
beginning in 1841, and aimed entirely at addressing the problems and promoting the
prosperity of the planters of tidewater and piedmont Virginia, easily supplemented the
Register on the bookshelves of high farmers throughout the eastern part of the state. The
Planter, of course, which studiously avoided the political harangues and abstractions of
academic chemistry which Edmund Ruffin had reveled in, makes much less interesting
reading for modern historians. Yet when compared with the Farmer's Register, it would
prove to be much more popular, and much longer lived, with steadily expanding
subscription lists and a publication record running well into the early twentieth century.

of those exceptional individuals merits close analysis more as the cream of the
antebellum Old Dominion’s intellectual life, than for any role as exemplar of the farm
journals, or agricultural concerns in general.

2See Mathew, Edmund Ruffin and the Crisis of Slavery, 28-32.
Ruffin may also have drawn satisfaction from the fact that the Planter's editor during much of the 1850's, Frank Ruffin (no relation), greatly increased circulation while still expanding the journal's size and including lengthier and more scientific essays, although never replicating the intellectual intensity of its predecessor.\(^3\) The Southern Planter instead made its income from extensive advertising, and expanded its readership with crop market reports and other commercial information.

The success of the Southern Planter during the 1840's and 1850's proved that below the level of the most self-consciously theoretical of the agricultural reformers, who tried to tie high farming to Virginia's dominant political tradition almost as a matter of principle, another message was available to the state's modernizing planters. This message might best be defined as *entrepreneurial intensification*. Rather than link intensification to larger labor outlays alone, an aggressive investment of capital could push labor and biotic productivity well ahead of the demands of conservative finance and self-sufficiency. This surplus could either be consumed, sold for profits to be applied against existing debts, or, most profitably in the long run, reinvested in expanded production or further productivity increases.\(^4\)

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\(^4\) Some of the most intelligent work on defining capitalism in agroecological terms has been done by environmental historian Carolyn Merchant. In her path-breaking study of New England farm ecology and culture, *Ecological Revolutions: Nature, Gender, and Science in New England*, (Chapel Hill, NC: University of North Carolina Press, 1989), 147-231, Merchant isolated the role of outside biotic and mechanical inputs purchased on the open market in transforming the human approach to the land in her study region. Joy Tivy, for example, defined intensification in terms of increasing investment of energy,
Driven by capital investment, entrepreneurial intensification would force the abandonment of the anti-commercial conservatism of both traditional intensification and agrarian republicanism. For example, rather than bemoaning the sale of surplus slaves to the cotton fields and urging their use in expanded, intensified production, a few farm periodical correspondents in fact urged planters to consciously reduce their slave forces, and invest their profits in improved cultivation. If slaves were kept on the home plantations as their communities expanded, it was argued, the need to keep coerced people busy would drive cultivation onto less suitable agricultural properties, needlessly driving down productivity. Nor did men more interested in rural profit than rural republicanism obsess about a disciplined ecological conservatism in the ways that James Madison and John Taylor of Caroline had. Some of Taylor's acolytes took to manuring broadly defined, per unit of land area. Modern, capitalist agriculture, obviously, so far outpaces other systems in this regard, there is an associated tendency simply to conflate all forms of pre-industrial agriculture into common categories. Yet there are important distinctions to be drawn, and Merchant's definitions offer a valuable starting point.

5There was considerable debate in the Chesapeake agricultural journals over the issue of optimum farm size. Advocates of rapid farm mechanization insisted, not surprisingly, on the importance of economies of scale, and therefore argued that farms should be expanded. Others, however, argued that labor and resources were being wasted on large farms which incorporated marginal lands into unproductive arable. They contended that rural capital could be better applied to smaller farms of prime arable. Some even bucked the clichéd paternalist condemnation of the slave trade to suggest that excess slave forces should be reduced by sale. See, for example, "Conservator", "The Different Advantages of Large and Small Farms Considered; and the Injuries Caused to Agriculture, and to a Nation, by Frequent and Injudicious Changes in the Outlines and Limits of Farms," Farmers' Register, 3(1835), 564-569, 'A Merchant', "Proper Disposition of Farming Capital," Southern Planter, 3(1843), 222-224, 'J.L.', "Large Products of Small Farming," Farmers' Register, 3(1835), 439-440, Anonymous, "The Case Stated, of the Comparative Advantages and Disadvantages of Large and Small Farms," Farmers' Register, 4(1836), 641-651.
as received truth, as much for the hard work, self-denial and conservation the practice
demanded as for its agroecological efficacy. When Peruvian guano was introduced as a
fertilizer into eastern Virginia, for example, a handful of high farm advocates grumbled
about its expense embodying another easy solution that would land planters in further
debt. Yet the bulk of the state's commercial farmers ignored such carping, weighing the
expense of the crushed phosphates against its undeniably immense benefits for soil
fertility and labor productivity. Guano, of course, greatly improved on standard
manuring techniques in two ways. First, it was far more efficient per unit of volume at
restoring phosphates and other key nutrients to the soil. Second, by being purchased on
the open market, returns on guano were never tied to the kind of increased labor
investment needed to establish intensive manuring. Manuring, in contrast, while
restoring fertility and, along with intelligent crop rotations, making permanent fields
sustainable, had returns that would constantly eroded by the increased labor demands
which it made. Its advantage from a financial point of view was the fact that adequate (if
rarely abundant) fertilizing manures could be developed within the biotic cycles of the
plantation, whereas other additives drained the planter's cash flow.

Throughout the antebellum era, entrepreneurial planters experimented with a
wide variety of techniques for restoring exhausted and eroded lands. The techniques

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6For a fuller discussion of the debate over guano during the 1850s, see Chapter 7,
below.

7See, for example, 'M.N.', "On Improvement of Lands in the Central Region of
Virginia," Farmers' Register, 2(1834), 585-589, or 'M.', "Improvement of Worn Land,"
Farmers' Register, 2(1834), 383-383.
they advocated typically demanded the kind of financial investment and risk which could only be justified by great increases in productivity which could be turned into profits. Yet the demands of the capital they had invested did not drive planters away from conservation and toward an even more exploitive brand of extensive agriculture. Long lines of credit had long terms of repayment, and demanded stable security not just in slaves, but in land as well. Restoration and conservation, then, could not be driven by a fiscal conservatism which hoped to establish sustainable self-sufficiency. Instead, the efforts of most planters toward renewing soil fertility, stemming erosion, and making the use of the agroecosystem's other resources (timber, etc.) more efficient, stemmed from the need to maintain payments on lines of credit, and to provide viable security for even

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8With the interest of most scholars studying the economy of the antebellum South focusing on the efficiency of slave labor plantations relative to other labor systems and avenues of investment, the practical structure of southern credit markets has been largely ignored. The first monograph-length work to study local financial networks and practices, Richard H. Kilbourne, Jr.'s, *Debt, Investment, Slaves: Credit Relations in East Felician Parish, Louisiana, 1825-1885*, (Tuscaloosa: University of Alabama Press) was only published in 1995. While Kilbourne demonstrates that slave property was the collateral basis of local credit in the cotton belt, in the Tye Valley land served as a crucial security in many cases. Deeds of trust, a legal instrument in which a farmer nominally deeded property to a third party for a nominal sum, on the understanding that if the farmer's debts to his creditors were not paid, the third party would sell the property and apply the proceeds against the debt. Given that land, movable property, and crops were by far the most common security offered in these cases, slaves appear to have been far to valuable to risk on the kind of loans (several hundred dollars to the two thousand dollar range) being secured by deeds of trust. Extremely wealthy, slaveowning families rarely collateralized the loans they took out, and smaller farmers could ill-afford to risk their most valuable property on loans (Kilbourne points out that in Louisiana even some of the largest loans secured with slaves were massively over-collateralized). Yet the original point stands -- while farmers might have been unwilling to risk slave property, they still needed credit in significant amounts. That could only come from using land as a security, and that land could only attract credit if lenders thought they could depend on improvements increasing its value.
more loans.

One of the best concrete examples of the practice of entrepreneurial intensification during the antebellum era comes from the Tye Valley, in the papers of antebellum planter William Massie. While only intermittently given to expressing his political opinions and personal thoughts in his correspondence, Massie is singular among the plantation owners of the antebellum South in the depth and breadth of the agricultural and commercial information surviving in his papers. His detailed farm diaries and memoranda books are supplemented by his penchant for thorough annual accountings of his crop production, income, and debts. As a result, a close analysis of the agricultural and financial characteristics of entrepreneurial intensification can be made from his career in plantation management. And while he stands more as exemplar than example of the modern capitalist farmer of antebellum Virginia, a good deal can be understood of the nature of high farming in Virginia from one of the piedmont’s most successful practitioners.

William Massie was the youngest son of Major Thomas Massie, the Revolutionary War hero who purchased land from the descendants of Parson Robert

9 William Massie’s personal papers are spread through a number of archives, including the Library of Virginia, the Perkins Library at Duke University, and the Barker Texas History Center at the University of Texas, as well as some in private hands. Oliver Refsell’s 1959 dissertation, “The Massies of Virginia,” contains transcriptions of many of the key letters and documents, in addition to the biographical information cited extensively above and below. The largest collection of his papers, that at the Barker Texas History Center, is also available on microfilm as Part 2 of Series G of University Publications of America’s Records of Ante-Bellum Southern Plantations project, edited by Kenneth Stampp. In addition to a massive business and personal correspondence, Massie kept extensive crop and weather memoranda books, annual accounts, and a detailed slave register.
Rose across the Tye from Hatt Creek in the upper Valley during the 1790's. As discussed in Chapter Three, Major Thomas moved his operations to the Tye region during the first years of the nineteenth century, establishing a plantation at Level Green, between the Little Priest and Negro Head mountains, as well as gristmills along the Tye. William was born in 1795, and received a desultory aristocratic education at Washington College (now Washington & Lee) across the Blue Ridge in Lexington. Upon returning to what had become Nelson County, however, he quickly assumed adult responsibilities, marrying Sarah Steptoe in 1814, and taking over management of what would become his home plantation, "Pharsalia" (at the foot of the Priest mountain overlooking the Tye) the very next year. Although he struggled throughout much of his adult life with the kind of financial problems which plagued the planter class (particularly as his indebtedness skyrocketed after inheriting much of his father's estates in 1834) and faced an climate and disease crisis in his wheat farming during the early 1840's, Massie continued to expand and intensify his operations throughout the antebellum era. Working his way out of debt by the early 1850's, Massie cashed in on the wheat and tobacco booms of that decade, becoming one of the wealthiest men on the eastern face of the Virginia Blue Ridge, owning 139 slaves and worth well over two hundred thousand dollars at the time of his death in July of 1862.\(^{10}\)

In many ways, Massie embodied the traits of those threadbare Virginia planter

aristocrats who supposedly loved their status and their politics more than their agricultural or commercial ambitions. His massive papers first came to scholarly attention in the work of progressive Southern historian U.B. Phillips, who used Massie in his work *Life and Labor in the Old South* to exemplify what he saw as the conscientious paternalism of white southern slave management. Indeed, Massie's papers revealed a close concern with the health, outfitting, behavior and productivity of his slaves. He also refused throughout most of his life to make good on his debts by selling his slaves down the river. Furthermore, he carried on the obsession with debt he and his contemporaries inherited from his father's revolutionary generation. He incessantly groused about his fight to put his estates in the black, particularly when dealing with his eldest son, Thomas. Massie only broke his admiration for the younger man as, "an honourable — high tone gentleman," to stage a thirty year running battle with him over his spendthrift habits. In the end, he reminded his son in 1852, the path of financial self-discipline remained the preferable course to aristocratic ambitions: "By hard labor, constant self denial, and unremitting attention to the reduction of my debts, I have so far succeeded in my first of all wishes ... as to only owe $8232.43/100 on Jan. 1 last." With a deep attachment to his home, his neighborhood, and his position within it — he once commented to his friend James Heath that he had, "spent all my best days in preparing

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12William Massie to Thomas James Massie, 6 March 1852. Henceforth, unless otherwise noted, all Massie letters cited are drawn from the General Correspondence files, William Massie Papers, Barker Texas History Center, University of Texas at Austin.
this spot (Pharsalia) in a way to render the evening of my life comfortable."\textsuperscript{13} Massie so successfully mated the role of the frugal republican farmer to that of the planter aristocrat that another friend told him he was, "the Beau ideal of the gentleman farmer."\textsuperscript{14}

Yet there was another side to William Massie's outlook. For the Jeffersonian republicanism, of which he was a paragon in so many ways, Massie had little but contempt. His long career as an outspoken, if not frequently active and public, Whig, resulted primarily from the fact that the death of the Federalist Party prevented him from replicating his father's Hamiltonian politics.\textsuperscript{15} In more practical matters of plantation and financial management, he maintained an aggressively entrepreneurial posture that went against much of what conservative republicanism and its Jacksonian successor had preached to the farmers of antebellum Virginia.

His loyalty to his plantations and his upper Tye Valley neighborhood went far beyond a nostalgic attachment to the old homestead. He was, in fact, one of the more conspicuous localizers among the Tye Valley's planters. Like many of his contemporaries among the piedmont gentry, Massie sought a landed anchor to the west, purchasing a large tract near Chillicothe, Ohio during the 1810's. Yet he moved rather quickly to sell off these properties, and made no further purchases beyond the mountains for possible removal of his operations should his Tye Valley farms have declined too far.

\textsuperscript{13}William Massie to James Heath, 14 October 1841.

\textsuperscript{14}Edward Hubard to William Massie, 21 February 1851.

\textsuperscript{15}For Massie's brief tenure in public life, see Refsell, "The Massies of Virginia," 426-430, 499-504, 563-568.
When he said that he hoped to make "the evening of my life comfortable," he meant in the financial as well as spiritual and social senses. Localized economic development soon became a major source of his income, and he sought to expand his extra-agricultural operations for much of his life.

Milling, of course, as noted in Chapter Four (above), became the cornerstone of his entrepreneurial activities. Following in his father's footsteps when he came to maturity, William first built a mill on the upper reaches of Mill Dam Creek near his "Pharsalia" mansion house. He inherited his father's main mill at Massie's Mill on the Tye when the Major died in 1834, and constructed additional grist- and saw-milling facilities at Tyro and Montebello further up the Tye before his death. Nor was he content to passively accept a subordinate and declining role for rural industry. Instead, he worked through much of his life to keep technological pace with rapidly growing industrial flour milling operations like Gallego and Rutherfoord in Richmond. He rebuilt and modernized the Pharsalia and Massie's Mill facilities during the hard years of the 1840's, investing large sums in what would eventually prove a futile attempt to remain competitive.17

Massie attempted to profit from settling his plantations and capital in a stable agricultural region in other ways as well. Major Thomas had become involved in a

16 See, for example, Nathaniel Massie to Major Thomas Massie, July 15, 1807, Dr. Thomas Massie to Major Thomas Massie, March 20, 1808, or Thomas Marshall to William Massie, 22 November 1830, or Refsell, "The Massies of Virginia," 302, for discussion of the Massies' landholdings in Ohio, and William's attempts to sell them off.

17 For an extended discussion of Massie's commercial and petty industrial activities, see Nelson, "'The Pilot Who Braved the Storm'".
regional company which capitalized and directed the construction of a toll road from Roseland in the central Tye Valley across the Blue Ridge through the Tye River Gap to Vesuvius in Rockbridge County during the 1820's. And even while the road was financially unrewarding, and by the early 1830's could clearly be seen to be about to be trumped by the revived James River and Kanawha Company's plans to extend the James River Canal past Lynchburg to the Shenandoah Valley, William remained involved. He served as the Tye River and Blue Ridge Turnpike Company's treasurer, maintaining the road and even investing further capital in it while watching it slowly reduced to handling transhumance and the occasional wagon loads of bar iron from the furnaces of eastern Rockbridge County. Massie maintained enough faith in the profitability of his father's investment to build a plantation tavern and store along the road in 1836 to pull in some income from local farmers and the other men who used the road.  

Small-scale sales of store goods, and particularly Thomas Stanhope McClelland and William Cabell's old standbys, high quality pork and whiskey, became and remained important parts of William Massie's personal economy throughout his life. His father, of course, had tied the service of hard grain milling to the credit sale of small quantities of beef, pork, and whiskey to local farmers. Throughout his own career as a plantation manager, William steadily increased his production of pork and beef, and as the economy of the Tye Valley and surrounding regions developed and became more complex, the income derived from this kind of primitive commercialism was crucial to the balance

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\[18\] See Tye River and Blue Ridge Turnpike Company Papers, 1829-1842, typescript copy, Wisconsin Historical Society, Madison, Wisconsin.
sheets of Massie's operations. During the 1840s he began to scale back his cultivation of tobacco (although he would return to it in the next decade), and the weed's place was taken by bacon and other pork products. By the eve of the Civil War, in fact, local meat sales combined with shipments to his factors in Richmond and storeowners in Lynchburg had made pork the leading money-maker at Pharsalia, Level Green, Tyro, and Montebello.19

This localized commercialism and development, as well as his aggressive agricultural modernization (which will be discussed below), were all financed through the continued use of large-scale credit. For all of William's republican fulminations against indebtedness, his attempts to clear himself from credit and live off his own resources always took a back seat to his entrepreneurial ambitions. Indeed, he always calculated his own debts in terms not of the retirement of existing notes, but instead by weighing his total debts and expenditures against income and outstanding loans owed him. Even after taking on an enormous debt upon inheriting his father's "Level Green" property and slaves during the 1830's, and particularly while struggling to emerge from a nearly twenty thousand dollar indebtedness while coping with disastrous wheat harvests during the early 1840's, Massie continued to take out notes from state and regional banks, as well as well-heeled private acquaintances. The Bank of Virginia (and later its branch in Lynchburg) was a favorite creditor of Massie's, in fact expanding his line of credit from fourteen hundred dollars to well over four thousand during the hard years of the

19For the increase in Massie's pork production and sale during the 1850s, see his annual plantation accounts, compiled in Refsell, "The Massies of Virginia."
wheat rust crisis and the national agricultural depression of the 1840's. Nor did Massie follow the other half of Polonius's sage advice: during his most indebted periods, he continued to invest capital in smaller loans to area farmers and artisans such as James Campbell, Archy Baird, and Nick Lawhorne, hoping to modernize their own operations, as well as giving book credit to mill and store customers.  

Yet most importantly for the landscape and agroecosystems of rural neighborhoods like the Tye Valley, Massie could not confine his entrepreneurial ambitions to the more recent interests of his class in local commercial and industrial development. Like many other localizing planters of the antebellum piedmont, Massie understood that ultimately his ability to form the capital needed to pursue local commercial and industrial development depended upon his ability to increase commercial agricultural production on his own estates. If localization demanded capital, plantation management remained the foundation of the gentry finance which could attract and secure that capital. If such increases in production were to outstrip the subsistence demands of his stock, slaves, and family, and to take advantage of markets not already flooded by a horde of small-scale producers, they had to come from rapid modernization of his own operation. Such modernization, in turn, depended upon a capital-intensive entrepreneurial intensification. While this kind of intensification carried with it significant financial risks, commercial localization could not be carried on

20Ibid. Although almost all major credit during this era took the form of short-term notes, Massie kept running debts of several thousand dollars with major banks for many years at a stretch, indicating that creditors were willing to extend long lines of credit as long as their options remained open.
without it.

The regular memoranda William Massie recorded throughout his life on cultivation methods and agricultural productivity on his home plantation of Pharsalia\(^2^1\) offer a detailed picture of his attempts to create and manage the modernized landscape which might could reverse agroecological stagnation by dramatically magnifying the percentage of primary production directed into commercial crops and livestock. Much of the large amounts of capital Massie either developed from his own profits, or, more often, acquired on credit, went into supporting his attempts to create permanent fields whose productivity might be stabilized by long-term rotations and regular fertilization, crop varieties that produced higher yields while fighting off infestations of plant and animal pests more efficiently, and a diversified production which increased the flexibility of his market response.

Pharsalia plantation stands at the foot of the four-thousand-foot Priest Mountain, on the headwaters of Mill Dam and Muddy Branch Creeks, and across a narrow valley from Major Thomas's home place at Level Green. The bulk of the property was made up of fertile erosion tailing plains from the mountain above, as well as Tye River bottomland purchased by William's father from the Rose heirs around the turn of the century.\(^2^2\) Yet when William was granted the property by his still active father in 1815, he had to contend with the fact that much of the Massie family's lands in the area were

\(^{21}\)Collected in Refsell, "The Massies of Virginia," as 'Crop Memoranda'.

\(^{22}\)For the soil quality on the Massie property, see Mooney, Soil Survey of the Albemarle Area, 209-211.
taken up either by major Thomas's main plantation, or by the property being developed by William's older brother, Dr. Thomas E. Massie, just across the Tye on the lower reaches of Hatt Creek. Furthermore, prime agricultural properties were not abundant in the upper Tye Valley, with its steep mountains surrounding small, flood-prone valleys. When William attempted to significantly expand his cultivation later in the 1830's, he could not purchase lands nearby, but had rather to develop a separate plantation ten miles up the river at Montebello, a small cove near the headwaters of the Tye and the crest of the Blue Ridge.23

These constraints, although not as severe as those endured by Henry Harper, sandwiched on the upper Tye in its narrow defile between the Priest and Three Ridges Mountain, still forced Massie during his early years as a plantation manager to push cultivation off of his most stable and productive flat land forest soils up onto less sustainable hillside fields. These moves created erosion and yield problems for Massie, and his farm memoranda provide the kind of tangible evidence for dissolving soils absent from Harper's sketchy record. Early on, Massie appears to have developed seven separate fields at Pharsalia, divided early in his career to maintain traditional crop successions on newly cleared grounds, and maintained in later years to serve as the foundation for a complex system of crop rotation. The fields Massie numbered 1, 5 and 6, referred to by him as the "Front Field," "Flat Field," and "Tanry Field," respectively, comprised the tailing flat between Mill Dam Creek and a meadow Massie would later

establish along the banks of the Tye. Fields 2, 3 and 4, ("Muddy Branch Field," "The Cove," and "Rambler's Field") on the other hand, bordered on the flats below but were also in large measure carved from the hillside forests above. The seventh field, called "Ned's Hill," (interestingly not later incorporated into the Pharsalia rotation scheme, giving Massie a six-field system), was created on top of the five hundred foot knob which divided the Muddy Branch Creek watershed from its neighbor Rocky Run, which bordered the Level Green property to the south.24

Erosion of the thin, fragile clay and Porter's Black Loam soils of the Cove and Ned's Hill were particularly troublesome. On several occasions during the 1820's and 1830's, Massie reported in his crop memoranda diverting slaves from the fields into dredging out the Pharsalia mill pond and race, which lay along Mill Dam Creek below the two mountain fields. In 1830, for example of the scale of the problem, it cost 4 days work from 12 hands and a team of oxen.25 By the later 1820's, he was suffering the same problems with cockle-infested wheat crops which Henry Harper had endured two decades earlier. Although Massie, unlike Harper, he had at his command the labor resources to sit slaves down to pick or sieve the cockle seed out of the harvested wheat, the spread of cockle problems on his plantations indicated the erosion problems. Yet the labor needed to do this taxed Pharsalia's resources, as Massie commented after the

24 For a map of the Pharsalia estate and its cleared fields, see 'Maps, Plats, and Oversize Papers', William Massie Papers, Barker Texas History Center. The map is also reproduced in Phillips, Life and Labor in the Old South, 239.

25 All further uncited information and quotations relating to Massie's farming activities is drawn from his "Record of Farming Operations," William Massie Papers, Duke University, also extracted and reproduced in Refsell, "The Massies of Virginia."
weeding had been done in early 1831, "a tremendous job it has been." And while the reverses his wheat production faced during the early 1840's stemmed in large part from the spread of wheat rust through his fields, it is interesting to note that several of his worst yields (always figured in grain harvested relative to grain sown) came during years in which his rotation put wheat on Rambler's and Muddy Branch fields, where productivity would have been more severely impaired by past erosion problems.

Declining fertility on Ned's Hill reached a point that Massie elected in 1847 to abandon commercial cultivation on the field, using it instead to grow corn fodder which he had cut and stacked in early August of each year before the corn went to ear and began seriously sucking nutrients out of the impoverished soil.

These kinds of agroecological problems drove Massie, like so many other Virginia farmers, down the slow and financially unrewarding road of traditional intensification during the 1820's and early 1830's. As noted above, during those first years that Massie ran Pharsalia on his own in the late 1810's, he directed his slaves along the course of extensive cultivation practiced by the Tye Valley's planters since before the American Revolution. Clearing new ground was a regular wintertime occupation of his labor force for the first two decades of his career. Yet as the slave force of Pharsalia plantation grew (from some 32 slaves at the time of his marriage to 175 by 1840), Massie was forced to push his poorly-defined long fallowing scheme harder and harder. By 1827, he was clearing stands of pine timber, well before the term of accustomed, full succession back to hardwoods. He experimented not with permanent crop rotations, but with older systems of crop succession, which cut early surges of fertility that might have
damaged fragile tobacco, and then strung fields along in later years with less valuable and demanding crops like oats (a practice particularly followed by Massie). And while not going all the way down the road to hollow-farming of dark tobacco, Massie did in the early years dodge some of the heavy labor commitment demanded by the fertilization and preparation of tobacco plant beds by establishing the beds on the fragile but fertile black loam soils of The Cove and Ned's Hill.

Intensification came to Pharsalia by fits and starts, as Massie struggled with the debts which he contracted upon establishing his independence, and which expanded as his fields slowly declined. He began fertilizing early in the 1820's, but used primarily logs dragged from cleared new grounds and then burned, as well as other cheap local additives such as hen and horse manure, as well as small quantities of plaster-of-paris. And even then, the commitment of large amounts of costly plaster to large crop fields waited until the early 1830's. Manuring was reserved for the financially vital tobacco plant beds during the first fifteen years. When he did finally begin to use plaster on his main crop fields, it was largely as a minor additive to gradually intensify the old shifting cultivation. In 1831 he sowed a meager 18 bushels of plaster on two separate "clearings" which, he noted, had been maintained since 1821 and 1826, respectively. Small-scale fertilization might forestall the financial clash between long fallowing and population growth, but stringing old fields along in this manner did little to attack the underlying stagnation of the agroecosystem. The cash demands that both gentry-level consumption patterns and commercial localization placed on plantation production were too great to make such an approach feasible. As long as Massie was unable to clear profit from
Pharsalia, conservation would inevitably take a back seat to exploitation.

Livestock improvement also went on with agonizing slowness as Massie cautiously measured investment against return. The slaughter weights of Massie's hogs remained relatively constant during these years, and the total scale of his hog-raising crept up at an almost imperceptible rate. While agricultural authors called for permanent pastures and penned animals, Massie kept a large woodland pasture on the lower slopes of Ned's Hill throughout these years, and only closed it to other cattle and hogs with a fence in 1836. Many of his cattle still grazed on unclaimed common range in the Blue Ridge above throughout the period before 1835. This was particularly true during the summers, as Massie was slow to clear and plant streambottom meadows which could withstand the droughts. Pharsalia's owner did keep hog and cow lots, but seemed interested in them less for the potential improvements that could be made through the close management of the stock than for the manure that could be kept in a small space and easily plowed in. Both the hog and cow "lots" were in fact rather large fields which were quickly turned over to the cultivation of wheat and hemp, more immediately remunerative crops.26

In a quest to reduce his expenditures, Massie also directed a good many of the Pharsalia slave force into more labor intensive self-sufficiency projects. Manure collection, of course, picked up, and considerable effort also went into developing a large, diverse garden. Massie also followed the pattern of so many other Tye Valley

26Tobacco was also a probable crop use for Massie's shifting hog and cow lots, although it was never specifically mentioned in his crop memoranda.
farmers in his dealings with livestock: he began slowly bringing his animals in from the forests and feeding them on the corn fodder (tops, shucks, and blades) which he ordered collected, stacked, and saved from the annual harvest. Yet as late as 1845, he was still running a handful of "sandy hill hogs" in the wooded ridges above what would become the Massie's Mill settlement.

Yet as so many other farmers of eastern Virginia discovered during the early nineteenth century, the kind of intensification Massie was practicing was not the road to financial abundance. Massie's debts, which in the first years of his calculations were mainly owed to his father, soon began to climb, more than trebling between 1823 and 1831. A good harvest in 1834 cut the amount, but it soon skyrocketed again when William took over certain of his deceased father's financial obligations. Interestingly, Major Thomas, who most likely pursued the same agricultural strategies as his son in the years between 1815 and 1835, died nearly twenty thousand dollars in the red, after an otherwise distinguished career as a planter, miller, and local developer. Faced with this grim example, as well as his own financial reverses compounded by the reality of a growing family, William Massie appears to have slowly come to the realization that more aggressive measures needed to be taken to save the financial foundations of his family's status as the leaders of the upper Tye Valley. Major Thomas's creditors appear to have generously (or sagely as time would prove) refused to contest the old man's will, allowing the debt-burdened land at Level Green to pass on to William in the hopes that he would be able to make good on decades of accumulated credit. William, on the other hand, could work on no assurance that such magnanimity would be extended to his own
offspring if he was unable to dramatically reverse the commercial fortunes of the farmlands the family owned between the Tye and the Priest.

An alternate strategy, of course, lay in selling the Nelson County lands, along with enough slaves to put off the creditors for a few years, and then purchasing new properties to the southwest. Massie might then move his family and slaves to the cotton frontier in the hopes that high yields created by biotic fevers on new ground fields, further rewarded by high cotton prices, would pull them out of the fiscal hole Virginia's agroecological crisis had dug for them. Such an option must have seemed particularly attractive to a practical man of affairs around the time William inherited Level Green and its obligations in 1834. Andrew Jackson's removal policy had cleared native occupiers from millions of acres in the deep South, and a land boom was quickly developing in the region. Easy credit was available from the 'pet' banks of the newly-formed states, and a man with William Massie's resources could have rushed his finances into the black with a few years of cotton cropping and some vigorous land speculation (at least before the Specie Circular and the Panic of 1837). Yet William chose to continue the project of localization begun in the Tye Valley by the Cabells and within his own family by his father. To do so, however, he needed to turn his own farming into a profitable enough concern that he could pay off his debts as well as gain access to the credit needed to continue local development. These decisions having been made, the only path open to him was that of aggressively entrepreneurial intensification.

That aggressive approach had to begin by obtaining credit. The year after the death of his father, William began cultivating a friendship with his father's attorney,
Chiswell Dabney. Dabney, a prominent professional figure in the regional center of Lynchburg, sat on the Lynchburg branch boards of first the Farmer's Bank of Virginia, and later the Bank of Virginia. In that role, he was able to open a line of credit to his old client's ambitious son, despite the preference of the Lynchburg financiers for making loans to commodities wholesalers and commission merchants rather than riskier and slower plantation operations. The very next year, 1836, with the aid of Dabney's influence, Massie secured a seat as one of the Directors of the Lynchburg bank, assuring himself of expansive credit with which to finance the modernization of his operations.

That financial push to bring his plantations up to speed soon took shape on the ground at Pharsalia. While he appears to have practiced shifting cultivation, probably in combination with short 3-shift rotations, throughout much of the 1820's, Massie was moving in the direction of establishing permanent fields by the early 1830's. With his father's death, that process picked up momentum. By 1828, he was noting in his memoranda that winter work increasingly including "shrubbing", probably of half-overgrown old fields, instead of the more usual logging and clearing of overgrown new grounds. In that year he shrubbed out the upper end of the Cove, and in 1831, was commencing the same work on the Flat Field. These old fields, once cleared and ameliorated, were not allowed to go out of his rotations again. As he moved to expand his cultivation later in that decade, he aimed at the same kind of permanence. In 1836, he cleared bottomland along the Tye that he had been using for timber (and perhaps others had been as well, Massie called the land "pillaged"). By 1838, he was logging and clearing what he thought were old growth forests on the low ridges overlooking the Tye.
above Massie's Mill (they would become part of Flat and Tanry Fields). By the late 1840's he was committing the future of Pharsalia to the permanence of these large clearings, adding the construction of stone fences to the winter labor of the hands. By 1850, he had well over a mile of rock fences at all his places, and during the subsequent decade would add rock levees along the banks of Rocky Run, Muddy Branch, and Mill Dam Creek to protect the adjoining fields from the sudden freshes (flash floods) which afflict the eastern face of the Blue Ridge.

Permanent fields brought a number of advantages to the planter, both in terms of increased yields as well as the potential for more aggressive amelioration of the soils. While the labor investment needed for a comprehensive clearing was massive, it was an entrepreneurial plunge that in the long run cut the labor needed for annual logging of new ground, freeing slaves for other wintertime work. Purging fields of their stumps, rocks, shrubs, and the like did a great deal to improve the efficiency of crop growth. Uniform soil surfaces and qualities could cut down on the invasion of opportunistic plants like Cockle that might divert water, nutrients, and the like from valuable growth. Although Massie owned a handful of cockle sieves until the end of his life, references to weeding cockle from his wheat crops disappeared after that mid-1830's, as did his complaints about the problem which had so plagued Henry Harper. Permanently cleared fields also allowed more productive experimentation and intimate local knowledge of the

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characteristics of a farmer's cultivated properties. In 1832, for example, Massie's slaves had to return to replant rye in selected spots on Ned's Mountain where the seeds had failed to germinate. The year before he complained of having to deal with volunteer patches of clover hay on swampy parts of his wheat fields. That Massie and his overseers might have been confused about the peculiarities of particular fields could hardly have been surprising under the old system, when they had been cleared only three to four years previously, and planted in two or three different crops during that interval. Permanent clearings allowed a closer knowledge of each field, and the time needed to take remedial action in the form of draining, fertilizing, and soil conservation measures. As early as 1829, Massie mentioned sinking "spring pipes" in his fields, apparently to drain some particularly swampy portions which had been troubling him.

Cleared, improved fields also allowed planters to make use of the most advanced plows, which could better mix and aerate the soil, offering even more efficiency in directing primary production into crop growth. Permanently cleared fields also allowed planters to practice the kind of deep-plowing which served not only as an aid to immediate plant growth, but also as a conservation measure. On the piedmont hillsides in particular, turning large, horizontal furrows with large plows drawn by large teams of oxen created a series of horizontal ridges that diverted the waters of Virginia downpours into small channels leading to the creek beds, rather than allowing them to flow unimpeded across an uncovered field, which led to sheet erosion and devastating gullying. Jefferson's cousin, Thomas Jefferson Randolph, had in fact invented on his own plantations a kind of large plow particularly adapted for steeper ground. What came
to be commonly called the ‘hillside plow’ spread through the Tye Valley during the 1820's and 1830's, and came to occupy a permanent place in the neighborhood's farming. 28 William Massie owned six hillside plows at the time of his death, including at least nine old sets of irons from plows he had worn out on Ned’s Hill, the Cove, and Rambler's Field. 29 By deep-plowing his fields he was apparently able to stem erosion problems at Pharsalia. While he was forced to abandon cash crop cultivation on the severely-eroded Ned’s Hill field, he was never forced to that measure on his other hillside field's like the Cove, Muddy Branch, and Rambler's. Mentions of having to dredge the mill pond and race at Pharsalia disappeared from his memoranda by the mid-1840's.

Yet while creating permanent fields might have gone a long way toward arresting the erosion problem at Pharsalia, they did expose the soil to nutrient exhaustion that had, under the older system, been at the very least forestalled by forest fallowing of different lengths. The slow process of traditional intensification had resulted in many farmers adopting fully cleared fields of varying sizes by the first decades of the nineteenth century. Yet while stump-clearing and more vigorous plowing might have brought increased yields in the short run, regular cropping in the absence of investment in soil conservation and restoration resulted in steady declines in productivity, and eventually forced abandonment. In order to survive as sustainable resources worthy of securing

28 For Thomas Jefferson Randolph’s development of the Virginia hillside plow, see Craven, Soil Exhaustion, 90-91. The spread of the hillside plow in the Tye Valley can be documented from the probate inventories of Amherst and Nelson County, which began to list the style separately during the 1820s.

29 Probate of William Massie’s Estate, November 24, 1862.
substantial outside credit, permanently-cultivated fields demanded lengthy, complex rotation schemes that incorporated nutrient-fixing cover crops at regular intervals. They also required the introduction of outside fertilizers to make up for what nature was not being allowed to add. Most of antebellum America's grain farmers who went down this road sustained it with well-fertilized clover plantings.\textsuperscript{30}

In his quest to make the permanent fields of Pharsalia plantation a paying proposition, Massie followed the lead of many other high farmers of the antebellum piedmont, and began incorporating clover pastures and meadows into his crop and field rotations. Although demanding considerable investment, white and red clover met many of the needs of a permanent, modernized farm for fallowing, soil amelioration, erosion control, pasturage and livestock feed. When supplemented by the major outside fertilizer used by planters of the pre-1850 period, plaster-of-paris, the introduction of regular clover fallows could sustain field fertility to the point of eliminating the need for land abandonment.

Massie appears to have used clover as both a pasture and green manure crop, as well as a hay-producer. He first noted sowing clover seed in 1821, and recorded the first clover hay harvest four years later. Over the ensuing decades, clover hay became a regular part of the Pharsalia economy, as Massie steadily expanded his cutting from

\textsuperscript{30}Interestingly, the use of the cow-pea as a nitrogen-fixer was significantly more popular among southern cotton and farmers than clover, yet never to the same extent in Virginia. One possible explanation for this phenomenon is the fact that when the cow-pea craze began, during the mid- to late-1840s, many ambitious Virginia planters were far enough down the road towards capitalist agricultural practice that the competing virtues of guano were more appealing.
forty-one tons in 1827 to nearly 250 tons on his home plantation alone by the early 1840's. Yet beyond mere hay production — and Massie established a number of permanent meadows along the most fertile creek bottoms at Pharsalia for that purpose — growing clover played an important role in the livestock economy. In 1827, he planted clover in the "hog lot," in part to make use of the manure already there (unlike most other initial clover sowings, he noted no use of plaster) but perhaps also to maintain the 5 acre lot at least for a time for the hogs to feed. Planters in various regions quickly discovered that where it was possible to grow clover profitably, it was an excellent hog feed (as opposed to corn or peanuts which mainly added fat to slaughter animals).\textsuperscript{31} The importance of growing clover for animal pasture expanded during the 1840's. Massie's own Pharsalia rotation tables referred to fallowed fields as growing clover — after 1847 that shorthand had been changed simply to pasture (which would not be surprising, given the massive increase Massie appears to have made in his hog operations after 1848 or so).

In addition to adding to the feed productivity of the plantation, clover fallows also became the foundation of piedmont crop rotations. Clover both conserved and ameliorated soil resources in a number of ways. Clover was frequently used solely as a green manure, and even when it was harvested or used as pasture grass, its roots and stubble could be plowed back into the soil, increasing its organic content to much positive effect in subsequent cropping years. Furthermore, unlike the pioneer weeds

which might have accomplished the same task with much less labor investment, clover performed another important task of soil amelioration. As a leguminous grass, clover supported soil bacteria such as *Nitrobacter* and *Nitrosomonas* which attached themselves to the grass roots in nodules which converted nitrogen in the air into nitrates which could be taken up by growing plants. With the key Virginia field crops — corn, tobacco, and wheat — all heavily dependent upon nutrient nitrates, interspersing crops of clover with the regular commercial crops could go a long way toward making permanently cultivated fields sustainable beyond the limited time frames of the earlier three-field rotation methods. By 1850, Massie had been successfully cultivating the 6 main fields at Pharsalia for fifteen years or more with no conspicuous signs of soil exhaustion. A large measure of the credit of that success had to go to his regular clover rotations, which he was able to decrease to two crops in five years on each field from three in five during the early 1840's.

While clover was working to sustain nutrient fertility, it proved particularly important in the piedmont, where planters did not have to struggle with the severe soil acidity which dramatically slowed the spread of leguminous grasses in the tidewater. In the red clay uplands, on the other hand, clover could do important work delaying, or even reversing, the problems of soil erosion. Both long fallowing, as well as the shorter fallows being incorporated into simplified rotation schemes during the early 1800's left

32For an introduction to the role of clover in restoring fertility to Virginia crop fields, see Mathew, *Edmund Ruffin and the Crisis of Slavery*, 75, Craven, *Soil Exhaustion*, 97-99, and for a more general discussion of typical Virginia crops and soil deficiency problems in the state, see Wingo, *Virginia's Soils and Land Use*, 219-245, passim.
fallowed fields exposed to the subsequent downpours of rainwater which led to such troublesome sheet erosion and destructive gullying. Clover grasses, on the other hand, grew quickly from limited plantings and created denser root networks than pioneer broom sedge and briars, and as such were much more resilient to livestock grazing. Top soils on fallowed fields which might have slowly eroded even with the protection of pioneer weeds were much better protected by clover. Furthermore, the various clover varieties, especially the white clover which had spread opportunistically across much of the trans-Appalachian region, were quite competitive with non-commercial weeds on exposed, eroded soils. As a result, the farm periodical authors who regularly penned essays advising farmers how to rebuild the productivity of eroded, or ‘worn’, lands stressed the value of putting in crops of clover on top of ameliorated soils or filled in gullies. Such crops, in addition to slowing erosion and restoring soil fertility, could, when plowed back into the soil several years running (as a number of apparently very well-capitalized farm reform authors somewhat quixotically advised), rebuild the devastated soil profiles of eroded or galled land. Such effects could also be seen in less dramatic fashion when clover was incorporated into rotation schemes such as Massie’s.

Clover also helped rebuild soils in less direct ways. When used as a pasture crop, it allowed Massie and other farmers both to increase their livestock herds while at the same time inclosing or even penning them. While the meat and feed production lessened plantation dependence on the crop most conducive to soil erosion, corn, the closely

33 See, for example, ‘M.N.’, “Suggestions for the Improvement and Profitable Culture of Poor Land,” Farmers’ Register, 3(1836), 577-580, or ‘A.N.’, “Improvement of Worn Lands,” Farmers’ Register, 2(1834), 190-191.
managed animals could produce even more useable manure for the fields. During the late 1840's and early 1850's Massie more than doubled the pork production on his stable plantations, while also slaughtering larger amounts of beef as the Civil War approached. These animals no doubt enormously increased the production of manure on the Massie farms. And while manuring became so commonplace on the plantations as to warrant no specific mention in his notations of winter work, at his death he owned a number of specialized manure forks as well as an abundance of carts and teams for the annual task. Manure left in the fields after annual pasturage could simply be plowed back in.

Yet clover cultivation, as great as its practical benefits might be, could not be entered into without considerable additional investment. Ruffin and other tidewater planters discovered that reducing soil acidity by digging in marl and other phosphates of lime was a necessary precondition to successfully growing red and white clovers. In the piedmont, where soil acidity was much less pronounced, clover growth on long cultivated fields was impeded by the low salt content which resulted from the admittedly reduced leaching of red clays. Those salts had to be replaced, and most high farmers chose during the pre-1850 to accomplish this amelioration by digging ground sulphate of lime, typically called 'plaster', or 'gypsum'. 34 Massie first noted using plaster as a fertilizer on his tobacco seedling beds in 1822, along with brimstone and collected hen manure. By 1827, he had expanded his use of plaster onto his main fields, grinding nearly twenty tons at his father's mill. By the next year he was embarking on a

34 For the effects of gypsum/plaster and its introduction into Virginia farming, see Mathew, Edmund Ruffin and the Crisis of Slavery, 69-77, and Craven, Soil Exhaustion, 93-97.
plantation-wide campaign to plant clover on old tobacco grounds, as well as his wheat, rye, and oat old fields. He also planted clover in both spring and fall of 1828 in an attempt to see if he could develop a cover crop for Virginia's mild winters. By 1835 he was finally able to replant a wheat crop on an old clover fallow and begin reaping the commercial returns on his investment in clover and plaster. Yet throughout this period, "sowing" plaster on old fields had been a necessary precondition to developing fields of clover as well as orchard grass, and Massie had to spend a considerable amount purchasing, grinding, and distributing the tons of plaster he applied to his fields.

As noted above, one of the particular contributions of clover incorporated into a permanent field rotation plan was as pasturage and feed for livestock. Massie built an aggressive campaign to improve the quantity and quality his meat and wool production throughout these years on clover hay and other grasses. From his own notations, however, it is difficult to discern a noticeable improvement in the quality (i.e., slaughter weights) of his hogs during the decades between 1820 and the Civil War. Average hog weights for these years ranged between 130 and 150 pounds per animal in a relatively constant succession. Yet Massie was not specific in his records as to gradations within his animals. Certainly his steadily expanding sales of bacon, and especially the growing reputation which "Massie's Hams" garnered on the urban markets of Lynchburg and Richmond indicate an increased attention to the breeding of higher quality animals.

Another point needs to be noted as well: importation of new hog varieties into the South was difficult due to endemic diseases such as hog cholera which would have killed off
expensive breeding animals. The difficulty in bringing in new genetic stock might have placed an upper limit on the weights he could maintain in his hogs, yet his ability to stage two dramatic increases in pork and bacon production -- first in the mid-1830's when he inherited his father's plantations, and then again during the late-1840's and increasing steadily through the 1850's -- without seeing any noticeable drop off in average hog weights indicates a conscious effort to cull low grade animals from the herds. By the mid-1850's, Massie's slaves were slaughtering nearly fifty thousand pounds of pork annually, an almost three-fold increase with no loss in animal quality. As Massie had done little since the mid-1830's to increase the amount of land on his plantations cultivation, the second increase certainly reveals what he was willing to invest in modernized livestock production. And if disease made it difficult to import hogs into Virginia, sheep were in a much better position. Massie reversed John Taylor of Caroline's negative appraisal of sheep by purchasing and importing merinos to Pharsalia and vigorously building up his flocks and wool production after 1845.

Nor was Massie's willingness to invest in improved production limited to his animals during these years. His notations were filled with references to a wide range of strains in some of his basic crops -- assorted types of potatoes, clover, timothy, and

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35 For the dangers of diseases striking down imported breeding stock in southern climes, see Rubin, "The Limits of Agricultural Progress," 366-367.

36 Massie did clear more land on his own plantations, but appears not to have added substantially to his arable landholdings after his inheritance from his parents was settled in the late 1830s.

37 Taylor of Caroline, Arator, 248-249.
orchard grasses, as well as several varieties of wheat – all were experimented with at various times, not to mention a numbing array of garden vegetables. When wheat rust hit particularly hard at his crops during the early 1840's, Massie turned to a series of bold experiments which epitomized entrepreneurial intensification, hoping to rapidly improve production in other areas: purchasing Merino sheep, or developing his orchards to produce apple and peach brandy. In particular he began experimenting with a strain of rye called "Poland," or "multicole," which yielded an astonishing forty-five and a half bushels to one sown in 1846. His success in replacing income from wheat with a high efficiency crop variety like multicole rye attracted attention throughout the neighborhood, drawing a wide range of planters into rye cultivation. Massie reported his successes to the Southern Planter, and began receiving requests from across the upper South for seed and advice.38

Massie also began to invest heavily in the kind of agricultural equipment that would increase labor efficiency on his rapidly intensifying and diversifying plantation operations. He built an early relationship with the McCormick brothers across the Blue Ridge in Rockbridge County, and encouraged their technological experiments, even cosigning the note which financed Robert and Cyrus's first foundry.39 Before the McCormicks moved to Chicago in the early 1850's, Massie remained one of their prime customer-publicists in Virginia, buying prototypes of their various plow designs and

38Tarleton W. Pleasants to William Massie, 8 August 1848.

39See Schipper, “Guide to the ... William Massie Collection,” 4, for an overview of Massie's relationship with the McCormicks.
other farm equipment. During the mid-1840's, even while deeply in debt and struggling to defeat the wheat rust in the fields of Pharsalia, he became one of the first men to purchase one of McCormick's reapers, and promptly put the new machine to work on his own fields. Nor did he limit himself to dealings with the McCormick brothers, as ambitious as they were. Massie's surviving papers are littered with advertisements from the region's other prominent innovators in, and manufacturers of, agricultural equipment. He purchased plows from Gideon Davis of Georgetown (D.C.), as well as a "Gum Spring" seed drill from John Black of Harrisburg (Pa.). This kind of equipment represented a sizeable and risky investment, even for an operation the size of Massie's: McCormick's reapers were typically appraised at over two hundred dollars during the early years of their production, and were notorious for breaking down at crucial moments (Massie appears from his notes to have always supplemented his reapers with cradles, just to be on the safe side). Yet while Massie's entrepreneurial vigor was rewarded with considerable financial success, those achievements should not cause one to forget the enormous investment and risk that went into them. Massie's investments were chancy ones, and a

40 Although the McCormicks had developed a reaper as early as 1830 (Gates, The Farmer's Age, 286-287), Massie remained cautious about the expensive device, but mentioned using one at the time the Rockbridge County implement manufacturers had first developed a feasible device, around 1845.

41 For the problems with the early McCormick reapers, see McClelland, Sowing Modernity, 153-154.

42 At the time of his death in 1862, nearly two decades after his adoption of the reaper, Massie's probate assessors found more than 80 scythes of various designs among his farm equipment.
number of problems nearly drove him into bankruptcy during the 1830's and early 1840's. Capital investments demanded profit, and in the volatile economy of those decades demanded it quickly. Yet agriculture, as Massie's papers and career show, proved particularly inflexible when integrated into a modern capitalist economy. Realizing clear profits from capital investment in high farming demanded an expense of money and particularly of time which certainly warned many farmers off the project. Many, no doubt, simply lacked the resources or credit lines Massie enjoyed, and could not embark on entrepreneurial agriculture even had they wished to. While entrepreneurial intensification promised abundant ecological returns, the short-term commercial sacrifices were considerable. Like localized economic development, a full understanding of the financing of high farming must weigh the benefits in the balance with the burdens and risks.

Establishment of stable, productive crop rotations demanded an enormous investment of both time and patience before returns could be realized. On many Virginia plantations, extensive amelioration of field soils was necessary before rotations could include commercial crops. Published programs for retrieving damaged lands typically called for filling gullies, in many cases importing topsoil from non-agricultural properties (particularly swampy lowlands), marling, plastering and the like, before a succession of clover and other grass crops were grown only to be dug in to restore organic matter and soil profile.\textsuperscript{43} The kind of extensive investment being described in the periodicals –

\textsuperscript{43}See, once again, for example, 'M.N.', "On Improvement of Lands in the Central Region of Virginia," 'M.', "Improvement of Worn Land," 'M.N.', "Suggestions for the Improvement and Profitable Culture of Poor Land," or 'A.N.', "Improvement of Worn
which had to wait so long for any return, much less a true payoff—was beyond even the means of a prominent member of the piedmont gentry like William Massie. Instead of diving in, he established sustainable rotations very slowly at Pharsalia, putting old fields in clover while still clearing new grounds for tobacco, hemp, and wheat. At each step of the way, the commitment to amelioration and sustainability had to be measured against the pressing demands of expenses and debt. While sections of his six Pharsalia fields were being permanently cultivated by the early 1830’s, a comprehensive rotation scheme for the plantation was still two decades off. As noted above, Massie was still tinkering with his crop rotation plan early in the 1850’s, reducing the use of clover fallow in places where fertility and soil stability had been restored to levels which could support his financial program. During the late 1840’s, Massie put to paper some thoughts about shifting his Tyro plantation fields to a complex but lucrative and stable eight-field rotation. A long table charting fields, years, and crops, showed the inability of even prominent planters to command the financial clout needed to commit themselves to uninterrupted modernization of their landscape management. Having worked out the scheme’s requirements in detail, Massie came to the conclusion that a financially workable plan would take so long (the Tyro plan ran well into the 1870’s before a regular rotation could be finalized) that the plan would likely be sabotaged by his own death and the breakup of his plantations among the Massie heirs.

The short-term financial burdens of attempting to establish new schemes of rotation and grass fallowing were accentuated by the fact that the benefits of clover and lands.”
other grasses were as extremely financially indirect as the were agroecologically immediate. A large number of farmers might immediately have said that even a regularized rotation scheme such as Massie had built at Pharsalia was not affordable. Losing two commercial crops every five years — to say nothing of abandoning cash crop cultivation (but not the investment of labor) for a period of years to achieve amelioration — was a sacrifice of short-term income to long-term stability and credit-worthiness that many farmers could not afford. For those planters ready to make that investment and grow grass, the returns were long in coming. Amelioration was obviously painfully slow process in financial terms, but the investment could not be immediately balanced by returns from the grass itself. Clover grass took time to establish before it produced useable hay or pasture. Turning grazing animals loose in a new clover fallow could destroy expensive grass before it could do its work on the soil. Massie himself appears to have had to wait four years from his first sowing of clover in 1821 till he was able to mow a crop of clover hay in 1825. That first crop was small as well — only 41 tons — and Massie would have had to wait several years before clover hay could serve as a base for expanded livestock herds. Certainly he did not allow his hog slaughtering to expand until 1835, when a large measure of the increase could be supported could be supported by the lands he had inherited from his father. Even when the returns on tons of hay began to appear in terms of increased livestock herds — penned, fed, and meticulously

44 Many antebellum planters, particularly in Ohio and Kentucky, used clover fields to pasture market hogs. See Jones, History of Agriculture in Ohio. Yet such measures could hardly be undertaken while soil fertility was still at a low ebb. Most schemes for reviving worn and exhausted Virginia soils demanded that at least two or three years of clover be plowed entirely back into the soil.
cared for — the reward was tempered. Massie turned enormous amounts of bacon, ham, lard, and other pork by-products loose on the market during the 1850's, yet that market was already saturated both by men producing in a more extensive manner, as well as subsistence producers who needed no bacon while running their own hogs in unfenced woods. Even when receiving gross returns on pork running into the thousands of dollars during the boom years of the 1850's, Massie was still aggressively pursuing new crop varieties and agricultural opportunities that might give him a higher return per acre and per laborer than even modernized hog farming.

As noted above, Massie was able to make up the sacrificed income his investments in modern agroecological management demanded because of the size of his properties and the extent of his captive labor force. Sacrificing large stretches of valuable land to clover fallow and pasture year after year demanded larger cultivation to meet fixed costs. Those larger fields in turn demanded more labor, more fertilizer, and more expensive agricultural equipment, all of which had to come from somewhere (usually credit), in order to successfully cultivate. The size of Pharsalia plantation (especially when combined with Level Green, Tyro, and Montebello after 1834) could support such a sacrifice, but many smaller properties could not. As the piedmont population grew, farmers had less useable land to undertake such expansions in cultivation. The cheap land, of course, was across the mountains to the west, but purchasing it demanded credit which had to be repaid with aggressive cotton cultivation which typically landed farmers back in the same situation they had left in old Virginia: Exhausted fields and insufficient credit to restore them.
Rotation schemes and the livestock production which their grass components supported were not the only aspect of modernization which demanded time, patience, and considerable investment. Improving crop and stock varieties — as opposed to simply expanding production — demanded investment of liquid capital as well as land and labor. Producing more biotically efficient plants and animals from within the genetic resources of a plantation-sized agroecosystem was a terribly slow process. Massie attempted it in a number of ways during the modernization of Pharsalia. One of his first uses of his "hog lot," after taking advantage of accumulated manure to plant it in clover for a few years, was to plant just over ten bushels of what he called "picked wheat." This grain was the best of his seed, sorted and saved, and he planted not to harvest and grind it for sale as flour, but rather to take advantage of a patch of highly fertile ground to increase his stock of top quality seed. And yet, despite his efforts, wheat yields appear to have in fact continued slowly to decline during the 1830's, rather than increasing. On the livestock front, of course, as noted above, Massie never achieved a substantial breakthrough in the slaughter weights of his hogs, despite increasing their numbers and improving their care from year to year. Nor was this process of slowly building up crop and stock varieties not without reverses. During the hard years of the early 1840's, when wheat rust seemed about to drive him out of Virginia despite his best efforts, Massie confronted the accumulated impact of his troubles. 1844 was a good year weather-wise, without the wet summers which seemed to have encouraged the rust since 1839, yet his yield was nearly his worst ever, coming to only two and half bushels harvested to one sown. Massie was forced to conclude that the destruction of the rust had reduced the quality of his seed to
the point that he could not even take advantage of a good year. In fact, it would not be until well into the 1850's that Massie had improved his seed sufficiently that even a reduced cultivation of wheat at Pharsalia would come close to reproducing the 10:1 seed yields he had enjoyed during the years in the 1820's when he was still practicing a more extensive cultivation on fresh lands.

In fact, improving the commercial quality of crops and livestock by patient breeding from within the plantation took so long and achieved such meager results that it was nearly the negation of entrepreneurial intensification. Even directed evolution could not successfully outrun population increases and ecological losses. Entrepreneurial intensification demanded the importation of species varieties and resources from the outside, and those inputs cost money, rather than just land and labor. Massie had continually to buy clover seed during the 1830's as he expanded his permanent cultivation. Yet his plans were thrown off in 1840 when the prices of clover seed rose (despite the depression) to a point that the fiscally-pinched planter could not justify to himself purchasing and sowing the full amount his carefully laid plans called for. The problem must have been one Massie feared, but could not have anticipated. Three years earlier he had proudly recorded that, after two decades of farming, he had become sufficiently satisfied with his orchard stock to stop importing expensive new trees from the orchard nurseries on Long Island, and would only replace diseased and unsatisfactory trees from home cuttings. While manure, or the marl needed to restore acidifiedtidewater soils, could be had from on-plantation or local resources, bulky commercial fertilizers like plaster, gypsum, or various other limes had to be imported at considerable
expense. While James Madison might have fantasized about plantation self-sufficiency in ecological as well as financial terms, the reality was that fiscally-feasible intensification demanded genetic importation. For planters and farmers worried about the pressing annual bottom line, the expense could only be met by placing more pressure on the cash crop production of their farms which would only upset attempts to restore and stabilize agroecosystems.

Planters hoping to modernize their farms also faced obstacles beyond the ecological and the financial. Once they had assembled the capital, labor, and outside resources necessary to take the time to pursue high farming, they still had to develop both the expertise to grow crops and the markets needed to buy them. William Massie's attempt to build a profitable hemp-growing enterprise in the decade between 1828 and 1838 provides an excellent case in point. As the American shipping industry slowly expanded in the years after the end of the War of 1812, the demand for rope steadily increased, leading young William apparently to believe that he could escape from the collapse of the Napoleonic flour export boom and the stagnated returns on tobacco cultivation by switching to hemp. Yet the crop was one which had not been cultivated in eastern Virginia for some time, and as such, Massie faced an uphill fight trying to


46 Virginia hemp production during the Revolutionary era had been considerable, but had largely died out before 1800, while planters and farmers in Kentucky and particularly Missouri had taken over the trade. By the time Massie started in again in the late 1820s, much of the knowledge of the crop would have died off, or migrated over the mountains.
establish a profitable operation. His notes on hemp farming during the late 1820's and beyond are a long catalogue of costly mistakes. In 1829 he stacked and housed his hemp too late in the year and much of it was damaged. The next year two stacks were "spoiled" by mishandling. In 1831 his hemp house burned down, costing him twelve thousand pounds of crop and "much fine pine timber," but just as importantly, he noted to himself the next year that after another poor crop he should only plant hemp on the Muddy Branch and Mill Dam stream bottoms where he was sure he could keep the crop reasonably safe from periodic mountain floods: he was still learning the art of hemp cultivation after five years of investment. Two years later production was up, but up so much in fact that the harvested crop was overflowing the rotting ponds he had built at Pharsalia and was damaging the product. Balancing uncertain production against primitive processing facilities when you were uncertain what you were doing was an impossible task.

In addition to learning the arts of hemp cultivation and processing as the ancestors of the piedmont gentry had learned tobacco's tricks a century-and-a-half before, Massie had also to learn the market with which he was dealing. Hemp was simpler than most: the major buyers were large rope factories whose purchasing standards were set in stone by the demands of the large contracts let out by the U.S. Navy. Those contracts, driven as they were by political concerns rather than direct economic ones, combined with the regular demand for replacement rope on commercial vessels to make the hemp

See Mitchell, Commercialism and Frontier, 233-236.
market stabler than many others. Yet despite the advantageous stability of the hemp market, Massie had no end of trouble breaking into it profitably. None of the commission merchants in Richmond with whom piedmont planters like Massie dealt had any experience wholesaling hemp. As a result, Massie had to go around his agents (Robert Pollard & Sons during these years) and try and deal directly with the companies or with wholesalers not acquainted with him, a difficult task for a single farmers. In any event he appears to have had to forego the kind of credit an established firm like Pollard & Sons might have offered him for his crop and try to make it on his own resources. On the other side of the coin, the demands of the Navy for rope standards, for all the predictability it entailed, placed inexperienced producers like William Massie at a serious disadvantage. Throughout his attempts to produce hemp, Massie was apparently unable to grow and process a crop that would go into rope that might meet the Navy's standards. Particularly troublesome was color: Massie's hemp, with roots drowned in soggy, flooded stream bottom fields, and then inexpertly rotted and processed by Pharsalia's ignorant slaves, overseers, and owner, typically came out too dark to qualify for Navy use. As such, the major rope makers, hoping to standardize their operations,

While much of the hemp produced in the United States during this era went for cotton bagging in the Deep South, it was of low quality and poor price. Hemp makers like Massie hoping to obtain substantial profits from the trade made hemp for rope, and the standards of that market were dictated by the requirements of the U.S. Navy, which made the largest bulk purchases. See Percy Bidwell and John Falconer, History of Agriculture in the Northern United States, 1620-1860, (New York: Peter Smith, 1941), 365-366.

In 1830, for example, Massie was dealing directly with Vlume & Company, a cordage manufacturer based in Norfolk. See Vlume & Co. to William Massie, 16 August 1830.
were uninterested or willing to only offer considerably reduced prices.⁴⁹

Overall, Massie's attempts to go into hemp were an almost unmitigated failure. During these years he went deeper into debt, and was finally forced to abandon the crop late in the 1830's. Only once he had given up on hemp was he able to begin to climb back out of the red. In fact, his commitment to hemp was much more damaging to his finances than the disastrously rusted wheat crops of the early 1840's: even during those years Massie was able to reduce his indebtedness somewhat, rather than seeing it balloon. And if a man with Massie's undoubted intellect, zeal, and resources could be brought to the brink of bankruptcy by attempting to diversify and modernize his agricultural production, one can imagine the reluctance of other farmers to embark on similar adventures. Entrepreneurial intensification was often more demanding and dangerous than it was lucrative for the individual farmer. Given those problems, if this scheme of agroecological management was to be made to pay – much less attract the kinds of converts who could support successful localization – it had to be mated with an entirely new attitude toward markets and market development.

**Agricultural Reform and Entrepreneurial Politics.**

William Massie's inability to build a profitable business cultivating hemp reveals some of the complexity of the problems confronting those attempting to pursue a strategy

⁴⁹See Vlume & Co. to William Massie, 16 August 1830, 28 October 1830. The Norfolk firm complained that Massie’s methods of cutting his hemp were wrong, and that he had to be sure to free it from tangles and ‘mussels’, as well as informing him that his hemp had to be water-rotted, and of a superior color, before it would be accepted by the Navy.
of high farming in early nineteenth-century Virginia. Massie's difficulties with hemp were not, unlike his apparent problems with erosion and soil exhaustion, based strictly in an imbalance between his family's methods of farming and the ecosystems of the Tye River Valley. He had few explicit complaints about the yields of hemp from the fields at Pharsalia, focusing instead on difficulties in storage, processing, and bringing the crop up to the standards of the extant marketplace. Furthermore, his struggles with these technical problems were compounded by the difficulties he encountered in securing credit and wholesalers in a market into which he was entering largely on his own initiative. Yet at the same time, these problems may well have returned at some level to the declining productivity of the fields at Pharsalia during the late 1820's and early 1830's. As uncertain of his fields as he was of his new crop, Massie was forced to flounder about, planting hemp in different quantities at different times on different fields, as he searched for a formula that would produce predictable quantities and adequate quality. This lack of knowledge came not only from the inexperience he, his overseers, and his slaves had with cultivating hemp, but also from the lack of understanding the frontier farmer would have had of the potential and requirements of new and old fields.

Traditional intensification was worked out by calculations at a simple nexus of agroecological cycles and labor potential. Entrepreneurial intensification of the brand practiced by William Massie and other modernizing farm managers of the antebellum Tye River Valley brought an entirely new complex of financial, commercial, and scientific issues to bear on cultivation strategies. The need for not only increased labor supplies, but large-scale capital as well, to pursue both sustainability and more efficient
management of biotic production. That capital in turn demanded market profits to
develop it, pay off its principle and interests, and to attract more of the same. As those
two concerns – capital and profit – entered more forcefully into the picture than they ever
had in the frontier agroecosystem, a host of concerns external to the plantation intruded
powerfully into its development.

Up to this point, this analysis has focused on definitions of, and factors in, the
elements of sustainability and management of biotic production, as well as the important
role that capital would have to play in underpinning the modernization of those two
elements of the managed agroecosystem of the high farmer. Capital was crucial to
entrepreneurial intensification for two reasons. First, outside inputs – new breeding
animals, seed varieties, technology, and so on – cost a great deal of money, often more
than a farmer could generate from his own cash flow. Second, and possibly more
importantly, while entrepreneurial intensification allowed planters to intensify at a faster
rate than what simple increases in the labor supply allowed. Yet commercial returns
could still be quite slow in coming, and planters would be unable to escape from the need
to balance income and outlay on a regular basis. It is therefore necessary to consider the
role which the demands of capital and commercial profit played in shaping the outlook of
the Virginia aristocracy from 1820 on, particularly as it was these concerns from beyond
their fences that precipitated the break between high farming and republican ideology.
Agrarian republicanism had centered on the need for grass roots financial independence
to maintain a virtuous citizenry. Key authors among the early high farming apostles
appear to have believed that agroecological and agro-financial self-sufficiency could be
made to be mutually interdependent. Perhaps they might have been, but in the event few of the practical aristocrats among Virginia’s republicans were prepared to accept the commercial and material privation such an alliance really entailed. Most preferred to chase profits within a much more advanced and complex capitalist marketplace. The hope a few of the pioneers of progressive agriculture in the Old Dominion apparently held of creating a republican agroecosystem to match a republican fiscal and political system was effectively extinguished by the practical demands of financing a brand of agroecological intensification capable of supporting the aristocratic status of the Virginia gentry. Rather than abandoning their new cultivation strategies when their politics could not sustain them, large numbers of agricultural reformers across Virginia and in the Tye Valley turned their backs on Jeffersonian republicanism and gradually embraced a more modern conception of the economy and the state.

As noted above, even in a primitive commercial economy (the only kind that a frontier agroecosystem could support, in most cases) like early nineteenth-century Virginia’s, the kind of outside inputs needed effectively to pursue entrepreneurial intensification had to be purchased in a national or international market. Those purchases, when combined with the time required for their effectiveness to redeem the investment, demanded that the farm manager obtain large-scale credit. This kind of credit, like the thousands of dollars Massie received from the Bank of Virginia and the

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50As opposed to what Thomas Stanhope McClelland had been doing during the 1810s, expanding his breeding stock with the minute steps of making purchases and trades with neighboring farmers, rather than purchasing from professions breeders elsewhere in the Chesapeake or up North.
Farmer's Bank, demanded repayment with interest in cash. This demand stood in direct contrast to the kind of small-scale book credit early American storeowners and rural factors extended to small farmers for consumer goods, and which might conceivably be repaid in kind. The cash payments on interest and principle, of course, demanded that the progressive debtor had to obtain significant profit from his agricultural investments. This push for profit meant that in its very essence – whether the more republican-minded reformers like John Taylor of Caroline and Edmund Ruffin wanted it or not – agricultural reform had to become an entirely market-oriented venture.

As Virginia's farm managers surveyed the commercial scene in the 1820's and after, they discovered both the capital and commercial markets and infrastructure serving Virginia to be inadequate to their requirements. Transport and port facilities were underdeveloped, while banking and other financial mechanisms were stunted in their evolution. Yet rather than turning, like their fathers before them, to a political program dedicated to protecting themselves from those primitive or dysfunctional markets, Virginia's high farmers began to look for means to improve them. This concern applied both to crop and capital markets, as the two proved to be inseparably bound. Farmers seeking out and obtaining large amounts of credit would seek out market opportunities to redeem their debts. Those with capital to invest in farm loans would go searching for those producers operating in profitable markets. If cultivators wanted to attract capital,

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51 For the underdevelopment – even primitiveness – of the Virginia economy during the late eighteenth and early nineteenth centuries, see the comparisons made between the planter elite of the Old Dominion and the mercantile community of Philadelphia in Doerflinger, Vigorous Spirit of Enterprise, 356-364.
they had to create the circumstances that would make its investment profitable, not only for their own businesses, but for the capital itself. Particularly, they had to be able to attract capital, develop production, and attract purchasers on a much larger scale than the individual plantation.

Massie's struggles with hemp need to be re-introduced at this point. His experience demonstrated the problems an agricultural entrepreneur faced when attempting to secure capital and develop markets on individual initiative. Agriculture is a peculiarly inflexible business. The profit margins are low, the amount of fixed capital – in the form of land, equipment, buildings, etc. – is enormous, and the skills involved are quite complex. Without the well of family and neighborhood experience in the cultivation of hemp that Virginia's rural neighborhoods had with corn and tobacco (and to a lesser extent wheat), Massie was largely at sea as he attempted to perfect his cultivation and processing routines. Furthermore, as he was largely alone in attempting to grow the crop in the Tye Valley — in 1840 all of Nelson County produced only 6 tons of hemp,52 and that undoubtedly solely for local use – capital was not readily available. Richmond factors inexperienced with the crop and its buyers were unwilling to deal in it, and purchasers in Norfolk were unprepared to vigorously cultivate the trade of an obscure grower in a remote, unknown river valley.53 Making dramatic changes in agricultural business, such as changing crops or making large-scale investments in new

52See the Sixth Census of the United States, Manuscript Schedules for Agriculture, Industry, and Mines, Nelson County (Va.).

53Although Vlume & Company was apparently generous with advice and encouragement, evidently no credit or advances were forthcoming.
methods of cultivation and processing, were slow and difficult processes which typically could not be pursued by unconnected individual entrepreneurs. Massie might have been able to overcome agroecological and financial problems in replacing tobacco and wheat with hemp in Pharsalia's fields, but he was unable to overcome his relative solitude in the attempt.

Virginia republicanism worked on the assumption that the resources of the Virginia plantation (in terms of land, finances, and particularly absolute authority over enslaved laborers) were sufficient to contend with other interests in the modern marketplace, as long as those interests (speculators, merchants, industrialists, and so on) were not able to seize control of the powers of government to rewrite the rules of the marketplace in their favor. Therefore a strictly limited, non-interventionist government would enable the financial and agroecological self-reliance of white farmers of carry the day, and Jefferson and company advocated and pursued a compatible policy during much of the third President’s administration.

Yet, as discussed earlier, entrepreneurial agricultural reformers discovered that competing in the nineteenth-century marketplace demanded a radical transformation of the Virginia agroecosystem. Financing that transformation required capital that had to be mated to abundant profits. Those profits had to come from improved and developed markets for their crops, yet as Massie's experience with hemp would show, that improvement and development could not be undertaken from a stance of self-reliance and initiative. And if the individual planter could not command the power and resources to control the commercial marketplace to his satisfaction, then practical high farmers had
to seek out institutions that did have that power and those resources. As a result, the high
farmers of antebellum Virginia gradually transformed their state's republicanism from a
spartan philosophy of limited government into a brand of politics that embraced the
marketplace and the state's active role in regulating and cultivating it.

Unlike the individual planter, the government had the resources and authority to
undertake a number of endeavors necessary to the success of agricultural reform. The
political authorities could move boldly to acquire and disseminate information about
scientific agriculture, change legal policies regulating capitalist institutions in the
agricultural sector in favor of their profitability and development, as well as actively
investing in the development of the physical infrastructure used by farm producers. In
the contemporary age, with massive government investment in the Department of
Agriculture's research extravaganza, generous farm credits and price supports, extensive
rural networks of railroads and highways, and assorted other farm legislation and
programs, such activities are obvious. During the antebellum era, agricultural reformers
still working within a culture and a consciousness shaped by Virginia's republican
traditions and rhetoric could not but move slowly. They left much of the work still in
private hands, but the direction in which their efforts were moving was clear.

Even before establishing domestic farm reform journals like the Farmer's Register
and the Southern Planter, progressive cultivators were pushing both privately and
publically to see the state of Virginia (or at least private sources) endow a professorship
of agriculture at the newly-formed University of Virginia. The influence a single
agricultural professor might have had on antebellum Virginia cultivation should not be
underestimated. Such a man could dedicate himself—in a way hard-pressed plantation managers could not—to collecting the latest in agricultural information and experimenting with Virginia conditions. Furthermore, lecturing at the university in Charlottesville would offer him the opportunity to influence the sons of the plantation gentry, forming a outlook on agriculture in opposition to that of more traditional fathers and rural neighborhoods. Moving on from their campaign to introduce agricultural education at the state university, farm reformers and correspondents of the major journals began later in the antebellum period pushing the state of Virginia to form a state agricultural board, conduct a state agricultural survey and appoint a state chemist, and contribute public monies to the newly reformed state agricultural society and a state agricultural fair that it would put on.54

And while success in these attempts to obtain state largess for agricultural development was slow in coming, Virginia's planter-dominated government did take steps to vigorously encourage the development of the commercial banks that could finance rural development. The primitive financial institutions of later eighteenth-century rural Virginia, while adequate to provide for the local needs of a colonial economy, were typically unable to assemble the kind of capital—either for loans or for neighborhood paper currency issues—to fund the development of the interdependent ambitions of entrepreneurial intensification and commercial localization. In response, the state government chartered three state banks early in the nineteenth century—the

Bank of Virginia, the Farmer's Bank of Virginia, and the Exchange Bank of Virginia — and contributed public capital to them by purchasing large portions of their stock. Yet in their enabling legislation, the new banks were required by the General Assembly to establish well-capitalized branches in smaller towns outside of the state's commercial centers in Richmond and Norfolk. Places like Fredericksburg, Lynchburg, Danville, and other small towns got state-supported commercial banking long before their regional economies could develop the capital entirely on their own. Furthermore, the local nature of these lending institutions kept credit from concentrating in the mercantile sectors of the Virginia economy and put a good deal of it into agriculture. These banks were further regulated in such a manner as to encourage the flow of capital and currency needed to finance the transformation of Virginia's agricultural landscape. For example, in the wake of the wildcat-banking inspired Panic of 1837, the General Assembly passed a series of banking regulations for the three state institutions, including a provision limiting their note issues to no more than five times their specie reserves. Yet the legislation provided no penalty for violating this requirement, and several of the branches proceeded to ignore it. This had particular impact in agricultural regions, where useable currency was more desperately needed and where specie demands would be less pressing than in Richmond. As a result, with state support or at least acquiescence, banks in rural towns like Danville and Blacksburg were able to flood their communities with cheap agricultural paper, helping planters and merchants to maintain their account book.

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balances while also drawing large amounts of loans.55

When the demands of localizing high farmers for capital had, by the 1850's, outstripped the ability of the big three to provide for them, a large number of independent banks were established in country towns. For farmers of the Rockfish and Hardware river valleys not dealing with the branches of the big three, there were smaller banks just down the James in the Albemarle County river towns of Howardsville and Scottsville. Development of a local bank in the Tye Valley was retarded during the antebellum era by the proximity of the Lynchburg branch banks, as well as the substantial lending business conducted by the local mercantile partnerships of Rives and Brown and the Tye River Warehouse (after 1841) who dealt themselves with the Lynchburg banks. The smaller rural banks were encouraged by a legislative provision allowing them to purchase interest-bearing Virginia bonds, deposit them with the state treasurer, and then issue notes with them as security, which dramatically expanded the amount of currency and credit available in rural communities. Many historians have looked to the rhetorically-stringent regulations of 1837 as evidence that Virginia joined with the Jacksonian South in a general attack on banking which put the region at a severe financial disadvantage relative to the free banking North.56 Yet as one historian of antebellum Virginia banking pointed out, the non-enforcement of the provisions of 1837 meant that in practice


56For a recent general survey of state banking regulation before the Civil War, see Attack and Passell, A New Economic View of American History, 86-109, especially 105.
Virginia joined the bulk of the nation in having unimpeded (and in fact vigorously state-supported) banking.\textsuperscript{57}

Piedmont planters attempting to obtain good prices in the Richmond wholesale market also found that transportation costs all too frequently ate up already narrow profit margins. Yet after the abortive attempts of local governments and poorly-financed private companies to improve Virginia's transportation networks, it became clear that the development of the regional infrastructure also demanded the intervention of the state government. Despite their supposed small government scruples, therefore, agricultural reformers were particularly active in pushing state support for internal improvements. Roads, canals, and later railroads, were all promoted both publically and privately by a wide range of the state's leaders, and this was particularly true of the high farmers, who worried perpetually about how the high cost of shipping crops out of remote rural neighborhoods (and shipping fertilizers, seed, orchard trees, and the like, in) undercut their balance of payments. Although Virginia lagged well behind northern states, particularly Pennsylvania and New York, in the development of state-sponsored canals, once the agricultural reform movement picked up widespread support among the state's leadership, the Old Dominion moved forward with respectable alacrity.\textsuperscript{38}

Farm reformers like John Hartwell Cocke, Edmund Ruffin, and others were

\textsuperscript{57}Royall, \textit{A History of Virginia Banks and Banking}.

\textsuperscript{38}For discussion and analysis of the Virginia government's growing role in promoting economic development, see Carter Goodrich, "The Virginia System of Mixed Enterprise: A Study on State Planning of Internal Improvements." \textit{Political Science Quarterly}, 64(1949): 355-387. John Majewski's forthcoming comparative studies of Virginia and Pennsylvania will also be informative.
especially prominent in supporting the revival of the James River and Kanawha Canal Company during the early 1830's. The scheme to build a canal from Richmond to the Ohio River, tying first the trade of the Appalachians and then that of the Midwest, with Virginia, had foundered during the late eighteenth century. When drawing the interest primarily of Richmond merchants hoping to encourage expanded commercial crop production in the piedmont, the only section of the canal actually completed was a brief stretch that allowed river batteaux to circumvent the James River falls at Richmond just above the warehouses on Shockoe Bottom. Under the leadership of Nelson County planter and State Senator Joseph Carrington Cabell, however, the scheme was revived and the canal company re-chartered by the General Assembly in 1832. The campaign for stock subscriptions was carried far beyond the Richmond mercantile community, as backers of the plan sought out the involvement both of the state government (which purchased a million-dollars worth of company shares) as well as among the planters of the piedmont counties along the route of the canal. The role of an activist state government in promoting transportation development became a foundation of Virginia


60 Considerable information concerning the campaign for stock subscriptions from the piedmont counties bordering the canal, and particularly Nelson and Amherst, is available in the letters and personal papers of Canal company President Joseph Carrington Cabell, in the Cabell Deposit, Special Collections Department, Alderman Library, University of Virginia.
Entrepreneurial Politics in the Tye Valley.

During the antebellum era, this maturing belief that government should take aggressive action to promote the development of commerce and financial institutions to serve the agricultural sector drove many of Virginia's agricultural reformers into the congenial arms of the Whig Party. Whereas Jacksonian Democrats claimed, with some justification, a filial loyalty to the principles of Jeffersonian republicanism, many Virginia planters found the anti-capitalist hard line of Jackson and his successors to be

61See Goodrich, "Virginia System of Mixed Enterprise." The Virginia state government supported transportation development by chartering private stock companies to carry out the development (under occasionally tight public regulation) while the government bought a sizeable portion of the company's stock issue. Much of the relative retardation that marked Virginia's transport system during this era was the result of sectional jealousies within the state. See Ambler, Sectionalism in Virginia, 123-127, for conflicts between the eastern and western portions of the state over funding of internal improvements and taxation policies. There was also considerable conflict between advocates of different transportation projects, since none of the state's urban mercantile communities were able to gain sufficient influence to fully dictate improvement policy. See for example, Dunaway, History of the James River and Kanawha Company, 93-170, for extensive discussion of the James River Canal's struggles with its many political enemies within the state. The end result of their squabbles in the legislature was frequently gridlock.


63Much of the debate over capitalism in early American history, from the work of Louis Hartz, The Liberal Tradition in America: An Interpretation of American Political Thought Since the Revolution, (New York: Harcourt-Brace, 1955), through the subsistence mentalité debates of the 70s and 80s, on to the work of environmental historians like William Cronon (See Changes in the Land, 159-170), has focused on the
too much to swallow. The need for capital formation and market development to support agricultural modernization made policies which endorsed hard money, an end to banking, an end to federal (and perhaps even state) support for internal improvements, and the like, particularly inconvenient. The Whigs, by embracing this kind of government alliance with capitalist development, became a much more comfortable home for many of the Old Dominion’s farm reformers, particularly those of the Tye Valley.

The links between agricultural reform and active Whig capitalism were rarely explicit or absolute during the late antebellum era. After the failure of Ruffin's Farmer's Register (perhaps brought on in part by his violent opposition to excessive soft money issues during the depression years after 1837\(^{64}\)), most Chesapeake and southern farm willingness of individuals to embrace and participate in the ‘free market’ as the test of the emergence of this mode of production. Marxist work, like that of Eugene Genovese, has also tended to focus on attitudes toward the marketplace engendered by capitalist or non-capitalist modes of production. For the purposes of this work, I would draw an important distinction. There is a qualitative difference in economic structure, politics, and social power created when the economy moves beyond the simple cash-based exchange of goods into more capital-intensive enterprises and the government regulation of the economy needed to sustain them. See, for particular example, Chandler, The Visible Hand. While in European ideologies, simple commercialism – as I am using the term – did require substantial political liberalization to overcome feudal vestiges in the economy and society, that opening of the social and economic order was typically quite short-lived. Modern markets and modern businesses demanded a centralization of capital and control, as well as an activism on the part of the government, which came as a considerable shock to many Americans. Large numbers were unwilling to abandon the independence offered by that simple commercialism in favor of the hierarchies and organization demanded by modern economics. That process of centralization I would define as ‘capitalism’, and those elements within society willing to embrace and promote the changes involved as ‘capitalists’.

\(^{64}\)For the argument that the Farmers’ Register collapsed as a result of Ruffin’s anti-banking tirades, see Craven, Edmund Ruffin, Southerner, 66-72. This view has been strongly criticized in recent work, however, particularly by Bill Mathew in Edmund Ruffin and the Crisis of Slavery, 27-32. Mathew noted that Craven’s case was based
journals pursued consciously apolitical editorial policies. On the other side of the coin, democratic newspapers also carried a considerable amount of information relating to the practical applications of improved farming, refusing only to draw the link between high farming and capital development on the one hand, and activist government intervention on the other. Those who did make the link between the two did so personally, and with a wide range of variation within their opinions. Yet in eastern Virginia, at least, the entirely on a single letter canceling subscription in protest of Ruffin's political articles. I would tend to provide some apology for Craven. Judging by the analysis provided in Soil Exhaustion, he clearly understood the importance of capital development and easy money to local economies and agricultural improvement in rural Virginia, and that much of the Farmers' Register's constituency would have objected to attempts to turn back the clock on financial development. Certainly the Southern Planter, which so successfully replaced the Farmers' Register, quite consciously shied away from political issues in response to the undoubted annoyance which Ruffin's detour into strict republicanism generated among the Old Dominion's high farmers. Craven went looking for a smoking gun to prove the importance of the rift emerging between the ideologies and outlook of Ruffin and his audience, and found it. While the argument that this rift was not nearly a sufficient cause for the demise of the Farmers' Register is quite valid, that such a rift was emerging is likely also true.

65 See, for example, the Southern Planter, 1(1841), p.1, for a statement expressing the publisher's intent to avoid partisan politics.

66 For Ritchie's interest in agricultural improvement and agricultural education, see Charles Ambler, Thomas Ritchie: A Study in Virginia Politics, (Richmond, VA: Bell Book Co., 1913), 221-222.

67 Daniel Crofts noted such a connection in his work on Southampton County, where he found that the Whig politics of improving farmer Elliott Story, and the Democratic allegiances of yeoman Daniel Cobb, set a pattern for the entire county. See Crofts, Old Southampton. There was never an absolute correlation between political allegiance and farm reform activities, however, and many later antebellum farm reform authors bemoaned the violence of Virginia politics, and insisted that farm reform was an unsullied patriotic calling far above the partisan fray. See, for a particularly vitriolic example, 'Commentator', "On the Improbability of the Legislature Aiding the Improvement of Agriculture," Farmers' Register 4(1836), 415-416.
correlations between high farming, capitalist activism, and Whig politics are too strong to be incidental. Perhaps the best way of illustrating how agricultural reform frequently coincided with, and in fact led to, Whig capitalism, is to outline the careers of the prominent reformers and politicians of the antebellum piedmont, particularly those with interests in the agricultural and economic development of the Tye River Valley.

James Madison, the intellectual and political leader of the piedmont gentry during the Jacksonian era, offers one of the most public examples of that class's passage from agrarian republicanism. His interests in agricultural reform, of course, have been well documented. He maintained an aristocratic concern with the crusade, reading widely in the published literature while establishing a modern farming regime at his plantation, Montpelier, in Orange County, beginning as early as the 1780's. His neighbor and mentor Jefferson appeared to view his agricultural experiments at Monticello more as services in the cause of public enlightenment than practical attempts to make his plantation a profitable concern. Madison, on the other hand, demonstrated a much more practical outlook in his improvement of his Orange County estate. He made Montpelier a financial success despite his long absences in Washington, and his financial difficulties later in life stemmed largely from family problems and a most anti-


Republican refusal to retire from the role of regional social lion. He also added his name and public prestige to the cause of agricultural reform in numerous ways, serving, of course, as the first President of the pioneering Albermarle Agricultural Society.

Yet while his interests in high farming remained a constant during his life, both public and private, his politics underwent a notable evolution. After playing his forceful role in the Constitutional Convention in 1787, Madison's encounters with the practical applications of Federalist politics soon drove him back to Jeffersonianism. Reunited with Jefferson later in the 1790's, Madison fell in with the hard-line Virginia republicans, men like John Randolph of Roanoke, John Taylor of Caroline, and James Monroe. With them, he led the formation of the national Republican Party, which coalesced particularly around the outrage of Virginia's planters over Federalist tariff, banking, and internal improvement policies. Madison served as Jefferson's Secretary of State during the period in which the republican administration reduced tariffs and squelched the campaign for federally funded internal improvements. Madison himself was president in 1811, when he ducked personal involvement in the struggle over the re-chartering of the National Bank, and saw the institution fail by a single vote in each house.

Yet even at the time, his evolving views on banking revealed important


developments in his political outlook — developments that time would reveal reflected those of the piedmont gentry. The two decades-long service of the Bank of the United States, even if its policies had been at times tilted against the interests of Virginia's planters, convinced Madison that a re-charter would be beneficial to the state and national economy. Chiefly it was the embarrassment of having to publically admit such a radical shift in his views (at the time of the original charter in 1791 he had declared the entire project unconstitutional) prevented him from taking a public role. Four years after the demise of the first Bank, he was prepared to take a more active stance. In 1815 he outlined for Congress a domestic plan — largely adopted — that included a new bank, as well as other key apostasies from republican principles: an increased tariff as well as federal funding for internal improvements.72

His successor in the White House, James Monroe,73 continued and expanded Madison's post-Jeffersonian politics, enabling large numbers of ex-Federalists to enter the fold of a party that had now made its peace with a capitalist government. John Quincy Adams's election as President in 1824 sealed the bargain, placing a Federalist in the Oval Office and making the nation's most actively pro-development Republican, Henry Clay of Kentucky, his heir-apparent as Secretary of State. Indeed, Adams' inaugural address took Jefferson's party too far down the road of publically-sponsored

72See Brant, The Fourth President, 558, 596-597.

73Interestingly, the passage from Jeffersonianism to National Republicanism was perhaps an even longer one for Monroe, who had briefly broken his long friendship with Madison to oppose him in a piedmont Congressional election back in 1791 as an anti-Federalist. See Risjord, Chesapeake Politics, 326-327.
development of a commercial economy, demanding heightened tariff rates and (for the
time) massive federal funding of transportation improvement. Yet while many of the
old Jeffersonians broke with the national party over its betrayal of old republican pieties,
Madison and other members of the piedmont gentry stayed the 'National Republican'
course. Madison's support for the administration only stopped at the point of refusing to
oppose Jackson publically, and he only reemerged as an administration advisor after
1830, when he completed his break with state's-rights particularism by advising Jackson
and his colleagues on ways to combat nullificationist (a doctrine he had helped to invent
back in 1798) opposition to the tariff and the national government. At home, Madison
chaired a statewide convention on internal improvements in Charlottesville, which
advocated greatly increased public funding of canal and road projects, although stopping
short of Madison's hopes for Virginia support for federal funding for national projects.

Madison's political evolution was mirrored in the Tye River Valley by one of his
political protogés, Joseph Carrington Cabell. Emerging as a prominent public

74For a broad discussion of early national politics that focuses on the growing ties
between National Republicans and the more aggressive capitalists in the American
mercantile and industrial community, see George Dangerfield, The Era of Good Feelings,

75See Rutland, James Madison, 242, 248, Ketcham, James Madison, 640-646, and
Drew McCoy, The Last of the Fathers: James Madison and the Republican Legacy, (New
York: Cambridge University Press, 1989), 119-170, for an extended discussion for the
evolution of Madison's anti-nullification views during the late 1820s and early 1830s.

76For a general discussion of his life and political career, see Carol M. Tanner,
Virginian in 1830 as one of the key leaders of the state's anti-nullificationists, Cabell echoed Madison's evolution as a pro-government politician. He led the fight in the General Assembly and across the state to revive the James River canal company, and served as the reorganized concern's first President. When the Jackson administration moved away from its nationalist policy to oppose re-charter of the second Bank of the United States, Cabell helped organize opposition in Virginia. Vigorously opposed for re-election to the State Senate from Nelson County in 1834, Cabell refused to back down from his support of the national bank, despite the pleadings of supporters terrified of the popular support of Jackson's struggle with the 'Monster'. In fact, Cabell defiantly chose to stick with the Bank, although he might have found a middle ground in opposing both the re-charter and the executive removal of deposits. Successfully staring down Jacksonianism in 1834, Cabell helped cement Virginia's Whig Party, and particularly its hold on Nelson County, which repeatedly sent to staunch Whigs to Richmond, and by the late 1840's was described as a "strong little Whig county." And as much as Cabell followed Madison in his politics, he also reflected the fourth president's attempt to balance a career in public life with progressive plantation management. In terms of agricultural reform, of course, Cabell was a charter member of the Albermarle Society, supported public funding of the state agricultural society, and applying current ideas to

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79 William Massie to Henry Clay, April 24, 1850.
his estates on the James River as much as his frequent absences on public business
allowed. Through a close friendship and lengthy correspondence, he passed on his
interest in high farming to his nephew, Nathaniel Francis, who would dedicate much of
his life to the cause.

The political evolution of Jeffersonians like Madison and Cabell was, of course, a
gratifying development for piedmont Virginia's diehard Federalists, who also combined
interest in agricultural reform with pro-development politics. Elijah Fletcher, who
arrived at Amherst Court House in 1813 as a school teacher, brought hard-line Federalist
politics from his New Hampshire upbringing. Stopping at Monticello for dinner on his
way to the Tye Valley from his previous posting in Alexandria, Fletcher was highly
critical of Jefferson in letters back home, including repeating the accusation that he was
coo-habitating with Sally Hemings. Once in Amherst, Fletcher was similarly cutting in his
descriptions of agricultural methods in the Tye region, discarding local plowing and
hoeing methods, cursing the production of tobacco, and writing that, "In this country ... they cultivate a great deal without ever manuring it, which renders it soon poor &
barren." He soon moved from Amherst to Lynchburg, helping to found and
subsequently editing the Lynchburg Virginian, which would emerge as the Tye region's
leading newspaper. In his editorial policy, Fletcher and his successors at the paper
combined abundant coverage of agricultural topics and advocacy of high farming with

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80 True, "Early Days of the Albemarle Agricultural Society." See also his letters in the
Cabell Deposit regarding the management of his Nelson County estates.

81 von Briesen, ed., The Letters of Elijah Fletcher, 44.
pro-Bank and internal improvement opinions opposed to Virginia's classic republicanism and the Jackson and Van Buren administrations. In retirement, he turned his estate at Sweet Briar, a few miles outside of Amherst Court House, into a show piece of progressive cultivation, abandoning tobacco for grain cultivation with expensive mules, supporting large herds of cattle and sheep while producing one of the largest hay crops in the Tye Valley by the later years of the antebellum era.82

Fletcher's paper found avid subscribers in the Massie family at Level Green and Pharsalia plantations in the upper Tye Valley.83 William's father Major Thomas, of course, had been a hard line Federalist throughout his life. He built his personal relationship with his factor, Richmond's powerful federalist merchant Robert Gamble, largely on their shared antipathy to Jefferson and the republicans. In a series of letters during the first decade of the nineteenth century, the two men exchanged scurrilous diatribes against their native-son-turned-President, assaulting his politics and his honor at every opportunity.84 Major Thomas matched his pro-commercial politics with an eager enthusiasm for the commercial development of the Tye Valley community. He was active in promoting local transportation improvement, helping to finance the Tye River-

82von Briesen, ed., The Letters of Elijah Fletcher, xv-xix. See also the manuscript schedules of the Agricultural Census for 1850 and 1860 for the extent and agricultural produce of 'Sweet Briar' plantation.

83See annual accounts collected in Refsell, "The Massies of Virginia," for references to his subscription to the Lynchburg Virginian, among other papers.

84See, for example, Robert Gamble to Major Thomas Massie, August 3, 1807, January 5, 1808, or March 7, 1809, Thomas Massie Papers, Virginia Historical Society.
Blue Ridge Turnpike Company\textsuperscript{85} and petitioning the General Assembly for assistance in dredging the Tye River for navigation purposes\textsuperscript{86} (a rather quixotic project given that the river is rarely more than a couple of feet deep as it flows through the Rose-Massie lands in the upper Valley). When the campaign for local subscriptions to James River and Kanawha Canal Company stock reached Nelson County in 1833, the aging Massie patriarch hastened to support the cause. Regarding his purchase as a public duty in the same league with his service in the Continental Army fifty years before, Major Thomas had to be restrained by his son William — with Joseph Cabell's approval — from over-committing his strained finances to the project.\textsuperscript{87}

Despite his concern about his father's zeal for committing family funds to transportation improvement, William and his brothers carried on both his politics and his commercial outlook. When Cabell was running in his pro-Bank State Senate campaign in 1834, it was the Major's eldest son, Dr. Thomas Massie, who wrote to Cabell promising his support and efforts to drum up support in the upper Tye region.\textsuperscript{88} William's politics were almost violently pro-Whig, and his surviving correspondence includes such rhetorical gems as referring to Whig apostate John Tyler as a "snipe-nosed fool," and calling his local democratic opponents, "the filthy, putrid Locos." In terms of

\textsuperscript{85}See Schippes, "Guide to the ... William Massie Collection," 5-6.

\textsuperscript{86}Copy of a petition to the Virginia General Assembly, undated, Thomas Massie Papers, Virginia Historical Society.

\textsuperscript{87}Joseph Carrington Cabell to John Hartwell Cocke, 29 August 1833, Cabell Deposit.

\textsuperscript{88}Doctor Thomas Massie to Joseph Carrington Cabell, 12 April 1834, Cabell Deposit.
the local development of commercial transportation networks, both William and his brother, of course, followed his father's interest in the turnpike and canal. William Massie continued his support of local transportation improvement until the end of his life, serving as a county road commissioner during a major renovation of Nelson's antiquated wagon paths during the mid-1850's, and lobbied for the construction of the Orange & Alexandria Railroad through the Tye Valley during the late 1850's. The private lives of the battling Massie brothers also indicated a commitment to high farming as a crucial element of their world view. William's immense collection of surviving personal papers, of course, is a testament to that concern on his part. Data from the 1850 agricultural census, in turn, reveals that his less well-documented brother was managing one of the most advanced commercial plantations in the Tye region at mid-century.

While his statewide political career was limited to a single term in the House of Delegates (1839-41), William Massie's unwillingness to take a more active role on behalf of the Whig Party was largely the result of his pressing concerns with introducing

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89 See Schippes, “Guide to the ... William Massie Collection,” 6. See also, for example, Alexander Brown to William Massie, 12 September 1855, 17 September 1855, or Robert Thruston Hubard to William Massie, 26 April 1855, 12 May 1855, for discussions of issues relating to the road improvement.


91 See the Seventh Census of the United States (1850), Manuscript Schedules for Agriculture, Nelson County (Va.), for the extent and production of Dr. Thomas Massie's plantation along Hatt Creek in the years before his death.
reformed cultivation to Pharsalia and making his plantations fully profitable. Yet the competition for his time and energy never caused Massie to separate Whig politics from the conservation and efficient exploitation of nature's bounty. In the early 1840's, he fell into a dispute with a one-time business partner, Matthew Bryan, who operated a small furnace at Vesuvius over in Rockbridge County. Massie objected to Bryan's fast-and-loose dealings with mountain land, particularly in relation to charcoaling in high country forests, as well as aggressive dealings over questionable titles. As the dispute grew more acrimonious, Massie huffed and puffed and came up with the insult he felt most applicable to the situation, calling the offending Bryan "Locofoco-like.

While old Federalists in the Tye Valley and piedmont Virginia like William Massie could subconsciously link their politics to their commercial interests and attendant agroecology with little difficulty, the struggle had to be more taxing for those who wished to hold more faithfully to the republican line. William Cabell Rives is a case in point. William was the youngest son of Tye Valley planter Robert Rives, who also developed the industrial complex at Variety Mills and the mercantile firm which dominated the central Tye Valley economy during the 1820's and 1830's, Rives & Brown. Although he and his elder brother, Robert Jr., both eventually moved their residence from

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92See Refsell, "The Massies of Virginia," 425, for a discussion of Massie's brief political career, and William Massie to Peters & Wills, Tye River Warehouse, January 19, 1840, for Massie's frustration with being kept away from plantation management by affairs in Richmond. In 1839, he complained in his crop memoranda that he had been off 'electioneering', and had been unable to get necessary plantation work finished.

93William Massie to Samuel McDowell Reid, January 26, 1841. For Bryan's charcoal-making on the mountain, see Matthew Bryan to [illegible], March 26, 1842, Matthew Bryan Correspondence, William Massie Papers, Barker Texas History Center.
the Tye Valley to the more congenial society of Albermarle County, they retained and continued to develop the family plantations along Bob's Creek near modern-day Shipman between Variety Mills and Lovingston. William Cabell Rives, was of course, a prominent agricultural reformer. A protégé of Madison's, the younger man imbibed both the fourth president's politics and his desires to see the transformation of the frontier agroecosystem. As a charter member of the Albermarle Agricultural Society he had witnessed the first reading of Madison's famous presidential address, and he carried his mentor's understandings home with him. The Rives plantations in Nelson County became showpieces of high farming, and the younger man was himself later to serve as President of the state agricultural society, regaling the assembled planters with tales of how he had introduced liming and other improvements to his neighborhood.94

Rives' political life proved difficult, but in the end not impossible, to reconcile with his agricultural outlook. Unlike his neighbors in the Cabell family, Rives embraced Jacksonianism and stuck with the party until the late 1830's. Joseph Carrington Cabell's hard fight for his State Senate seat in 1834 had in fact been precipitated by Rives's pro-Jackson politics. While many of the proto-Whigs among the piedmont agricultural reformers had stuck with Jackson in 1831 when he stood as the patriotic nationalist

opposing Calhoun and nullification, they, like Cabell, broke with him over his personal war with Nicholas Biddle and the Bank of the United States. Rives, then serving in the U.S. Senate, held the line, however, opposing re-charter of the Bank. When Jackson attempted to kill the Bank before its charter-less demise by removing all deposits of government monies from it, an alliance of pro-Bank and anti-Jackson Virginians erupted in opposition. Under the leadership of men like Cabell and B.W. Leigh,95 the General Assembly declared the fiat removal unconstitutional, and voted to instruct Rives in Washington to seek its condemnation or reversal by Congress.96

Rives refused to be cowed, however, and embraced the growing democratic rhetoric of the national administration by bringing his case against the Bank directly to the voters of Virginia. Rives resigned his Senate seat rather than comply with his instructions, and returned to Virginia in the spring of 1834, determined to turn the statewide General Assembly elections scheduled for that April into a referendum on himself (given that the resulting State Senate would elect a new Senator — returning him

95 There was a certain diversity to the anti-Jackson coalition which struggled against the removal of government deposits in the National Bank. Men like Joseph Carrington Cabell, to be sure, were national Whigs who supported the Bank for reasons of political economy. Yet also attracted to the cause were Virginia conservatives like Leigh, and John Tyler, who were most outraged by Jackson’s aggressive assertions of federal and executive power going back to the nullification crisis. My major point in discussing the development of Whig capitalism in Virginia is to focus on the importance of the former, as opposed to the considerable attention given to the latter. See, for the most current discussion which continues to focus on the importance of the “old republicans” in Jacksonian-era Virginia politics, Shade, Democratizing the Old Dominion, 89-107.

to Washington in triumph, he hoped.\textsuperscript{97} The race in Nelson was particularly bitter and personal. Cabell had been one of Rives's most vocal opponents in the state legislature, and Robert Rives, Sr., was prepared to generously fund a campaign designed to oust the man who appears to have become a family enemy. The Rives clan put up Alexander Brown, William's brother-in-law, as a candidate against Cabell, and masterminded the anti-Bank campaign against him from Variety Mills.\textsuperscript{98}

In 1834, Rives's self-immolation on the altar of Jackson's policies seemed for a moment to represent the crossing of a personal Rubicon for him, particularly given the sweeping victory scored by the anti-Jacksonians in the state-wide election which cemented the Whig Party in Virginia. Yet only a few years later, Rives was backing speedily away from Martin Van Buren and the rapidly solidifying anti-capitalist stance of the Democratic Party. Rives would emerge in the last years of the 1830's as the best-known leader of the Virginia "Conservatives," a small band of renegade Virginia Democrats who would gradually ally themselves with the Whigs. Most scholarly attention given to the Conservatives has focused on the aristocratic republicanism and states-rights particularism that ex-nullifier, future secessionist, and soon-to-be President John Tyler ("that snipe-nosed fool") had inherited from John Randolph of Roanoke. Yet the actual issue which would drive Rives out of the Democratic Party was not related to opposition to its espousal of the kind of centralized nationalism which appeared to

\textsuperscript{97}Simms, \textit{The Rise of the Whigs in Virginia}, 80.

\textsuperscript{98}My discussion of the Rives/Brown campaign against Joseph Carrington Cabell in Nelson County relies upon the letters of Cabell and his supporters in the Cabell Deposit. The election will be discussed in greater detail in Chapter Six.
undermine what had come to be called the ‘Principles of ‘98.’ Rives actually broke with
the administration over an issue much dearer to the hearts of agricultural reformers than
the abstractions of intellectual republicanism: rural banks.99

The Van Buren administration, casting about for a scapegoat for the Panic of
1837 and the subsequent depression, descended, not unreasonably, on the banks whose
wildcat note issues had undermined the nation's financial networks. Arguing that
Jackson's removal of deposits, had not ended government underwriting of irresponsible
speculation, since the monies had been promptly redeposited in local 'pet banks' in the
various states. Banking itself had to be either severely limited or abandoned entirely, and
the nation returned to a responsible, dependable system of hard currency. The
government could accomplish this end, the Democrats decided, by removing government
monies from the financial system altogether, and depositing them in an independent
fund, the Sub-Treasury. Once government capital was removed as a basis for note-issues
which destroyed sound currency, the banks would collapse altogether.100

99 For analyses of the emergence of the Conservatives, see Simms, The Rise of the
Whigs in Virginia, 119-124, 131, and Shade, Democratizing the Old Dominion, 93-97.
Of particular note, Shade's up-to-date interpretation continues to view Rives and his
colleagues as the truer representatives of the state's hard republican legacy than the
emerging anti-capitalist politics of the Democrats under Van Buren. See Shade,
Democratizing the Old Dominion, 94-95. Shade relies extensively on the only book-
length study of the movement, Jean E. Friedman's The Revolt of the Conservative
Democrats: An Essay on American Political Culture and Political Development, 1837-
1844, (Ann Arbor, MI: University of Michigan Press, 1979), who also looks to Rives as
the true inheritor of the republican legacy, particularly for his anti-partisan stance during
the period.

100 For a brief discussion of the evolution of the Subtreasury within the Jacksonian
Democrats, see Watson, Liberty and Power, 208-210. Shade discusses the issue in
relation to Virginia politics, Democratizing the Old Dominion, 95-96, 100-102, and
To Rives and other men interested in financing the kinds of rural economic
development typified by entrepreneurial intensification and commercial localization, this
was too much to bear. The issue came back to capital. John Taylor of Caroline had in
part opposed the Federalist-inspired first Bank of the United States because its 'levees'
sucked capital that might have been invested in the financing of live fences, hog pens,
and manure piles, out of Virginia and invested it instead in northern commerce and
manufacturing. ¹⁰¹ For Rives and many others, the second Bank was replicating these
policies, and the removal of deposits combined with support of the pet banks offered the
opportunity to get capital out of the big cities and into rural Virginia where it might do
the causes of high farming and localization some good. The Sub-Treasury, on the other
hand, eliminated those benefits by removing the massive (for the time) fund of
government-collected funds from the capital market entirely, which could only go to
limiting the availability of cash and capital in places like the Tye Valley.

For the most part, the Conservatives found a congenial home among the Whigs.
When John Tyler became President, and attempted to pursue an old republican policy, he
promptly became a "snipe-nosed fool," and was excommunicated not just by the national
party, but by his fellow Virginians as well.¹⁰² Rives, on the other hand, adapted to

Howard Braverman, "The Economic and Political Background of the Conservative
Revolt in Virginia," Virginia Magazine of History and Biography, 60(1952), 266-287, as
well as Harold D. Moser, "Subtreasury Politics and the Virginia Conservative Democrats,


¹⁰²See Watson, Liberty and Power, 227-230, and Shade, Democratizing the Old
Dominion, 246-253.
commercial politics, and would return to national prominence as Virginia's Whig Senator during the 1840's, as well as American ambassador to France during the Taylor and Fillmore administrations.\textsuperscript{103} The rest of the Rives family appears to have followed suit as well. Joseph Carrington Cabell's campaign opponent from 1834, Alexander Brown, would reemerge as Nelson County's Whig state senator (with the support of the Massies, no less) as early as 1840.\textsuperscript{104} 

In political terms then, rather than representing the anti-commercial preoccupations of agricultural reformers, Edmund Ruffin's almost rabid anti-Bank stance was decidedly out-of-step with his fellows in the farm improvement crusade. Practical planters who understood both the ecological demands of their new methods of cultivation and the financial demands of their balance books knew that for better or worse rural banking of a particularly aggressive variety was an absolute necessity. Capital was necessary, and given how little in the way of surplus finance Virginia's eroded, acidified, and exhausted old fields were producing in the 1820's and 1830's, gross inefficiency in its collection and redistribution could not be tolerated. Not only could banks not be eliminated, they had to be given freer reign than even many conservative Whigs were prepared to countenance. The primary positive intervention the government could make would be to ensure that the banking system did not over-concentrate capital in the urban-

\textsuperscript{103}For Rives' later career as a Whig Senator, see Simms, The Rise of the Whigs in Virginia, 131-142, and Dingeldine, "The Political Career of William Cabell Rives."

\textsuperscript{104}See Alexander Brown to William Massie, 15 January 1840, for Massie's support of Brown during the 1840 assembly elections. For Brown's party shift, see Simms, The Rise of the Whigs in Virginia, 190.
industrial sector, condemning the farm economy to the financial stagnation of overpopulation and intensification, and subsequent economic colonialism. Agricultural reform demanded of Virginia's planters and farmers a more capitalist outlook on government and finance, and they began the process of abandoning republicanism in the hopes of creating an economy which would successfully finance the entrepreneurial agroecosystem.

**The Entrepreneurial Landscape of the Tye Valley in 1850.**

Yet as clear-headed as many of Virginia's mid-century agricultural reformers might have been becoming about the natural linkages between localization, high farming, commercial development, and capitalist politics, the coherence of their program was not the ultimate measure of their success. Agricultural reform and Whig capitalism still had to be evangelical religions, dedicated to converting the masses. Economic development, in the end, was only the opening wedge which attracted the capital and secured the profits necessary to allow ordinary farmers to pursue entrepreneurial intensification. In order for this plan to succeed in sustaining the finances and status of the rural gentry, the agricultural landscape of neighborhoods like the Tye Valley had to be fully transformed into an entrepreneurial agroecosystem, and the populace fully incorporated into the networks of commercial localization. Without their support in developing local capital, purchasing consumer goods and taking advantage of local agricultural processing, or filling markets with abundant commercial crops, the hopes of localizing high farmers would shrivel just as William Massie's attempt to make money from hemp had done.
Most recent scholars who have studies the antebellum reform movement have concluded that whether one considers it as a republican or a capitalist movement, it failed at this last, crucial task. Virginia's relative backwardness on the eve of the Civil War, combined with the defeatism with which Edmund Ruffin closed his career as a farm reformer, were strong evidence of that. Yet given the strength and coherence of the system of entrepreneurial intensification and its attendant programs among the plantation gentry who exerted so much influence in piedmont Virginia's rural communities, the movement deserves a more detailed and comprehensive assessment than that offered by macrohistory or biography. When a close analysis of entrepreneurial intensification in the Tye Valley is attempted, it becomes clear that the political successes of the Tye Valley's entrepreneurial Whigs were both built upon, and did in fact help them to build, a progressive agricultural landscape for their region.

By the time of the first detailed manuscript schedules for the United States Agricultural Census were collected in 1850, farm neighborhoods along the Tye were already heavily influenced by entrepreneurial intensification, as well as the commercial and capital preoccupations that went along with it. As the boom in crop prices that would mark the southern farm economy during the 1850's began to gather force during the last years of the preceding decade, the Tye Valley's gentry had positioned

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106 For the return of high crop prices during the later 1840s, see Peterson, Historical Study of Prices Received, 72-100.
themselves well to take advantage of it, both as managers of their own plantations as well as rural capitalists profiting from the prosperity of their neighbors.

Even during the depression decade of the 1840's, the Tye Valley took significant steps toward both agricultural modernization and economic diversification. This was especially true among the Valley's planter elite. The returns of the 1840 and 1850 manufacturing censuses, provide a valuable picture of the progress achieved in terms of commercial localization. Even during an era in which piedmont industry began to boom in urban centers like Charlottesville and Lynchburg,107 Petty industry in the Tye Valley held the line, as localizing planters like William Massie and Mayo Cabell maintained investment and production in areas like flour milling and distilling during those years.108 Agricultural production and diversification developed further, as planters were able to fight through hard times to modernize the region's farm economy.109

Yet the economic and agricultural achievements of planter entrepreneurialism, which would be greatly expanded on during the ensuing decade, were not confined to

107See Armstrong, "Urban Vision in Virginia," and Goldfield, Urban Growth in an Age of Sectionalism, for the growth of Lynchburg, in particular.

108Sixth Census of the United States (1840), Manuscript Schedules for Agriculture, Industry, and Mines, Nelson County (Va.), and the Seventh Census of the United States (1850), Manuscript Schedules for Manufacturing, Nelson County (Va.). The Manufacturing Census returns for Amherst County in 1850 are unavailable – comparisons of investment and production are for Nelson alone.

109See the Sixth and Seventh Censuses of the United States (1840, 1850) Manuscript Schedules for Agriculture, Nelson and Amherst Counties (Va.), for the across-the-board increases in agricultural productivity. Note also the probate inventory data included in Chapter Four, for the dramatic increase in mechanization and farm animal values during the 1840s.
that upper crust of Tye Valley farmers. As has been noted throughout, the most damning
criticism made of the agricultural reform crusade during the last thirty years concerned it
alleged social isolation. Confined to a highly educated, but provincial, elite, the program
of high farming failed to significantly transform the habits of cultivation among the
overwhelming mass of Virginia farmers. Yet analyzing the agricultural landscape of the
Tye Valley in 1850 reveals that conclusion to be a serious overstatement. A decade
before the Civil War, the Valley's entrepreneurs had succeeded in bringing large stretches
of the local landscape into a modern farm ecosystem, while in a variety of ways binding a
preponderance of their neighbors to the program of capital-intensive economic
development.

If we return for an example to Hatt Creek, many of these patterns become clear.
The Hatt Creek hollow was far from being the most advanced farm neighborhood in the
Valley, lagging well behind the Cabell lands along the James, as well as the open country
neighborhoods along Rucker's Run south of Lovingston in Nelson County, and
surrounding Amherst County's court house town. Confined to a narrow valley by the
over two-thousand feet high ridges of Horseshoe Mountain, farmers in Hatt Creek were
confined to a narrow strip of cultivatable land, much of which was still steeply sloping
fields of erosion-vulnerable sandy loam and clay soils. And furthermore, after Major
Thomas Massie's dream of procuring state funding for clearing the Tye for batteaux
traffic had failed to come to anything more than a few petitions to Richmond, Hatt Creek
farmers were left geographically isolated from markets. The James River Canal landings
near New Market were nearly thirty miles away over bad roads, while markets for meat
Vulnerability to Erosion - Hatt Creek Soils.

- High Vulnerability
- Extreme Vulnerability

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and produce in urban centers like Lynchburg, Charlottesville, and Lexington, were perhaps even more inaccessible. Yet despite these disadvantages, cultivators along Hatt Creek had gone a long way towards modernizing the landscape of their neighborhood by 1850.

A number of twentieth-century historians have forcefully criticized Frederick Law Olmsted's description of the southern landscape during the 1850s. Olmsted drew a picture of a prospering planter elite controlling the prime soils while the white masses languished in poverty, indolence, and ignorance on the back lands. Yet closer study of small farming neighborhoods, particularly those in the western cotton belt, have led many to conclude that, in fact, there was little or no pattern of class evident in the agricultural landscape of the mid-century South. Farmers both wealthy and poor had access to the best soils the cotton belt had to offer, and therefore distinctions in their planting operations were ones based upon quantity, not quality. This is an important

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110 The problems encountered in improving transportation in the region reinforced the geographic and commercial isolation of the Hatt Creek hollow. Despite efforts to use the Tye River and Blue Ridge Turnpike to help the neighborhood emerge from what the Major's family had termed the 'backwoods' (Refsell, "The Massies of Virginia," 25), the road company never generated enough traffic and profits to pay off its stock subscribers, and eventually went bankrupt to be taken over by the county (Tye River and Blue Ridge Turnpike Company Papers, Wisconsin Historical Society). That Massie would emerge from a retirement from public life lasting more than a decade to undertake the kind of worries his correspondence indicates in pursuit of road improvements and an advantageously placed depot for the Orange & Alexandria Railroad indicates the isolation and inconvenience he and neighboring farmers must have felt.

111 For a review of the criticisms of Olmsted's view of the southern landscape, see White and Kramer, eds., Olmsted South, 19-39. For the most prominent opposition to Olmsted within the historical profession, see Owsley, Plain Folk of the Old South, 1-3, 76-89, who insisted upon the prosperity of the southern yeomanry, and their equal access to valuable farm properties. From his position at Vanderbilt University, Owsley directed
point to consider when analyzing the progress of entrepreneurial intensification in older plantation areas like the Tye Valley. While initial land patenting on the southern frontier might have put bottomlands and level hardwood forests into the hands of well-capitalized absentees, their desire to profit from their speculations often drove undifferentiated and rapid sales, often in smaller parcels, to planters of varying status. The vagaries and chances of partible inheritance would then further limit the ability of an upper class of cultivators to monopolize the bottomlands while the economy and agricultural ecosystem remained in a 'frontier' state of development. Certainly this had been the pattern that had developed along Hatt Creek between 1750 and 1830.

Capitalist farming, on the other hand, demanded a third stage in the evolution of landholding patterns. The promise of long-term profits would draw rural creditors to the financing of farm operations on the most stable of agroecosystems. This access to capital would allow farmers of any size on such soils to expand their operations, while the wealthiest among them could acquire more of the best properties from their abundant profits. In the end, smaller operators would be pushed out of the most productive agroecosystems, or out of the agricultural economy altogether. The result would have a series of doctoral dissertations which used the 1850 and 1860 agricultural censuses to disprove Olmsted's contention about stark class divisions among white southerners. For the Virginia study, see Fields, "The Agricultural Population of Virginia."

Much of this process of centralization of landholding within capitalist agricultural systems is the result of farmers pursuing economies of scale obtainable through farm mechanization. As such, the most dramatic period of such centralization in the South occurred during the 1930s and 1940s, when the introduction of mechanical pickers to the cotton belt resulted in the eviction of hundreds of thousands of sharecroppers and the consolidation of their farms. See Kirby, Rural Worlds Lost, 64-68. Yet the fact that the ownership of much of the southern countryside was already quite centralized indicates
been precisely the pattern Olmsted identified in the Virginia tidewater, and was also determined to see on the cotton frontier of the late antebellum deep South, even if he was over-drawing it.

Along Hatt Creek, which had been farmed for commercial profit for nearly a century by the time of the 1850 Census, this process was already well underway. The creek bottom and Cecil Sandy Loam soils along the banks of Hatt Creek had been originally patented by Reverend Robert Rose and Thomas Mann Randolph, respectively, back in the eighteenth century. While they had rented much of their properties, and Randolph's successors had sold considerable portions to middle class planters like James Montgomery and Richard Dobson around the turn of the century while smaller farmers patented the hillsides above, prosperous commercial farmers had begun to re-take control fifty years later. The best agricultural lands in the hollow, the flat lands below Jonesboro west of the main branch of the Hatt, were largely included in the plantations of Major Thomas Massie's eldest son, Doctor Thomas Massie, and his neighbors Robert H. Anderson and Robert Thruston Hubbard. Doctor Thomas, as befitted an heir of the Major, was one of the wealthiest men in Nelson County, owned three separate farms totaling over 2800 acres and worth over forty thousand dollars along the Hatt and south of Mars Knob. For his part, Anderson existed on the lower rungs of the Tye Valley's upper classes, owning a farm of 725 acres near the fork of the Hatt with its east branch.

that the process began even before dramatic mechanization arrived. The need of capitalist farmers for modern finance, and the commercial success they achieved, drove an expansion of their operations at the expense of more traditional cultivators even in the absence of spectacular economies of scale.
The remainder of that portion of Parson Rose's old patent that ran along the Tye was in the possession of the Cabell family (the farms around present-day Roseland) and wealthy Buckingham County planter Hubbard. Interestingly, the pattern of smaller men selling out to the wealthier had continued in this neighborhood, as Anderson had sold two substantial tracts of Tye River bottomland to the wealthier Hubbard during the 1840s.

Above these large estates near the mouth of the hollow, the bulk of the bottomlands had passed into the hands of prosperous slaveowning farmers. A large portion of the old Randolph patent had passed into the hands of the Jones family, while the tribe’s most prosperous member, Hezekiah, owned another farm above Bryant worth 2500 dollars. With the death of James Montgomery's son Joseph, in 1842, the Montgomery family largely withdrew from Hatt Creek. Their lands, however, were purchased by several wealthy slaveowners: Ryland Roads who also held a large plantation lower down the Valley between the Tye and the Piney, Lee Harris, who already a sizeable plantation on both sides of the creek, Nelson Clarkson, and George Williams, who operated two quarters in the center of the hollow near Bryant, both totaling more than 400 acres and worth more than four thousand dollars.

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113 Total farm acreages and cash values were recorded in the manuscript schedules of the Agricultural Census, beginning in 1850.

114 Nelson County (Va.), Deed Book 8, 225.

115 For the Montgomery family’s withdrawal from Hatt Creek, see the Nelson County (Va.) Land Tax Lists, 1842-1847.

116 Seventh Census of the United States (1850), Manuscript Schedules for Agriculture, Nelson County (Va.).

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These men appear to have been following William Massie's lead in bringing high farming to the upper Tye Valley. The aspect of reformed cultivation that would appear most readily in the agricultural census was recorded production of hay cut from fields of clover and timothy grass. Even if not revealing a full-scale commitment to advanced crop rotations and pastoralism, the presence of hay in the census reports indicated at the very least a farmer beginning to move down the road of investment in soil amelioration and controlled grazing that William Massie had traveled after 1825. Doctor Thomas, not surprisingly, cut a reported 76 tons of hay in 1849, while his neighbors Williams and Roads also had extensive permanent pastures. Nelson Clarkson, one of the neighborhood's wealthier planters, owned two more smaller farms just below the Massie plantations, and appears to have devoted them largely to pastoralism, cultivating a corn and clover rotation while keeping 38 cattle, 88 sheep, and 140 hogs on the remainder of three hundred improved acres. And while Robert Anderson did not report any hay production to the census taker, his ownership of large numbers of sheep and a considerable amount of farm equipment indicated a not inconsiderable investment in the improvement of his Hatt Creek property.

Nor was this control of the Hatt Creek landscape by wealthy farmers and planters limited entirely to the banks of the creek. The hillsides, which the Valley's elite had begun to patent late in the eighteenth century to hold onto their timber resources, were still in their hands in many places. Richard Ellis had patented a long stretch (nearly six

117 Ibid.

118 Ibid.
hundred acres) of hillside land on the west slope of the sharp ridge below Pat's Knob
which divided the east branch of the Hatt from Freshwater Cove to the east.¹¹⁹ After his
death, his trustees appear to have kept the property out of cultivation, as his family grew
crops elsewhere in the Valley while no tenants appear to have been farming the property
in 1850.¹²⁰ Ginseng Hollow, which had been purchased by Robert Johnson back in 1836
for an almost nominal eight hundred dollars (for less than two dollars an acre)¹²¹ appears
to have remained uncultivated. While William Massie had apparently rented the hollow's
Porter's Black Loam soils for his attempt to grow hemp back in 1831, the property
appears to have been left fallow after Johnson's death in 1840. Massie made no further
mention of it, and no tenant farms were reported there a decade later.


¹²⁰Any estimation of farm tenants and the location of their farms from the manuscript
schedules of the Agricultural Census is an inexact process. See Frederick A. Bode and
Donald E. Ginter. "A Critique of Landholding Variables in the 1860 Census and the
Bode and Ginter. Farm Tenancy and the Census in Antebellum Georgia. (Athens, GA:
University of Georgia Press, 1986), for prominent criticisms of attempts to ascertain
identities of tenants and rates of tenancy from the pre-Civil War census. For Nelson
County, however, the process is made quite easy by the typically nonchalant habits of
Virginia record-keepers. In 1850, the census taker for Nelson noted tenants by attaching
the designation in the name column of the schedule, while in 1860, he simply decided
that since tenants did not own land, their farms therefore contained no land, and he
therefore did not record any acreage for them. Determining the location of tenant farms
is a slightly less exact process, since with no legal landholding, the boundaries of their
farms were not recorded in any surviving local government documents. The Agricultural
Census, however, does offer some strong hints. By-and-large, census takers recorded
farm production on the manuscript schedules in the order of their visitations, leaving
neighborhoods bunched together in the listings. From that proximity, I have attempted to
make some educated guesses as to the precise location of the farms cultivated in Hatt
Creek by the tenants listed with the landholding farmers of that neighborhood.

¹²¹Nelson County (Va.) Deed Book 8, 235.
Certainly the capitalist farmers of the Tye Valley were succeeding in taking control of the landscape of neighborhood's like Hatt Creek, and incorporating them into an entrepreneurial agroecosystem. Yet analyses of the Virginia farm reform movement, in contrast, have criticized the inability of its practitioners and publicists to bring the mass of the state's farmers into the fold. They might be pushed onto the sterile hillsides and remote mountain hollows, but they remained outside the system, a constant drag on schemes for economic development. Yet when entrepreneurial intensification is considered in one of its most basic aspects, particularly the use of large-scale capital to import genetic stock into the agroecosystem, the farmers of Hatt Creek were quite clearly being drawn into the web of agricultural modernization. In the first place, Hatt Creek farms and their operators were attracting significant amounts of agricultural capital. While evidence of the largest loans from banks and other financiers, as well as small-scale book credit with local storeowners, have largely vanished from the historical record of Hatt Creek, one aspect of the credit network can be well documented. Along with the records of land transactions, the county deed records in Virginia also recorded deeds of trust, simple security instruments in which a debtor deeded his property for a nominal sum to a third party, on the agreement that that party would, if the original debt was not paid, sell the property to pay off the debt. While slaves, crops, and personal property were often deeded in order to secure smaller debts, larger debts, representing loans running into the hundreds of dollars were typically secured by land. Rives, Brown, & Company, the owners of Variety Mills during much of the antebellum era, were particularly fond of the deed of trust, and secured thousands of dollars in credit around
the lower stretches of the Valley with them. In Hatt Creek, at various times during the 1830's and 1840's, a healthy proportion of the land had come under these deeds of trust. These debts, of course, which took in most of the middle class planters of the hollow, including Willis Plunkett, Hawes Coleman, and assorted members of the prolific Jones and Brent clans, did not cover the indebtedness of wealthier men like Thomas Massie, Roads, and Robert Anderson, who likely were able to deal directly with institutions like the Lynchburg branches of the state banks, or with factor-financiers in Richmond. In all likelihood, the overwhelming majority of Hatt Creek properties were being used in various ways as security for sizeable debts during the decades before the Civil War. Yet that debt did not represent the failure of commercial agriculture along Hatt Creek – in fact, quite the opposite. The men and women who managed these operations were, like William Massie but on a smaller scale, willing to reject the freedom from debt preached by the republican agrarians in order to obtain the capital needed to follow the program of entrepreneurial intensification.

Beyond the discussion of hay production above, considerable additional evidence exists that the farm managers along Hatt Creek were pushing down the road of intensive, capitalist agriculture. In two key measures of entrepreneurial intensification available from the agricultural census data, the use of agricultural machinery and the relative importance of improved livestock to the farm's production, the wealthier farmers on the Hatt Creek bottoms were moving forward much more aggressively than their neighbors. Particularly high ratios of agricultural machinery (expressed in the agricultural census in overall cash values) were concentrated among the wealthier planters along the Hatt
Patterns of Debt.
Hatt Creek.
1820-1850.

- Land under a Deed Of Trust.
1820-1850.

- Wealthy Planter
(Other Credit Sources?)

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Farm Values — Hatt Creek, 1849.

- Low Farm Cash Values per Acre
- High Farm Cash Values per Acre
Intensification of Livestock — Hatt Creek, 1850.

- Low Livestock Values per Acre
- High Livestock Values per Acre
- Large Hog Herds — Probably Open-Range Raising
Farm Mechanization.
Hatt Creek, 1850.

- Farms Reporting High Values of Farm Equipment per Improved Acre of Land.
Hay Cultivation.
Hatt Creek - 1849.

Farms Reporting Hay
in the 1850 Agricultural Census.
Rye Cultivation –
Hatt Creek, 1849.

- Landowners Growing Rye

- Approximate Location of Cereal Growing Rye
Creek banks like Thomas Massie, Robert Thruston Hubard, and Robert Anderson. Comparing total livestock values with numbers of improved (completely cleared) acres in a farm's census tallies puts farmers like George Williams, Nathan Bryant and John Ligon, who owned land along the main and east branches of the creek at the front of the neighborhood's farmers. Particularly low rates were recorded only by the Jones family farms, the Brents and Elizabeth Perry near the head branches of the Hatt, and a few of the tenants along the lower slopes of the ridges below Cat Rock Mountain. Two groups could slip through this statistical filter. Large planters like Doctor Thomas Massie, Robert Anderson and Ryland Roads owned too much land and planted too much in the way of cash crops on them to make their livestock operations appear particularly impressive, but the large numbers of cattle and particularly sheep they reported to the census taker, combined with their grass hay growing, indicated they put considerable resources into their stock. A handful of tenant farmers along the upper reaches of cultivable land on Cat Rock Mountain and along the ridge line that separated the west branch of the Hatt from the Tye River reported particularly high ratios of stock to improved land. Yet the fact that they still produced large amounts of corn, tobacco, and rye relative to their leases, and that their herds were weighted heavily with swine indicates, not surprisingly, that the poorer farmers of Hatt Creek were still taking advantage of Virginia's open range fence laws to run half-feral hogs in the oak and chestnut forests above the more open country at the bottom of the hollow. Yet the fact

\textsuperscript{122}Seventh Census of the United States (1850), Manuscript Schedules for Agriculture, Nelson County (Va.).
that the numbers of hog-runners remained low, and concentrated up on the Horseshoe Mountain hillsides, emphasized the distance which Hatt Creek's planters had traveled toward dismantling the frontier agroecosystem by mid-century.

That distance was further revealed by the broadest statistic offered by the agricultural census, the estimate of the total cash value of each farm recorded in the manuscript schedules. Particularly valuable farm properties (measured by the farm's cash value relative to its total land area) revealed an investment of significant resources in the kind of intensification that resulted in higher prices for commercial properties – farm buildings, drained fields, permanent fences, and the like. Such farms were once again concentrated along the banks of the Hatt, particularly along its lower reaches, and owned by the neighborhood's wealthiest men, while especially low value farms clustered in the hollow's upper end and well up on the Cat Rock Mountain slopes.123

Yet despite the rapid development practiced by the hollow's wealthiest cultivators, small farmers had not been left entirely out of the modernization of the Hatt Creek agricultural landscape. Of particular interest is the apparent influence of William Massie's operations across the river. A significant number of the tenant farmers who appear to have been cultivating rented land in Hatt Creek, particularly on the slopes of Cat Rock Mountain on the western side of the hollow, appear in Massie's accounts as having dealings with his mills or small-scale debts with him.124 Yet Massie was not

123Ibid.

124For Massie's dealings with tenant farmers in Hatt Creek recorded in the 1850 census, see his year end accountings for 1845-1855, compiled in Refsell, "The Massies of Virginia."
content merely to reap minimal profits from providing industrial and financial services to primitive and poverty-stricken hill farmers. Instead, he appears to have actively drawn local clients like Jesse Manly and David Drumheller, as well as the Campbell and Coffey clans further up the Tye River, into the network of producers of improved commercial crops. Massie made note of his first successful experiments with multicole rye, apparently imported into the United States from Poland, in 1846. Yet merely three years later, the region around Pharsalia and his other plantations had become the center of the Tye Valley's rye production. While rye growing was at best sporadic throughout the rest of the Valley, Hatt Creek had become a particular center, with nearly half of the farmers farming lands in the hollow reported rye in their fields in 1849. Most interestingly, while a number of Hatt Creek's wealthier farmers were holding out against the craze for the high yield strain of rye -- particularly Doctor Thomas Massie, whose always strained relationship with his younger brother had collapsed into non-communication -- it was the tenant farmers in particular who almost without exception were yanking stumps and rocks out of the Cat Rock old fields to cultivate the new strain of rye whose price across the Tye at Massie's Mill would redeem the advance of seed Massie had made to them.125 This kind of enterprise had clearly gone far beyond the attempt of Thomas Stanhope McLelland to draw in neighborhood farmers in an attempt slowly to improve his livestock on an otherwise self-sufficient basis. Massie, in contrast, was drawing his poorer neighbors directly into the marketplace. Massie's aggressive attempt to improve

125Seventh Census of the United States (1850), Manuscript Schedules for Agriculture, Nelson County (Va.).
his productivity by importation of new genetic stocks was involving large numbers of his neighbors, rather than leaving them unmoved, or contemptuous of their wealthy neighbor's zeal for financially-risky ‘book farming’. Once committed to this venture, his poorer neighbors became fully integrated into Massie’s localization schemes, providing grain for his mills, taking small loans at interest from him, purchasing goods from his stores, and quite possibly supporting the Massie line at election time.

There is a powerful paradox in the two major sources of information presented in this chapter. One the one hand, William Massie's successful transformation of the landscape of Pharsalia plantation into a modern, entrepreneurial agroecosystem was time-consuming, costly, and fraught with risk and demoralizing setbacks. His successes, manifest as they were – Pharsalia plantation stands out to the left of the maps included above, a constant example of high farming – were due largely to his extensive financial resources. Farmers of lesser means would have faced his syphian battle with a twist – the returning stone of failed crops and poor investments that went along with any attempt to modernize the farm landscape would roll back and crush their finances. Yet the close analysis of the agricultural landscape of the Hatt Creek neighborhood in 1850 indicates that the program of high farming was not out of the reach of more ordinary planters. Doctor Thomas Massie was one of the wealthier men in the Tye Valley at mid-century, to be sure, as was Robert Thruston Hubbard, but middling slaveholders like George Williams, Hezekiah Jones and Robert Anderson had nowhere near the access to capital and long credit lines that the region's big three planter-gentry did. Yet they, and many of
their neighbors of even more moderate means, had been able to start down the path that William Massie had pioneered for the upper Tye Valley.

The gap between the financial demands of ecological modernization and the ability of many smaller planters to begin following that path suggest the powerful synergy that existed between the agroecology, the finances, and the politics of agricultural reform. The combination of population growth and the decline of frontier fertility demanded emigration or intensification. Neither approach, however, worked to sustain the financial and socio-political status of the Virginia gentry. In an expanding world economy, the hierarchies of old Virginia depended upon a successful combination of geographic stability and commercial profit. That combination could only be founded upon an entrepreneurial intensification of the state's local agroecosystems. That entrepreneurialism, in turn, pulled the Virginia gentry steadily away from the republicanism upon which they had originally rested their hopes of survival.

Yet that turn away from the state's political traditions carried with it important implications. During the eighteenth century, the Virginia gentry could remain in the elite with only a loose link between their political power – particularly over access to land and the land distribution system – and their financial status as slaveowning, staple crop planters. Doctor William Cabell, for example, had rested his political standing on his office as Albermarle, and later Amherst, County surveyor. Yet the kind of power that gave him went directly into supporting his financial status for a short period of time. Once the bulk of his James River bottomlands were collected, the influence of his office went primarily into building other kinds of status. It was that looseness of the alliance
between local politics and local finance on a stabilizing colonial frontier that had made republicanism possible, as long as the needs of the elite for off-plantation power were minimal. As Virginia was drawn more firmly into world capitalist markets after the Revolution, that comfortable distance was eliminated. As much of the program of agricultural reform that a man like William Massie might enforce within his own property lines, the success of an entrepreneurial program depended upon the ability of the planter class to construct a world outside their fences that supported the finances of the entrepreneurial agroecosystem. His zeal for pushing multicole rye on any farmer in Hatt Creek who would take a bushel or two of seed revealed that dependence. Massie was going to need neighborhoods like Hatt Creek to transform their agricultural landscapes, and he would have to begin taking steps to help (or drag) his neighbors up the steep slope of entrepreneurial intensification. In the future, however much he might have like to hide out of the public eye at Pharsalia, Massie's agroecological, financial, and political lives would have to work in tandem.
CHAPTER VI
TYE VALLEY REPUBLICANISM AND RESISTANCE
TO THE CAPITALIST AGROECOSYSTEM, 1830-1850

The crusade of agricultural reformers and associated political leaders to reshape Virginia's agricultural landscape while building an economic and financial infrastructure to support that project made considerable headway in the decades before the Civil War.¹ Yet it soon became clear to the mass of Virginia farmers that, whatever the financial and agricultural risks associated with high farming, the establishment and sustenance of the capitalist agroecosystem demanded a degree of legal, financial, and political hierarchy and centralization to which generations of white tobacco farmers, raised within the ecology and culture of the tobacco frontier and its subsequent traditional intensification, were unaccustomed and unreconciled. A struggle between Virginia's capitalist modernizers and common farmers over control of the region's landscape, natural resources, and political economy, emerged in Virginia during these years. Large numbers of small slaveholders, yeoman farmers, and poor whites resisted the

¹Although considerable criticism of this view has emerged over the last thirty years, it is valuable to go back to some of the close research that has been done on the topic – research that has reached a quite different conclusion. In addition to Craven Soil Exhaustion, see, in particular, Fields, "The Agricultural Population of Virginia," Bruce, "Virginia Agricultural Decline to 1860: A Fallacy," or Schlotterbeck, "Plantation and Farm," 301-324, for in-depth research that has revealed a rapidly modernizing and intensifying agricultural economy on the eve of the Civil War.
incorporation of their property, their labor, their finances, and their politics into the comprehensive vision of a prosperous, sustainable capitalist agroecosystem built upon the ecological and fiscal ruin of the tobacco frontier.

**Limits to the Spread of High Farming in the Tye Valley.**

The statistical and geographic evidence of the pre-1850 spread of capitalistic agricultural intensification in the Tye Valley as a whole, and along Hatt Creek in particular, while impressive when contrasted with the gloomy assessments of Virginia agriculture recorded by northern contemporaries like Frederick Law Olmsted, must also be measured against the recurring themes of gloom and defeat sounding from the pages of Chesapeake agricultural periodicals like the Farmer's Register and the Southern Planter. As noted above, the vision antebellum Virginia’s gentry had of their state’s agroecologically-rooted crisis was underscored by their sense of possessing and publicizing sure-fire solutions only to be ignored. While northern farm journals, confident of their subscription lists and influence, soon settled into a tone of quiet, successful distribution of practical information and advice,² many of the essayists and correspondents published in Virginia’s journals remained in their hearts beleaguered faithful living through dark days. Although much of this culture of frustration and desperation stemmed from the pervasive influence of Edmund Ruffin’s personal

²Demaree, The American Agricultural Press, for discussions of the tone and content of the nation’s important antebellum farm journals.
bitterness, it was still present in the pages of the *Southern Planter* at the close of the 1850’s, even as Virginia confronted the sectional crisis with a booming agricultural sector. In 1858, state agricultural society correspondent Richard Irby was still describing the planters of piedmont Nottoway County in terms that might easily have been drawn from the 1830’s, or even earlier. “There has never been,” he concluded, “that spirit of enterprise and industry which has rendered far less favoured regions more prosperous. ‘Eat, drink, and be merry,’ has been the practice of too many, and luxury and ease have proven the precursors of poverty. Want of personal and constant attention on the part of land-[ ] and slaveholders to their property, has rendered it unproductive, and thus induced a spirit of dissatisfaction, which has led to emigration.”

William Massie concluded in disgust with his state in 1850: “Eastern Virginia, this land of pride, waste, indulgence, indolence, and poverty.”

Even while celebrating considerable successes in converting the minds of farm managers and transforming the agricultural landscape, Virginia’s patriotic agriculturalists could not avoid the fact that their state’s rural productivity and prosperity was falling behind that of other states, especially those to the North and West. The fault, Ruffin and his contemporaries inevitably concluded – being the good Jeremiahs most of them were –

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3 For analyses of Ruffin’s volatile and negative personality, particularly later in his life, see Craven, *Edmund Ruffin, Southerner*, 5-8, and Allmendinger, *Ruffin, Family and Reform*, 87-88, 154–158.


5 William Massie to John Jones, 19 February 1850.
lay in the white farmers of their own state. Too many were migrating from Virginia to
the cotton belt, and too many of those who remained refused to aggressively embrace
agricultural modernization. One anonymous correspondent to one of the early numbers
of the Farmer’s Register wrote sarcastically to Ruffin that, “We Virginia farmers, (I
mean such as I am, who are at least four-fifths of the whole,) require to have some plan
devised, by which, without much labor and with no expense, we may improve our lands,
and that speedily, or we will remove to the western forests, and encounter all the labor
and privations attending a new settlement. We have no notion of submitting to the tardy
and laborious systems of your real farmer. We go for a kind of slight of hand or no work
plan – or we are off.” According to the farm reformers, Virginia’s resources were going
to waste as too much labor and too much land was not being incorporated into the
capitalist agroecosystem.

The cracks in the vessel of Virginia’s high farming can be seen even in the
rapidly intensifying landscape of Hatt Creek in 1850. To be certain, well-capitalized
farmers practicing high cultivation controlled much of the hollow’s best flatland and
stream-side farm properties by mid-century. Yet the worldwide pattern of capitalist
agricultural modernization has been (and continues to be) that the financial clout and
economies of scale available to larger cultivators enabled them to drive smaller farmers
off the land – and frequently out of the agricultural economy altogether – as

mechanization spread. Yet the successes of Hatt Creek's substantial farm operators – men like Robert Anderson, Nelson Clarkson, and the others discussed at the close of Chapter Five – had not herded smaller planters out of the neighborhood. As noted above, a sizeable number of tenant farmers and small landholders still cultivated a variety of properties in the Hatt Creek stream valley at mid-century.

While William Massie had been able to tie many of these leaseholders to his venture by distributing multicole rye seed and milling the resulting crops, the degree to which men like Jesse Manly and David Drumheller retained their at least nominal fiscal independence created problems for the local agroecosystem. Although they did grow rye for the national markets to which Massie was so well connected, they were hardly cultivating the grain on ideal farmland. While most of them doubtless supplemented their incomes by working as occasional wage laborers on the larger plantations of men like Ryland Roads and George Williams, they continued to rent properties on the slopes of Cat Rock Mountain above the prime farmland along the Creek. Most of the tracts which the ordering of the agricultural census rolls indicate they were renting were beyond the west branch of the Hatt. That stretch of land, while by the twentieth century still cleared for grazing and particularly apple orchards, would have been comparatively

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8For this and further information regarding the contemporary landscape of Hatt Creek in this chapter, see United States Geological Survey, Horseshoe Mountain Quadrangle (Va.), 7.5 Minute Series.
poor land for grain cultivation. Long-term forest cover might have afforded the kind of thin layer of decaying vegetation that would lead contemporary soil analysts to classify the tops of Cat Rock, Horseshoe, and Pat's Knob mountains as Porter's Black Loam. Yet unlike the flat terrain ancient glacial patterns afforded to many Appalachian coves, the slopes of the west side of the Hatt Creek hollow would have had little protection against erosion. Even temporary clearings for hoe or primitive plow cultivation would have stripped the dark loam soil cover down to heavy red clay in the good places, sand and rock in the bad. The per-acre yields obtained by the rye-growing tenants, while of little immediate interest to William Massie who assumed little of the risk, were probably quite low compared with what was possible on improved, fertilized properties like those of Roads and Williams. Furthermore, and of greater interest and worry to a localizing lender and entrepreneur like Massie, the erosion of those Cecil Clay soils resulting from land clearing and plowing on the steeper grades would have steadily driven down those yields as the years passed, making tenant farming (and extending petty credit to tenant farmers) a very insecure business. By 1860, nine of the eleven identifiable Hatt Creek tenants from 1850 were no longer farming in the area. Massie might have been able to control the crops they grew, but he could do little to influence their finances or their

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9Mooney, *Soil Survey of the Albemarle Area*, 209-211, and Wingo, *Virginia's Soils*, 115-118, for definitions of Porter's Black Loam. See also the more recent soil series descriptions provided on-line by the National Resource Conservation Service.

10See the Seventh (1850) and Eighth (1860) Censuses of the United States, Manuscript Schedules for Agriculture, Nelson County (Va.), for this information. All further references to agricultural production in the Tye Valley will refer to these censuses, including, of course, the manuscript schedules for Amherst, as well.
In addition, while Massie’s ability to sell the cultivation of multicolored rye to petty cultivators drew them into capitalist agriculture to some extent, they still committed considerable portions of their land and labor to subsistence crops and sub-commercial livestock. Tenant farmers on the properties of the Jones family, William Perry’s widow, Elizabeth, and others, for example, continued to produce high quantities of corn and potatoes, while their exaggerated ratios of swine per-acre indicated that they were still running low-grade hogs in the mountain woods (or onto the wood lots and old fields of the more substantial planters below). Massie might have tied them financially to his mill across the Tye, and to the petty loan business he (and his father before him) had run based on the purchase of grain. Subsistence production by small farmers, however, would have continued to limit their participation in the Massie family’s small mercantile ventures in the neighborhood.

The way in which smaller farmers continually refused to risk their labor, resources, and finances on the various nineteenth-century manifestations of rural capitalism was doubtless a source of considerable frustration to major planters. A much more desirable situation, from the perspective of localizing, modernizing planter-entrepreneurs, might well have been to see those poor whites who were unable to obtain the credit to go into capitalist farming give up independent agriculture and make do as at least temporary farm laborers. This situation, which would slowly but steadily come to

\[\text{See Chapter Five for this information.}\]
typify rural America after the Civil War,\textsuperscript{12} would have increased the flexibility of an agricultural labor market overly dependent on slaves\textsuperscript{13} (while dramatically reducing labor costs both slave and free), while also providing more dependent consumers for the neighborhood's stores and farms. Yet in the Tye Valley, as well as throughout antebellum Virginia, poor white men resisted this further loss of independence, pursuing primitive farming as small land owners where they could, and as tenants otherwise. When they were unable to gain lease access to good farm properties, rather than migrating or going into other pursuits, many lower class white Virginians retreated into the worst of agroecosystems, the pine barrens, swamps, or mountain hollows and plateaux, accepting isolation, hard work, low returns, and a degree of poverty that startled northern observers of the southern agricultural scene,\textsuperscript{14} in exchange for continued freedom from permanent wage labor. For a variety of reasons, men like the upper Tye Valley's Coffeys and Campbells preferred to rule in the hell of yeoman farm 'finance' than be subordinate in the suspect heaven of high farming and associated enterprises.

In addition to being unable fully to incorporate either the labor of tenant farmers


\textsuperscript{13}See in particular, Bateman and Weiss, \textit{A Deplorable Scarcity}, passim., for the best-known discussion of the role of plantation slavery and staple crops in reducing the flexibility of the antebellum Southern labor market.

\textsuperscript{14}See Chapter Four, Note 113, for an extended discussion of this movement.
and modest land owners, or the agroecologically marginal land they scratched a living from, the capitalist agroecosystem of 1850 Virginia had also remained vulnerable to a system of family property relations inherited from the frontier agroecosystem. In New England, in interesting contrast, a burgeoning rural population and long agricultural decline had led to a family culture in which farms remained intact while excess sons were pushed out of farming into wage work and trades.\textsuperscript{15} In the Tye Valley, on the other hand, many farm families were still attempting in the 1830s and 1840s to build agricultural kin neighborhoods, renting land to younger generations before dividing and subdividing their properties. Within the frontier agroecosystem of the eighteenth century and earlier, the rapid evaporation of the production brought on by biotic fevers exerted a steady pressure driving farm families out of long-settled areas into the mature ecosystems of the interracial no-man’s-lands.\textsuperscript{16} In these remote outposts (as the Cabells, Higginbotham’s, and others had discovered during the middle of the previous century), the dangers of isolation could be eased by purchasing enough local land to seat children and near relations nearby. The practical and emotional benefits of such settlements were passed on to the next generation, as landholdings were subdivided among the children and in-laws who chose to remain in the neighborhood.\textsuperscript{17} Without further migration, however, these subdivisions in time sapped both the ecological diversity and resilience of

\textsuperscript{15}See, for example, Barron, \textit{Those Who Stayed Behind}, 32-41, 92-99.

\textsuperscript{16}See Beeman, \textit{Evolution of the Southern Backcountry}, 14-59, for this development on the eighteenth-century Southside.

\textsuperscript{17}See Cashin, \textit{A Family Venture}, 86-91, for a discussion of the vital economic importance of kin connections on the frontier.
local farms, while undermining the financial base of rural families through equal
divisions of their inheritances. Frequently, in fact, the multiple inheritors of previously
advanced estates were driven down into traditional intensification once they could no
longer secure large amounts of credit with their diminished properties.

By 1850, this process was clearly at work in several parts of Hatt Creek hollow
and the surrounding community. The elite planter family of the locality, the Massies,
had been able to avoid the decline for a generation. Major Thomas Massie was able to
build up considerable financial clout through his early agricultural and industrial
successes on the old Rose family lands. More importantly, he was blessed (in a way)
with only three sons, and could make broad divisions of his Tye River estates. In
addition, the major’s second son, Henry, had become a black sheep and was banished off
to cheaper properties to the west in mountainous Highland County, while eldest son
Thomas had angered his parents in some manner and was squeezed out of some of the
more valuable Massie lands in Major Thomas’s will (while the Philadelphia medical
education the Massie fortune had purchased for the younger man gave him the income
later in life to remain prosperous on a somewhat diminished agricultural estate). All this

18 For the classic work on this process outside of the South, see Philip Greven,
Four Generations: Population, Land, and Family in Colonial Andover, Massachusetts,
expansion and subsequent outmigration which Greven describes, of course, was never
carried nearly so far in the eighteenth- and nineteenth-century South.

19 For the declining status of heirs in Hatt Creek, see also the discussion of the
children of Robert Anderson in Chapter Seven.
helped keep favored son William in a powerful fiscal and ecological situation.20

William was not to be so fortunate when attempting to hand on his status and estate to his own offspring, however. Yet his desire to make the upper Tye the center of an extended family network was evident. He was enormously upset when disagreements with his oldest brother over the division of their parents’ wills led to a break in communication that lasted several years, despite his brother’s lands along Hatt Creek being visible from William’s study window at Pharsalia. To a close friend he wrote: “Indeed, so mortifying are my reflections on the subject that I sometimes have strong thoughts of selling out my possessions & moving off from here -- which I would do, except for having spent all my best days in preparing this spot in a way to render the evening of my life comfortable. It is a most horrible reflection to think of raising up two broods in sight & in strong scent of each other & derived from the same grand Sire, who know as little as they care for each other.”21 Moreover, when during the early 1850's the improvidence of his eldest son, Thomas Eugene Massie, led the younger man to consider selling out and leaving the Tye Valley entirely, William tied himself in knots trying to salvage his son’s finances in order to keep him in the neighborhood.22

Yet while these personal problems threw up more immediate obstacles to William Massie’s hopes of balancing gentry status with localized kin networking in a


21William Massie to James Heath, October 14, 1841.

22See, for example, Thomas J. Massie to William Massie, 21 November 1858, William Massie to Thomas J. Massie, 14 December 1858.
capitalist economy, it was his growing family that would prove more troublesome in the long run. While his first three wives died young, his fourth wife, Maria Effinger Massie, bore him several children, leaving him with three sons and as many daughters to provide for as his death approached in 1860. His repeatedly-stated desire to extricate Pharsalia from indebtedness grew from a deep-seated (although, as described in Chapter Five, never even close to decisive) fiscal conservatism, but also from an apparent plan to clear his financial decks in order to purchase more land and provide his numerous brood with the unencumbered inheritance his father had been unable to bequeath to him. Even with his care, the Massie clan of the upper Tye River Valley (his brother Thomas had a sizable family as well) slipped considerably in status after the Civil War, as their numbers expanded beyond the land and capital base left by the first Nelson County generation.

The abundance of land which victories in generations of colonial and Indian wars had provided the frontier agroecosystem of eighteenth-century Virginia enabled the state’s prominent property owners to abandon the feudal inheritance practices of primogeniture, and later entail, while still transmitting the economic basis of republican aristocracy to their children. Yet, as the Massie experience would prove, capitalist


24See the discussion in Refsell, “The Massies of Virginia,” 863-867, of Massies land and financial dealings as he prepared for the final settlement of his estate.


26The issue of the extent of entail and primogeniture in colonial Virginia prior to the Jefferson-inspired Revolutionary-era changes in the inheritance laws has generated
intensification brought the problem of family population growth back into the calculations of Virginia's farm patriarchs. The inheritance practices derived from common law had hoped to maintain a family's aristocratic status by keeping the body of rents intact. Yet by the 1840s and 1850s, Virginia's system of partible inheritance was breaking apart the concentrated capital, labor, and land needed to build an intensified agroecosystem in a capitalist economy. Men like William Massie and his elder brother still had the slaves necessary to maintain permanent, improved, sustainable fields and rotations. They still had the hundreds – indeed thousands – of acres of quality land needed to build five- and seven-year rotations while taking advantage of economies of scale in machinery and farm buildings. And they still had the cash flow and access to credit needed to finance these agroecological ventures. Yet their children, and the children of large families throughout the Tye Valley and the Virginia piedmont, would see their fathers' estates divided into units which could no longer support the fullest extent of Virginia high farming or maintain their parents' status as a prosperous rural

considerable debate recently. Accepted wisdom had the entail system being of limited scope, and honored more often in the breach, that might have been expected given the heat which the debate generated at the time. Recent research, however, has countered that nearly three-fourths of the farmland in eastern Virginia was entailed by the end of the colonial period. Even accepting this contention, however, one must conclude that Jefferson's opposition to entail meshed well with his aggressive frontier policy. Successful abandonment of primogeniture would have depended, for the Virginia gentry, on their ability to force open the national land system, giving them further opportunities for expansion across the Appalachians. See Holly Brewer, "Entailing Aristocracy in Colonial Virginia: 'Ancient Feudal Restraints' and Revolutionary Reform," William & Mary Quarterly, 3rd series, 54(1997), 307-346, for the most recent and comprehensive discussion of the issue.
What would happen to the Massies after the Civil War was already occurring at mid-century in the family economies of two prominent Hatt Creek clans, the Brents and the Joneses. Joseph Brent, had, by purchasing land from Richard Dobson’s heirs, as well as Joseph Montgomery and Lee Harris, built a sizeable estate monopolizing the bulk of the quality farmland in the upper reaches of the hollow. After his death, in fact, the continued Brent dominance of the area’s properties would give the family name to the ridge gap separating the Hatt from the South Fork of the Rockfish River. Yet the elder Brent’s death forced a division in the family properties between his widow Anne, and his sons Landon and James, and daughter Adaline. To be sure, the division of the Brent estate did not reduce the family to poverty. Adaline (or one of her brothers) managed a prosperous farm which produced commercial crops like wheat, rye, and tobacco, as well as supporting hay land. Landon’s farm was also worth a considerable amount, where he ranged cattle and hogs on 150 improved acres, while also renting part of his mother’s dower portion, where he grew wheat, corn and oats, as well as grazing sheep. His brother James also prospered in a small way, growing wheat and tobacco for market while supporting a sizeable group of various stocks on 200 improved acres.

Yet the middle class comfort Joseph Brent had been able to provide for his widow and children did not allow the family to join Dr. Thomas Massie, George Williams, and Robert Anderson in the ranks of the Hatt Creek resident elite. Despite the

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27Allmendinger, *Ruffin: Family and Reform*, 57-84, contains an interesting and extended discussion of the problems created for Edmund Ruffin’s career and estate by the rapid growth of his family.
quality of the Brent land, the breakup of the estate split the clan's resources to the point that they were apparently unable to pool the capital and labor needed to participate in the Tye Valley's version of the high farming revolution. The Brent properties were, in 1850, some of the most pleasant bottomland the neighborhood had to offer, and the majority of it (700 of the nearly 1200 acres owned or controlled by Anne, Adaline, Landon and James) was classified by the Nelson census taker as "improved," meaning apparently fully cleared. Yet when compared with the rest of the farms along Hatt Creek, the Brent farms showed low per-acre cash values, indicating the census taker's perception of limited investment in farm buildings, soil conservation and improvement, or stock care.

Furthermore, the Brents appear to have rented a sizeable chunk of their inheritance to a tenant named Richard Bolton. Bolton, who according to the census rented nearly 650 acres in the neighborhood of the Brent lands in 1850 (not all Brent property, presumably28), was clearly practicing frontier farming of the most traditional kind. Only 48 acres of his farm was classified as improved, and he grew subsistence crops (and soil wasters) like corn, oats, and potatoes, with a mere five dollars in farm equipment. On what were likely surrounding old fields, he ran a number of hogs and sheep, slaughtering a handful of the former and shearing the latter for a small cash base to his personal economy. If, as seems likely, the Brents were renting large sections of their hillside properties to Bolton, it was a quick supplement to their incomes, rather than a long-term strategy to maintain or improve the quality of their holdings.

28Some of it probably came from Elizabeth Perry's extensive dower portion of her deceased husband's upper Hatt Creek estate.
Further down the Hatt, the heirs of Thomas Jones were demonstrating the problems estate division created for agricultural improvement even more clearly. Through a series of land purchases and inheritances earlier in the Nineteenth Century, Thomas Jones had built a sizeable estate out of the bottomlands originally patented by Thomas Mann Randolph and his partners back in the 1760's. The Jones properties, centered around what would be incorporated as the town-hamlet of Jonesboro by mid-century (surviving today only as the Jonesboro Baptist Church where many of the members of the hollow's families are interred), were also some of the best farmland along the Hatt, combining creek bottoms with low hills still suitable for improved farming and grazing.29

Yet Thomas Jones' death had resulted in an even more drastic division of his estate than that forced on the Brents. The land around Jonesboro had, by 1850, been divided into farms held by Thomas' children, Tandy, Wiatt, Abbey, Hezekiah, and Robert.30 These farms were dramatically undervalued when compared with the nearby properties of established planters like Williams and Dr. Massie. Only Hezekiah, who had purchased land further up the hollow, appears to have been making significant headway in making his property a profitable one, with 200 improved acres and two hundred dollars in farm equipment recorded by the census taker. Yet his farm produced no grass hay, his stock herds were heavily weighted in favor of low value hogs, and most of the

29For some of the land transactions of Thomas Jones and his family, see the Nelson County (Va.) Deed Books, 1, 419; 8, 79; 8, 253; 9, 42.

30Nelson County (Va.), Will Book E, 3.
production of his fields were subsistence crops like corn, oats, peas, and irish and sweet potatoes. Brother Robert reported two tons of hay to the census taker, but also supported low grade hogs while growing large quantities of corn, oats, peas and potatoes. Their brother Tandy was in even worse shape: his 286-acre farm was valued at only eighteen hundred dollars, he only owned seventy dollars worth of farm equipment, and used it to grow soil-wasting crops like corn and tobacco. Wiatt and Abbey Jones barely farmed their properties, choosing instead to make their livings from artisan work, both as coopers. Despite bordering the main branch of Hatt Creek, the Jones family farms were rapidly declining as the Civil War approached. While their neighbor, Dr. Thomas Massie, had the land, labor, and capital necessary to invest in sustainable capitalist intensification, the Jones boys were unable to replicate their father’s status, and were quickly sliding down into the ranks of the Tye Valley’s yeomanry.

Thus, by the middle of the Nineteenth Century, Hatt Creek had a curiously composite agricultural landscape and ecosystem. Considerable amounts of labor and capital were being scientifically invested in large stretches of the hollow’s best arable farmland. Yet at the same time, the labor of many farm families was being drawn out of the capitalist agroecosystem into primitive farming on leased properties of limited agricultural value. Furthermore, the difficulties which large farmers were encountering collecting the resources necessary to invest in improved farming were being compounded by family expansion. The drive to provide subsequent generations with a landed inheritance continually divided slave communities, quality arable, and liquid capital into parcels too small to sustain entrepreneurial intensification. For all the progress made by
improving planters and their clients in binding such resources to the management of a capitalist agroecosystem, a community leader like William Massie could see a great deal of what he would have seen as waste when he looked from his study out beyond Pharsalia’s fields and across the Tye to Hatt Creek. The continual annoyance created by that waste – an annoyance reflecting the lost profit and economic development the waste caused – lay at the root of the remarkable zeal which animated Virginia’s antebellum farm reformers.

Enlightened high farmers might view their efforts as disinterested public service, and congratulate themselves on even the slowest progress in agricultural education. Entrepreneurial localizers like William Massie, on the other hand, could not be satisfied with the glacial pace of human progress. They needed capital to finance their farms and local businesses, and needed income from dealings with prosperous commercial farmers to attract that capital. In national and international markets for capital and crops, any squandering of ecological or labor resources placed their communities at a competitive disadvantage by siphoning away potential income. As long as the landscape of rural neighborhoods like the Hatt Creek hollow were not completely and optimally incorporated into the capitalist agroecosystem, agricultural reformers would continue to fret. And their worries would compel many of them to pursue with a definite aggression possibilities that afforded them a chance to obtain some measure of control over the land and labor they saw as misspent.

_Evangelical Entrepreneurialism and Popular Republicanism._
One of the most curious aspects of antebellum Virginia's agricultural reform movement was the close association in the minds and practices of its advocates between evangelicalism and entrepreneurialism. That the Old Dominion's agricultural reformers were particularly enthusiastic publicists cannot be doubted: the reams of print they generated—newspaper essays, farm journals, overseer's and scientific manuals, and the like—are a testament to their fervor. Yet Edmund Ruffin and the other leading spokesmen for high farming were also, like any devout missionaries, as much chilled by the converts who got away as warmed by the devotion of those who accepted the faith. As noted earlier, their essays and public addresses built their arguments for vigorous reform propaganda both on the anguish of manifest failures as well as on the glory demonstrable successes. Agricultural reform was an actively proselytizing faith, rather than a monastic discipline.

Yet the fact that the demands of profitable modern farming for an entrepreneurial outlook coincided with this spirited evangelicalism is a bit of a paradox. Virginia's antebellum high farmers certainly manifested many of the commonly agreed upon symptoms of the modern 'entrepreneur', as defined by economists and economic historians. They collected significant amounts of capital for investment in innovative, indeed often untested and untrusted, production techniques, and frequently worked (both economically and politically) to develop new markets rather than simply responding to the fluctuations of existing ones. Yet considerable recent work on entrepreneurialism 31 For the best collection of work on the theory and analysis of entrepreneurialism, see Mark Casson, ed., Entrepreneurship, (Brookfield, VT: Edward Elgar, 1990).

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has focused on the entrepreneur’s control and manipulation of information.

Entrepreneurs attempt to collect windfall profits by outflanking competition through exclusive control of information – whether technical information relating to new production techniques, or economic information relating to otherwise unanticipated shifts in the market. Indeed, the primary incentive capitalist political economy offers to entrepreneurs is this very control of information: the patent system. Inventors are encouraged to become entrepreneurial capitalists, and vice versa, by the promise of government-sanctioned monopolies confirming inventors in exclusive legal and economic control over their technological innovations. Exclusivity, indeed secrecy, are typically key elements of any entrepreneur’s method and madness.

Yet Virginia’s entrepreneurial high farming contradict this pattern. From the modern definition of the entrepreneur, which Virginia reformers mirror in so many ways, one might reasonably expect men like Thomas Jefferson, John Taylor, Ruffin, and the other experimental cultivators of the region to hoard the results of their trials. Why should they have cared what poor farmers down the road might be doing? If all their neighbors began conserving and ameliorating their soils, rotating crops, and improving their livestock, Virginia’s modernizing gentry might reasonably have thought, what would it accomplish other than to flood already competitive farm produce markets while driving up land and slave prices in the community? And yet, far from cultivating ten-foot tall Osage Orange hedgerows to hide their activities from prying eyes, the leading

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32I rely heavily on the recent scholarship of Mark Casson in defining the entrepreneur. See, in particular, Casson, The Entrepreneur: An Economic Theory, (Totowa, NJ: Barnes & Noble, 1982), for an overview of his work.
practitioners of capitalist farming in the Chesapeake opened their farms to visitations on local fair days, wrote descriptions of their successful experiments for journals and newspapers when local publicity fell short of their goals, and some of the more ardent might well have set up soap boxes and harangued the public at every turn in the public roads had they been able to spare themselves from their time-consuming account books, orchard manuals, and farm diaries. High farmers were evangelical entrepreneurs. Their faith demanded steadily growing ranks of converts from the ranks of neighboring farmers. The economic realities which explain this apparent dual personality of localizing high farmers, as well as the demands they placed upon the private and political economies of the antebellum gentry, are crucial to understanding the nature of resistance to agricultural reform in Virginia, and why that resistance was so crucial to shaping not only the state's economy and politics, but its landscape as well.

As discussed above, both commercial localization and the capitalist agroecosystem could not be sustained within the individual plantation. Traditional intensification sought to match increased production and conscientious conservation to increasing labor supplies with a strategy of self-sufficiency that kept farmers on the land. Entrepreneurial intensification sought to escape from the material penury this strategy entailed by importing equipment, breed stock, and additives that increased labor efficiency within the agroecosystem. Yet those imports had to be purchased on the open market. Obtaining credits for those purchases required commercial crop production to sustain a cash flow and attract capital loans. Building the markets into which those crops could be sold, and encouraging the financial institutions which might extend those loans,
dictated that the Virginia gentry actively cultivate the involvement of their neighbors in the project of entrepreneurial high farming. With large numbers of farms involved in producing for the marketplace, profits accumulated, banks could be founded, transportation development funded, and so on. Commercial localization, of course, was built entirely on the prosperity of such rural communities. Virginia's practical agricultural reformers, up to their necks in both localization and entrepreneurial high farming, therefore pursued converts among the mass of the state's farm managers with a special enthusiasm.

Yet, as time would prove, the stakes involved in the creation of the entrepreneurial agroecosystem were too high to rely on education and moral suasion alone. There were other, less egalitarian, ways for Virginia's rural entrepreneurs to gain a more thorough measure of control of the state's agricultural landscape and farm labor force. In the first place, whig capitalism resulted in considerable evolution and complication of the rural economy. Under the colonial economy of the eighteenth-century frontier, crop purchases, shipping, marketing, credit, mercantile sales, and so on, were remarkably centralized in the hands of planter-merchants or alien factors.33 This situation meant that the bulk of farm owners shared a kind of rude equality in terms of their position within the agricultural system and the tobacco trade. A modernizing economy first eroded, and then wrecked that parity. Entrepreneurial farmers improved

33For a basic discussion of the tobacco marketing and consumer credit systems of colonial Virginia, see Kulikoff, Tobacco and Slaves, 122-131. See also, for example, Robert Polk Thomson, "The Merchant in Virginia, 1700-1750," (Ph.D. diss., University of Wisconsin, 1955), and James Soltow, "Scottish Traders in Virginia, 1750-1775," Economic History Review, 2nd series, 12(1959), 83-98.
commercial production beyond the capacities of their neighbors, reaping the rewards for
their status as the new elite of farm managers, and controlling the access of smaller
planters to capitalist farming methods. Com m ercial localizers within rural
communities built a wide variety of processing and mercantile enterprises, which took
over marketing farmers’ crops, while burdening them with small-scale debts. Banks,
wholesale houses, and joint-stock improvement companies were developed above these
smaller enterprises, and negotiated the participating of local economic leaders with the
international economy. Entirely new levels of decision-making were established
between white, male, farmers and businessmen, and power within the economic system
was slowly but radically redistributed among them. Yet that shifting power almost
invariably flowed in one direction: out of the hands of ordinary farmers and into the
possession of the men in their communities who had the knowledge, capital, land, and
labor to establish themselves as a genuine economic elite. These rural entrepreneurs

34In addition, of course, to controlling many of the local stores and lending
operations in rural neighborhoods, the contacts local entrepreneurs frequently maintained
with sources of information, genetic stock, and machinery outside the region were the
avenue through which capitalist farming entered the locality. Smaller planters wishing to
pursue entrepreneurial intensification, typically lacked the means to build those contacts,
and therefore relied on their wealthier neighbors.

35The definition of ‘capitalism’ used in these chapters goes against much of what
has been developed in the course of the capitalism debate in early America history (See
Chapter One, note 108). The inability of any of the key dichotomies used – subsistence
vs. market interpretation; wage labor vs. slave labor or household production – fully to
explain the shape of pre-industrial economic development in this country, or the conflicts
that development engendered, has only just begun to lead scholars in new directions. My
own conceptualization is closest to that recently adopted and outlined by Michael
Merrill, “Putting ‘Capitalism’ in Its Place: A Review of Recent Literature,” William &
Mary Quarterly, 3rd series, 52(1995), 315-326. Merrill argues with scholars such as
James Henretta and Allan Kulikoff who continue to look to the concrete development of
were able to begin to bind the labor of their communities to the entrepreneurial agroecosystem and to the project of commercial localization as laborers, tenants, primary producers, consumers, debtors, and political supporters.

Yet William Massie's experience pushing Multicole Rye on hillside tenant farmers and small landholders uncovered one of the problems within what rural entrepreneurs otherwise would have seen as an entirely positive process. Waiting for the evolving hierarchies of advanced capitalism to provide the rural gentry with the power over farm decision-making needed to develop a thoroughly prosperous local economy was a frustratingly slow and injuriously incomplete. Farm managers who retained their own financial agendas could not be depended upon to build the kind of sustainable, capital-intensive farm operations needed to support the finances of high farming and commercial localization. Tenant farmers might grow Multicole Rye for Massie's mill, but they did so by rapidly depleting the soils of marginal lands, and moving on before taking out serious credit or genuinely improving any farmland. Faced with this difficulty, capitalist mentalities, markets, and legal structures as the markers of a capitalist transformation. Merrill insists that attention must be turned toward political conflict over the centralization of economic power. Whereas he continues to insist on the validity of class models based upon Marxist definitions, I would suggest that it is time to move beyond those definitions toward understanding capitalism purely as a process of the incorporation of people and productive resources into increasingly large and complex organizations designed to concentrate capital and coordinate production (see, for example, Alfred Chandler, The Visible Hand: The Managerial Revolution in American Business, (Cambridge, MA: Harvard University Press, 1977)). While this model makes class analysis much more difficult to sustain — certainly the class divisions made in this work are arbitrary rather than concrete — but provides a much better tool for environmental history. Rather than attempting to assume an ecological outlook based upon a definition of class interest, we can consider the full complexity of decision-making with regards to the products of nature.
agricultural reformers also began to consider means of securing control of the agricultural ecosystem more directly and comprehensively. During the antebellum era, this particularly meant politically eliminating the legal and practical remnants of the frontier agroecosystem's resource commons, and turning the ecosystem completely into exclusive private property. Once access to the natural means of subsistence and profit were completely within the private property system, their control had to be purchased in a marketplace increasingly under elite control, and one that demanded the commercially-efficient and -sustainable exploitation of the agricultural ecosystem—high farming.

Agricultural reformers were frustrated with the patchwork landscape of rural Virginia that resulted from a multitude of independent farm operators attempting to participate equally in the crop marketplace in widely different micro-ecosystems. Small farmers grew tobacco and corn on easily-eroded clay soils which might have been more profitably put into natural pastures, while free-ranging cattle and hogs trampled the grass and soil of low-ground meadows that might have been more profitably fenced, drained, and turned into cash crop arable. Commercial localizers whose businesses were built upon the profitability of small rural communities could not afford to sit idly by while precious land was 'wasted' through its continued inefficient exploitation. Major Thomas Massie might have been frustrated with Henry Harper for the low-quality crop he sold the rural entrepreneur, or for the consumer-debtor who was largely lost to the Major's dreams of localization, or even for the family labor not being turned to intensification. As much as any of these, he had to have been disheartened by the valuable farmland, so rare along the mountainous stretch of the upper Tye where the Massie patriarch had
seated himself, being denuded of its fertility and removed from the embryonic capitalist agroecosystem.

Agricultural reformers therefore dreamed of a day when, as planter-politician William Ballard Preston put it in a speech to the state agricultural society, "The herds and flocks take the mountains and hills. The valleys and plains are devoted to the labor of man in the diversified crops of tobacco, wheat, corn, and vegetables." In the farm periodical debate between the advocates of smaller and larger farms, the argument that capital might be more efficiently invested in the intensive cultivation of smaller patches of more ecologically fertile ground won the day, at least in terms of verbiage and enthusiasm, over the defenders of large farms that could exploit economies of scale. Not that, in the end, the two methods were mutually exclusive. Once resources were firmly and irretrievably governed and distributed by the marketplace, high farmers could use their power and advantage within that marketplace eventually to buy out their less-affluent neighbors. Their properties could then be assimilated into high farming systems which incorporated the most capital-intensive techniques of entrepreneurial intensification. William Massie later put the 'reconstructed' sentiments of his father in dealing with Henry Harper into concrete terms of his own. He had apparently been frustrated for years with a neighboring landowner, one Nancy Coffey, who controlled a sizeable chunk of bottomland on the east bank of the Tye River, across from Massie's

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37See, for example, A.B., "On the True Principles of Profitable Husbandry," Farmers' Register, 2(1834), 265-266, or J.L., "Large Products of Small Farming."
Tyro plantation. Lacking the capital to exploit the property with the most modern techniques,38 Coffey rented the property to a series of transient tenants, or, in Massie’s words, to “Dick – Tom & Harry,” who had, “skinn’d and abused it horribly.” Massie finally resolved the situation in the 1850s by buying the property, as he had, “long been exceedingly anxious to get possession of it.”39 Massie then proceeded to drain the property, ringing it with rock levees to protect it from the high country freshes, and went ahead and incorporated it into the Tyro rotation scheme with manure, plaster, and clover crops.40 Nancy Coffey and her heirs might have lost their land, but entrepreneurial high farmer William Massie in particular, and the capitalist agroecosystem in general, had clearly benefitted from the exchange.

Yet that very exchange, and the emerging reality that under the cooperative schemes of high farming, commercial localization, and whig capitalism, the benefits to be derived from the agricultural exploitation of Virginia ecosystems would increasingly be monopolized by the William Massies of rural Virginia, would provoke widespread

38The Coffeys, as will be discussed extensively below, and in Chapter Seven, were a large family which concentrated in the mountains around the forks of the Tye River. While the family founder, Edmund Coffey, had owned a considerable amount of land late in the eighteenth, and early in the nineteenth, century, the family had been unable to expand on his possessions. As the clan grew, they retreated into the mountains and reverted to the status of solid hillbillies. While a few of Nancy Coffey’s relatives might well have been among the renters of the Tye River tract, both they and she lacked the capital or the interest to improve the property to William Massie’s exacting standards.

39William Massie to Chiswell Dabney, 2 February 1853.

40Ibid. See also the Tyro Crop Memoranda for the later 1850s, compiled by Refsell, in “The Massies of Virginia.”
resistance among the common farmers of white Virginia. This resistance stemmed, not surprisingly, from continued allegiance to the two agroecological regimes high farming hoped to erase from the landscape: ephemeral frontier farming and traditional intensification. As discussed in Chapter Four, of course, many farmers in the Tye Valley (and throughout eastern Virginia) responded to the decay of the frontier agroecosystem by slowly intensifying cultivation through increased labor investment. This strategy, however, came at the cost of declining labor productivity that led to commercial disappointment in competitive crop markets. The solution of localizing high farmers to this problem was to intensify through capital investment which slowed or reversed that decline in labor productivity. Close study of a rural neighborhood like the Tye Valley indicates that those entrepreneurs had more success in transforming the ecosystem and the landscape than recent critics have allowed. Yet large numbers of farmers in the mid-century Tye region tried to combat the problems of traditional intensification by moving in the opposite direction. Rather than embracing the financial dangers and loss of economic independence demanded by the management capitalist agroecosystem, they attempted wherever feasible to retain the openness of the land system that kept natural resources cheap and the frontier agroecosystem active in eastern Virginia.

The developing outlook – economic, social, and political – that reconciled traditional intensification and frontier cultivation in a more-or-less coherent opposition to whig capitalism and its agroecological goals was a brand of popular republicanism that

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41The distinction being made here – between popular republicanism and the classical variety – is an important one for understanding my argument. There has, of course, been an enormous amount of research and publication on the development of
represented the world-view that ordinary white farmers had derived from the ideological legacy of the Virginia Revolution. Those enlightened, well-read members of the gentry who had led that revolution had labored to create a practical commercial politics for a colonial frontier. They had never opposed the buying and selling of commodities per se. Certainly Virginia’s early national leaders saw nothing wrong with the state’s planters prospering materially from selling their tobacco and grain on the international market.\footnote{The best-known work which debunks the supposed anti-commercial bias of the Jeffersonians is Joyce Appleby, \textit{Capitalism and a New Social Order: The Republican Vision of the 1790s}, (New York: New York University Press, 1984). See particularly pp. 25-50, 87-105.}

What they and their followers did oppose, however, was the way in which that the government’s necessary involvement in the regulation of that system of buying and

Republican ideology in Revolutionary and early national America (The best brief and accessible overview of the conclusions reached still remains Banning, \textit{The Jeffersonian Persuasion}, 21-91). This work has focused, however, primarily on the evolution of the political thought of the founding fathers, and is considerably removed from mainstream concerns. A growing body of work focuses on the impact of republicanism on practical politics during the early national and antebellum periods (See in particular Harry L. Watson, \textit{Jacksonian Politics and Community Conflict: The Emergence of the Second Party System in Cumberland County, North Carolina}, (Baton Rouge, LA: Louisiana State University Press), Tillson, \textit{Gentry and Common Folk}, and Harris, \textit{Gentry and Plain Folk in a Slave Society}. Alan Taylor, in \textit{Liberty Men and Great Proprietors: The Revolutionary Settlement on the Maine Frontier, 1760-1820}, (Chapel Hill, NC: University of North Carolina Press for the Institute of Early American History and Culture, 1990), 209-243, has studied these issues for the North as well.) These works might best be described as focusing on ‘political culture’, and still do not dig as deeply into the popular mind as I am suggesting republicanism burrowed. The best recent work which considers the close links between republican theory, culture, and farm finance and family reproduction is McCurry, \textit{Masters of Small Worlds}, 37-91. I remain considerably indebted to her conceptualization of the problem. Allan Kulikoff has also extensively discussed the culture of yeoman independence and its role in the American class structure of the pre-industrial era. See \textit{The Agrarian Origins of American Capitalism}, (Charlottesville, VA: The University Press of Virginia, 1992), 60-98.
selling appeared to lead to the kind of business and political hierarchies which characterize capitalist societies (especially – and as time would prove, perhaps only – when those hierarchies took power away from plantation owners). Yet the Virginia republicans attempted to mate their economics to their politics by adopting a rhetoric drawn from Roman republicanism. That rhetoric called for a citizenry made virtuous by an economic independence drawn from land ownership – all of which could certainly be undermined by a dramatic transfer of commercial power from plantation farmers to mercantile, industrial, and finance capitalists. Yet this rhetoric also meshed well with the always desperate attempts of peasants and family farmers to avoid destitution by staying on the land in the face of both aristocratic power and the development of traditional intensification. Therefore it was not the calls for education, virtue, and distrust of mob passion that echoed most loudly in the popular mind of ordinary white male Virginians, but rather the urgent need to avoid dependence and slavery in order to retain social status. In the rural communities of the early nineteenth century, ‘independence’ came to mean freedom from the will of others – especially from the kind

43Jeffersonian Republicanism found its main enemy in economic centralization – the (supposedly) illegitimate monopolization of commercial power by an oligarchy of capitalist speculators. There seems to be little in their thought to indicate that they acknowledged the possibility that the honest, unfettered workings of an open marketplace would result in a concentration of economic power. See Appleby, *Capitalism and a New Social Order*, 51-78, 96-101. In more practical terms, Alan Taylor’s work has powerfully suggested that Republicanism emerged in the North as the ideology and politics of ambitious, commercially-minded men resentful of being shut out of the Federalists’ would-be commercial aristocracy.

44See Banning, *The Jeffersonian Persuasion*, op cit., for an extended discussion of the ancestry of republican thought in the post-Revolutionary years.
of unbalanced commercial relationships with local entrepreneurs that could easily
devolve into debt, tenancy, and the complete dependency and degradation of paid farm
labor.45 By the Jacksonian era, therefore, the economic, social, and political debate
within Virginia and the United States had been refined by white men of moderate means
into a running battle between capitalists and producers, aristocrats and democrats, or
simply between rich and poor.46 Within the frontier agroecosystem, slavery and
patriarchy had bound enough labor to the land to maintain a profitable system of
production without necessitating further concentration of local financial power. The
entrepreneurial agroecosystem, by demanding capital formation, investment, and market
development, took Virginia's commercialism far beyond tobacco egalitarianism. The
antebellum era's popular republicanism attempted to maintain the independence of
poorer heads-of-household against the growing hierarchies of capitalism.

Since that independence could be most feasibly maintained through
agriculture47, the popular brand of America's republican social culture centered on

45For extended discussions of the financial and cultural underpinnings of white
male independence during the 1750-1850 period, see McCurry, Masters of Small Worlds,
37-91, and Allan Kulikoff, The Agrarian Origins of American Capitalism, 34-98, 127-
151.


47Considerable scholarly research has, in fact, been published studying the
interrelations of cultural and political outlooks and agricultural strategies in both early
America and the nineteenth-century South. See, for example, Lacy K. Ford, "Yeoman
Farmers in the South Carolina Upcountry: Changing Production Patterns in the Late
Antebellum Era," Agricultural History 60(1986), 17-37, Kevin D. Kelly, "The
Independent Mode of Production," Review of Radical Political Economics, 11(1979),
38-48, John Solomon Otto, "Southern 'Plain Folk' Agriculture: A Reappraisal,"
maintaining the inexpensive access of ordinary farmers to the resources and bounty of nature – protecting existing landed property among the white masses, and encouraging the development of further avenues for obtaining it. While elite farm reformers fretted about the drain emigration placed upon the labor and capital reserves of Old Virginia, therefore, ordinary farmers continued to fight to keep the land system open, and the politicians who represented their interests eagerly sought the geographical expansion of the nation, and the facilitation of the settlement of its frontier by small farmers. For those who remained on the land in the Old Dominion, cash crop production and consumerism drew farmers into the kinds of commercial relationships which threatened an independence based upon landed property. Both were therefore reduced by many.


The role of white Southern ideologies and social problems has attracted considerable attention recently, for scholars hoping to complicate the image of ‘Manifest Destiny’. For the role of Democratic Party agrarianism in shaping the frontier and land policies of the United States, see in particular Thomas Hietala, Manifest Design: Anxious Aggrandizement in Late Jacksonian America, (Ithaca, NY: Cornell University Press, 1985), especially 104-122.
southern plain folk who slowly adopted the strategies of traditional intensification.

Yet even the ownership of landed property within a commercial economy entailed risks that were also a danger to independence. Small farmers did have to participate in the agricultural marketplace, but this was done primarily in order to build up the financial resources (considerable, to be sure) necessary to pass on the status of independent landowner to their sons and sons-in-law. Landholdings could not be subdivided forever, particularly as their ecological decline accelerated, and so new purchases came to be the focus of family farm finance in the antebellum South.\textsuperscript{50} Anything that threatened to increase the price of land, or drain cash from the family fortune building that took patient lifetimes of hard work and penury, became a threat to ‘independence’ and therefore would attract a ‘republican’ opposition. And if collecting the purchase price of new land was burdensome, then wherever possible ordinary farmers attempted to retain access to the free resources that had characterized the extremity of the frontier agroecosystem’s evolution: grazing commons, range-burning, fence-breaking, and the low-labor, short-term exploitation of marginal ecosystems. Ordinary Virginia farmers created a wide variety of strategies that balanced commercial production, traditional intensification, and frontier cultivation – all, however, with the goal of obtaining and defending landed independence against the threatening encroachment of modern capitalism. Most of the compromises entailed by those balancing strategies,\textsuperscript{50}Henretta, “Families and Farms,” discusses the cultural issues surrounding family farm finance in the pre-industrial era – especially the importance of what he terms ‘lineal values’, the crucial importance attached to transferring property and status to subsequent generations.
however, drained capital, labor, and natural resources from the entrepreneurial agroecosystem, and remained a continual threat to its creation, dominance, and efficient management.

**Manifestations of Resistance to the Capitalist Agroecosystem.**

Given the broadness of the political, economic, and agricultural changes demanded for the sustainability of an entrepreneurial agroecosystem, resistance has to be found in a wide variety of places. This is particularly true, since the differences between advocates of capitalist and pre-capitalist ecosystems often differed on key questions of property systems, investment strategies, social ideals, and the like, in quite subtle, but still crucial, ways. Reviewing diverging approaches to agricultural economics, landscape and ecosystem management, and political economy opens a valuable assortment of avenues for discovering the ways in which ordinary farmers resisted the incorporation of land and labor into the new agroecosystem being built in nineteenth-century Virginia.

In 1850, the statistical information available for a close analysis of land use strategies and cultivation patterns in the Tye Valley expands considerably from the probate inventories used up to this point. In that year the first local manuscript schedules for the agricultural census were assembled. While a census of farm production was taken in 1840, no records were kept breaking down the information by individual farms. When this detailed information becomes available for the crop year 1849, much closer consideration of the shape of rural agricultural becomes possible. Such a consideration of the information from the Tye Valley reveals two patterns of key significance. First,
the leadership offered by the local elite in developing modernized farming, which had only just barely begun to emerge during the 1830s, had, by the end of the 1840s, done a great deal to produce emphatic differentiations among Tye Valley cultivators. Second, a healthy proportion of those differentiations had also been created by the continued allegiance of many of the Valley's less affluent farmers to continued application of both frontier farming methods and traditional intensification.

As an example, two broad statistics can be generated from the Nelson and Amherst agricultural census manuscripts to provide measures of the degree of both traditional and entrepreneurial intensification. In the first place, the local census-takers were expected to record that number of acres of land in every farm which fell into two categories: 'improved acreage', and 'unimproved acreage'. Although the tendency of Virginia record-keepers to improvise on their instructions makes it difficult to isolate the precise definitions of the two terms involved, one thing can be relied upon with some degree of safety. Strong anecdotal evidence suggests that neither Nelson or Amherst's census taker felt that land which had been recently claimed or reclaimed from forest and not yet been fully cleared qualified as 'improved', although it might still be being cultivated. No doubt the bulk of the Tye Valley's 'unimproved acreage' consisted in 1850 of uncultivated tracts covered by various stages of second-growth forest. Yet numerous smaller farmers throughout the Valley reported crop yields and livestock herds that were clearly well in excess of the capacity of their meager amounts of improved land. In 1850, for example, Nelson County farmer John Painter reported that in the previous year he had grown 200 bushels of corn, 200 of oats, 6 of beans, a full three
thousand pounds of tobacco, and topped it off with twelve hogs. Yet of his one hundred and five acre farm, the census taker only considered fifteen acres to be "improved." Clearly Painter, who appears to have rented his property in a particularly mountainous stretch of the Davis Creek hollow, was growing much of his crop on land that he had cleared from the hillside woodland, but he had not removed the rocks and stumps or plowed to a point that would have impressed the census taker with its permanence. Such judgements of the Amherst and Nelson census-takers offer an opportunity to differentiate between frontier and intensified cultivation by dividing each farm's reported unimproved acreage by its improved acreage, yielding a simple new statistic measuring the amount of each farm property that had been integrated into permanent fields – hereafter referred to as the 'Improvement Ratio'.

Second, the Census Bureau also required census-takers to record for each farm a rough estimate of its total cash value. While the simple measure of 'improvement', when applied to farm acreage, incorporated all intensifying cultivators, both traditional and entrepreneurial, this estimate of cash value – with admitted biases such as the measurement of the quality of the land – offers information as to the degree of serious capital investment in a farm property. Farm cash values certainly measured the quality of the soil, but also considered the care taken in conservation and amelioration, the extent of field improvements, livestock pens and other farm buildings, orchards, quality pastures, and future income potential. When the cash value of the farm is divided by the total acreage, the resultant farm value per-acre of land is an excellent measure of the degree to which a planter was pursuing entrepreneurial cultivation, as opposed to simply
intensifying his farming without looking seriously toward exploiting either the crop, capital, or land markets. This statistic will be referred to below as the ‘Cash Ratio’. (see Tables 6.1-6.2)

When both the Improvement and the Cash Ratios are considered, what immediately emerges from the returns of the Seventh and Eight Censuses is the extent to which the intensification of the Valley’s leading farms had proceeded by the middle of the nineteenth century. During the 1810s and 1820s, traditional intensification had proceeded at relatively steady rates among different classes of farm operators. Yet by 1850, Cash Ratios were remarkably higher among the most valuable tenth of the area’s farms, not only in comparison with the poorest half of the Valley’s cultivators, but almost double the rate of such commercially-oriented intensification among the smaller local slaveholders and prosperous yeomen who made up the middle class of white farmers.

Yet as noted above, this process of differentiation has two sources – the modernization and commercialization of elite farms was a relative development emerging in contrast to the agroecological conservatism of their poorer neighbors. Non-gentry farmers did not necessarily adhere en masse to eighteenth-century cultivation techniques and subsistence farming: the gap between the lower and the middle class of cultivators was nearly as wide as between the middle and upper groups, and standard deviations within the lower class were quite high. Yet the middle and lower classes appear to have been consistently more reluctant to ‘improve’ their fields thoroughly, or, having done that, to invest capital in various schemes for soil conservation and
amelioration which might have enabled their lands to support higher yields of commercial quality crops and livestock. By the end of the antebellum era, both varieties of intensification had gained a very secure foothold within the Tye Valley, but resistance was accounting for wide divergence within the farming techniques of the region.

This separation in the agricultural outlooks of wealthy, middle class, and poor farmers comes into clearer view if analysis of per-acre ratios is extended to the various categories of crops and livestock reported in the agricultural census. (See Table 6.3) Group A, 'Subsistence Crops', includes those varieties of produce which had very little commercial value beyond low levels of community trade based in local exchange values. Among these crops, an almost universal pattern holds sway. The highest levels of commitment per-acre are found among the lowest class of farmers. Among the middle grouping, the prosperous yeomanry and smaller slaveholders, the numbers dip markedly, and the decline continues among the largest one-tenth of Tye Valley farms. This pattern also holds true for the main species of livestock relied upon by rural Virginians for domestic subsistence, the hog. These statistics most likely reflect and demonstrate two important facts about farming in the upper piedmont at the middle of the nineteenth century. First, the higher ratios for small farmers reveal their continued practice of frontier cultivation on less highly improved tracts of arable. The ratios arrived at, taking into account the fact that many farmers still were practicing shifting cultivation which did not qualify their fields as ‘improved’, are calculated by dividing crop reportage by total acreage. This would tend to limit numbers for members of the middle and upper classes, who would have been much more likely to have committed themselves to
dividing their farms into permanent fields and woodlands, and investing heavily in soil
amelioration in order to try and achieve higher yields on those fields. More plainly, the
commitment made by the bottom ninety percent, and particularly the lower half, of the
region’s farmers to non-commercial crops indicates their reluctance to overexpose
themselves to even the more petty kinds of book debt they would have had to contract to
survive while growing large amounts of cash crops.

The sole exception to this pattern in Group A is corn, still in 1850 the universal
staple of Virginia farmers. Corn’s distribution among the different classes of farms, in
contrast, followed the same pattern as the Tye Valley’s two most popular staple
commercial crops, tobacco and wheat. Per-acre ratios remained the highest among the
lowest half of the farms, fell dramatically among the middle group, but then rose to a
significant degree (although not back to the levels found among the lowest class) on the
largest farms recorded in the census. The patterns of commitment to subsistence crops
reflected both the continued practices of frontier cultivation and traditional
intensification. The same statistics for corn, tobacco, and wheat, however, offer some
evidence for a clearer demarcation to the two agroecological regimes of popular
republican cultivators than previously suggested. Lower class farmers, with limited
family resources and very small farms, might well have chosen to make a more profound
commitment to staple crop cultivation in order to provide a cash supplement to their
meager farm production. Furthermore, as long as they kept their investments of labor
and property low (as frontier farmers and frequently, tenants), the cash they received for
bringing small amounts of grain to local mills or tobacco to the store owners, might just
provide them with the meager profits needed to move up the agricultural ladder into a more solid position within the rural hierarchy of land and slave ownership. Both arguments, of course, would hold especially true for farm tenants, who in addition to petty consumer needs would have to provide an income to pay for rent.

Among the middle classes, perhaps more satisfied with their base in property and their ability to pass that status on to their children through estate division or sale and migration, the cultivation of cash crops would have taken on less of a sense of urgency. Large-scale, entrepreneurial farmers, with so much capital invested in their more modernized operations, would of necessity make a greater commitment to cash crops in order to maintain their balance of payments. For middling farmers, however, caution would be a greater virtue. The large-scale debt necessary to raise yields on permanent fields to competitive levels was extremely risky, carrying with it the real danger of failure, bankruptcy, and dramatic loss of status. For them, a strategy built around an intelligent balance of commercial and subsistence crops was the course of action most likely to build some moderate level of material prosperity on a secure base of fiscal solvency.\(^\text{51}\)

Corn cultivation probably followed this pattern for tangential, but still related, reasons. Significant levels of slave-ownership were necessary in order for entrepreneurial planters to control enough workers to profitably undertake the more

labor-intensive aspects of high farming. Feeding slaves was an expensive undertaking, whether food was grown on the plantation or purchased from elsewhere. In Virginia's mid-nineteenth century farm economy, where cash crop prices remained low compared with plantation staples like sugar and cotton, most farm managers found it more profitable to grow the staple of the slave diet, corn, themselves, rather than banking on the increased land and labor available for cash crops being sufficient to make up for the purchase and transport prices of the foodstuffs if their cultivation was abandoned. This calculation led the top ten percent of Tye Valley farmers, universally a group of slaveholders, and typically quite large ones at that, to invest in incorporating corn into their crop rotations, receiving higher gross and per-acre yields as a result.

At this point, a characterization of the types of mid-nineteenth-century Tye Valley farmers can be made. The lowest half of cultivators in the Valley were still looking in many ways to maintain the frontier agroecosystem, particularly when, as tenants, they would not be rewarded for any measures taken toward conservation of soils or other natural resources. Farmers in the middle class, owning and often slaves as well, but limited in their farm properties, were more likely to have been taking advantage of their increasing labor forces by practicing traditional intensification, creating permanent fields

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52A considerable debate has developed among economic historians as to the degree of self-sufficiency in foodstuffs the staple crop South was able to achieve during the antebellum years. For a succinct summary, see Atack and Passell, *A New Economic View of American History*, 308-310. Most recent work has concluded that slave plantations were able to grow sufficient food for subsistence, yet the practice of buying food off-plantation is mentioned (and condemned) frequently enough that one must conclude that the practice did occur, and with some frequency, among hard-pressed farmers and overseers looking to maximize cash returns upon labor, although the habit might not have been prevalent.
but focusing on less risky subsistence crops. The top ten percent, the major plantation owners, were the most committed to entrepreneurial intensification, growing large quantities of commercial crops in order fully to take advantage of (and to make good on) their capital investments in progressive agriculture.

For obvious reasons, however, too much rigidity should not be read into the class categories and particularly the definitions of agroecological practice being proposed here. As the detailed analysis of William Massie’s career in plantation management in the preceding chapter demonstrated, even the most advanced systems of high farming were built piecemeal, and over a long period of time. The modernization of Tye Valley agriculture proceeded slowly, with a great deal of mingling of techniques at various intermediate stages. In general, however, strategies of agricultural reform and traditional intensification were filtering down from larger to smaller farms, rather than traditional methods fighting for more space in the approaches of elite farmers. The investment which middling farmers made in farm machinery is an excellent example – very similar in per-acre ratios to that of the upper class. That commitment indicated the increasing preparedness of middle class cultivators to make riskier purchases in order to maintain or increase yields, even when economies of scale could not be fully realized. Furthermore, the fact that tenant farmers and petty land holders made meaningful commitments to subsistence crops indicates their frequent preparedness to begin abandoning the frontier agroecosystem for a more intensive brand of cultivation. Rather than grow cash crops, running up book debts they might only be able to pay off with demeaning and unremunerative wage labor, even tenant farmers were choosing to put more of their land
and labor into crops in the search for financial safety. Yet despite these important caveats, these broad definitions of class and agroecological practice do have a validity that is traced in further detail in the statistics for rates of crop reportage in the agricultural census. *(See Table 6.4)*

When considering only the incidence of crops appearing in probate inventories, the most interesting contrast with the patterns of per-acre commitment ratios that emerges is the relatively low reportage of several of the various subsistence crops among the lowest class, as opposed to the high levels of land commitment they made to those crops. This again reflects the relative poverty of these farms, not only in labor, but particularly in land. With little good land or other resources to invest in even simple schemes of crop succession and forest fallow, smaller farmers throughout the Tye Valley were less able to diversify their production. They tended to commit themselves to a small number of crops, but push their cleared ground very hard with that small number. This pattern of intensive commitment, for example, will be seen to have been reinforced during the ensuing decade, when the rates of wheat cultivation among small farmers would plummet, as members of the lowest class of farmers apparently invested even more of their labor in temporarily high-priced tobacco.\(^3\)

Yet the class distinctions in rates of subsistence crop cultivation, and particularly the fact that even upper class farmers were surprisingly interested in non-commercial crops, should not obscure the continued distinction between commercial and non-

\(^3\)See Chapter Seven, below, for the development of the Tye Valley agricultural system during the 1850s.
commercial production that emerges when subsistence crop reportage is compared with the equivalent statistics for livestock and cash crops. With crops like oats, potatoes, peas, and beans, the numbers for the upper half of the region's farms is relatively constant, and the gap between the top and the bottom is small in comparison with other groupings. When one turns to commercial crop reportage, however, much more extensive distinctions emerge. With the exception of rye, whose high incidence among lower class cultivators was principally the result of William Massie's efforts at spreading it among his tenants and mill customers along the upper Tye (it was grown in only minor quantities elsewhere in the vicinity), adoption rates of each crop were quite low in comparison with the diversified, market-focused cultivation of their wealthier neighbors. Although these statistics alone do not necessarily indicate a lesser commitment to commercial agriculture - as the decline in wheat farming between 1850 and 1860 indicates, lower class farmers could simply be investing more available resources in the cultivation of single commercial crops - they do form part of a picture of a very different kind of agriculture being practiced outside the fences of the big plantations.

In the first place, the unwillingness of many of these farmers to move beyond a single commercial crop strongly suggests the lack of any kind of coherent rotation scheme among lower class farmers - in some cases perhaps not even the most basic kind of old field rotation. Tobacco and hard grains, for example, placed very different demands on soil nutrients and structure, and on William Massie's plantations during the 1840s, provided a solid partnership in developing newly cleared ground for crop rotations. Many small farmers, in contrast, desperate for cash, and largely uninterested in
the conservation of the biotic productivity of their low quality or rented properties, continued to conserve labor by growing one commercial crop after another to maintain cash incomes. Yet when the reportage numbers for cash crops like rye, wheat, and tobacco are compared with the same for other groupings, the limited investment small farmers were making in profitable production becomes clearer. In the first place, reportage rates among the lowest class for cash crops was much lower than that for subsistence crops. Yet their per-acre yield levels for that latter group of foodstuffs remained quite high, indicating that small farmers could diversify when they chose to, but preferred to invest more in a variety of non-commercial crops. Their choice of the agricultural avenues into which they might invest their resources becomes even clearer when the reportage rates for commercial crops are compared with those for non-commercial livestock. Horses, milch cows, hogs, and the like, all found prominent places in the farming of petty cultivators, typically at rates of incidence very similar to those which characterized even the most progressive farmers in the area. Much of this livestock, however, was probably free range, or at most casually grazed on nearby old fields. The pattern for commercial crops holds true for sheep, on the other hand, the brand of livestock most needing improved, permanent pasturage and close management.

In the end, the Tye Valley's small farmers were still practicing a very frontier-oriented brand of agriculture at mid-century. They grew some commercial crops in order to provide a sop for local store owners and millers who might choose to supplement the small man's meager material lifestyle with book credit, and to support their hopes of petty progress up the agricultural ladder. Yet they did not grow these cash crops within
any kind of formal rotation scheme, electing instead to clear small patches of land, cultivate single crops on them for several years and then let the tract be taken by the briars and cedar. Lacking capital, labor, or large amounts of high quality land, the Tye Valley’s poorest farmers milked the one resource they could have at the lowest of costs, the biotic productivity of recently disturbed second-growth forests, for all it was worth.

The Dicks, Toms, and Harrys renting Nancy Coffey’s land across the Tye from Pharsalia probably brought their wheat (or more likely, their rye) to Massie’s mill just down the road, yet the mill’s proprietor would have remained frustrated with them. Obviously the impermanence of their cultivation would annoy a localizing entrepreneur who wanted a steady and consistent income from his relatively capital-intensive venture into rural industry. Quickly exhausting the soil, poor tenants moved on frequently enough that after a couple of decades there had been so many that to Massie, who had doubtless dealt face-to-face with many of them politically, socially, legally, and particularly commercially, they had become an anonymous muddle. Yet the statistics on crop reportage indicate another possible cause for Massie’s disgruntlement with the uses to which Nancy Coffey’s property was put. Tenant farmers and petty proprietors throughout the Tye Valley were still “skin[ning] and abus[ing] the land horribly” in the late 1840s because they were minimizing the amount of labor that they invested in cash crops – all they had left was the reserved biotic fertility of forest trees and the fertile soil profiles they could develop if left alone for a time. Instead, their resources went into subsistence crops – useless to Massie who grew his own in abundance – and particularly low grade livestock, who wandered over Massie’s property lines, forced him to waste
valuable effort and timber fencing in his crops, and cut down on the income he might make from selling bacon and beef to them as well.

This kind of agricultural strategy – the maintenance of the frontier agroecosystem even in the face of higher population levels and declining quantities of free, uncultivated land – was a serious problem for agricultural reformers and localizing planters. Labor was lost to modern agriculture as small farmers insisted upon trying to maintain their independence rather than move on or accede to wage work. Occasionally, valuable properties were kept out of modern crop rotations and long-term productivity by small planters determined to improve the economic and social standing by cultivating them only for immediate returns. Finally, the commercial productivity of the Valley suffered, as small planters limited their commercial crop production, which limited the influx of capital into the neighborhood, and reduced their own expenditures, which undermined commercial opportunities and other chances for economic diversification along the Tye.

Yet as the crop reportage numbers also demonstrate, many of these same problems resulted from middle class farmers pursuing traditional intensification. Their levels of crop diversification did increase when compared with the lowest half of the Valley’s farmers. Yet the lingering gaps between their farming and that of the elite, particularly in terms of their lower rates of cash crop cultivation, and consistently lower levels of commitment to those crops, indicate that many among the group of farms assessed at between the fiftieth and ninetieth percentiles of overall cash value were severely limiting their adoption of reformed agricultural methods. They probably had permanent fields, and grew a variety of commercial crops, but, like the Brent and Jones
families in Hatt Creek, intensified cultivation by piling more labor onto smaller pieces of land without the accompanying investment of capital, and received diminished labor returns as a result. Furthermore, acknowledging these lower returns, they tended to focus more than their wealthier or poorer neighbors on subsistence crops. And these were not the all but worthless hillside farms populated by impoverished tenants and rootless dirt farmers. Below the top ten percent of Tye Valley farms existed valuable properties like those of the Brents and Joneses of Hatt Creek, whose owners also represented sizeable households of laborers and consumers. While traditional intensification did safeguard some farms and farmers for some level of participation in the system of commercial localization, as long as the practice continued, valuable resources were being drained away from commercial farming and high farming, which were increasingly co-terminus sets as the antebellum era wound to a close.

The distinction being drawn here, between poor farmers practicing extensive agriculture, middle class planters pursuing traditional intensification, and members of the plantation gentry engaging in entrepreneurial intensification, should not, of course, be seen as a rigid typology. Aggregate and average data from such large and diverse samples does indicate important differences between different classes of farms and farmers, but only in terms of the prevailing tendencies of these groups on a broad spectrum. One can with some confidence hypothesize the logic behind the agricultural strategies of ideal types, but the choices made by individuals had, of course, a much wider degree of variation. To shift the focus of the analysis from broad patterns onto more concrete issues, it helps to return both to individual farmers, and particularly to the
agroecological issues raised by specific landscapes within the Tye Valley.

**Resistance to the Capitalist Agroecosystem in the Blue Ridge Mountains.**

The emerging capitalist agroecosystem — and popular republican opposition to it — unquestionably did, of course, create considerable divisions of outlook between different groups white farmers in the Tye River Valley. Yet the demands which capitalist farming would make for the centralization of power within the society would turn those divisions into a more open contest during the antebellum era. Agricultural reformers — and contemporary historians as well — tended to focus on the strategies involved in the struggle for the intellectual conversion of traditional farmers to entrepreneurial intensification. Yet when looked at from the political, economic, and particularly ecological angles, the conflict had much higher stakes, and was much more divisive, than anything that might be resolved by glacial moral suasion. This conflict surfaces with particular clarity when the struggle which developed over control of the mountainous landscape of those neighborhoods of the Blue Ridge from which the Tye and its tributaries sprung is analyzed. Small farmers, tenants, and squatters looked to the low land prices, inaccessibility, and inhospitality of the Blue Ridge slopes and hollows

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54 Following the conscious determination of so many American farm journals to avoid partisan political debate in their pages, historians have generally ignored potential links between agricultural reform and political outlook in antebellum America and the South. The most recent survey of antebellum Virginia politics, Shade’s *Democratizing the Old Dominion*, barely mentions the issue which played such a large role in the thinking of so many of the men he discusses. In *Old Southampton*, Daniel Crofts hints at a possible connection between agricultural reform and whig-commercial politics, but does not develop the idea.
as an excellent ecological and fiscal foundation for the maintenance of personal independence in the face of an expanding commercial economy. As the Civil War approached, however, elite planters moving to diversify their agricultural holdings, and to maximize returns on the resources and farmland of the Tye Valley as a whole, took an increasing interest in mountain properties. Different strategies of farm and personal finance created suspicion and heated rhetoric across the boundaries of diverging agricultural ecosystems. When the practitioners of those diverging agroecosystems turned to contesting control of the Virginia landscape, however, the battle which modernizing agricultural reformers saw in the Old Dominion’s countryside took on a new, and more serious, dimension.

For much of the twentieth century, historians’ understanding of landholding patterns in the southern mountains precluded consideration of the kinds of conflict that would emerge near the headwaters of the Tye River during the antebellum era. Southern planters migrating away from the coast during the post-Revolutionary era, the conventional wisdom ran, ignored the remote neighborhoods and thin soils of the Appalachians, and instead hurried on through the Great Valley toward the fertile bottomlands of the Black Belt cotton region of the lower South. As a result, mountain land and mountain agriculture became the exclusive province of poor dirt farmers of Scots-Irish descent, who practiced a primitive subsistence cultivation while steadily slipping into the economic and cultural isolation that fed stereotypes of the hillbilly southern mountaineer. It was not until the coming of the timber and coal booms of the late nineteenth and early twentieth century that capitalists of any significant influence
and ambition began to take an interest in obtaining legal ownership of property in the southern mountains.  

Recent research, however, has begun to erode that interpretation. In the first place, considerable evidence has been amassed demonstrating the interest which major planters from Maryland, Virginia, and North Carolina took in speculating in large tracts of mountain land in the western regions of their states as well as across the Appalachians. The economic and social isolation of the mountain South did not begin with its first settlement, since farmer-settlers had to purchase properties from speculators and produce commercial crops and livestock in order to repay their debts and make good on their investments. Yet these studies of Appalachian landholding patterns modify the original picture of the rudely democratic control of mountain farmland only slightly. Absentee speculators, unable to make rapid profits from their properties, and financially unable to hold on to them for long, were forced to sell off the big tracts they had engrossed. Smaller purchasers quickly obtained the lands, and in the course of dividing them amongst their children, reduced their families’ already limited financial standing.

55 The classic work that draws this picture of ‘democratic’ landholding in the mountains prior to industrialization is Ronald Eller, *Miners, Millhands, and Mountaineers: The Industrialization of Southern Appalachia, 1880-1930*, (Knoxville, TN: University of Tennessee Press, 1982), especially 3-85.

The development of the international economy then combined with the agroecological poverty and poor transportation networks of the southern mountains to stall their economic progress and leave them as backwaters vulnerable to outside control.\textsuperscript{57}

This new emphasis on the role of wealthy speculators in the original establishment of the mountain land system is certainly borne out by the evidence from the Tye River Valley. As noted in Chapter Two, Parson Robert Rose and the original William Cabell both included large amounts of Blue Ridge land in their local property empires. They were joined during the eighteenth century by John Carter, William Horsley, and George Dawson, among others, who also used contacts with the colonial elite in Williamsburg to grab thousands of acres along the Blue Ridge headwaters of old Amherst County's Tye, Pedlar, and Rockfish Rivers. Nor did this interest of the piedmont elite in the mountainous areas of the Tye Valley end with the collapse of the colonial regime. In 1795, for example, Albermarle County attorney-planter Wilson Cary

\textsuperscript{57}For a succinct recent analysis of the early commercialism, and subsequent regression toward subsistence and barter, of the mountain economy, see Paul Salstrom, \textit{Appalachia's Path to Dependency: Rethinking a Region's Economic History, 1730-1940}, (Lexington, KY: University of Kentucky Press, 1994), especially 1-59. Salstrom blames rising population and declining per-capita food production for erasing the marketable surplus that had been shipped out of the region up through the first half of the nineteenth century. Dunaway's \textit{First American Frontier} focuses instead on the 'peripheralization' of the Appalachian economy – its shift from commercial farming based upon household production to extractive industries and minimal reinvestment. Such an argument for the economic underdevelopment of the southern mountains is compelling, particularly in its focus on the continuing importance of commercial ventures and wage labor to the region in the nineteenth century. However, it does little to explain the hard-nosed traditional intensification that would be practiced by mountain families in the Blue Ridge, much to the frustration of planters like William Massie. The importance of popular republicanism should not be disregarded in explaining the retreat of large portions of Appalachia into anti-capitalist agriculture.
Nicholas patented a huge tract of 23,700 acres along the North and South Forks of the Tye and across into the Rockfish headwaters, while Philadelphia merchant William Mott grabbed ten thousand acres just to the south and west in 1837. These enormous speculative patents were surrounded by smaller, but still quite extensive, parcels obtained by locally prominent men like Landon and Nicholas Cabell, and mercantile partners Thomas Doswell and John Drummond. Major Thomas Massie, upon moving to Amherst from Frederick County early in the nineteenth century, included a sizeable portion of Robert Rose’s patents along the forks of the Tye in his purchase from the Parson’s heirs. He and his sons then continued adding smaller pieces of mountain land to their holdings right down to the Civil War.

Yet it was in the abiding and ambitious interests that a gentry family like the Massies showed in land along the Tye River forks that both the old and the new pictures of mountain landholding during the nineteenth century runs into difficulties. While some of the tracts patented by wealthy speculators did quickly pass from their hands – the Carter tract was sold off rather quickly, often to small farming tenants to whom the land
Tye River Forks, ca. 1850-1860.
Level Farmland,
Tye River Forks.
Mountain Clans.
Tye River Forks.
c.a. 1850.

- Coffey Family Properties
- Campbell Family Properties

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had been previously leased\textsuperscript{61} – the Tye River elite did not abandon the Blue Ridge to the mountaineers. By 1850, large amounts of land along the North and South Forks of the Tye remained in the hands of the local elite, and they would show little sign of losing interest in the economic possibilities of their properties.

To be sure, however, the population of the Tye River forks did exhibit some almost clichéd attributes of the southern mountains which lend a certain credence to what has been recently condemned as the Appalachian myth. While men like Massie, Doswell, and the Cabells did own large amounts of property between Tyro and the Blue Ridge crest, the bulk of the local population were farmers of limited means. Furthermore, close to a majority of the farm families along the forks appear to have belonged to one of three complex and extensive ‘mountaineer’ clans: the Coffeys, and, approaching the mountain ethnic stereotype even closer, the Campbells and Fitzgeralds. Despite their numerical dominance of these mountain hollow families, however, the majority of the most valuable land in the neighborhood remained in the hands of the local elite. Doswell and Drummond’s tract had passed on to heirs and purchasers like Thomas Goodwin, William Slade, and the Hite brothers,\textsuperscript{62} but all were still among the wealthier men in the Tye River region. Furthermore, the two primary stretches of quality farmland in the vicinity were taken up by plantations established by two of the stalwarts of the Nelson County gentry, William Massie and Lemuel Turner. The Porter’s Black

\textsuperscript{61}See the Amherst County (Va.) Deed Books and Land Tax Lists, 1783-1810, for the post-Revolutionary sell-off of the Secretary’s Tract.

\textsuperscript{62}Some of the patents that went into creating the Doswell and Drummond tract are recorded in the Virginia Land Grants, Book E, 7, 11-12; Book 36, 801-803.
Loam soils which filled the extensive hollow along the headwaters of the South Fork had long been owned by Major Massie. After the disputes which attended the division of his estate among his three sons had been settled, the land came fully into the possession of his youngest son. William Massie then proceeded to name the tract “Montebello,” and to build a house, a mill, and perhaps a store, and to establish a large quarter which supplemented his three plantations below the Priest. The Tye itself was divided by Fork Mountain, which still presents an imposing prospect at the confluence of the forks, with what had been cliffs only somewhat softened by erosion and time soaring over fifteen hundred feet above the two branches. Yet Fork Mountain’s pinnacle is a flat ridge, and the land slopes gently away back to the west toward Montebello, providing both heady air and some of the neighborhood’s most fertile and beautiful farmland. By the middle of the nineteenth century, the several prior owners of Fork Mountain land had been bought out by Turner, who created a holding of over sixteen hundred acres out some of the mountain’s best land.

Turner was a leading member of the Nelson County planter elite by mid-century, and owned another plantation covering over fifteen hundred acres in the neighborhood of the Rives family’s tracts along Bob’s Creek and Rucker Run, complete with seven hundred acres of ‘improved’ land, dozens of slaves, farm equipment, and a modern, diversified crop production which made it one of the Tye Valley’s most successful plantations. Yet Turner did not engross Fork Mountain for the purpose of selling its best

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63See the Montebello Crop Memoranda, collected in Refsell, “The Massies of Virginia.”
land off for a quick profit. Instead, he found a wide variety of agricultural uses for his mountain land, and apparently intended to stay. While the recording order of the 1850 manuscript schedules of the agricultural census indicate that Turner probably rented some of his Fork Mountain land to local dirt farmers like William Campbell and R.W. Fitzgerald, the bulk of the property (nearly fourteen hundred acres) remained in his possession and under his overseer. Turner’s farm on Fork Mountain demonstrated one of the most important uses to which the gentry found they could put mountain lands: a cheap and accessible resource supplement to their more developed plantations below. Turner certainly seems to have found it to have been such. While his plantation some twenty-five miles away along Rucker Run was focused on the production of cash grains and livestock, little of the same was cultivated at Fork Mountain. Only four horses (probably draft) and three milch cows (for the slaves and overseer?) were reported at the mountain quarter in 1850, and no wheat and only 250 bushels of rye were grown on the tract’s 250 improved acres. Instead of commercial grains, the slaves at Fork Mountain focused on tobacco production, growing thirteen thousand pounds of the weed in 1849. Such a use of mountain land fit well into Turner’s plantation finances. After a disastrous decade-long depression, tobacco prices had jumped dramatically in 1848, and farmers through much of the state moved rapidly to revive production of the crop.64 The weed was, however, a soil waster of infamous reputation. Any attempt dramatically to increase tobacco production on Turner’s Rucker Run plantation would have disrupted his crop

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64 For the revival of tobacco prices, see Peterson, Historical Study of Prices Received, 101. For the increase in tobacco production after 1847, see Robert, Tobacco Kingdom, 150-154.
rotations, denuded his soils for cereal grains, all for the sake of what might have been only a temporary fluctuation in price. At Fork Mountain, on the other hand, Turner could afford to experiment in rapid market response. He had comparatively little invested in the high country land, and the well-developed Porter's Black Loam soils along the spine of the mountain would support dark tobacco production even after having been rented out to tenants for several years prior to his purchase. The distance of the land from the James River Canal landing below New Market could be made up for by the limited capital investment he would have to make in soil improvement, and the high price of the crop his wagoners were hauling out.

The almost complete absence of meat-on-the-hoof at Fork Mountain was also anomalous along the Tye River Forks. At his Rucker Run plantation, in contrast, Turner supported large herds of cattle, swine, and sheep. The probable reason for this distribution of his livestock was discussed in Chapter Two. Virginia's temperamental summers were notorious for prolonged droughts which withered crops, starved cattle, and drove correspondents of the antebellum agricultural journals into promotion of various quixotic schemes for large-scale irrigation. These summertime droughts proved particularly troublesome for the modernization of the antebellum pastoral economy. Cattle, sheep, and hogs could survive on forest and old field range during the worst of the summer months, but the experience did little to enhance their body weight and reproductive potential. Most pasture grasses available to improving planters had been

65See, for example, M. Gasparin, "The Superior Advantages in Warm Regions to Be Derived from Flooding Lands, by Diverting the Waters of Rivers," excerpted in the Farmers' Register, 3(1835), 484-490.
developed in northwestern Europe, and were thus ill-adapted to dry, hot conditions – one of the major reasons (along with soil exhaustion, erosion and acidification) why hay yields in Virginia typically fell far short of those achieved in the northern states.66 Stock could be fed during particularly rough summer months on subsistence grains like corn and oats, but such a practice drained the soil and diverted valuable land and labor away from commercial crop cultivation. By the early nineteenth century, however, planters up and down the eastern face of the Blue Ridge were discovering that the mountains offered prime summer grazing for improved livestock. The ridge line encouraged flash storms that increased local rainfall, and the elevation protected mountain meadows from the worst depredations of the heat. By the antebellum era, farmers in the Tye Valley had generated a spirited transhumance during the summer, driving much of their stock onto unclaimed or unfenced mountain lands in order to keep them fat and healthy.67 Few mountain land owners tried to grow pasture grass on the mountains – the lands were too remote for that kind of investment, and the soils too thin to support long-term cultivation68 – but they did take advantage of abundant forest grazing and naturally-occurring (or human-encouraged) highland meadows. Planter-editor Elijah Fletcher, for


67 See von Briesen, ed., The Letters of Elijah Fletcher, 250, for mention of the rapid development of transhumance in the mountains of Amherst County during the 1840s.

68 For lack of hay in the mountains, reference the tables below.
example, had by the mid-1840s developed a system of seasonal grazing for his cattle, complete with his own semi-cleared mountain pasture for the southern months. It seems probable that Lemuel Turner was doing the same with much of the unimproved and fallow ground at Fork Mountain. Timber was plentiful enough to fence off the old fields, and the summer grazing afforded by such measures would have been both cheap and plentiful. So in the end, Turner did little to ‘improve’ his plantation at Fork Mountain, and was thus in a way still maintaining a frontier agroecology in the mountains. Yet he was also able to use his control of mountain land to provide a supplement of cheap resources which allowed him to sustain both his heavy investments in cattle rearing, and to respond to crop market fluctuations without risking the ecological stability of the capitalist agroecosystem he and others like the Riveses were developing on the loamy clays along Rucker Run. Turner’s practices were mimicked by other prosperous farmers along the forks, particularly James Hite, who had improved only 30 acres of a 555 acre holding, and his brother Tillman, who had improved only 30 of 380. While tenant farmers might have had to clear more of their small holdings than ecologically prudent in order to make ends meet, wealthy mountain landholders held enough property out of production to keep the Tye Valley stretch of the Blue Ridge comparatively under-cultivated. *(See Table 6.5)*

Another probable use to which Turner put his Fork Mountain lands was timber harvesting. Virginia plantations of all sizes and types consumed enormous amounts of wood. Crops had to be fenced in, various buildings constructed and maintained, fires

Shifting cultivation, as well as population increase combined with traditional intensification, was already denuding lower and middle Virginia of timber resources by the early nineteenth century. Planters quickly found that although long fallowing might slowly and imperfectly restore soil structure and fertility, overgrown old fields were a completely inadequate substitute for old growth forest. Throughout the antebellum era, farmers – particularly those in the long-settled tidewater – complained that secondary-growth loblolly pine timber rotted so quickly in the humid Virginia climate that it was next to useless for fencing and buildings, and prophesied that they would soon be driven to wasting cash reserves by purchasing lumber from elsewhere. Hardwoods such as Oak, Chestnut and Hickory, as well as the various other trees common to the Blue Ridge coves, provided a much more permanent solution. As noted in Chapter Two, many eighteenth-century speculators attempted to preserve hardwoods on rented soils by restricting tenant cutting in the lease agreements. By the middle of the nineteenth century, it was becoming much more advantageous simply to patent hillside tracts and send slave gangs and wagon teams into the mountains every winter to cut timber and haul rails back to lowland plantations. By the middle of the nineteenth century, the bulk of the fences and outbuildings at Lemuel Turner’s Rucker Run plantation were probably built from wood cut from among the various Oaks and Chestnuts which grew on his eleven hundred acres of unimproved land on Fork Mountain.

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70Once again, see Herndon, "The Significance of the Forest to the Tobacco Plantation Economy."
While Lemuel Turner used his highland property to add to the ecological resources of his modern agroecosystem in the Valley below, other wealthy mountain proprietors exploited the frontier agroecosystem with an even smaller capital and labor investment than that made at Fork Mountain. The forks of the Tye River had one of the highest rates of tenancy of any neighborhood in the Valley, as many landholders attempted to make an income by leasing properties to small farmers for cash or kind. Even agrarian capitalists like William Massie and Turner rented portions of Montebello and Fork Mountain, respectively, to members of the Coffey, Campbell, and Fitzgerald families. The owners of the valuable farmland along the headwaters of the North Fork — including William Slade and the Hite brothers, rented sizeable portions of their holdings to members of the prolific Fitzgerald clan, as well as to other assorted tenants such as James Hambleton, Samuel Faber, and William Rowlin. Many smaller land owners also rented portions of their property to family members. Joel Hite rented to his brother William, George Campbell rented to two members of his own sizeable kin group, while many of the Coffey tenants rented from family patriarch Edmund Coffey. Among the wealthy, parceling out chunks of mountain land to small holders might return a moderate cash income to land owners with negligible investment, while preserving the holding for possible later sale or improvement.

A half a mile away at Montebello, on the other hand, William Massie had greater ambitions than simply being a mountain rentier or using Montebello solely to sustain the resource economics of Pharsalia, Tyro, and Level Green. His slaves had improved only 300 acres of the property by 1850, but the census taker thought Massie’s mountain
quarter worth a full sixty percent more than Fork Mountain. Massie kept ten oxen, and over five hundred dollars worth of farm equipment at Montebello, and was the only farmer along the Tye River forks who, during 1849, cultivated and harvested grass hay on his farm. He used that hay to support a large stock herd, including forty cattle and a hundred swine, valued at fully two thousand dollars. Nor was he as committed as Turner to exploiting the short-term profitability of his holding. While his slaves did grow twelve hundred bushels of multicole rye in 1849, Montebello produced no wheat, and only a nominal harvest of two thousand pounds of tobacco and five hundred bushels of corn. Instead, Massie appears to have been experimenting with more advanced rotation schemes, harvesting what was, for the mid-century Tye Valley, an astonishing 550 bushels of beans, nitrogen-fixers that would, along with his grains, support an even more extensive program of commercial pastoralism. Typically ambitious, William Massie saw long-term profit potential in his mountain property, and was working to build his quarter at Montebello into the kind of agricultural operation that could take advantage of the Tye River & Blue Ridge Turnpike, the road company which his father had created, and which ran through the property.

To be sure, the bulk of the interest which wealthy planters had in mountain lands by the middle of the nineteenth century centered on making a quick profit from extracting cash rents or needed resources from cheap lands in order to minimize the capital drain which outside purchases might have forced on attempts to modernize cultivation elsewhere. Yet William Massie’s willingness to begin investing in the modernization of cultivation at Montebello indicated that some Tye Valley planters and
entrepreneurs were beginning to see the need for, and potential of, incorporating Blue Ridge properties more fully into the capitalist agroecosystem they were attempting to construct. During the antebellum era, for example, mountain land owners continued to attach strict limitations to the uses which small tenants made of their leased farms. Many mountain farms, whether situated along narrow stream defiles or within isolated hollows, were too small to be effectively incorporated into major plantation operations. Yet many planters continued to use these properties as permanent rentals, and attempted to dictate a conservationist, intensive brand of land management to their tenants. In terms of timber, for example, in 1839 William Massie set out for tenant James Giles one of the most restrictive leases seen on the eastern face of the Blue Ridge: “No land is to be cleared, and in getting timber to fence the land that is already cleared – [Giles] promises to use Chestnut only – for fire wood the lying-down timber is to be used as far as it will go which is supposed to be sufficient and if any other is absolutely required chestnut oak only is to be used.”

Interestingly, while one might expect the elite farms on the Tye River Forks – Montebello and Fork Mountain – to have been the most ‘improved’ by the census taker’s estimate, it was in fact the tenant farms along the old Doswell and Drummond property along the North Fork that showed consistently high rates of intensive land clearing and cultivation. While proprietors like Massie, Lemuel Turner, and James Hite left the bulk of their lands uncleared, tenant farmers like Samuel (Fitz?) Gerald, William Coffey, and Edmund S. Campbell improved half or more of their

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71 William Massie, Memorandum of Rental Agreement with James Giles, 25 November 1839.
leased farms. William Massie might well have been appalled by landlord Nancy Coffey’s indifferent management of the Tye bottomland across the river from Pharsalia—her inattention to the long-term value of the property went against the prevailing practice among the region’s landlords.

Piedmont planter-entrepreneurs were also beginning to see other ways in which the close management of mountain lands had to be incorporated into the capitalist agroecosystem and the scheme of commercial localization. In addition to controlling timber and soil resources, control of mountain water flows and runoff took on increasing importance as planters hoped to modernize and intensify their land management in the valleys below. On the eastern face of the Blue Ridge, sudden storms blowing up over the ridge from the west regularly dump heroic quantities of rainfall in the mountains. Few approach the devastation wrought by Hurricane Camille, which struck Nelson County in 1969, and whose flood waters dredged out the soils Hatt Creek and other hollow bottoms while killing over a hundred people.72 What happens (and happened) more frequently was that the freshes would sweep off the surface soils and rock of the mountainsides, come flooding down into the hollows and bottoms, overflow the stream- and riverbanks, and deposit hundreds of pounds of sand and gravel onto valuable bottomland fields. These floods, when engorged by the rock and topsoil of the Blue Ridge crest, could also easily knock out dams that had been carefully constructed to sustain millponds.

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72“Hurricane Camille,” files of the Nelson County Historical Society, Nelson County Public Library, Lovingston, Virginia, has one of the most complete sets of newspaper clippings and personal accounts of the impact of the 1969 hurricane on the region.
Massie described in detail the damage done by one such flood in 1843:

"It leveled to the ground the powerful upper rock dam I erected last spring on my Tyro plantation, ran in from the upper end of the skirt of woods (about the middle of the upper lowground field) entirely down to the upper dam above alluded to, a distance of near a half mile, the entire bottom outside of the Fence was swept, & torn to pieces in many places ... It ripped to atoms the upper end of the 2nd year Tobacco land, & left it a waste of barren rocks and sand ... All my lands are immensely damaged (in the way of fired, indeed rotted tobacco ... prostrated corn & rotted fodder ..."  

Such flooding problems were bad enough when the mountainsides were still mostly forested, as Parson Rose found in 1750 when his Hatt Creek mill dam was washed away, or in 1771 when crops on the Cabell bottomlands along the James River were destroyed by the great fresh of that year. But as families like the Campbells, Fitzgeralds, and Coffeys grew from generation to generation, cleared and planted more and more land while grazing growing herds of livestock and burning unclaimed forest to make pasture for them, the Blue Ridge hillsides were left increasingly bare. Without vegetative cover, storm runoff collected tons of rock, sand, and soil, not only impairing the long-term productivity of high country farms and meadows, but enormously increasing the destructive force of downstream flooding. Farm reformer Charles Selden was convinced that, “more injury is done to the flat lands lying under hills, by there being deposited there barren sand and clay washed from the bottoms of gullies and other denudes and barren subsoil on the hill-sides above, than the benefit received from the muddy water

73William Massie, weather memoranda, 15 September 1843.

74Fall, ed., The Diary of Robert Rose, 103. For a brief discussion of the great fresh of 1771, see Chapter Two, above.
Problems of erosion were clearly getting worse during the antebellum era. In 1829, Thomas Gilmer, a miller on the Rivanna River in nearby Albermarle County, commented in a letter to State Senator Joseph Carrington Cabell of Nelson County, during a dispute over the competing water needs of milling and river navigation on the Rivanna, that the water flow in the river had diminished considerably in living memory.76

As mountain streams dumped increased erosion loads at the bottoms of slower-moving piedmont rivers, the river beds filled up, their channels widened and grew shallow, slowing the current even further, creating the impression of diminished water flow.77 Over in Nelson, William Massie apparently was forced to build an aqueduct across a low ridge above Massie's Mill to divert water from Rocky Run into the feeder creek for the main family mill, which was apparently drying up.78 In terms of flood destruction, the problem was also apparently becoming more serious. As noted earlier, during the 1840s and 1850s Massie grew so concerned about the possibility of freshes coming down the Tye or off the Priest and burying the fields of Tyro and Pharsalia under gravel and sediment that he began an extensive project of constructing levees around his improved

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76Thomas Gilmer to Joseph Carrington Cabell, 7 January 1829.

77For the impact of soil erosion on southern river channels, see Trimble, *Man-Induced Soil Erosion*, 113-119.

property. What began during the last years of the antebellum period as a tentative
concern with mountain flooding would grow after the Civil War and on into the
twentieth century into a massive drive for leveeing, terracing, contour-plowing, and other
measures for erosion control that dramatically changed the shape of the southern
landscape, making the region's waters and soils among the most tightly managed in the
world.\textsuperscript{79}

Antebellum planters on the eastern face of the Blue Ridge had not yet broken
even enough from republican traditions to embrace the kind of government land management
that would ultimately be necessary to control hillside erosion or, as will be discussed
below, unmanaged forest fires. On other issues planter-entrepreneurs \textit{were} beginning
during the antebellum era to seriously advocate coercive, coordinated landscape control
of a kind that would have dramatically changed the shape of the agroecology of the Blue
Ridge Mountains.\textsuperscript{80} During 1833 and 1834, in particular, Edmund Ruffin and numerous
other agricultural reformers launched, through the pages of the \textit{Farmer's Register}, a
petition campaign designed to convince the state legislature that Virginia's fence laws

\textsuperscript{79}On the intensifying management of southern waters during the twentieth
century, see Albert Cowdrey, \textit{This Land, This South: An Environmental History},

\textsuperscript{80}For another study of the first stirrings of the conflict between republican
cultivators and capitalist developers over control of the southern landscape during the
early nineteenth century, see Harry Watson, "'The Common Rights of Mankind':
83(1996), 13-43.
needed to be overhauled. The Old Dominion's 'Law of Enclosures' had, ever since the seventeenth century, demanded the fencing of crops instead of livestock. This provision necessitated enormous expenditures of labor, and, as timber-poor tidewater planters had warned, money, on the fencing of tobacco, corn, and grain fields, while allowing poor farmers to maintain a subsistence by running low grade livestock over unimproved land regardless of property boundaries. Yet this law proved more than just an inconvenience upper class planters suffered in order to mollify poor whites: as the nineteenth century progressed, it emerged as a serious obstacle to the formation and management of a capitalist agroecosystem.

Ruffin and the rest of the agricultural reformers who backed the change in the fence laws demanded that the state government legally insist upon the penning of livestock, as opposed to field crops. Not surprisingly, given antebellum Virginia's inherited political culture, many of the justifications they advanced for this dramatic reversal of a two-century old custom related to the injuries property owners suffered from cattle and hogs wandering onto their land, or to the expense that the demand for crop

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field fencing drove planters to, and the growing shortage of timber. Yet in letters published in the Register supporting the change, numerous other supporting arguments were advanced which related directly to the progress and management of a capitalist agroecosystem. Planter-entrepreneurs hoping to improve the quality of their livestock by breeding and penning, and the cultivation of permanent pastures, found profits difficult to come by as long as local yeomen and tenants were flooding the market with cheap meat from their mangy cattle and hogs. One correspondent opposed to the open range reported, “In many parts of Virginia, and even in many neighborhoods in this county [Nottoway], it is notorious that those frequently have the largest stock, who have the least land to graze; and many are in the habit of buying up poor cattle at a reduced price, to sell out as beef, after being fattened on their neighbors lands.” Forcing grazers back onto their own resources would enormously improve stock quality, another concluded, arguing that, “there are many farmers who [would retain a] fondness for close grazing their fields by as many cattle as can be kept alive through the year ... But most persons would soon learn the benefit of pursuing a different course. Each farmer having to maintain his own cattle, would keep a smaller number, and confine them generally to a permanent pasture well enclosed; and by being necessarily reduced to one-fourth of their present numbers, and treated as well as the change of system would permit, the livestock

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82 See, for example, W.J.D., “On the Law of Enclosures in Virginia,” Farmers’ Register, 1(1833), 450.

would yield more products of every kind (except hides perhaps,) than at present.”

This concern with intensifying production by investing more capital and care in smaller numbers of livestock carried over into the calculations which proponents of the new fence law made concerning the benefits it would have for arable fields. The agricultural reformers of antebellum Virginia repeatedly harped on their belief that too much labor was being invested in the extensive cultivation of large tracts of marginal farmland, when greater returns could be realized, both as gross and per-acre yields and particularly in terms of capital return, from intensive production on small pieces of land. Backers of the petition campaign complained, however, that this kind of investment was impeded by the existing fence law. The best stretches of bottomland along tidewater or piedmont back streams were often too small to cultivate both intensively and profitably once the cost of fencing such thin, three to four acre stream side tracts was factored in. One correspondent to the Register spoke dramatically of bottom meadows that were, “turned out to be trampled into mortar, producing neither corn nor grass, because they [were] too long and narrow to be fenced.” Even on major plantations, he argued, the best soils were often separated on different parts of the property, but the mathematics of circumference geometry forced planters to fence in and cultivate the bad with the good. Even initial attempts to restore exhausted fields were inhibited, as attempts to ‘rest’ land from long cultivation went for nought as long as the pioneer grasses and shrubs were

decimated by marauding hogs and cattle. Finally, another correspondent argued, the problems of poverty and the outmigration of poor whites could be stemmed, and their labor tied to the commercial development of rural Virginia, if the fence laws were changed. Many took up marginal lands, or left the state entirely, he argued, because small tracts of quality farmland available for rent could not be made profitable as long as fences had to be constructed and maintained by hard-pressed tenants.

In the hopes that a change in the law of enclosures would thus encourage the capitalist intensification of Virginia agriculture, advocates of high farming were prepared to advocate significant changes in the property laws of the state, and begin to move down the path of coordinated landscape management. As noted above, the republican insistence on expansive property rights was so deeply ingrained in Virginia legal thinking that most justifications for changing the fence laws began with paean to the defense of landed property against interloping cattle. Yet political considerations encouraged supporters of the change to embrace measures of coercion which contradicted their older principles. Anticipating opposition in the General Assembly from westerners, in whose counties timber was still plentiful for fences, and stock rearing and droving still played a leading role in the farm economy, advocates of legally mandated livestock penning were prepared to accept a strategic retreat. If a statewide law was politically untenable, then local option legislation offered a more inviting alternative. Ring-fence associations

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86 Ibid., 634.
could be formed, one author urged, whereby farmers at the county level or below could associate for the purpose of fencing their entire neighborhood and pursuing the new course of livestock enclosing within it. In their pursuit of this clever maneuver, ring-fence association supporters conveniently forgot about their earlier zeal for the cause of private property and profit. Since a single dissenter within the new ring-fenced crop commons could destroy the profitability of the scheme, correspondents advocated local coercion, going as far as proposing that a ring-fence law allow local farmers to mandate compliance from their neighbors upon obtaining as little as seventy-five percent approval from the community.87

In another case, the same willingness to abandon individual property rights in the interests of agricultural improvement manifested itself in another cause – this one dear to the hearts of tidewater high farmers – land drainage. Bottoms along tidewater smaller tidewater streams were often useless for cultivation as even moderate rainfall flooded out the slow-moving courses and drowned any crops grown there.88 If the stream beds could be channeled and widened, the surrounding flood bottoms could be drained, and the whole profitably cultivated. Yet again, few but the wealthiest tidewater planters – men like farm reformer and indefatigable ditcher and drainer Hill Carter of Shirley Plantation in Charles City County – had properties large enough to incorporate the entire length of a


88Ironically, many of these creek bottom swamps which tidewater and piedmont farmers claimed were in desperate need of draining, were probably the result of heavy soil erosion from hillside agricultural fields during the eighteenth century. See Trimble, Man-Induced Soil Erosion, 117, for a graphic illustration.
low country stream. For the others, they were again unable to act if a single downstream neighbor refused to levee his low grounds and as a result allowed drained bottomland further up the creek to be flooded out. In the Farmer's Register, Ruffin commented favorably on correspondence advocating a new drainage association law allowing coercion by local option, or even county level officials dictating the improvement of local stream channels with labor drafted from neighboring plantations. In the very midst of his decades-long diatribes against soft money, reckless banking, and meddlesome Yankee reformers and abolitionists, the supposed last of the Virginia republicans was just as zealous in proposing the liquidation of individual rights over land use on both the fence and the drainage issues.89

Such an embryonic, but still forceful, centralization of landscape management in the interests of entrepreneurial intensification attracted enormous opposition from poor rural republicans who saw their chance at independence through exploiting the forest pasture commons being threatened. One correspondent to the Register began foaming at the mouth over the shape opposition to the fence law campaign was taking. “Since publication of the petition to the Legislature on this subject,” he fulminated, “the cause has been transferred to a very different tribunal – to court yards and places for warrant trials, where fifth-rate demagogues, who read nothing that serves to increase their glimmering lights, can influence the opinions of those who do not reading any thing. Judging from the verbal reports that have reached our secluded dwelling place, the pitiful

89Kirby, Poquosin, 54-55. See also, for example, R.N., “On Draining: Addressed to Young Farmers,” Farmers’ Register, 1(1833), 385-390.
ground of argument, which was anticipated above (the ability of the poor to sustain themselves by open range pasturing), is mainly relied on by these self-constituted and noisy guardians of the people."^90

The aggressive response poor farmers made to the proposed change in the law is not surprising, and would have taken on particular vehemence in neighborhoods like the mountain community of the Tye River forks. Good arable land was in short supply between Hatter's Mill and the Blue Ridge crest, and most of what was there was in the hands of men like William Massie and Lemuel Turner, who could be counted on to place severe restrictions on land clearing and timber use in any leases they offered. Land that small farmers like the Campbells or the Coffeys could own usually consisted of steep slopes, thin soils particularly vulnerable to erosion. While the available land was relatively cheap, it was not a complete and sufficient foundation for yeoman independence. Nor could most tenant farmers hope to support themselves and their growing families on tracts of thirty acres of arable mountain land. As a result, cultivators along the forks of the Tye supplemented their small farms by running large herds of livestock on the mountain ridges. By 1850, farm operators in the three main clans of the forks community typically supplemented their twenty to fifty acres of cleared land with half-a-dozen or more beef cattle and a score of hogs. The hogs were particularly important, as their eclectic appetites and quick feralization made them the prime candidates for free ranging. William Hite, for example, owned 80 hogs on only 40 acres

of improved land, while James Fitzgerald claimed ownership of a semi-wild herd of 22 without apparently even operating a farm — the census taker credited him with no acreage, improved or otherwise. While the hog population of Montebello represented at 100 the largest herd on the forks, Massie’s per-acre commitment to pork-on-the-hoof was low compared to his neighbors. Particularly high relative numbers of hogs were found primarily on the fringes of the neighborhood — on the old Doswell and Drummond tract, and on the Campbell and Coffey properties that fringed the agricultural center of the Tye River headwaters. The tenants at Montebello and Fork Mountain, and on the Hite properties, also raised particularly large numbers of hogs for the size of their farms. Forcing them to pen their animals would have been a particular hardship, since, while wood might have been cheaply (or illegally) available, extra corn fodder for feed could only be obtained by taking land out of the tobacco or rye cultivation needed to build up family cash reserves. It must not have helped the temper of such farmers to hear that one of the compromise proposals advocates of a new fence law were offering to western cattle-drovers was the requirement that hogs and hogs alone be fenced in. This proposal was further justified on the grounds that hogs were the worst offenders (and the most intractable ones) in terms of fence-breaking, and that penning them in would mean cheaper, less laborious enclosures, even making maintenance-free live fences possible. Virginians had always had to build impressive wooden barriers four rails high or more, since, as one correspondent to the Farmer’s Register put it, “as there is no sort of hedge
that can resist the attacks of a thin, lean, tough-hided and hungry old sow."91

The opposition which small farmers raised to the proposed change was not inconsiderable, as the proposed legislation was rejected by the General Assembly during the 1830s, and a ring-fence association law was not pushed through the legislature until 1858.92 Along the Tye River forks, the continuation of the open range allowed small farmers to keep building an agricultural and personal economy which stood directly in the path of the creation of the capitalist agroecosystem. Like their poorer neighbors in the valleys below the Blue Ridge, the bulk of mountain farmers in Nelson and Amherst Counties practiced a form of agriculture which limited advanced commercial production while placing a heavy emphasis on livestock and subsistence crops. In 1849, for example, mountain farmers were putting greater amounts of land into subsistence crops like oats, beans, and potatoes (sweet potato production tended to lag, probably due to its identification as a slave crop), while owning significantly more hogs per-acre. Lowland cultivators, in contrast, tended to focus on cash crops, particularly wheat, along with improved livestock. They also owned much larger numbers of work oxen and higher quantities of farm machinery. This regional pattern is born out by the evidence from the neighborhood along the forks of the Tye. In terms of farm machinery, for example, only the overseers at Montebello and Fork Mountain reported an amount of equipment comparable to improved lowland farms, while Jesse Hatter and James Hite stood out

91 See James Garnett to the Editor of the Farmers' Register, 2(1834), 283, and 'Philander', "Enormous Losses Caused by the Fence Law of Virginia," 634.

92 Kirby, Poquosin, 78.
among their highland neighbors for arrays of agricultural equipment which would have marked their farms as rather backward had they been in the middle of the Hatt Creek hollow. The bulk of the cultivators along the North and South Forks, particularly the members of the ubiquitous Coffey, Campbell, and Fitzgerald clans, practiced an agriculture of surprising mechanical primitiveness, particularly for the middle of the nineteenth century. In 1850 most owned only five or ten dollars worth of machinery for farms as large as hundred acres or two, probably in the form of a few hoes, mattocks, and a couple of rusting scratch or shovel plows. *(See Table 6.6)*

Interestingly, while the mountain lag in per-acre commitment to some of the mid-nineteenth-century South’s key markers of capitalist intensification, such as oxen, farm machinery, and wheat cultivation, was typically quite large, the gap in several commercial crops was much less. Mountain farmers trailed their lowland counterparts by only small margins in the relative cash value of their livestock and tobacco production per-acre of land. Thanks to William Massie’s multicolore rye empire in the upper Tye Valley, mountain farmers actually led the lowlands in rye production by a wide margin. The reasons for these exceptions become clear when the mountain-lowland comparison is expanded to include the crop reporting percentages. Again, like poorer farmers throughout the Tye Valley, mountain cultivators like those along the Tye River forks reported almost every type of farm product less often than lowlanders. Yet the nature and extent of these gaps is quite interesting. The livestock differential is again quite low, except in the cases of those animals like sheep and oxen, which either needed a considerably intensified farm landscape, or were only useful in one. As with the earlier
Farm Machinery.
Tye River Forks, 1850.

--- Farms Reporting More than $75 in Farm Machinery in 1850.
Rates of Land Improvement,
Tye River Forks, 1850.

- High Rates of Land Improvement
- Low Rates of Land Improvement
Farm Values.
Tye River Forks, 1850.

--- High Farm Values per Acre
(Greater than $5 per Acre)

--- Low Farm Values per Acre
(Less than $2 per Acre)
Hogs on the Tye River Forks, 1850.

--- Large Hog Herds per Acre
class comparison, mountain farmers short on quality arable land tended to limit their diversification, and emphasize certain crops with the kind of heavy labor investment which helped to create the high per-acre ratios. Again, however, gaps in cash crops like tobacco and wheat were much less than might have been anticipated by the image of mountaineer subsistence farming. Poor mountain cultivators needed cash to pay rents, or to build up family financial reserves in order to purchase more land, and so chose to use large proportions of their arable land to grow rye, tobacco, and the like. (See Table 6.7)

Finally, these agricultural practices were reflected in the relative cash values of mountain farmland compared to that in the lowlands. From both antebellum agricultural censuses for which manuscript schedules are available, lowland farms were worth much more per-acre than agricultural property along the Blue Ridge. This pattern is confirmed by the evidence from the Tye River forks, where high farm values occurred only in a few isolated places. Even Montebello, which was by far the most developed property along the forks, kept too much land uncleared and out of production to approach the per-acre cash values of lowland farms of prosperous middling planters like George Williams or Robert Anderson. Nor can this pattern be explained entirely by land owners holding large amounts of unimproved acreage: the Coffey family pursued a rather primitive farm strategy despite their comparatively high rate of land ownership. (See Table 6.8)

The extent to which the Tye Valley's mountain farmers used the cheap, low quality lands of the Blue Ridge to avoid capitalist development and minimize their participation in risky crop markets must have been discouraging to the region's entrepreneurs. The Tye River & Blue Ridge Turnpike, which had been developed by
Major Thomas Massie to give access to his mountain properties and link the Tye Valley with producers across the ridge in Rockbridge County, never turned a profit for its investors. The Major’s son William continued as company treasurer into the 1840’s, until the road finally went bankrupt and was taken over by the county. He faced a constant struggle making ends meet as little interregional trade was developed, and particularly as even annual expenses could not be met as few wagons came down from the underdeveloped, subsistence-oriented mountain farms other than those carrying his own produce from Montebello and its mill. Mountain landlords were frustrated by recalcitrant tenants who did little to expand or maximize production, thus making it impossible for property owners to raise rents and profits over the long term. During the hard years of the 1840s, cash crop production was limited even more, as mountain farmers dug in their heels and refused to commit their fragile, minimal arable lands to depressed markets. Massie himself complained to an associate about the unprofitability of his rented property along the South Fork of the Tye: “When I have asked for monied rent, it has been more trouble to collect than it was worth, and at last had for the most part to be taken in truck as Cabbage, Turnips ... pork, etc., and when rented for a share, it has been worse as my share has never been made.”

This role of the Tye River region’s mountains – as refuges from agricultural modernization – made them almost as bad for the capitalist agroecosystem as the

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93See the Papers of the Tye River & Blue Ridge Turnpike Company, typescript, Wisconsin Historical Society, Madison, Wisconsin.

94William Massie to John Thompson, 12 February 1850.
emigration which the farm journals repeatedly condemned. Despite the relative lack of development of many of the large properties, the Blue Ridge mountains were not lagging far behind the lowlands in population density. Mountain families like the big three clans along the Tye River forks had numerous children, and gradually intensified production on their small hillside holdings while taking advantage of the mountain commons for hunting and livestock to supplement their incomes. All of this represented a serious drain on the manpower needed to improve and intensify farming throughout the region. The constant movement of people was a constant worry to whiggish rural entrepreneurs, who wanted to see labor bound (willing or no) firmly to productive, modernized farms and rural industry. Agricultural reformers bemoaned emigration for draining energy and talent from the state, and condemned those who remained but avoided the entrepreneurial economy as ignorant and intractable. Planter-entrepreneurs began subconsciously idealizing a capitalist society whereby economic power could be used to bind labor to more commercially and financially productive uses.  

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95This is a rough impression based upon comparisons of the number of farm families and their size in ‘mountain’ and ‘lowland’ regions of the Tye River Valley. See the Seventh (1850) and Eighth (1860) Censuses of the United States, Manuscript Schedules for Population and Agriculture, Amherst and Nelson Counties (Va.).

96Interestingly, ‘liberal capitalism’ never gained much of a foothold among the Virginia gentry. Many continued to see market economies and capitalist development as perfectly compatible with, even mutually supportive of, republican aristocracy. See, for example, Michael S. Greenberg, “William Byrd II and the World of the Market,” Southern Studies, 16(1977), 429-456, and Greenberg, “Gentleman Slaveholders: The Social Outlook of Virginia’s Planter Class,” (Ph.D. diss., Rutgers University, 1972). Certainly one of the foremost development and reform minded planter-politicians of the Old South, James Henry Hammond of South Carolina, evinced a distrust for and distaste with mass democratic politics and untrammeled liberalism, preferring social control and hierarchy. See Drew Gilpin Faust, James Henry Hammond and the Old South: A Design
When considering enslaved African-Americans, for example, planters could be
much more specific (and revealing), while pursuing the same logic toward a vision of a
much more disciplined society than republican Virginia offered. In the wake of Nat
Turner’s Rebellion, white Virginia’s leaders considered a variety of options in the hopes
of averting further racial bloodshed, including a famous debate on emancipation in the
state legislature. When that option was rejected, largely due to the overwhelming
argument – to entrepreneurial planters at least – that the financial burden of colonization
would have been prohibitive, planters smoothly retreated onto the belief that only tighter
discipline could suffice. One correspondent to the Farmer’s Register, while decrying the
problem of slavery and the mutual race-hatred it caused, admitted no alternative but
more complete control by slave owners. “The mutual ties between master and slave are
much weakened,” he concluded two years after Turner’s rebellion, “and we shall be
compelled to draw the reins of discipline much tighter than heretofore. But it should be
done in mercy and in kindness ... We should preserve a daily intercourse of dignified
firmness, and humanity with them – watch over their moral and religious instruction ...”97
This, of course, was an argument that meshed conveniently with the plans of planters
hoping to work their slaves harder in labor-intensive tasks such as manuring, marling,
levéeing, draining, and on and on.98

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97M.N., “On Improvement of Lands in the Central Region of Virginia,” Farmer’s
Register, 1833, 589.

98Refer back to my earlier suggestion in Chapter Four, note 111, regarding the
possibility that intensification, both traditional and entrepreneurial, may have led to an
Joseph Carrington Cabell, for example, was constantly fretting about lack of discipline among his slaves, telling John Hartwell Cocke of once finding a slave artisan named Joe at large in Richmond without permission, commenting in disgust that, “I am inclined, however, to think he is pretty much of a free negro.” Cabell was particularly concerned about the loose community of slave and free black watermen who poled the hordes of cargo batteaux up and down the James River, often carrying goods and passengers between river front plantations on the sly. The Nelson County river planter blamed the batteaux-men for every disaster available, from saucy slaves to the great cholera epidemic of 1832 to Nat Turner’s Rebellion. Cabell believed that a more developed economy, however, would bring an end to such disruptively casual labor. The James River Canal, he privately agreed with Cocke, would bring an end to the black river economy and culture. The canal would allow large steam and horse-drawn packets to drive the batteaux out of the river trade. Yet while the labor on the waterway would remain largely black, the capital needed to purchase and support the packets would keep slave and free black canal men under the constant supervision of whites.

In relation to whites, planters had to be much more circumspect in their ambitions toward the discipline that capital might exercise over debtors, tenants, and wage labor, but the equation was not lost on poor Southern farmers who attacked the anti-republican ambitions of the gentry. Popular republicans saw overweening pride not only in the anti-

erosion of paternalism in Old Virginia.

99Joseph Carrington Cabell to Nathaniel Francis Cabell, 5 June 1833.
100John Hartwell Cocke to Joseph Carrington Cabell, 19 August 1824.
democratic rhetoric of a few disgruntled would be Roman aristocrats among the over-educated members of the gentry, but also in the commercial ambitions of high farmers and localizers. Arch-Whig and local improver William Massie, for example, tasted some of the bitterness such attitudes engendered, reporting that at an election day meeting in 1844, he was accosted by a drunk who charged that, “the Massies were poison, that they had land and slaves, and that they wanted to oppress and sell white men as slaves.”

Despite their suspicion of localizing planter-entrepreneurs, many mountain farmers could be, and were, brought into the development of the commercial economy to some degree on the frequent occasions when they did not own sufficient land to make ends meet from their own resources. Mountain families were often forced to seek out patrons among wealthy planters and merchants, and provided them with some commercial production and wage labor in return for cash and limited consumer credit. Members of the Coffey family, for example, brought their grain to the Massie family mills for generations, and regularly provided day labor for various projects on William Massie’s plantations. Farmers all along the Tye River forks grew the rye which William Massie was so eager to distribute as seed, purchase and mill as harvested grain, and then ship out of the region as flour. The power which these patron-client ties gave store owners and millers over the agricultural strategies of yeoman farm families created interesting patterns of crop choice and cultivation. In 1849, for example, eight of the ten

101 William Massie to Charles Davenport, 3 April 1842.

102 See Massie’s annual accounts, and his crop and weather memoranda, compiled by Refsell, in “The Massies of Virginia,” for his dealings with local yeomen like the Coffeys.
Campbell family farm operators grew tobacco, while none of the Fitzgeralds did.

Yet mountain families compensated for these concessions of independence with a general lawlessness that provided endless headaches for the region's modernizing elite. Often lacking the resources to retreat into traditional intensification, mountain farmers attempted informally to impede commercial development while forcing open the land system. The obstruction William Massie met when trying to collect rents on his mountain leases was just the beginning of the problem. In 1842, one of the worst years of that decade's depression, the sheriff of Amherst County informed Elijah Fletcher's brother Sidney that many poorer men had left their farms and were hiding in mountain hollows and caves to avoid paying their taxes. "A few in this county," reported Sidney Fletcher, "have declared open war [on?] the civil authorities but it is hoped for the credit of the state it is mere bravado."\textsuperscript{103} Elite mountain landholders faced even more personal difficulties, as mountain yeomen tended to expand their opposition to elite attempts to end the forest pasture commons into a general lack of regard for property lines of any type. The Fitzgeralds were particularly notorious in the neighborhood for trespassing, and absentee landholder Richard Pollard was forced to write Massie asking him to check his properties to make sure the members of the celtic clan were not repeatedly turning their cattle and hogs into his pastures and crop fields.\textsuperscript{104} Massie may have had little time to attend to Pollard's difficulties, since he was having similar problems himself. In 1850, he had to inform a wealthy acquaintance interested in purchasing mountain

\textsuperscript{103}Von Briesen, ed., \textit{The Letters of Elijah Fletcher}, 183.

\textsuperscript{104}Richard Pollard to William Massie, 27 August 1850.
property that Montebello plantation was having difficulty paying for itself, since his,
"overseer and slaves have been run to ruin [trying] to keep horses, cattle, and hogs out of
my grain. The population [there] about ... is such that no sooner are their backs turned
than down come the fences and in goes the stock."105 Even the Coffeys, who owned
substantial amounts of land in the neighborhood, and who had proven over the decades to
be highly valuable clients of the Massie family, caused enough trouble with fence-pulling
and trespassing that Massie derisively referred to them as, "the Coffey gang."106

Worst of all, mountain farmers could, and often did, continue the practice of
burning the woods to increase game populations, cut down on insects, and free up
pasture for their free-ranging livestock. The low-level burns adapted by frontier settlers
from the Indians had merited little attention or concern from the Virginia elite as long as
the fires remained concentrated on remote, cheap lands, and destroyed potential
resources of only limited value. As timber supplies began to disappear, and as
commercial livestock grazing began to seriously populate mountain meadows with high-
quality cattle and hogs, and as a few plantation quarters began to be established in the
higher hollows, the fires became much more troubling. Set with little concern for fire
control or property lines, these blazes often could result in valuable timber and crop
lands being burned up. In 1853, William Massie described the damage forest fires could
do to plantation operations:

\[
\textit{the damage it has done is immense, probably 800 to 1000 pannels}
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\footnote{William Massie to John Thompson, 12 February 1850.}

\footnote{William Massie and Nelson Munroe, Memorandum of Contract, 26 June 1844.}
of fence for me ... & 500 to 1000 Acres of Timber land has been burned over, including the immensely fine timbered hollow at the head of the muddy branch. What damage has been done to the timber can't be seen yet, but as the sap is fully up & the leaves all coming out I fear much of it is killed, & the young timber particularly. It also blew over into the West fence of my Cove Orchard, got into the logs there & I fear has killed 9 or 10 of my Lady Sweetening apple trees.107

Massie reserved his greatest ire, however, not for the fire, but for, “that long bunter of a wench Tyries wife who let it out.”108 As he began investing greater amounts of capital in intensifying cultivation at Montebello, Massie also began a running – and bilious – commentary on the evils of the forest arson being extensively practiced in the Fork Mountain neighborhood. In the fall of 1841, he reported that, “The weather is dry & much cooler, & the Hell cats about Old Shingleheads, say Garland Henderson & the like have fired the mountains for Chestnuts & lost me some 32 days work ...”109 In 1847 Massie was equally frustrated with the complete lack of concern that the neighborhood’s woods-burners showed concerning basic fire management, writing, “Clear, calm & warm forenoon, with a smart breeze ... which blows the dust fiercely about in the afternoon, when the maniac Hudson sets the woods to the south of Hills shop on fire.”110

The mountainous sections of the upper piedmont of Virginia were an agriculturally marginal ecosystem. Minimal arable and thin soils meant low yields, little chance for intensification, and rapid biotic decline. When translated into the terms of the

107William Massie, weather memoranda, 23 April 1853.
108Ibid.
109William Massie, weather memoranda, 8/10 November 1841.
110William Massie, weather memoranda, 22 April 1847.
crop and land markets, this meant low land prices, a lack of adequate transportation, and diminished availability of capital. As unattractive as such a situation might have been to those attempting to force a return on investment from such neighborhoods, many white Virginians found such marginal ecosystems highly appealing. The mountains, by being such a poor field for investment, offered small farmers a place in which they could escape from the solidifying hierarchies that accompanied modern capitalism. Land was cheap, and enough of the resources of the region were held in common – either legally or illegally – that personal independence of the republican variety could still be built on much smaller investments of labor and capital than were being required below. So when modernizing planters did begin to take an interest in mountain lands, buying them and attempting to cut off their resources to small farmers unwilling to pay rents or take out loans, mountain yeomen dug in their heels. They stubbornly stuck to methods of cultivation designed to maintain independence by minimizing investment in land maintenance or consumerism, and fought against the push to bring the mountains into conformity with the terms of economy and property bringing both profit and widening dependence to the lowlands.

**Political Opposition to Whig Capitalism: The Nelson County Election of 1834.**

While the resistance of mountain farmers to the incorporation of the Tye River portion of the Blue Ridge into the capitalist agroecosystem was typically personal and extra-legal, there was considerable political opposition to the attempts of localizing planter-entrepreneurs to transform the landscape, commerce, and political economy of
the Old Dominion. Agricultural and commercial entrepreneurs had found they needed to obtain the cooperation of their neighbors, and the comprehensive management of their landscape, in order to assemble the resources and clout necessary to compete effectively in crop and capital markets. Yet the experiences of the revolutionary Whigs and Jeffersonian Republicans in national and international politics had also taught the Virginia gentry that it was necessary to marshal thoroughly the political influence of their communities in order to obtain the kind of government they wanted. This necessity, of course, was intimately connected to the gentry's agroecological and commercial goals: economic prosperity commanded political influence, which in turn commanded legal and commercial favors from the government. The capitalist gentry of rural communities like the antebellum Tye Valley, therefore, attempted to use their local influence to unite their neighbors in support of the political program of whiggish capitalism.

Many ordinary farmers, however, were prepared to object to, and obstruct, those aspects of state-sponsored capitalism which might threaten yeoman independence—whether it was based on traditional intensification or easily available agricultural resources. And despite the discomfort that many leaders of the Virginia Democrats may have felt with some of the radical extremes of Jacksonian politics, the anti-capitalists

111For some discussions of the rhetoric and tactics used by the Virginia gentry to marshal support from the white masses during the state’s political crises, see, for example, Tillson, Gentry and Common Folk, 78-100, or Richard R. Beeman, The Old Dominion and the New Nation, 1788-1801, (Lexington, KY: University of Kentucky Press, 1972), 221-248.

112Interestingly, the Virginia Democratic Party evolved strongly away from the intensely class-based politics of the Jacksonians during the late 1830s and early 1840s. Democratic planters found the politics of expansionism and varying degrees of pro-
among Virginia’s white men found the Democracy’s class rhetoric and producer ideology congenial to their attempts of maintaining that independence. In addition to personal agroecological and commercial strategies that ignored the values of high farming and commercial localization, or the low level of extra-legal resistance to economic development and landscape management, popular republicans could thwart the ambitions of the entrepreneurial gentry in the political arena. One particularly vivid example of this comes from the Tye Valley, however: the Nelson County General Assembly election of 1834.

As discussed above, late in 1833 President Jackson, in an attempt to throttle the financial power of his political opponents connected with the Second Bank of the United States in Philadelphia, had withdrawn federal deposits from the nationally-chartered institution and placed them in a number of local ‘pet banks’, owned and controlled by slavery much more congenial than hard money and limited government. Perhaps in response to this evolution, Virginia Whigs like William Massie remained unbending in their insistence on referring to Democrats as ‘Loco-focos’, or ‘Locos’.


political supporters, particularly in the West and South. Early in the next year, the Virginia General Assembly, dominated by a combination of anti-Jacksonians ranging from hard-line National Republicans and Clay men to nullifiers and anti-Force Bill ideologues, had ‘instructed’ the state’s representatives in the U.S. Senate, John Tyler and William Cabell Rives, to vote in favor of a strong condemnation of the withdrawal and an assertion of the action’s unconstitutionality. Rives, strongly in favor of the practical result Jackson’s action had of redistributing large amounts of working capital into the hands of rural and Southern bankers, refused his instructions and resigned. Rives returned from Washington to Virginia, determined to turn the state legislature campaigns of that spring into a referendum on himself and his opposition to the National Bank (since the resulting General Assembly would choose the new U.S. Senator).115

This campaign would prove particularly divisive in Nelson County, where the incumbent delegate, Joseph Carrington Cabell, had voted to instruct Rives to oppose the deposit removal.116 Cabell had also been maintaining a simmering political and personal feud with the Riveses, and particularly the patriarch of the clan, Robert Rives, Sr., the wealthiest planter in Nelson County and owner of Variety Mills. Despite William Cabell Rives’ national fame, Cabell was the dominant figure in Nelson County politics during the antebellum era. Cabell was in many ways an ideal representative of the

115On the Bank War in Virginia, see Shade, Democratizing the Old Dominion, 90-95. For a concise discussion of the issue on a national scale, see Watson, Liberty and Power, 132-171.

entrepreneurial planters of antebellum Virginia, particularly in the political, if not always in the practical and local, senses. While his neighbor Rives had chosen to stick more closely to the anti-nationalist politics of Jefferson during the 1820s, Cabell followed Madison and Monroe into National Republicanism during that decade, and vocally supported John Quincy Adams in 1824.117

Cabell appears not to have had political aspirations at the national level, and the bulk of his later career centered on promoting the economic development of Virginia through the General Assembly. In that body he became the most visible proponent of one of the largest state-sponsored internal improvement projects undertaken in antebellum Virginia, the James River & Kanawha Canal.118 Throughout the 1820s and 1830s he went to Richmond to fight for a state incorporation charter and generous government stock subscriptions for the Company. When finally victorious on the first count in 1832, Cabell was quickly appointed the Company’s first President, a post which he held through repeated controversy until resigning in 1846.119

In addition to his state-wide ambitions, Cabell remained vitally interested in the effect the Canal and other state-sponsored economic developments would have on his

117Joseph Carrington Cabell, “Notes of a Speech Delivered at Nelson Court House.”


119Dunaway, History of the James River and Kanawha Company, 93-155, passim, for Cabell’s career promoting and administering the canal company.
home county. This was particularly true of his advocacy of the Canal, which eventually passed through his properties in Nelson at the base of James River bluffs between his mansion house and most valuable bottomland fields. By dramatically lowering transportation costs to the isolated Valley, Cabell believed that the Canal would open up commercial opportunities to the region’s farmers, attracting the capital they needed to purchase equipment and outside biotic inputs, and reducing their cost.120 As with so many other agricultural reformers, Cabell had come to believe that high farming could not be financed without aggressive, state-sponsored market development, particularly including transportation improvement. The James River and Kanawha Canal was his greatest contribution to that goal, and became the issue with which he was singularly identified, not only in Virginia as a whole, but at home among the plain farmers of Nelson County.

The chartering and construction of the Canal could not be accomplished, however, without a substantial mobilization of political influence. Investments in canal projects were risky ones, offering only the most long-term of payoffs – and therefore required profuse contributions from the government.121 Furthermore, there was often considerable competition between internal improvements – especially in Virginia – as

120 See, for example, Joseph Carrington Cabell to John Hartwell Cocke, 15 August 1824.

different regions vied for government funding of their pet projects.\textsuperscript{122} In this climate, Cabell came to understand that the Canal Company needed to obtain investors, not only from among the urban mercantile community, but also from the planters and farmers who lined the route of the proposed waterway. These stock subscribers would form an influential political base to back the Canal in the General Assembly, where issues relating to state funding and regulation would be decided.\textsuperscript{123} Rural stock subscriptions would not be easy to come by, of course, and financially-pressed and skeptical farmers would have to be wooed with promises of commercial benefits for the region, as well as having their arms twisted by influential local grandees. Cabell and other backers of the James River Canal understood clearly, that they would have to stake their political

\textsuperscript{122}Inter-regional rivalries, for example, played crucial roles in determining both investment in the Canal, as well as partisan loyalties to it. The Farmers' Bank of Virginia refused to purchase Company stock after bank stockholders in Fredericksburg and Norfolk protested against the plan. Furthermore, the Canal always struggled in the state legislature when the Democrats were in control. Yet this was not due to party principles opposing state funding for internal improvements. Passing through strongly Whig counties, the Canal was viewed as a Whig venture, and therefore slighted by Democrats from other regions jealous of the project's prerogatives. See Dunaway, \textit{History of the James River and Kanawha Company}, 105-108, 194-199, and Elmer G. Dickinson, “The Influence of Sectionalism upon the History of the James River and Kanawha Canal Company in Western Virginia,” (M.A. thesis, Duke University, 1948), For a discussion of the same issues in relation to railroad development, see, Peter Stewart, “Railroads and Urban Rivalries in Anti-Bellum Eastern Virginia.” \textit{Virginia Magazine of History and Biography} 81(1974): 4-22.

\textsuperscript{123}Cabell wrote to Madison that part of the campaign to gain subscriptions from piedmont farmers was based upon the need to make up ground after the refusal of the Farmers' Bank of Virginia to make an expected investment. Yet according the Cabell's own notes, the stock subscription goal he and his colleagues set for the piedmont farmers came nowhere close to making up the shortfall. The enormous effort he went to must also, therefore, be accounted for by the political influence the Company stood to gain. See Dunaway, \textit{History of the James River and Kanawha Company}, 105-108.
influence and reputation, as well as their personal finances, in order to make the project successful.

So when, despite legislative approval and solicitation from the state government, both the Bank of Virginia and the Farmer’s Bank of Virginia, questioning the canal’s profitability, initially refused stock subscriptions,\textsuperscript{124} backers turned to the piedmont for support. “Our purpose,” a group of Richmond canal-backers announced, “is to invite [the] attention [of planters] to those [benefits] which apply exclusively to yourselves. The increased facility, cheapness, and safety with which your produce may be transported to market – the enhanced price of that produce, in consequence of the enlargement of that market and of its purchasing capital – the vast number of articles now wasted, which, in this change of circumstances, will become saleable, are truths too obvious to escape your notice. Places of deposit must multiply and grow into respectable villages, and the number of travellers between the west and the east be incalculably increased ... Immense augmentation in the value of every acre of land in the vicinity of the line of communication will be the inevitable result and reward of these improvements.”\textsuperscript{125}

\textsuperscript{124}See Dunaway, \textit{History of the James River and Kanawha Company}, 105-108. See also an editorial from the \textit{Richmond Compiler}, clipped by Joseph Carrington Cabell and filed in the Cabell Deposit, Alderman Library, University of Virginia.

\textsuperscript{125}John Brockenbrough, et al., “Commerce and Improvement of James and Kanawha Rivers,” \textit{Farmer’s Register}, 1833, 255. Interestingly, Brockenbrough was the head of the Bank of Virginia, but apparently had been unable, at least temporarily, to swing the Old Dominion’s original state-chartered bank behind the Canal. He apparently hoped, like Cabell, that financial support from the hinterlands would translate into political pressure on the Bank.
The fact that the benefits the canal would bring to the commerce of the Tye Valley, and the need for the Valley’s public support for the project, outweighed the dubious profitability of the stock, was revealed by Cabell’s zealous demands for patriotic support for the company’s finances. In his quest to use the James River Canal to make the Tye Valley more competitive in those national and international capital, crop, and consumer markets described by the Richmond merchants, Cabell did his best to call on all his resources as both a member of the region’s longest-established gentry clan, as well as a local commercial leader, to mobilize political and financial assistance for the Canal within the Tye Valley community. During late August of 1833, Cabell made the rounds of public meetings at both the Nelson and Amherst Court Houses in an effort to drum up local enthusiasm for the Canal, and particularly to secure subscriptions for its stock issue.

To a fellow Canal-backer, he described the scene at Amherst Court House:

David S. Garland had told me in New Glasgow I should be disappointed. The county everywhere abounded with prejudice. We had some decided friends, but they were surrounded with enemies. The Court adjourned, the people assembled in the Court House, I was invited to go upon the bench, from which I looked down upon the whole bar of Lynchburg and Amherst, and the assembled multitude. A cold chill ran over my whole frame. But I braced myself as well as I could, & announcing myself to them, as their old Senator of 19 years standing, and now coming before them as a messenger from Albermarle and Buckingham, I rushed into the subject, and at the end of an hours exposition, was gratified to hear the building resound with the approbation of the people. In a reassembly in the evening for the purpose of forming a committee, the people rushed tumultuously into the room, before the resolution could be finished, and called for the subscription book. Before I left the place on my return home the same evening, the subscription had exceeded 100 shares, & no doubt was entertained that Amherst w[oul]d raise her quota.¹²⁶

¹²⁶Joseph Carrington Cabell to John Hartwell Cocke, 22 August 1833.
Back home in Nelson a week later, the emotional scenes Cabell had been able to stir up over in Amherst replayed themselves:

When the people began to assemble, I was much concerned not to see McClelland or M. (Mayo) Cabell, two of my principal cooperators; and equally concerned to discover that altho [sic] Mr. Rives would subscribe 50 additional shares, yet that he insisted in subscribing 20 of these in Albermarle, for his two younger sons residing there. The Court adjourned, as in Amherst to make way for the meeting of the people within the Court-House. I was very desirous that Mr Rives should take the chair, but he persisting in declining it, I at length yielded to a motion to take it myself. I addressed the people for near two hours and after stating and answering all the popular objections to the charter, I made an earnest appeal to the people to unite with the counties of Albermarle, Buckingham, and Amherst. The people listened with much attention. At one time, I became uneasy and feared the details had wearied them, and they would break and go away in part before I could draw to a close, but I find afterward that I was mistaken, for when I sat down, I had unquestionable proofs of the satisfaction of the people. The Court went into session as soon as I had concluded and the resolutions were adopted. But the House was a scene of popular excitement throughout the day. The plain farmers all over the county evinced a strong desire to procure for our little county the honor to be the first to make up its quota.  

Cabell was singularly concerned with obtaining the petty subscriptions of those plain farmers in the Tye Valley. From Amherst he wrote exultantly to his friend, fellow Canal advocate and farm reformer John Hartwell Cocke: “Believe me, the solid yeomanry will everywhere upon our waters do their duty upon this subject when it is properly explained to them. The experience in Amherst is decisive upon this point.”  From Lovingston he continued: “Mr. Rives example, and that of Major Massie, gave much credit to the stock, but the yeomanry seemed to regard it chiefly as a great question for this part of the state.

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127 Joseph Carrington Cabell to John Hartwell Cocke, 29 August 1833.
128 Joseph Carrington Cabell to John Hartwell Cocke, 22 August 1833.
The subscriptions were chiefly small subscriptions of 2, 3 and 5 shares, and of course were very numerous.129

The small farmers of Nelson were not alone in viewing the campaign to raise finance along the route of the Canal primarily as a political question. For all of Cabell's efforts and commitment of his rhetoric and public reputation – and that of other local gentlemen – to the subscription drive, the amount of money he raised in the County was actually quite small. According to his own notes, Nelson County subscribers took out only 57,800 dollars in stock, and all the rural counties east of the Blue Ridge only 283,900 dollars worth. In comparison, the state of Virginia purchased over two million dollars of stock, the merchants and professionals of the city of Richmond over a million, and the Bank of Virginia a half a million. Under these circumstances, the efforts Cabell went to obtain, for example, a two-share subscription from Hatt Creek farmer Joseph Montgomery, seems hardly to have been worth the trouble.130 The subscription campaign in Nelson and Amherst was aimed not so much at finance as at building public support — the almost revivalistic style of the subscription meetings illustrates that. The local stock subscription was a petition drive. If Cabell could return to Richmond with tangible evidence of overwhelming public support for the Canal in the hinterlands then he could strong arm both public banking institutions into greater capital investment, and the state government into both looser public control of the Company, and more money as well.

129 Joseph Carrington Cabell to John Hartwell Cocke, 29 August 1833.

130 Joseph Carrington Cabell, "County Subscriptions to the Improvement," notes filed in the Cabell Deposit, Alderman Library, University of Virginia.
Capital could be acquired from other sources than the yeomanry of Nelson County, but their public enthusiasm was just as crucial as the financing. "After I had made my address," Cabell wrote to Cocke, "I moved like a troubled spirit thro [sic] the crowd, animating, & cheering & rousing the popular feeling. It was a proud day for our little county; and as I walked among my countrymen ... I exultingly said to them 'I am proud to be a Citizen of Nelson County. Hereafter, I will call this, the Great Little County of Nelson.' The Farmers laughed & seemed to be as happy as I was myself." 131

Yet in order to understand Cabell's political career and the challenges he faced, it is important to recognize that the public support he was able to solicit for the Canal in Amherst and Nelson was founded not solely upon grass-roots commercial patriotism. His concern, in Nelson, for example, that men of wealth and influence like Thomas Stanhope McClelland, Mayo Cabell, and Robert Rives, Sr., appear before the assembled citizenry in enthusiastic support of the Canal, is quite revealing. The stock subscription list from Nelson he included in his papers relating to the canal campaign reveals that the prominent planter-entrepreneurs of the community had brought considerable influence to bear upon the yeomanry in their quest for stock subscriptions. The county's leading planters, like Lee Harris, Rives, McClelland, Major Thomas Massie and his sons, the Cabell men, and Daniel Higginbotham, all gave promises of purchases of fifteen, twenty-five, and up to fifty shares of Company stock (at $100 a share). Yet they also dragged along with them their clients among the more prosperous middling farmers in the Valley. The Massies brought in Hatt Creek planter (and onetime Massie carpenter and overseer)

131 Joseph Carrington Cabell to John Hartwell Cocke, 29 August 1833.
George Williams, as well as mill customers Montgomery, James Penn, and Nelson Clarkson. The Rives clan dragged along Nathan Anderson, Henry Bibb, and Terrisha Turner, all of whom lived in the neighborhood of the Rives headquarters at Variety Mills and had borrowed extensive amounts of money from Rives, Brown & Company. Numerous others among the petty contributors lived in the lower Rockfish Valley and in the areas of Findlay’s Mountain, as well as Bent and Dutch Creek, all of which neighbored the Cabell estates and mills along the James River bottoms, and the family’s old commercial village of Warminster. Certainly the willingness of Peters & Loving, the partnership that was running what would become the Valley’s largest mercantile, shipping, and wholesale concern, the ‘Tye River Warehouse’ at New Market, to purchase ten shares of stock did little to discourage their growing list of debtors and clients from subscribing as well.132

Nor were the purchases of, “2, 3, and 5 shares,” made by small planters a casual matter for them. The several hundred dollars being committed to the investment by yeomen farmers and small slaveholders represented a serious commitment of their limited surplus capital. And as much as the willingness of well-informed business leaders like Rives, Massie, Peters & Loving, and such to commit their own funds to the Company might increase local confidence in its profitability, it had to seem a terribly large and risky investment to men whose financial concerns were dominated by the basics of slaves, land, and book credit. And while they might have been enthusiastic

132Joseph Carrington Cabell, “Nelson County Stockholders,” notes filed in the Cabell Deposit, Alderman Library, University of Virginia.
about the Canal’s progress through their own interests in profiting from Tye Valley farming, they were also tied to the economic influence of the local big men who were setting up public meetings, giving rousing speeches, and telling their lesser neighbors (read: debtors, tenants, and customers) to subscribe. However eloquently they might have framed the stock subscription as a patriotic crusade, it must also be noted that when men like Joseph Carrington Cabell and Major Thomas Massie said jump, their clients among the Nelson County yeomanry jumped.

This kind of close alliance between economic and political hierarchy apparently stirred up a good deal of resentment and resistance from among the smaller farmers from whom Cabell was trying to extract political and financial support for the political economy of the capitalist agroecosystem. While many of the men who did promise to purchase stock in August of 1833 were probably too closely tied to their patrons in the Tye Valley gentry to turn any reservations they might have had into open opposition, there had also been plenty of middling farmers who had stayed home from the meeting at Lovingston, or had gone but hung back from the subscription book. Their opposition to the threat coming from the ambitions and demands of the entrepreneurial gentry bubbled to the surface during Cabell’s campaign for reelection to the General Assembly the next spring. After reportedly being greeted as a conquering hero at Lovingston and Amherst Court House, Cabell was forced to fight for his political life, as well as for the life of his Canal.

Despite their initial willingness to support Cabell’s canal, the Rives clan proved eager to hunt down the fox in what they must have regarded as their personal political
When William Cabell Rives had moved to an estate inherited from his wife's family in Albermarle County in 1821, he retained a plantation in Nelson, as did his brother. Their father remained the County's wealthiest man, of course, and William was referred to the voters of Nelson during the campaign as, "your old county man."\(^{133}\)

Joseph Carrington Cabell's opposition to Virginia's brightest political star in his own backyard was a continuing insult to the Rives family, and they prepared in early 1834 to put him out of state politics. Yet despite vigorous efforts on their part, including a full day of on-the-ground canvassing by William himself, the Riveses were unable to convince any member of the Nelson gentry to sign on with the Jacksonian Revolution by standing against Cabell. After some indecision and delay, the Riveses decided to acknowledge the personal nature of the contest and put forward William's brother-in-law, Alexander Brown.\(^ {134}\)

Cabell was eloquent in the bile he directed toward his opponent and the personal enemies who were backing him. "You can imagine my feelings," he wrote to Cocke, "to hear myself threatened with exclusion from the public councils after a series of 24 years, and after the transaction of the last 3 [the fight for the Canal Company charter], by one of the most unprincipled families I have every known, thro the immediate instrumentality of a young Scotch clerk [Brown] that has hardly had time to get warm in any of their beds."\(^ {135}\)

\(^{133}\)William H. Cabell to Joseph Carrington Cabell, 6 April 1834.

\(^{134}\)Joseph Carrington Cabell to Nathaniel Francis Cabell, 25 March 1834, and Cabell to John Hartwell Cocke, 26 March 1834.

\(^{135}\)Joseph Carrington Cabell to John Hartwell Cocke, 8 April 1834.
Up to this point, the conflict between Cabell and Rives was nothing new for Virginia voters, who had grown accustomed over the previous century to factions of the gentry hashing out their squalid personal squabbles at the county polls. Yet the national issues involved with the campaign, and the resentment of many ordinary Nelson County farmers toward the whig capitalism their leaders were pushing on them, introduced a new element to the scene. Apparently rebuffed by most of the Nelson County gentry, Alexander Brown and his in-laws seem to have discovered the joys of rabble-rousing. Jackson’s struggle with the National Bank was becoming a volatile populist issue throughout the nation, and the Rives camp moved to exploit popular sentiment. From Richmond, former governor William H. Cabell wrote to his brother Joseph that, “If you were to leave the County, the Rives party would certainly raise up an opponent, who aided by the mad prejudice in favor of Jackson, & against the Bank, would in all probability bring about a change in the feelings of the people before the election.”

Moreover, the anti-capitalist and pro-democratic rhetoric of the national Bank War meshed well with popular opposition to whig capitalism. Against Jacksonian-influenced charges of elitism and power hunger, Joseph Carrington Cabell proved particularly vulnerable. In addition to his impeccable lineage and gentry capitalist politics, his opposition to extension of the franchise in the state constitutional convention of 1829-30 had provided crucial support from the piedmont which had defeated the

\[136\] William H. Cabell to Joseph Carrington Cabell, 30 March 1834.
attempt to introduce white male suffrage to the Old Dominion.\textsuperscript{137} The Rives party lost no
time in throwing these things back in Cabell’s face for political gain. Cabell supporter
James Magan wrote to his candidate of the situation on the ground in Nelson, saying,
“they call you a Bank man, a proud man, a friend to the rich and an oppressor of the poor
and Sir all these things will operate on the minds of the uninformed.”\textsuperscript{138}

The record of the Nelson election campaign consists mainly of the letters Cabell
wrote concerning the contest, and correspondence which he received from his supporters
throughout the county. From these missives one can gain a picture of the Cabell
campaign and its supporters, as well as inferring the strategies of the Riveses. Initially
Cabell and his supporters were quite confident of victory. Cabell and his informal
organization of relatives and friends in Nelson operated on a model of local politics
which pre-dated the emergence of national issues, but that was also supported by the
emerging networks of capitalist hierarchy in the region. Obtaining the support of the
local gentry was the key – the evolving control over local commerce afforded by their
ventures into localization gave them an influence over customers, clients, and debtors
which reinforced older traditions of deference. And certainly the gentry of Nelson was
an entrepreneurial class, and appears (with the exception of the Riveses) to have been
united behind Cabell and his pro-development politics: “Nearly the whole of the

\textsuperscript{137}See, for example, Joseph Carrington Cabell to John Hartwell Cocke, 10
November 1829. Major Thomas Massie’s eldest son, Dr. Thomas Massie, was the
representative from Nelson to the Constitutional Convention of 1829-1830.

\textsuperscript{138}James Magan to Joseph Carrington Cabell, 14 April 1834.
Intelligence of the County is with me," 139Cabell complacently wrote to Cocke. As long as the bulk of the gentry were kept firmly within the Whig camp, there appeared to be no reason for concern. Cabell’s brother William wrote to him, urging him to, “make a pretense of having some business in Staunton, Lexington, etc etc and call in your way, on many of the most intelligent and influential persons on your route.” 140 Having courted and won the local big men — the planters, lenders, millers, store owners, attorneys, and the like – Cabell felt he could then rely on their ability to deliver to him their clients among the smaller farmers, as they had during the stock subscription drive for the James River Canal. Cabell supporter John Cobbs explained the strategy as he urged his man to spend his nights in the homes of his few prominent opponents along the course of his campaign perambulations through Nelson in the days before the election. “In Elections people go in squads,” he wrote, “and when you shake one, you shake the whole squad.” 141 As his partisans began urging him to more assiduously visit the various neighborhoods of Nelson during the last two weeks before the poll, they were full of advice as to men of local influence with whom he could go around with. Cabell, known in neighborhoods like the upper Rockfish and Piney Rivers only by name and reputation, needed to link his cause with that of men of more immediate local weight like Cobbs, William Fitzpatrick and Reuben Patterson. 142 Accompanied by men who knew the locals, lent them money,

139Joseph Carrington Cabell to John Hartwell Cocke, 1 April 1834.

140William H. Cabell to Joseph Carrington Cabell, 30 March 1834.

141John Cobbs to Joseph Carrington Cabell, 19 April 1834.

142See, for example, Thomas Penn to Joseph Carrington Cabell, 12 April 1834,
employed them occasionally, rented them land, purchased their grain, and so on, Cabell could appear not only to be conscientiously cultivating the common voters, but also give an impression that a unified commercial elite backed his candidacy.

The Rives party, who had extensive power radiating from their economic hub at Variety Mills (where most of their public meetings were initially held), employed their influence in much the same manner. Cobbs wrote to Cabell that, “I am informed that the old gentleman [Robert Rives, Sr.], all persons that he can command, is in motion.” Yet they soon discovered that a campaign that exploited the resentment ordinary farmers felt toward the growing economic power of the local elite and their attempts to turn it into political influence harvested many more votes. Although the words with which the Rives party justified their campaign are lacking, a sense of their approach can be gained from the ravings Cabell sent to Cocke. “They drive at the ignorant multitude,” he wrote, “and may do great deal by the cry of Jackson and the Monster.” Mayo Cabell was a little more moderate, calling Cabell’s opponents, “all ordinary men whose minds have been prejudiced and flattered.”

Cabell’s initial faith in the control of local politics wielded by the entrepreneurial gentry was soon disputed. William H. Cabell, who from his residence in Richmond had a clearer picture of the state and national political picture, wrote his brother advising him strongly to soft-pedal his capitalist politics by avoiding any impression of siding with the

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143 John Cobbs to Joseph Carrington Cabell Cabell, 19 April 1834.
144 Joseph Carrington Cabell to John Hartwell Cocke, 1 April 1834.
145 Mayo Cabell to Joseph Carrington Cabell, 20 April 1834.
National Bank and against Jackson and Rives. "It is all important," he wrote, "to counteract the impression that the great question is Bank or no Bank." On the ground in Nelson, James Magan was even more desperate, advising Cabell to deny any personal support of the Bank of the United States: "Wm C. Rives said at last count you was in favor of the bank which your vote proves to be force [sic], if I understand your Sentaments [sic] relative to the Bank question, you want the bank to go down and that they veto was all that was nesasry [sic] for the accomplishment of that end, and that you do not want the federal Executive to trample the constatution [sic] under his feet to gratafy [sic] his ambition." 

The advice Magan attempted to give to Cabell reflected the growing disaffection of middle and lower class farmers with gentry strong-arming. Cabell’s political career might be saved at the public poll, but he had both to address himself directly to the people, and forsake and deny his ties to the national movement for the centralization of capital and economic power. Flattering his patron (Magan had put himself down for five shares of Canal stock a few months previous) Cabell’s lingering pretensions to aristocratic republicanism, Magan wrote, "I have always been opposed [to] electioneering, bu Sir the times are such that every person that is a friend to Liberty ought to make some sacrifices to save the country from ruin." "As your competition and his friends are making desperate exertions,' he went on, "I think that it would be advisable for you to mix with the people and let them no [sic] your sentiments, as the Jackson men

146 William H. Cabell to Joseph Carrington Cabell, 30 March 1834.

147 James Magan to Joseph Carrington Cabell, 14 April 1834.
are misrepresenting your sentiments in every shape they possibly can ... now sir the only
way to counteract that affect [sic] is to go amongst the people and to go forthwith, before
the people pledge them to vote for Brown ..." 148 Other local supporters like William
Woods (five shares of Canal stock) and Thomas Penn (two shares), were soon deluging
Cabell with similar requests to hit every public meeting he could, as well as making
extensive and exhausting visits into every corner of the County to fight the populist
campaign being mounted against him.149 They quickly learned as well, that the old
method of politely converting the gentry, and relying upon them to impel their lesser
neighbors into voting the right way, was no longer acceptable in the political milieu
William Cabell Rives and Thomas Ritchie were creating in Virginia. John Cobbs was
forced to come around to Magan’s way of thinking, and asked Cabell, as the candidate
prepared to make the rounds visiting the voters, “Is there not some danger in passing
through a neighborhood and calling only on a few? Umbrage may be given to those
omitted, and the evil overbalance the benefit. The public meetings present no such
objection, and I hope all the musters will be attended by you and your friends.” 150

In the course of explaining to Cabell the political situation in Nelson County’s
various neighborhoods, the region’s Whigs revealed a good deal about the shape of
Jacksonian opposition to Cabell and the emerging political and economic order he

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148 James Magan to Joseph Carrington Cabell, 14 April 1834.

149See, for example, William Woods to Joseph Carrington Cabell, 19 April 1834,
and John Cobbs to Joseph Carrington Cabell, 19 April 1834.

150 John Cobbs to Joseph Carrington Cabell, 12 April 1834.
represented. Reports from the grain farms of the Rockfish Valley were initially encouraging, so much so that Cabell felt he might not have to visit at all.\footnote{John Cobbs to Joseph Carrington Cabell, 10 April 1834, and Cobbs to Cabell, 12 April 1834.} Thomas Penn and William Woods quickly disabused him of that notion, but insisted primarily that he personally visit the smaller farm neighborhoods along the upper forks of the river near the Blue Ridge.\footnote{William Woods to Joseph Carrington Cabell, 19 April 1834.} Yet opposition to Cabell was not universal among the petty cultivators of the mountains, nor confined to them, either. Small farmers might have opposed gentry attempts to draw them into the farming and finance of the capitalist agroecosystem, but many were too reliant on their patrons to defy them openly. From his Hatt Creek plantation, Dr. Thomas Massie wrote to Cabell that, “as far as I know you will be supported by those near me ... I have been concerting with a friend today and have a meeting on a Tye River before the election, where I have been when myself a candidate supported en masse.” “I will endeavour also,” he continued, “to employ a few trusty agents to scour the mountains, if I can now find the men, who gave me most effectual aid formerly.”\footnote{Dr. Thomas Massie to Joseph Carrington Cabell, 12 April 1834.} Dr. Massie’s assessment of the situation along the upper forks of the Tye was probably based upon the growing power of the family’s financial connections around Montebello. The mobility of mountain farmers might make former supporters difficult to track down, but the votes of the landowning members of the Coffey and Campbell clans would not be difficult to secure. Before David Tilford, Philip
Zink and the Hatters built grist- and corn mills along the North Fork of the Tye, these families relied entirely on the industrial and mercantile services provided by the Massies just down river. Furthermore, the impoverished hillside properties they owned, while obtaining the franchise for certain male family members, were not sufficient to support the clans in their entirety. Farms rented from the Massies, wage work performed for them, and bacon purchased from their meat houses were vital to their subsistence. They would likely not choose to oppose the wishes of their patrons openly at Lovingston Court House, limiting themselves instead to waiting until nightfall to tear down the Montebello fences and drive their mangy, half-starved cattle into William Massie's oats.

The most serious opposition, then, to Cabell's Whig campaign for the House of Delegates appears to have come from what John Cobbs referred to as, "the Bent Dutch Creek and the neighborhood of Warminster." Under the new model of entrepreneurial gentry politics, this analysis of the situation is particularly surprising. Warminster was the first settlement established in what became Nelson County by the original William Cabell all the way back in the mid-eighteenth century. Bent and Dutch Creeks feed into the Rockfish above Warminster, and the residents there would almost certainly have been within the commercial sphere of the localizing members of the Cabell clan. One might have expected them to dutifully support Joseph Carrington Cabell, but apparently years of living under the thumb of the family had grown grating, particularly in light of the new demands the Whig grandees were making on the financial independence of their

154 John Cobbs to Joseph Carrington Cabell, 10 April 1834, 12 April 1834, and 14 April 1834.
landowning neighbors. The breezy confidence Dr. Thomas Massie placed in the obedience of his neighbors around Hatt Creek and the Massie mills and stores appears to have been similarly misplaced. Late in the campaign, Mayo Cabell, among others, was insisting that wavering votes in the locality were in danger, and that, “to Tye and Piney River you should give your immediate attention.”155 Many of the small farmers of Hatt Creek, and the confluence of the Tye and the Piney around Roseland, were apparently prepared to turn an ear to Jacksonianism and reject the demands of the Massies.

Up to this point, of course, the contention that the Rives campaign was playing on popular resentment of local entrepreneurialism and its attendant politics, rather than solely national issues, has been difficult to nail down. Yet the importance of these matters was revealed when Robert Rives, Sr., sought to obtain more votes by turning publicly against Cabell’s political legacy, the James River Canal. The Canal was Cabell’s greatest public and personal venture, and he and his friends in the Nelson county gentry had brought out all of their influence within the county to squeeze finance and political support from small farmers, while working the General Assembly in Richmond for massive state funding (and resultant higher taxes) for the Canal and associated capitalist projects. Cabell and his friends soon recognized that the campaign against him in Nelson was also turning into a campaign against the Canal itself. Cabell’s cousin Nathaniel Francis wrote to him from Richmond: “Meanwhile I hope you will not be idle. You see what a faithless set we have to deal with. God grant, that all your toils in behalf of the great object for which you have so long laboured, may not prove worse than in

155Mayo Cabell to Joseph Carrington Cabell, 20 April 1834.
vain." During the last weeks of campaigning, Rives, Sr., who had promised to invest over five thousand dollars in Canal stock, announced to his followers at Variety Mills—and to anyone else who would listen—that he intended withdrawing his subscription, and urged anyone who would follow him to do so as well. Understanding the minds of the kind of voters for whom Rives was making a play, James Magan wrote to Cabell that, "My friend Doct Nathaniel R. Powell ... heard from old mr Rives intended withdrawing his stock from the James River company, which if it be a fact, is I have no doubt intended to operate on the election, for you no [sic] that there is a certain [sic] class of people that that would take well with." In a speech Cabell planned to give at Lovingston on the day of the election, he expected to open not with a discussion of the Bank, or of Rives, but with a lengthy and involved defense of the James River Canal.158

That class of people glad to hear a man as eminent as the patriarch of the Rives family stabbing the James River Canal project in the back were local farmers concerned about the effect the canal would have on their attempts to keep their heads above water by following a path of popular republicanism—traditional intensification and frontier cultivation. In the speech notes Cabell made for himself, he identified one of the prime objections to the Canal as being that its result for ordinary farmers would be, "Glutted

156 Nathaniel Francis Cabell to Joseph Carrington Cabell, 30 March 1834.
157 James Magan to Joseph Carrington Cabell, 14 April 1834.
markets from the coming in of the produce of the West."\textsuperscript{159} For well-capitalized
entrepreneurial planters, increasing competition was not the problem. With their
restored soils, well-established rotations, improved machinery and livestock, they had
little to worry about from the primitive farms of mountain communities west and south
of Lynchburg who would be connected to Richmond and Norfolk by a completed James
River Canal. They had the capital necessary to compete and prosper in growing
agricultural markets dominated by modernized, reformed cultivation. For farmers
attempting to maintain their independence by investing more labor (and less capital) in
smaller pieces of ecologically impoverished land, western competition was a serious
problem. Fresh soils, once connected to cheap transportation and international markets,
would quickly provide returns so great as to bankrupt those unwilling to go into even
greater debt to invest in soil maintenance, restoration, and crop and livestock
improvement. 'Keep the undisturbed ecosystems of the West isolated,' traditional
intensifiers might have reasoned, 'or at least keep them isolated until we can sell out and
move there ourselves.'

During the election, Cabell appears to have stuck to his Whig principles, and
defeated Brown, albeit very narrowly. And while the elder Mr. Rives persisted in his
refusal to fulfill his subscription to the Canal Company,\textsuperscript{160} Jacksonian Democracy was
stillborn in Nelson County. To be sure, the style of gentry-dominated politics inherited
from the eighteenth century might have come under attack from popular democracy and

\textsuperscript{159}Ibid.

\textsuperscript{160}Joseph Carrington Cabell to John Hartwell Cocke, 26 August 1834.
issue-based campaigns. Yet the growing complexity of the local economy being built by the localizing gentry and modernizing planters gave the economic leaders of rural communities a kind of coercive power over their lesser neighbors they had not possessed since their domination of the land distribution system during the previous century.

Furthermore, the Rives clan quickly came around on the political questions at issue, depriving Nelson County Democrats of the kind of elite leadership which proved so vital in other regions. While Cabell resigned from the House of Delegates to concentrate on running the James River & Kanawha Company, and Democrat Floyd Whitehead won the Nelson County Assembly seat in the Jacksonian sweep of the state the next year, Nelson was well on the way toward becoming William Massie's, "strong little Whig county." 161

William Cabell Rives, of course, would soon be rejecting the anti-capitalist politics of the national Democratic party. In Nelson, Alexander Brown's political star continued to rise, despite his defeat in 1834. By 1838 he was elected to the House of Delegates, but this time as a Whig, and with the full support of the local gentry who had supported Cabell four years earlier. The next year he stepped aside for a term, and supported neo-Federalist William Massie in the latter's successful campaign for his single spell in statewide office. 162 As the entrepreneurial gentry in rural communities like the Tye Valley closed ranks against anti-capitalist political economy during the early 1840s, the Virginia Jacksonians moved on to the more fertile issues of western expansion and pro-slavery.

161 William Massie to Henry Clay, April 24, 1850.

162 See Chapter Five, note 102.
Yet the resistance to capitalist centralization offered by the yeoman farmers and small slaveholders of eastern Virginia was not without effect on the state’s politics. They could not call a complete halt to the spread of free banking, soft money, internal improvements, fence laws, and the various other measures being advocated to modernize the Virginia landscape and agricultural economy. Yet their opposition, combined with the republican and democratic rhetoric on which they were able to call slowed down the development of these institutions considerably. Popular politicians like William Cabell Rives might support banking institutions and internal improvements, but only those controlled and funded locally. Virginia supporters of Henry Clay’s nationalist American System for government-sponsored economic development had to hedge their proposals at every turn, while jealous advocates of sectional projects were provided with a powerful rhetoric. Even after its charter, the James River and Kanawha Company was under continual attack in the press and the legislature. Construction was painfully slow, and Cabell had finally to face down a legislative review of the Company’s allegedly high-handed administration before resigning in 1846. As a result of these obstructions, the development of a capitalist political economy was considerably slowed within Virginia, and the state’s competitive position in relation to the Northeast suffered as a result.

That loss of competitive position was felt keenly among elite Virginians throughout the antebellum era. Agricultural reformers in particular could not escape the

163 See Dunaway, History of the James River and Kanawha Company, passim, for the role of political opposition to the Canal in slowing its progress.
fact that the Old Dominion, which had been the nation's dominant agricultural state during its first decades, had ceded that position to New York and Pennsylvania, and was losing ground to the states in the trans-Appalachian west. Yet attributing Virginia's inability to modernize its farming to failures of will and imagination among its economic leaders seems very unfair. As noted in Chapters Four and Five, entrepreneurs throughout the rural sections of eastern Virginia, as in the Tye Valley in particular, took the lead after 1830 in adopting techniques of high farming, building the commercial, financial, and political institutions needed to sustain them, and in incorporating large segments of the agricultural population into the movement. Instead, many of the holes in the capitalist agroecosystem must be blamed on the resistance it encountered among many rural cultivators of more moderate means and less modern ambitions. The relative gap between the agricultural prosperity of Virginia and that of other farming regions was caused by focused resistance to the capitalist ambitions of many among eastern Virginia's gentry. In the first place, per-acre yields achieved by many of Virginia's entrepreneurial farmers rivaled those obtained elsewhere. Yet the techniques of traditional intensification still being used by many cultivators lowered the gross farm productivity of the state. The inability – or unwillingness – of many small planters to take the steps of investment and modernization needed to profitably produce large harvests for competitive markets worked to hinder both the development of capital within rural Virginia and the ability of the Old Dominion to attract it from outside.

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164 On the rapid improvements in tidewater lands brought about through entrepreneurial intensification, see Mathew, Edmund Ruffin and the Crisis of Slavery, 95-99, 106-107.
Lower profits being generated for reinvestment meant that the growth of rural finance remained stunted, and independent country banks did not begin seriously to develop in the state until the 1850s.\textsuperscript{165} Lowered incomes and lessened demand for rural credit meant that rural politicians like Joseph Carrington Cabell had continually to attract investment to their neighborhoods by political means when the lending market looked so unattractive on its own terms. Resisting farmers slowed attempts to generate that political support as well. Popular rural republicanism diluted attempts by entrepreneurial agriculturalists to modernize Virginia’s political economy. As a result, for all the state’s famed financial solvency, it fell far behind its competitors in terms of the incentives it offered to capitalist development.\textsuperscript{166} Finally, resistance to the entrepreneurial, capitalist agroecosystem in rural Virginia dramatically slowed the progress of either market- or politically-coordinated landscape management. The rural gentry of antebellum eastern Virginia inherited from their grandfathers and great-grandfathers ownership of the most fertile and sustainable agroecosystems for staple crop cultivation. Yet their attempts to expand upon that control in order to effect a more thoroughgoing transformation of their state’s agroecosystem, whether by legal, political, or economic means, were often thwarted. As a result, for all of the successes of evangelical agricultural reform, the landscape of eastern Virginia remained pitted (in the eyes of men like Edmund Ruffin or the Whig elite of Nelson and Amherst Counties) with excellent properties underutilized

\textsuperscript{165}For discussion of these issues, see in particular, Royall, \textit{A History of Virginia Banks and Banking}, as well as Starnes, “A History of Banking in Virginia prior to 1860,” and, DeGruchy, “The Supervision and Control of State Banks in Virginia.”

\textsuperscript{166}See Goodrich, “The Virginia System of Mixed Enterprise.”
and poor lands over-farmed. What was, in the belief of many small, republican
cultivators, a landscape that sustained manly independence was to agricultural reformers
a machine grinding down from its own friction, as land, labor, and capital were ill-fitted
both by conspicuously misguided human design.
CHAPTER VII

THE UNCERTAIN FULFILLMENT OF THE TYE RIVER VALLEY'S CAPITALIST AGROECOSYSTEM, 1850-1860

Despite the often vigorous resistance which middle and lower class farmers had made against the incorporation of their lands, their labor, and their finances into the entrepreneurial agroecosystem and the whiggish program of capitalist development during the first half of the nineteenth century, the last antebellum decade was marked by a dramatic escalation of the pace of the transformation of the Tye Valley's landscape. A decade of high crop prices enticed more and more of the region's farmers into heavy investments in intensified cultivation in the hopes of obtaining large returns from commercial crop production. The localizing gentry in particular benefitted from this process, and from the lucrative markets which both supported and rewarded it. Families like the Massies, Riveses, Cabells, and others in the neighborhood were able to stabilize their personal and family finances while continuing to pursue further economic development. Observing decades of patient investment being finally rewarded, and decades of ministry at last bearing fruit, Virginia's agricultural reformers abandoned wintry jeremiads for Easter jubilees as they began declaring victory in their long battle to modernize the state's farming.

Yet even as the wagon of their hopes seemed finally to be rolling down the other
side of the hill up which they had been toiling, the gentry of the upper piedmont would discover the flaws in their plans for maintaining the prosperity, independence, and dominance of their class. In the first place, many elements of the pre-entrepreneurial ecosystem, while clearly ailing during the decade before the Civil War, proved remarkably difficult to kill. The alliance of the frontier agroecosystem and its traditional intensification with popular republicanism continued to haunt attempts to draw ordinary white farmers into the disciplined hierarchies of a modern rural economy. Nor were the entrepreneurial gentry themselves immune from the Old Dominion’s lingering colonial conservatism. Upper class families like William Massie’s continued to struggle with their desire to reproduce a rural social order presided over by large plantations and big houses. This desire resulted in divided estates and capital diverted from agricultural improvement into static expansion of the kin group’s land base. In the second place—and perhaps more disturbingly from the point of view of the Tye Valley’s conservative capitalists—the course of economic development began siphoning financial and commercial power out of their hands during the 1850s. The hope that rural entrepreneurialism would create an economy and a landscape even more firmly under the control of the traditional leaders of the community began to wither. The centralization of capital which the localizing gentry had initiated in the hopes of rebuilding their financial status in fact left them just as vulnerable to outside economic interests as their revolutionary grandfathers had felt toward outside political forces. By 1860, the Tye Valley increasingly resembled the tamed, developed, fertile, and productive landscape envisioned and idealized by farm reformers and rural capitalists. Yet the sustainability of
the capitalist agroecosystem remained in doubt while these men lacked the power to fully implement their social, economic, and ecological vision.

The Boom Years in Virginia.

It is important to point out that the Civil War did not emerge out of unease over an uncertain future – in fact, the United States entered the 1860s riding an unprecedented wave of national prosperity. Crop prices had languished barely above (and sometimes below) the break-even point for years after the Panic of 1837 had turned into a full-fledged depression. Yet late in the 1840s, prices for the nation’s key agricultural products shot up across the board, and remained high until the brief interruption occasioned by the Panic of 1857. Furthermore, this tide of rural prosperity seemed not in the least bit hindered by the ability of the country’s rapidly expanding and modernizing farm sector to saturate crop markets with increased commercial production. High cotton prices, for example, withstood a massive escalation of cultivation, as planter gentry, slaves, and yeoman farmers charged across the Mississippi River and dug up the fertile soils of northern Louisiana, Arkansas, and Texas. Other farm products such as hard grains, tobacco, and livestock had a similar, if more muted, experience.¹ Nor was this good fortune limited to the agricultural economy, which would have left the nation still a colonial dependent of industrial Britain. In fact, profits from the American farm sector were sufficient to feed a wave of investment in transportation improvement and

¹For national prices of key staples in the late antebellum era, see Gray, History of Southern Agriculture, 682, 765, or North, The Economic Growth of the United States, 219-291, passim.
industrial development which kicked off the nation’s remarkable urbanization over the next century.²

Yet the impact on Virginia of this mid-nineteenth-century boom has often been ignored. Historians understandably drawn to the vision of cotton farming engulfing the southern frontier, or to the transformation of the landscape of the upper Mississippi Valley made by modern grain farming, have tended to overlook the Old Dominion’s economic development during these years. Assorted agricultural and economic historians have described Civil War-era Virginia as a state left behind by a dynamic economy in which it lacked the capital, soil fertility, or mental outlook to participate.³

Yet numerous researchers who have considered the issue more closely – and particularly those who compared Virginia of the 1850s to the early national Old Dominion, rather than the nation as a whole – have pointed out the potent impact runaway prosperity in fact had on the state’s economy, society, and politics. Much has been made, of course, of the high cotton prices which withstood the Panic of 1857 and emboldened the political leaders of the cotton belt both in their willingness to play political hardball over national frontier policy, and in their belief that the South could go it alone when that strategy failed.⁴ Yet eastern Virginia’s reluctant rebelliousness cannot

²For the role of agricultural profits in stimulation national investment in manufacturing, see North, The Economic Growth of the United States, 101-121.

³For the classic analysis of antebellum Virginia’s supposed economic and cultural malaise, see Virginius Dabney, Virginia: The New Dominion, (Garden City, NY: Doubleday, 1971), 275-283.

⁴See, for a particular example, James L. Huston, “The Panic of 1857, Southern Economic Thought, and the Patriarchal Defense of Slavery,” Historian, 46(1984), 163-
be traced to its disassociation from the high prices brought by King Cotton, with whose rule the piedmont had briefly flirted during the 1810s and 1820s, but ultimately rejected. Eastern Virginia, in fact, also saw its traditional staples surge in price during the decade before the Civil War. Wheat, of course, followed the national and international trend, recovering from the depression early in the 1850's, surging to historic heights during the middle of the decade, and was checked only moderately by the Panic of 1857. Beef and pork prices, which had been steadily declining in the state across the early nineteenth century before reaching a nadir early in the 1840s, rebounded convincingly and steadily during the next decade. Even Indian corn saw a muted but stable increase in prices during the decade before the Civil War.5

Most intriguingly, tobacco, the Old Dominion's oft-maligned eighteenth-century staple, staged a remarkable comeback across the 1850s. Coming out of a thirty-year depression only briefly interrupted by an ill-fated speculative boom during the mid-1830s, prices for flue-cured dark tobacco improved consistently across the last years before the Civil War.6 Richmond-based factors like John Jones & Company, who used their national and international contacts to collect the market information which shaped the planting choices of piedmont farmers, encouraged the trend. Letters pouring out to piedmont farmers during the 1840s attempted to restrain them from burdening the urban

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5Peterson, Historical Study of Prices, 72-216, passim.

6See Peterson, Historical Study of Prices, 101, or Robert, Tobacco Kingdom, 133, for detailed price listings for antebellum Virginia tobacco.
wholesalers with unprofitable weed. Yet when prices staged a rebound in late 1848, and
soon the commission merchants had reversed the fad, begging prominent planters like
William Massie to grow more tobacco, and to encourage their neighbors to follow their
example. Yet, like cotton, the production increases encouraged by firms like John
Jones' did not strangle the upward trend in prices by flooding the market. Even when
astonishingly high tobacco auction prices holding steady through the late 1850s prompted
piedmont farmers to plant and harvest Virginia's greatest antebellum crop of tobacco in
1859, the resultant deflation still left tobacco prices fifty to sixty percent higher than they
had been during the hard years of the 1840s. Tobacco, which, among farm reformers,
had come under even more opprobrium than out-migration in preceding decades,
prospered so much that it discovered numerous public defenders, who joined in a spirited
debate in the 1859 volume of the Southern Planter, challenging the supposed futility of
integrating the weed into systems of improved farming. Tobacco was so strong during
these years, that even Massie, who had followed John Taylor of Caroline's venerable
conviction that tobacco was, "not admissible into any good system of agriculture," and
largely abandoned the weed in favor of wheat, pork, and multicole rye, joined the craze

7For the attempts of tobacco factors to discourage production in the 1840s, see
Robert, Tobacco Kingdom, 142-154. For their attempts to revive it, see John Jones &
Company to William Massie, 4 March 1850.

8Peterson, Historical Study of Prices, 101, Robert, Tobacco Kingdom, 132-133;
and for the tobacco crop of 1859, see Robert, 155-157.

9See the discussion of the role of tobacco in rotation farming, and the late
antebellum debate over it, below.

10Taylor of Caroline, Arator, 157.
and was one of the Tye Valley's largest tobacco producers during 1859.¹¹

The agricultural prosperity of the 1850s decisively reversed what the state’s leaders had perceived as Virginia's long economic and social decline. In particular, agricultural reformers were ecstatic to observe that massive emigration, which had done so much to drain the state of labor and capital, had come to a rather abrupt end, and that Virginia's population was once again rising.¹² This development was mirrored in the Tye Valley, where annual tabulations of Amherst and Nelson's slave population revealed a largely static labor force during most of the 1840s suddenly and dramatically rising as prosperity returned early in the next decade.¹³ In fact, high crop prices, combined with relatively cheap land, began drawing significant numbers of agricultural colonists from the North into Virginia. And while the Old Dominion's advocates of farm modernization

¹¹Eighth Census of the United States (1860), Manuscript Schedules for Agriculture, Nelson County (Va.). All further textual references to farm size and agricultural production will be drawn from this census, and the same schedules for the Seventh (1850) census, for both Nelson and Amherst.

¹²In contrast, for example, to South Carolina, which was still heavily dependent on cotton farmed under the older, extensive methods. See Tommy W. Rogers, “The Great Population Exodus from South Carolina, 1850-1860.” South Carolina Historical Magazine 68(1967): 14-21.

¹³I have estimated the year-by-year population and labor supply of the Tye River Valley from tabulations of slave population included with the Nelson and Amherst Property Tax Lists. While slave population would likely have been slightly more sensitive to commercial fluctuations than free population, it is valuable for understanding general trends. Population growth in the region tended to stagnate during periods of low crop prices, and then increase again dramatically during flush times. This was particularly true of the 1850s. Again, this contrasts interestingly with areas of the Deep South, where high crop prices tended to drive farmers into the interior, hoping to take advantage of land speculation opportunities and high yields from fresh soils. The population of the Virginia piedmont appears, in contrast, to have been responding to the ability of prosperity both to expand and diversify the state's economy.
and gentry rule were never entirely ecstatic about this nascent Yankee invasion, they were quite pleased to note that these cultivators needed little instruction in the virtues of heavy investment in intensified agriculture.\(^{14}\)

With an increasing population to provide labor, and consistently high crop prices to provide incentive, Virginia's farmers also created a large, across-the-board increase in the state's gross farm production. Evidence from the agricultural census strongly suggests that Frederick Law Olmsted's desire to condemn the inefficiencies of slavery blinded him to the steadily growing number of prosperous farms dotting the eastern Virginia countryside when he passed through the region during the 1850s. The landscape of depopulation and decay which Olmsted had described could hardly have been the same farm country which had apparently decisively arrested Virginia's relative agricultural decline. In the early 1950s, Emmett Fields produced a detailed account of Virginia's agricultural development between the seventh and eighth agricultural censuses. Fields' study emphasized that the Old Dominion's farm population on the eve of the Civil War was not nearly so marked by class divisions as Olmsted and others might have assumed. Yet filtering through the detailed statistical outline of a relatively egalitarian agricultural sector is a story of an economy in a state of rapid commercialization and development. Production of all kinds of crops and livestock were rising dramatically, as were their unit values, and farmers both small and large were


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heading further down the road toward a diversification of commercial crops. Some of
the increases between the 1849 and 1859 crop years can certainly be written down to the
production gap between the former (a poor year) and the latter (a very good one). Yet
scholars who have criticized such comparative work tend to focus on extraordinarily high
reported yields of staple crops like cotton or tobacco, which reflect as much the high
prices of the late 1850s leading to increased levels of cultivation as they do good
weather. Staple production jumped much higher between 1849 and 1859 than did
marginal or non-commercial crops, and those increases, as well as other dramatic shifts
of agricultural emphasis such as the expansion of pork production in the central
Piedmont and Southside reveal the rapid development of Virginia’s rural economy
during the decade before the War.

Fields noted another interesting phenomenon as well – the sudden emergence of a
large truck farming industry in the lower tidewater and along the rail lines of the
piedmont. By 1860, fruits and vegetables grown in the counties around Norfolk and
shipped north, or along the Orange & Alexandria Railroad and transported to the growing
markets of Washington, Baltimore, and Philadelphia, occupied an important place in the
commercial farming of Virginia after having been almost completely absent twenty, or


16 See Donald F. Schaefer, “The Effect of the 1859 Crop Year upon Relative
851-865.

17 Fields, “The Agricultural Population of Virginia,” 69-78, discusses the tobacco
revival, although he chooses to emphasize the continued vibrance of diversified
agriculture.
even ten, years before.\textsuperscript{18} The advent of Virginia truck farming, and especially the ability and willingness many of the Old Dominion’s farmers to make the investment necessary to pursue one of the most intensive brands of agriculture in the modern world, hinted at another, even more important, point pertaining to the boom years of the 1850s. Unlike the deep South, where extremely high cotton prices dragged capital and labor out of economic diversification and development and reinforced the region’s staple-crop economy, high tobacco and grain prices in Virginia contributed instead to a dynamic brand of growth. Virginia’s late antebellum economy was not re-colonialized, but in fact marked by industrialization, urbanization, and transportation development.\textsuperscript{19}

Most noticeably, the state’s transportation networks, which had languished far behind northern improvements during the 1830s and 1840s, began to catch up rapidly. Construction of the James River & Kanawha Canal, for which Joseph Carrington Cabell had spent so much of his political clout and personal prestige, advanced slowly past Lynchburg and over the Blue Ridge into the Shenandoah Valley during the late 1840s and early 1850s.\textsuperscript{20} Yet its high construction costs and limited flexibility caused it to be superseded by the state’s expanding railroad system, which exhibited dramatic progress in the ten years before the Civil War. In 1850, at the end of the decade-long depression

\textsuperscript{18}Fields, “The Agricultural Population of Virginia,” 54-60.

\textsuperscript{19}For the rapid economic development of later antebellum Virginia, see Shade, Democratizing the Old Dominion, 30-43, and Schlotterbeck, “Plantation and Farm,” 301-319, for a closer discussion of economic and agricultural evolution in the western piedmont.

\textsuperscript{20}For a discussion of the James River & Kanawha Company’s policies during the 1850s, see Dunaway, History of the James River and Kanawha Company, 163-204.
which had severely limited economic development in Virginia, the rural piedmont was barely connected to Richmond by small lines running from the capital to Fredericksburg and Charlottesville, while the Valley was only served by a line from Baltimore that terminated in Winchester. By 1860, however, a crucial route had been completed linking Tennessee and the Great Valley through Lynchburg to Petersburg and Norfolk, while the Orange & Alexandria Railroad had connected Lynchburg and the southern line with Washington, Baltimore, and other northern markets. A smaller rail line had also been extended from Charlottesville across Rockfish Gap to Staunton, the Upper Shenandoah Valley, and points further west. All of these lines were supplemented by an expanding network of improved toll roads which fanned out from the larger towns, while county governments spent a great deal of time and money improving their own roads during this period.

In Nelson County, for example, both William Massie and Nathaniel Francis Cabell took time to serve on the road commission during the mid- to late-1850s,

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supervising a thorough, complex, and often contentious refurbishing and expansion of the county’s roads in anticipation of the imminent extension of the Orange & Alexandria through the Tye Valley from Charlottesville to Lynchburg. The presence on this rather minor local government board of Nelson’s two most prominent late antebellum citizens – making it by far the most exalted road commission since the county’s founding – indicates the importance which capitalist farmers attached to successful transportation improvement.23 If Virginia’s somewhat belated version of the transportation revolution24 did not quite accomplish the original dream of the proponents of the James River Canal – drawing the whole commerce of the trans-Appalachian west across the mountains to Richmond – then at least mountain isolation had been ended, and the piedmont brought decisively within the kind of shipping network needed to sustain a definitive move beyond staple crop farming into diversified commercial agriculture.25 While the hinterlands of the port of Norfolk developed the most truck farming during the 1850s, intensive fruit and vegetable cultivation was beginning to move down the Orange & Alexandria Railroad toward the Tye Valley (which it would reach after the Civil War, 23See, for example, William Massie to Robert Thruston Hubard, 7 May 1855, or Massie to James S. Penn, 30 June 1855.

24For a general discussion of the ‘transportation revolution’, see Taylor, The Transportation Revolution.

25For the original ambitions of the founders of the James River Canal Company to extend the project to the Ohio River, see Dunaway, History of the James River and Kanawha Company, 9-21. For the impact of the canal and other transportation improvements on the commercial development of the Appalachians, see Dunaway, First American Frontier, 195-223, passim, and Noe, Southwest Virginia’s Railroad, especially 11-84, passim.
making Albermarle Pippin apples internationally famous and turning Pharsalia into a twentieth-century fruit farm) as well as into the Shenandoah Valley.26

These transport developments also fed into a conspicuous industrialization of eastern Virginia during the last decades before the War. Richmond's Tredegar Iron Works, of course, remained the largest iron foundry in the South, and continued to expand production as the state capital was better connected with neighboring regions.27 Smaller foundries sprung up in other cities such as Petersburg, while country operations up and down the Blue Ridge continued to grow as well.28 Expanding cereal grain production in the Valley and Northern piedmont, as well as the connection of the Southern Railway with Tennessee lines at Bristol late in the decade, fed the development of industrial gristmills in Richmond, including Rutherfoord, Dunlop, and especially Gallego, reputedly the largest flour milling operation in the nation in 1860.29 Even more importantly, as national tobacco tastes moved from pipe and snuff to chew, which


demanded careful cutting and flavoring, tobacco manufacturing took on an increased importance in the processing of the weed. With its transport network and developing capital base, Virginia entrepreneurs were able to monopolize much of the region's production as tobacco manufacturing moved off the plantation during the 1830s and 1840s. By the Civil War, Danville, Lynchburg, Petersburg, and Richmond had all built up sizeable industrial sectors dominated by large tobacco factories.30

These booms in industry and agriculture were financed by a stable, but rapidly developing, financial system. As agricultural, and soon industrial, prosperity returned late in the 1840s, the state legislature embarked on a new expansion of the state's chartered banking. The legal capitalization of the three major state-chartered banks, the Bank of Virginia, the Farmer's Bank of Virginia, and the Exchange Bank of Virginia, were all dramatically expanded, and branches of these concerns were opened in various rural towns. In addition, a number of independent banks were also opened in rural communities. Wealthier Tye Valley residents could either bank in the branches maintained by the 'Big Three' in Lynchburg, or simply invest in the smaller bank opened in 1854 in the nearby Nelson County river town of Howardsville. While Virginia remained cautious in its banking policy, it possessed an expanding financial structure,

30Early manufacturing of tobacco into flavored chewing leaf appears to have been developed by major rural planters on their own farms. For the growth of Richmond's tobacco manufacturing, see Robert, Tobacco Kingdom, 165-170, 187-196. In 1853, standing on a hill outside of the town, Frederick Law Olmsted could only dimly perceive the city center, "through a dull cloud of bituminous smoke," Olmsted, Journey through the Seaboard Slave States, 21.
and *de facto* free banking on the eve of the Civil War.\(^{31}\)

These industrial and financial developments had considerable multiplier effects, and while much of the prosperity of the decade made its way into the farm regions of Virginia, the state swiftly urbanized during these years as well. Mercantile concerns proliferated and prospered, and by 1860, Virginia’s urban population was surpassed within the South only by Maryland and Louisiana, both of whom boasted long-developed port cities. Of particular interest, while agricultural prosperity during the 1850s slowed (but by no means halted) rates of southern urban growth during that decade, Virginia was one of the few states south of the Mason-Dixon line in fact to expand its rate of urban development – no minor feat given that Virginia’s cities had to compete with Baltimore and Cincinnati for the trade of considerable portions of their own state.\(^{32}\) Opportunity was so great within Virginia’s urban economy during the 1850s that enough new men rose to mercantile and industrial prominence for historians to have hypothesized a shift in power from the plantation gentry to an urban commercial class with distinct cultural values.\(^{33}\) Yet a noteworthy group of planters and public banking institutions invested

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\(^{32}\)On the rapid urbanization of antebellum Virginia, and particular comparisons to other regions of the South, see Goldfield, *Urban Growth in an Age of Sectionalism*, xii-xiii. See also Armstrong, “Urban Vision in Virginia,” 331-336, 409-433.

\(^{33}\)See, for example, Shade, *Democratizing the Old Dominion*, 159-160, 174-179.
heavily in all these ventures. More than a few plantation owners left their country farms to their overseers and moved to town to manage their investments, and remained the guiding force in the state’s economic development. These ‘new men,’ for their part, frequently followed the pattern of Lynchburg’s Elijah Fletcher, and used profits to make more stable investments in rural estates. Intermarriage between the two groups left Virginia’s entrepreneurial class largely undivided, albeit considerably diversified in its background and portfolios, as the War approached.

Furthermore, while the ranks of the Virginia elite broadened and their outlook became much more dynamic in response to rapid economic growth during the 1850s, the lower ranks of the social and economic ladder underwent a similar maturation. Of particular note was the steady development within Virginia of a working labor market capable of responding to a changing economy. Many economic historians considering the relative underdevelopment of the slave South, have noted in particular the inflexibility of the region’s labor market. High slave prices supposedly combined with

34For the involvement of the plantation aristocracy in industrial development across the South, see Fred Bateman, James D. Foust, and Thomas Weiss. “The Participation of Planters in Manufacturing in the Antebellum South.” Agricultural History 48(1974): 277-297, and Bateman and Weiss, A Deplorable Scarcity, 121-127. Bateman and his colleagues, while not fully endorsing the image of the plantation gentry as ‘irrational’ pre-capitalists, do argue that they remained quite conservative in their investment strategies, and were notoriously slow in transferring capital from agriculture to manufacturing. Virginia was among the southern leaders in planter participation in industrial development, but the point is well taken. The ease with which many planters adapted themselves and their politics to the development of an urban-industrial economy, and the zeal with which a sizeable number of Virginia plantation owners involved themselves in such ventures, hints that even more allowance for their entrepreneurial spirit needs to be made. For planter involvement in the development of rural and small-town tobacco manufacturing, for example, see Robert, Tobacco Kingdom, 175-181.
gentry conservatism to keep slaves bound to often unprofitable agricultural labor. Lower class whites were so keen to pursue family farming and independent land ownership that they refused possibly remunerative opportunities for day labor. As a result, the southern economy was glacially slow in transferring workers into dynamic new economic ventures, particularly in the urban-industrial sector. And whenever farm prices rose again, any movement beyond the plantation and farm economy was strangled as workers - willing and unwilling - rushed back to the fields.  

To be sure, there is considerable validity in this analysis when one considers the cotton frontier during the late antebellum era. Commercial and industrial investment in the region, which had made considerable strides during the depression years of the 1840s, had to be placed on life support when cotton prices rose again during the next decade. By 1860, the labor systems of family farming for non-slaveholding whites, and plantation slavery for black southerners, were, in the Deep South, as firmly established as ever. Yet, in Virginia, the boom years in fact witnessed the expansion of a dynamic labor market to support its growing commercial and industrial enterprises. Large groups of lifelong industrial laborers emerged in the urban centers of arch-republican Virginia.  

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36See Bateman and Weiss, A Deplorable Scarcity, 121-127, for the pull of plantation agriculture on planter capital in the late antebellum South.

37On urban workers in antebellum Richmond, see Gregg Kimball, "Place and Perception: Richmond in Late Antebellum America," (Ph.D. diss., University of Virginia, 1997).
As noted in earlier chapters, many poor farmers and tenants struggling to make ends meet on small pieces of marginal agricultural land supplemented their income with day labor on the intensifying capitalist farms of their wealthier neighbors—even in comparatively remote regions like the Tye Valley. William Massie’s receipts and accounts, for example, are filled with notations concerning the work performed by the male members of various poor white families.38

Even more significantly, the supposed rigidity southern slave management was considerably softened in the Old Dominion as a vigorous system of slave hiring arose in both rural and urban economies. Richmond’s tobacco factories, iron works, and flour mills, as well as its many smaller commercial and craft ventures, hired thousands of slaves on annual contracts from urban and rural owners. Similar urban hiring markets emerged on a smaller scale in the other cities of the state. Hired slaves frequently lived separately from their owners, and congregated in run-down dwellings in what were rapidly becoming predominantly black neighborhoods. There they lived a daily life of remarkable freedom—despite their increasingly nominal legal status as chattel.39 Slave hiring also went on in rural areas,40 as intensifying planters such as William Massie

38See the annual accounts compiled in Refsell, “The Massies of Virginia.”


sought temporarily to augment their labor forces with hires from other plantations, or from the many widows and urban professionals who owned slaves but were either unable or unwilling to establish their own farms. Modernizing farmers soon got a taste of just how effective the hiring market would become: Massie, for example, had difficulty hiring slaves for his plantations during the 1840s because of competition from high-paying employers on the James River Canal, and in various regional iron works, who were sucking up the available surplus labor of the western piedmont. During the 1850s, moreover, despite high crop prices which one would expect to have diminished the willingness of planters to hire out their slaves, thereby sucking labor back into the countryside, the urban hiring market in fact expanded significantly.

The hiring market seems in many ways to have been — in Virginia, at least — a representative case of social practice outrunning culture and ideology. White Virginians responded to the booming slave hire market of the 1850s with an explosion of fear and anger over the increasing *de facto* freedom of urban blacks. Yet despite the editorials, public demonstrations, petitions, and civic regulations aimed supposedly at restoring the former rigidity of slave management practice, little of practical import was done to end the hiring system which was becoming so vital to the state’s economic development. In

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41 See, for example, D. Graham to William Massie, 15 December 1840, or John Jones to William Massie, 1 January 1849.

42 For the expansion of the slave hiring system in urban Virginia during the 1850s, see Takagi, “Slavery in Richmond, Virginia,” 186-190.

43 In the fashion typical of antebellum Virginia, rigid regulations were passed by local governments, which were subsequently honored almost solely in the breach. See Takagi, “Slavery in Richmond, Virginia,” 242-269, passim, and Kimball and Tyler-
the end, all the noise generated over what men like Joseph Carrington Cabell had felt was the growing practical freedom of blacks in a capitalist economy did not reflect a traditional society returning to fundamentals, but instead provides powerful evidence for just how dynamic the Virginia economy became during the 1850s – the slave system itself was being transformed by prosperity, both urban and rural.

The benefits which this dynamic growth brought to the agricultural sector gave particular confidence to the state’s farm reformers, who were, in fact, eager to reject John Taylor of Caroline’s legacy of strict agrarianism. Urban-industrial development within Virginia, and in the nation at large, appeared to hold out the possibility that the higher crop prices of the 1850s would be more than a repeat of the dangerous and ultimately disastrous speculative outbursts of the late 1810s and 1830s. In the minds of many farm reformers, concrete expansion of markets for Virginia produce meant a permanent rise in prices which would sustain agricultural prosperity on a permanent basis. In 1854 Virginia politician William Ballard Preston advised one of the earliest meetings of the state-wide agricultural society, “Diversify your occupation as you diversify your crops for security and profit. Bring the agriculturalist, the mechanic, the manufacturer, side by side, and increase the profits on the labor of all.”^44 Two years later, Charles Moncure, the outgoing president of the United Farmer’s Club of Orange, Culpeper, and Madison counties, echoed Preston’s sentiments about a diversified

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economy, concluding more concretely that, "As you stimulate commerce, you increase the population of the towns, abstract from the productive power of the producing districts, and in a two-fold ratio, increase the demand for bread." From this development and diversification of the regional and national economy, Moncure promised that Virginia farmers could, "expect better prices for our staples, in all time to come."  

As suggested by the high spirits of men like Preston and Moncure, the confidence inspired by high prices spilled over into the cause of agricultural improvement. While crop prices remained depressed, or at best unstable, even farmers possessing abundant land, labor, and capital remained reluctant to make long-term investments in intensification. Preston bluntly explained the problem early nineteenth-century Virginia farm managers had faced: "The improvement of a farm, or any general improvement in the agriculture of a country, is the result of long, patient, persevering attention and labor. It cannot be accomplished in one year or in two, or to any great extent in a single generation ... No improvements ... nothing permanent, nothing durable, nothing that did not promise immediate returns was undertaken."  "We farmers of Virginia have been toiling for many years," Moncure reflected with a cautious

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46 Although the significance of the often-formulaic agricultural society addresses has been questioned, recent scholars have defended their importance in uncovering the mental world of southern planters. See, in particular, Drew Gilpin Faust, "The Rhetoric and Ritual of Agriculture in Antebellum South Carolina," Journal of Southern History, 45(1979), 541-568.

satisfaction, “without receiving our proper reward, until within some short time since. The present prices are abundant [enough] to afford such encouragement to our profession, as under good management, to insure the happiest results.” Preston also affirmed that, “the influences that have hitherto retarded the increase of our population, and impaired our agriculture, were temporary in their character and are passing away – that in the future our advance in wealthy, prosperity and power will be regular, steady, and progressive.”

Of particular gratification to agricultural reformers was the fact that the abundant payoffs staple crops were affording during these years were in many cases being plowed directly back into agricultural modernization. The quality of livestock was being rapidly improved, while aggressive soil amelioration was causing land values to rise both dramatically and steadily. These improvements were especially reflected in what had long been a cherished dream of the apostles of high farming in Virginia: the destruction of the chaotic frontier farm landscape in favor of a closer adaptation of ecosystem to agricultural purpose. Slash-and-burn cultivation would no longer waste the marginal soils of the hillside forests while valuable tracts of resilient bottomland were left fallow after being subjected to years of extensive cultivation. It was Preston who promised, with stars in his eyes, that in Virginia’s future, “The herds and flocks [would] take the

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50For rising land values in other parts of Virginia during the 1850s, see Schlotterbeck, “Plantation and Farm,” 305-308.
mountains and hills. The valleys and plains [would be] devoted to the labor of man in the diversified crops of tobacco, wheat, corn, and vegetables." These adaptations of entrepreneurial cultivation to the diversity in natural landscapes would continue the process of developing what farm reformers viewed as capital in land: permanent fences surrounding fertilized and uneroded fields sustaining masses of fat, healthy livestock and large farm buildings of every description – precisely the kind of farm landscape that would attract high prices from buyers and generous credit from lenders. Once agricultural capital had been divided in an optimal way between different ecosystems, the resultant increase in profits would promote entrepreneurial localization. One late antebellum correspondent to the Southern Planter informed the state’s high farmers that the river and stream bottoms of eastern Virginia, “can afford more costly and permanent improvements ... Where several such lie together, or others like them at a convenient distance, they make a desirable neighborhood ... such neighborhoods are sought by public highways and other works of Internal Improvement, by the common arts tributary to our daily recurring wants by trade and commerce, and in the aggregate they furnish the surest basis for the higher education.” On the eve of the Civil War, Virginia’s agricultural reformers had become convinced that ecological adaptation, capital investment, and commercial prosperity were inseparable.

William Massie’s farming practice offers considerable evidence of the fact that


high staple prices and general agricultural prosperity reinforced rather than reversed the progress of capitalist farming during these years. In his letters and memoranda books Massie had lodged endless complaints about the crushing weight of debt which exhausted fields, poor harvests, and his father’s burdensome inheritance had left him.\footnote{See, for example, William Massie to Thomas J. Massie, 6 March 1852.}

Year by year through the 1830s and 1840s, he struggled to reduce his overall indebtedness – even while continuing to draw on a long line of credit with regional banks – before finally clearing his personal estate into the black in 1852. The evils of debt had become an obsession with Massie, and he moved to close out his loans from the Lynchburg branch of the Bank of Virginia in 1849, and refused through the subsequent decade to take advantage of further credit.\footnote{See Massie’s annual accounts, and lists of debts, compiled in Refsell, “The Massies of Virginia.”}

Yet his abandonment of financial capitalism did not reveal a more fundamental rejection of capitalist intensification. Instead, Massie directed an ample portion of the profits he generated during the 1850s into agricultural improvement, as opposed to farm expansion or increased consumer spending.\footnote{All subsequent information relating to Massie’s agricultural management during the 1850s is drawn from his crop memoranda.} An enormous amount of labor, for example, went into controlling water flows in order to intensify low ground farming at Massie’s upper Tye River plantations and protect the investments he had made in permanent clearing and complex crop rotations. As noted earlier, Massie’s slaves built hundreds of yards of stone levies around those stream and river side fields at Pharsalia,
Tyro, and Level Green which his weather memoranda recorded as having been vulnerable to destructive flooding for decades. Winter labor was also committed to channeling mountain streams like Cub Creek whose periodic floods threatened the Tyro fields with erosion and destructive clay and sand deposition. The shelter offered by these levies and channeled streams certainly did support a pattern of traditional intensification—securing his personal finances against crop losses which might have forced him back to the banks. Yet they also afforded him a freedom to adopt more advanced, investment-intensive agricultural techniques—a freedom he appears to have taken advantage of by making generous applications of commercial fertilizers like plaster-of-paris, lime, and guano to those fields, and experimenting with an intricate seven-shift rotation scheme.

Slaves also worked hard at draining swampy stream side forests at Level Green, enabling Massie to cultivate some of the most organically fertile (but previously unplowable) soils he owned.

Massie also used the good times of the mid-nineteenth century to experiment with new crops. After the failure of his hemp ventures of the 1830s, and the low prices and poor harvests of the early 1840s, Massie largely abandoned the favorite project of so many of Virginia’s gentleman agricultural reformers going back to Jefferson—introducing imported crop varieties onto the Old Dominion’s plantations. Instead, he retreated back into the dependable markets and well-understood methods of wheat farming, even though poor weather and rampaging new varieties of rust and smut threatened to bankrupt him. He adopted the Multicole Rye strain imported from Poland late in the 1840s, but by the mid- to late 1850s, he was giving his desire to experiment
with more productive crop varieties free rein. In 1857 alone, for example, Massie’s slaves at Pharsalia planted cranberry bushes from Connecticut nurseries, Mexican potatoes, corn varieties from upstate New York, a new variety of yellow oats imported from Poland, Japanese peas, ‘beardless’ barley, ‘fox tail’ millet, and Chinese sugar cane.

Capitalist farming sustained labor productivity by importing new crop varieties and livestock breeds into the agroecosystem. Yet the financial risks involved in committing farm resources to unknown crops made poorer farmers wary of the experiment, in spite of the possible payoffs. William Massie, however, took advantage of the comfortable financial situation of the 1850s to return to bold ventures in capitalist intensification. The spread of truck farming, orchard, and dairy production throughout several regions of Virginia indicated that Massie was not alone. Prosperity was not a depressant which dulled the ardor of progressive planters, but rather an stimulant which freed them from worries over the short-term financial costs of failed experiments.

To be sure, the correspondents to the farm journals still had ample fault to find with Virginia’s rural economy – inferior roads, deficient investment in agricultural machinery, and the continued need for change in the fence and drainage association laws – but their tone had changed dramatically. The essential narrative of plantation Virginia’s agricultural autobiography changed in the years between the mid-1830s and the Civil War. The lamentations for past glories lost, and the strident, even desperate, calls for renewal and reform were replaced by confident assertions that the agricultural decline of the state was a thing of the past, and that the years of farm modernizers and localizing entrepreneurs wandering in the wilderness of post-frontier Virginia were over.
As the membership and activities of agricultural societies grew by leaps and bounds during the 1850s, veteran reform advocates reflected upon, "the awakened and substantial enterprise of the farmers of the present day," and concluded that state and local conventions were, "but the general expression of joy." The abiding failures of Virginia farmers, as often as they might be alluded to, were seen as merely the next hurdle to be jumped in a race whose successful outcome seemed increasingly assured.

Moreover, the payoffs now coming from long years of investment in entrepreneurial intensification were already creating the kind of stable, slaveowning gentry-led rural social order which localizing planters had originally been hoping to restore after the disruptions of the post-Revolutionary era. Emigration of planters and sons and yeomen farmers, as noted above, had slowed to a crawl, and the numbers of rural consumers of credit, goods, and advice, was steadily rising as more and more sons and daughters of small farmers chose to remain at home and seek a living within a blossoming capitalist economy. The stability of kin and community which this growth represented – even in the midst of a dynamic economic development – was reflected in Preston’s celebration of the small farmer, "who regards his farm as his permanent home, the spot he has selected for the labor of his life, where the ardor of his youth, the energy of his manhood, and the wisdom of his maturer years, are to find their attractions, their rewards and their honors, – elevated and strengthened by the resolution to transmit it to posterity, as the true record of what he was in his day and in his generation."

\[56\]Moncure, "Valedictory Address," 153.

And even while more and more small slaveholders and yeoman farmers came within the sphere of local and regional capitalist hierarchies, agricultural prosperity promised to soothe the social and political tensions which had marked the divisive years of the 1830s and 1840s. In the course of defending slavery to the state agricultural society, Preston gave a confident endorsement of his own perception of the compatibility of aristocracy with some of the most advanced forms of capitalist development, saying that, “in the work shops and factories of Europe and America, the intelligence and skill necessary to direct and regulate the entire operation, are procured from different classes of their people, and paid for at higher rates of remuneration than those paid to the manual and routine laborers.”^8 These kinds of divisions, rather than undermining social unity, in fact stiffened the solidarity of all ranks of white Virginians behind the institution of slavery. Preston told his listeners that, “the habits, opinions and sentiments which prevail in the South are imbibed and cherished as generally and strongly by the non-slaveholding portion of our community as by others.”^9 Agricultural prosperity also offered the possibility of ending subversive public debates about the possible economic inefficiency of the peculiar institution, and its deleterious impact on the state’s yeomanry, which high farmers had been seriously discussing for more than a half-century before Hinton Rowan Helper’s Impending Crisis of the South first appeared in 1857.^0

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^8Ibid., 362.

^9Ibid., 356.

^0For detailed and theoretical analysis of the debates about slavery within the plantation gentry of antebellum Virginia, see Eugene Genovese, Western Civilization through Slaveholding Eyes, and Joseph C. Robert, The Road from Monticello: A Study
Edmund Ruffin, for example, sought to buttress his increasingly violent pro-slavery position by abandoning his former condemnation of the agricultural production and wealth of Virginia in favor of flattering comparisons between the Old Dominion and agriculturally-declining New England. Yet Ruffin's arguments were not solely the reflection of his increasing obsession with defending race slavery. Unlike George Fitzhugh or Thomas Dew, for example, who defended slavery on moral and social grounds, a striking proportion of Virginia's authors and public speakers who supported the standing racial order against abolitionist 'fanatics' during the 1850s chose to focus on the profitability of slavery, a claim which could be backed up abundant evidence of the oldest slave state's ability to participate in the dynamic economic progress of those years. While the anxiousness of Virginia's entrepreneurial farmers over the fate of the slave system during the 1850s exceeded their fears about depopulation during the 1830s (judging from the number of pages in journals like the Southern Farmer the issue occupied as the sectional crisis deepened after 1855), the tone had changed profoundly. While a middle-aged Edmund Ruffin and his cohorts had defended the virtues of the Old Dominion against the lure of the West during the 1830s, they had appealed to farmers' patriotism with a defeatist desperation. By the time the aged Ruffin and the expanding army of Virginia high farmers engaged in their debate with northern abolitionists during


62See, for example, Anonymous, "New Hampshire and Virginia," Southern Planter, 17(1857), 65-68.
the 1850s, they were defending what they perceived as a vibrant, profitable production system against an external, political, threat.

By the end of the decade, despite growing unease over the politics of the sectional crisis, the dismay with which Garrit Minor had confronted Virginia’s, and his own, future back in the 1820s had largely disappeared from the agricultural journals and from public life. The localizing gentry, from whose ranks most of the state’s prominent high farmers and farm reformers were drawn, were increasingly optimistic about Virginia’s prospects. Their ambitions had been to preserve and rejuvenate cohesive and stable rural communities led by the slaveowning upper classes by embracing a capitalist redevelopment of the farm ecology and commercial economy of Virginia. During the 1850s, their program was being realized at a pace they had previously only dreamed of, and seemed to be delivering on its often-promised support for their social goals as well.

**The Boom Years and Agricultural Society in the Tye Valley.**

The remarkable pace of these changes was reflected both in the economy and agricultural landscape of the Tye Valley. The pattern of capitalist development and ideology which had been laid down by two generations of agricultural reformers and localizing entrepreneurs served during the 1850s as the foundation for a striking evolution of the community’s agricultural ecosystem. Rather than merely reinforcing older economic and agroecological patterns with high prices, the profits of the boom years before the Civil War were reinvested in a dynamic agricultural development which forcefully remade the agroecology of the Tye Valley. Yet at the same time, prosperity
did act to entrench patterns of republican farm life in the region. Without the pressure of economic collapse pressing at their backs, cultivators had lost part of the incentive and compulsion needed to abandon the independence of traditional intensification for the risky, arduous, and humbling task of joining in the creation of a modern farm landscape and economy. On the eve of the Civil War, the Tye Valley was a microcosm of the rural world of piedmont Virginia, as farmers of all classes sought to reconcile conservative political and social goals with the demands of the lucrative but exacting capitalist agroecosystem being assembled around them.

Lying on the fringes of the North Carolina-Virginia Southside tobacco belt, the Tye Valley participated energetically, if not emphatically, in the revival of the weed’s cultivation during the 1850s. Particularly after the Panic of 1857 had been accompanied by worldwide declines in grain prices, the area’s planters began reducing the acreage previously devoted to wheat and rye, and returning it to tobacco. (See Table 8.1) 1859 proved to be the largest tobacco crop of the antebellum era in Virginia, and the plantations and farms of the Tye Valley doubled their production from 1849, a year which, in fact, was already marked by the beginning of the Old Dominion’s mid-century renaissance of its ancestral crop. While other Virginia regions continued to rely on cereal grains, the overall production of wheat in the Tye Valley in fact declined substantially during the 1850s. The cultivation of rye, which had seemed at mid-century to be emerging as an indispensable crop for farmers in the vicinity, decreased by forty percent from the crops harvested just a couple of years after William Massie had introduced the Multicole variety to his upper Tye River neighborhood.
Yet the switch back to tobacco did not altogether mean an abandonment of high farming for a return to colonial-era frontier agriculture. While tobacco might disrupt rotation schemes (see discussion below), Tye Valley farmers such as Massie himself managed to work out compromises that enabled them to continue actively to expand production of those crops which remained dear to the hearts of agricultural reformers. Competition from limestone-rich soils to the north and west did not discourage the region’s farmers from stepping up grass and hay harvests from ten years previous. Recognizing the erosion and soil exhaustion problems created by clear-field corn cultivation, more and more planters were de-emphasizing corn in favor of grass and cover crops for animal feed. Spanning two census years divided by a period of almost uninterrupted prosperity and growth for the region’s agricultural sector, recorded crops of grass and hay had nearly doubled, while corn harvests had remained constant. In addition, the urban markets for fruit opened to Tye Valley farmers by the extension of the Orange & Alexandria Railway into the vicinity had led to a sudden expansion of orchard and market garden production from an almost non-existent state ten years previous. An interesting balance was being struck in the Tye Valley during these years. A return to tobacco seems in many ways regressive. Certainly, for example, the cultivation of the weed had not yet been mechanized, and the tobacco revival of the 1850s in fact called a halt to the accumulation of labor-saving farm machinery in the Valley. Yet production in other areas continued to diversify, improve, and expand. This compromise, it turns out, was built upon a broad-based development and intensification of the farms of the Tye Valley and their cultivation practices.
At the most basic level of the farm economy, evidence from the 1850 and 1860 agricultural censuses reveals a potent capitalist intensification in the Tye Valley during the intervening decade. *(See Table 8.2)* As the population of the Tye Valley once again began to shoot up during the 1850s, the number of reporting farms increased markedly between the two censuses. Certainly this development could well indicate a farm economy supporting its growing population through continuing farm subdivision and increased labor investment – the classic pattern of traditional intensification. Yet much of the Tye Valley’s increase in farm numbers must be explained by the heightened attention census taker Willis Wills showed in 1859 for reporting *all* varieties of farm production, including the milk cows of widows, the horses of merchants and professionals, and the small corn patches attached to the cottages of artisans and farm laborers. None of these constituted a working farm, or consumed a noteworthy portion of the labor or resources of the agroecosystem, yet many received a separate entry under Wills’ system of recording. Nor can this increase, no matter how conservatively interpreted, explain the remarkable expansion in the cash values of Tye Valley farms during the 1850s. While the number of farms increased only on the order of thirty percent, farm values more than doubled, persuasively suggesting that the increasing population numbers did not indicate farm subdivision, but rather that high times were discouraging emigration in favor of vigorous modernization of the Valley’s farms. Supporting this reasoning is an even more interesting statistic compiled from the 1860 census: while the number of farms increased, as did their cash value, the amount of land committed to them in fact decreased. While the steep decline in the amount of
unimproved acreage reported by Tye Valley farms would certainly be consistent with farm subdivision and heavier labor investment, this development was not coupled with a matching increase in improved acreage, which declined as well. Given that fact, the decline in unimproved land can only be explained in small part by a pattern of land clearing for expanded cultivation. Instead, a change in recording patterns seems a more logical understanding of these developments. Entrepreneurial farmers reduced woodland and pasture on their best properties in favor of expanded arable, while keeping separate mountain holdings for these purposes without including them in their calculation of the extent of their farms. Such an explanation also helps to interpret the dwindling of improved farmland during a period of uncommon agricultural prosperity. Capitalist agriculture reversed the accustomed reactions of commercial farmers to good times. Instead of simply expanding cultivation under the older methods, the capitalist cultivator chose instead to commit moveable agricultural resources – particularly improved crop and stock breeds as well as soil additives – on those portions of the agroecosystem best able to sustain abundant and long-term returns on the investment being made. Evidently, many farmers were gradually pulling cultivation off of those hillsides whose vulnerability to erosion left them unsuited to supporting prolonged rotation programs. In fact, farmers were beginning decisively to follow the now seasoned counsel of farm reformers by maintaining, and in fact expanding, crop yields through increased investment in the conservation and amelioration of bottomlands which

provided the best framework for the cultivation of the most productive of manipulated crop varieties.

This broad pattern of striking capitalist intensification can be seen in more detail in the rapid improvement of the Tye Valley’s livestock. (See Table 8.3) While high tobacco and grain prices during the 1850s kept the Valley’s farmers from committing enough resources to stock rearing to accomplish any noteworthy catch-up with Northern animal husbandry, livestock values in the region did increase by more than twenty-five percent. Certainly some of this increase can be explained by the expanding numbers of farm service animals – horses, oxen and mules, and milk cows – recorded by Willis Wills. Yet those increases were accompanied by rather dramatic declines in the numbers of meat animals. By 1860, the number of cattle in the Tye Valley had declined by more than twenty-five percent, and the sheep flocks had shrunk by more than forty from its extent just ten years previous. Providing further evidence of the contracting appeal of republican farming, the Tye Valley’s hog population dwindled as well, albeit at a lesser rate than the pointed and sudden reduction among cattle and sheep. Yet in the face of these declines, not only did the total reported value of the region’s livestock increase, the dollar amounts of animals that were slaughtered during 1859 had nearly doubled in comparison with ten years previous. Judging by these figures, the legislative recognition granted to ring-fence associations in 1858 simply reflected a speedy termination of open range pastoralism across large stretches of Virginia, rather than being a necessary

\[\text{\textsuperscript{64}}\text{On the gaps between the commercial quality of southern and northern livestock, see, for example, Genovese, The Political Economy of Slavery, 106-123, passim.}\]
precondition to that process. As meat prices increased, in terms of Virginia’s exports, its
domestic market, and especially the cost of meat imported onto the plantation, Virginia
farmers brought their animals in from the old fields surrounding their plantations and
penned them up, feeding them corn, corn fodder, oats, and particularly the grass hay
being grown on better maintained fields. Once under close control, planters were free to
more speedily cull and breed their herds. This resulted in a sudden increase in the
marketable qualities of their animals which was reflected in the spiraling elevation of
total livestock value and particularly the value of those meat animals slaughtered in
1859.

This capitalist intensification of livestock husbandry was most marked in the hog
rearing of the Tye Valley. During the 1850s, farmers in the vicinity joined the process
which had marked much of the Southside for more than a decade previous: the
conversion of hog raising from a subsistence to a commercial endeavor. The expansion
of the mid-Atlantic’s urban sector increased demand for pork products. Furthermore, the
modernization of trans-Appalachian farming lessened the flood of cheap, drover’s pork
which had been drowning consumer markets in the mid-Atlantic region. This, in turn,
increased the incentive for Virginia hog-rearers to take advantage of the situation by
matching their centuries-old experience with southern hog varieties with increased labor

65See Herndon, “Elliott L. Story,” 517-519, for commercial hog rearing among
farm families on the Southside.

66Population increases in the southern mountains doubtless kept more meat at
home during these years, while cotton plantations and midwestern cities took up more of
the hogs being bred for sale in Tennessee and Kentucky. See Hilliard, Atlas of
Antebellum Southern Agriculture, 47-50.
and capital investment in order to create larger and more marketable animals. William Massie, for example, built his comfortable finances of the 1850s on the back not only of high tobacco and grain prices, but also on a steady expansion and commercialization of his pork production. By the latter part of the decade, Massie’s was slaughtering animals worth thousands of dollars per year, and pork products were accounting for nearly forty percent of the receipts generated by all his plantations. ‘Massie hams’ were recognized by name on the dinner tables of wealthier consumers in Lynchburg and Richmond, and handily rewarded the effort and investment the aging planter put into their production. The development of this burgeoning and prosperous market in pork doubtless goes a long way toward explaining why the number of hogs declined so faintly during the 1850s in comparison with cattle and sheep. Yet the fact that this market expansion could be effectively supplied by a declining raw number of animals indicates the care that was being taken to increase the size and marketable meat content of the animals that were being reared and butchered.

The striking proportion of Massie’s income that was coming from pork by the late 1850s, as well as the fact that it was his hams that were attracting a name market in Virginia’s growing cities, reflects on the smallest scale another process typical of entrepreneurial intensification which stamped the farm landscape and economy of the Tye Valley during the 1850s. Many of the methods which mark capitalist agriculture – farm machinery, intensive livestock husbandry, education and experimentation – are
particularly supportive of economies of scale. Farmers able to apply such investments to the largest possible operations were in the best position to profit from them, and thereby steadily moved into superior market positions. Agricultural modernization is almost invariably accompanied by a dramatic concentration of land, resources, and production within the establishments of well-capitalized, large-scale farmers. The fact that it was planters like Massie who took the lead in bringing capitalist hog-rearing to the Tye Valley reproduced this process. The wealthiest half, and particularly the wealthiest tenth, of Tye Valley cultivators markedly increased their share of the agricultural economy of the region during the prosperity of the pre-Civil War decade.

Using the customary three-class scheme, the dramatic centralization of agricultural resources and production which occurred during the 1850s becomes quite evident. (See Table 8.4) To continue with butchered meat, for example, the most prosperous ten percent of the Tye Valley’s farm operators went from producing just over thirty percent of the total value of the region’s slaughtered animals to nearly forty-three percent of it ten years later. This pattern was reproduced in terms of overall livestock value: in 1850 the herds and flocks of elite farmers accounted for just over thirty-four percent of the Tye Valley farm animal population. A decade later that figure had increased to nearly forty-five percent. Interestingly, the number of animals owned by the

67Most research on nineteenth-century agriculture has discovered profound ‘dis-economies of scale’ in the period prior to serious mechanization of farming, and the development of a functioning agricultural labor market. Yet even on slave plantations there were important economies of scale to be had. See Atack and Passell, A New Economic View of American History, 315-316, for a succinct summary of a large amount of technical scholarship.
three class groups reflected the superior preparations which high farmers among the Tye Valley gentry had made for lunging into capitalist animal husbandry. Farmers in the ‘bottom’ ninety percent of the region’s class structure had to improve their livestock by drastic culls of their herds – often on the order of forty percent reductions or more. Subsistence would have had to have been compromised, and income would only have been maintained or increased by an expanding local market and consistently high prices. Plantation owners like the Massies, Cabells, Riveses, Amblers, Fletchers, and so on, on the other hand, actually increased their holdings of cattle and especially hogs (whose numbers among the Valley elite swelled by more than thirty-five percent). Clearly, the new market for pork, both in Virginia’s expanding domestic economy and in exports from the Old Dominion, demanded a much different grade of meat than the lean, gristly product of free-ranging rooters. Poorer farmers could only participate by quickly pulling animals in from the old field ‘pastures’, and reducing their stock to prime beasts alone. The patient labors of planters like Major Thomas Massie and Thomas Stanhope McClelland (discussed in Chapter Four, above) in breeding market-grade hogs, on the other hand, allowed them simply to measure the demands of penned hogs for corn and corn fodder (and the demands that cultivation made on plantation soils), against changing pork prices in order to make a new calculation of the profitability of commercial hog-rearing. This base of quality animals allowed them to respond quickly to the new circumstances of high prices by simply allowing their herds to expand naturally. In the end, the hedge against shifting markets which diversified agriculture supposedly provided, applied more to the ability of entrepreneurial cultivators to respond to those
shifts with improved production, rather than the ability of yeomen farmers to dodge price declines with subsistence crops and livestock.

The figures for the major measures of agricultural resources recorded by the farm census show an even more vivid pattern of centralization. (See Table 8.5) In terms of both improved and unimproved acreage, landholding concentrated dramatically in the hands of the elite among Tye region cultivators. Wealthy planters expanded their improved acreage by buying out the farms of members of the lower classes of producers. Pushing poorer farmers off the land further enabled the gentry to consolidate the best soil regimes into arable rotations, since unlike land-pinched small farmers, they had no need to sacrifice otherwise arable soils to pasture or woodland in order to maintain the balanced ecological resources of a working, nineteenth-century farm.68 When considering unimproved acreage, the results of this process were even more glaring. Those farmers on the bottom of the Tye Valley agricultural system who did own land, more often than not cultivated marginal ecological regimes along erosion-vulnerable hillsides. Agricultural reformers had fretted for years about the waste engendered by investing valuable labor and capital in such fragile soils, wishing instead, like William Ballard Preston, that they might be taken out of cultivation entirely and committed to wood lots and summer pasture. Such a development, which ‘republican’ cultivators had resisted for years in the Tye Valley, was making rapid progress during the 1850s.

68Prior to the age of mechanization and agricultural specialization which emerged with particular force after the Civil War, most American farmers attempted to obtain properties that combined a wide variety of needed natural resources – arable soils, woodland, flowing water, etc. See, for a popular example, John Mack Faragher, Sugar Creek: Life on the Illinois Prairie. (New Haven, CT: Yale University Press, 1986), 61-67.
Wealthy planters appear to have been buying out marginal farms, or throwing tenants off of their own mountain and hillside properties, and taking the land out of cultivation. While the amount of unimproved acreage encompassed within the farms of ‘middle class’ farmers in the Tye Valley remained almost constant during these years, uncleared, uncultivated land in the hands of the local gentry nearly trebled. The reported cash value of Tye Valley farms, which increased so greatly across the decade, demonstrated a similar process. Capitalist intensification dug deep into the class structure of the farm economy, as the establishments of middle class cultivators increased in value by more than forty percent during the decade. Yet the farms of the wealthiest tenth of the area’s cultivators again trebled in value. In 1850, the operations of the Tye Valley gentry had accounted for just under half of the total appraised value of the vicinity’s farms. By 1860 that share had expanded to more than sixty-five percent, while farm operations among the poorest fifty percent of farm operators had declined to barely sixty-five percent of what they had possessed just ten years before. While the population of the Tye Valley was being incorporated into a capitalist agricultural economy, even more rapid progress was being made incorporating the Valley’s lands into an emerging capitalist agroecosystem closely managed by the region’s economic and social elite.

Clearly, by the end of the antebellum era, the spread of rural capitalism amounted to more than just the adoption of a capitalist ‘mentalité’ on the part of individual farm operators. Many farmers might continue to resist incorporation into the webs of commerce and credit that accompanied the emerging capitalist agroecosystem, yet that system continued to expand and consolidate itself as long as increasing amounts of the
resources – ecological, financial, and human – of the Tye Valley’s agricultural economy passed into the hands of the entrepreneurial elite. In this situation, the responses of farmers below the level of the plantation gentry became much more complex than had been the case twenty years before. To be sure, capitalist agriculture did play an increasing role on the farms of the ninety percent majority of the rural Tye region. Yet at the same time capitalist agriculture was transforming the landscape, many farmers continued to try to balance strategies of traditional intensification and frontier commercialism. The victory high farmers won during the 1850s was one of attrition as much as of conversion, and their inability to incorporate large portions of the white population into the capitalist agroecosystem served as a continuing source of disappointment.

Farmers in the Tye Valley’s middle class did participate in the capitalist development of the region’s agricultural ecosystem during the 1850s. While the acreage controlled by yeomen and small slaveholders held essentially constant between the two census years, the cash value of their farms increased by more than eighty percent, indicating considerable investments in conservation and amelioration of soils. Values of farm livestock also increased significantly, as did the value of animals slaughtered. The advice and practice of high farmers was also clearly having an impact here as well. Livestock and butchered meat values increased even while, as noted above, herds were being drastically culled for quality. The production of hay and grass for feed and as cover crops also jumped significantly, although not to the same degree as among the Tye Valley elite.
Middling farms and their resources were being steadily incorporated into the entrepreneurial agroecosystem during the 1850s, although these farms still rarely matched the level of capital-intensive development seen on the largest plantations. (See Table 8.6) In fact, the mass of Tye Valley farmers were being pulled in a number of directions by both the demands of high farming and the opportunities being offered by the high prices of the mid-century boom. Yeomen and small slaveholders appear to have largely abandoned the subsistence-orientation of traditional intensification during the 1850s, pushing boldly into commercial farming. This speed and immoderation of this movement, however, revealed the pressure which gradual economic and ecological marginalization was placing on independent farmers who still hoped to improve their position, or to hand it along to growing numbers of descendants. Smaller farmers, on the other hand, continued to practice a much more conservative brand of anti-capitalist cultivation. Subsistence farming and open-range pastoralism continued to be emphasized, while commercial cultivation was limited to high priced (but ecologically enervating) tobacco.

In a number of ways, middle class farmers proved to be far less cautious and conservative – particularly in agroecological terms – than the gentry in their response to the changing markets of the 1850s. While their landholdings remained at a relatively constant share of the region’s total acreage, yeomen and small slaveholders increased their tobacco production to a far greater degree than did the gentry. Furthermore, while members of the elite looked to subsistence crops as a means to feed slaves in a more agroecologically efficient manner, middle class farmers strikingly reduced their planting
of peas, beans, and various varieties of potatoes in order to clear land and free labor for commercial crops. Members of the gentry made room for larger tobacco fields by reducing their cultivation of cereal grains. Middle class farm operators, on the other hand, made no such concession to the ecological limitations of their properties, maintaining their cultivation of wheat at levels similar to those of a decade earlier.

Such an approach toward changing agricultural markets certainly created problems for the capitalist agroecosystem. As many historians and environmentalists have often pointed out, the search for profit and the search for ecological sustainability are and were contradictory at many levels. Yet the emphasis which capitalist development placed on long-term investments involving large amounts of capital and temporally-distant returns obviously built an element of cautious conservation into the agricultural thinking of even the most entrepreneurial of high farmers. Frontier farming

69 The best-known works of contemporary American environmental history have tended to take a very dim view of capitalism – usually defined as any attempt to obtain market profit from resources extracted from managed ecosystems – and its destructive effects on the environment. See, for example, Worster, Dust Bowl, passim, especially 231-243, or Cronon, Changes in the Land, 159-170, for two of the most cutting critiques of capitalist environmental ethics.

70 I have some significant reservations about the blanket condemnations of capitalism which have been produced by green leftists in recent years (See, for some of the more extreme examples, Martin O'Connor, ed, Is Capitalism Sustainable: Political Economy and the Politics of Ecology, (New York: The Guildford Press, 1994)). I would tend to argue against both the tendency to idealize subsistence farming – certainly not the path to geographical fixity and ecological sustainability in the American South – as well as against the rejection of capital-intensive farming – so much of the environmental destruction perpetrated by modern economies is accomplished by under-capitalized operations desperately trying to profit from limited investments. Larger concerns have demonstrated a greater ability (albeit rarely a willingness) to adapt to environmental regulation, while seeking a greater degree of sustainability on large investments. This thinking, I would suggest, was prominent in the minds of the Virginia agricultural
made returns on land subsidiary to returns on labor, while traditional intensification reversed the process. Entrepreneurial intensification, on the other hand, worshiped returns on capital, and capitalist farmers were therefore prepared to invest labor in the conservation of agricultural resources needed to secure that capital. Yeomen and small slaveholders, in contrast, typically had much less of a stake in localized capitalist development than their gentry neighbors, and still held ambitions for upward mobility which made the demands for cash much more pressing. With fewer investments to protect, middle class cultivators were evidently much more willing to sacrifice the long-term potential of their less valuable properties in an effort to garner quick returns.

Despite the progress of modernized agriculture, a truly 'capitalist' outlook had definitely not consumed the minds of the prospering heart of the locality's ordinary farmers.

A similar pattern of almost reckless commercialization can be discerned among members of the lower classes, who almost eliminated wheat production while drastically expanding tobacco cultivation in 1859. In contrast with their middle class neighbors, however, poor farmers continued to place a heavy emphasis on subsistence agriculture. While landholdings decreased dramatically among the poor, harvests of non-commercial crops like peas, beans, and potatoes were maintained at levels close to those of ten years previous. Furthermore, declines in corn and oat production were far less than might have been anticipated by the decline in improved and unimproved acreage among the lower reformers, so many of whom were owners of large plantations. For a further development of this argument, see Lynn A. Nelson, "'Equal Capacity for the Work of Improvement': Early Capitalist Agroecologies in the Middle James River Valley of Virginia, 1820-1860," paper presented at the American Society for Environmental History Convention, Baltimore, Maryland, March, 1997.
classes. Even more interestingly, open range pastoralism seems to have continued to play an important role among common farmers and tenant cultivators. Livestock holdings were reduced far less dramatically by small farmers than by the upper half of the Tye Valley’s cultivators, while the increases in livestock value and value of butchered meat were considerably less. In fact, it seems likely that increasing prices, rather than on-farm improvement, might well have accounted for much of these increases, and that common farmers were doing very little to modernize their livestock production.

Common farmers in the Tye river region appear to have adopted part the practice of traditional intensification during the 1850s, protecting their independence and occasional small landholdings by focusing on subsistence production. Yet their probable hopes of upward mobility, landownership, and petty consumerism did create demands that could not be met by harvests of corn, potatoes, and slaughtered pork. High tobacco prices, on the other hand, offered a chance to accumulate some cash without necessitating the kind of commitment to long-term investment and improvement demanded by high farming. Small farmers on marginal lands and rented properties were prepared to accept the agroecological sacrifices tobacco exacted in the form of soil exhaustion and erosion as long as prices remained abundant. Risky, long-term investments in such farms, on the other hand, were unacceptable to most. Certainly many high farmers among the gentry would have agreed, for example, that mountain and hillside properties would be more profitably put into pasture and woodland than into working farms. Yet these less developed, less valuable lands, particularly in the higher
hollows of the Blue Ridge, provided a crucial framework for maintaining family
independence. As a result, the retreat of small farmers from the land into land ownership
on the frontier, or into the rural or urban proletariat in Virginia, proved to be painfully
slow, and was many decades from being concluded at the onset of the Civil War.

The Boom Years and the Agricultural Landscape of the Tye Valley

The impact of these processes on the landscape of the Tye Valley becomes more
clear through further exploration of the agricultural landscape of two study areas
discussed previously, Hatt Creek and the Tye River forks. Evidence from the agricultural
census of 1860 reveals the manner in which entrepreneurial high farmers had
successfully incorporated much of the Tye River region’s landscape into an evolving
capitalist agroecosystem. Yet at the same time, pre-modern family farming and its
attendant ‘republicanism’ had erected stubborn obstacles in the path of that
agroecosystem’s consolidation. Numerous middle class farmers still practiced traditional
intensification, dividing their hard-won landed properties into ever smaller partitions.
They vigorously intensified cultivation on these farms but restrained impulses toward
commercial cultivation, surviving instead on hard labor, subsistence crops, and material
privation. Furthermore, the properties available to them were typically the steeper slopes
along the valley walls of neighborhoods like Hatt Creek and the Tye forks. The
vulnerability of the soil structures of these regions to ruinous erosion was redoubled by
the extent to which families attempting to extract a living from shrinking farms cleared
land and deepened cultivation. In these circumstances, the participation of such families
in commercial crop and consumer markets would remain peripheral, enervating the local agricultural and consumer economy. On the eve of the Civil War, the financial ambitions of the piedmont gentry were still being threatened from within their own communities.

These patterns were clearly drawn on the agricultural landscape of Hatt Creek by the end of the 1850s. Of particular note, the centralization of agricultural resources which marked the class structure of the entire Tye Valley region had progressed on the fertile lands on either side of the creek itself. Both William Massie and his elder brother Thomas (who passed away in 1854) had added considerably to their properties in the neighborhood – William by purchasing a sizeable stretch of land on the east side of the Tye River from members of the Jacobs family, while Doctor Thomas had acquired a number of the smaller tracts lining the east and west forks of Hatt Creek.71 Between the plantations of the two feuding brothers, Parson Rose’s original eighteenth-century plantation, “Rose Isle,” had been reorganized in the hands of planter Joseph Shelton. This stretch of the Tye River bottomlands around and above the small settlement of Roseland had deteriorated for decades under the ownership of assorted members of the Cabell family and other absentee proprietors, who it appears from the 1850 census had been renting the property to an array of tenants. Other stretches of the Roseland neighborhood had been purchased by William Massie’s near neighbor James Meeks, who expanded a moderate farm into a plantation of considerable extent by the end of the

71 For all discussion of landholdings along Hatt Creek and the Tye River forks, see the Nelson County (Va.), Index to Deeds, 1808-1920.
Major Landholders, Hatt Creek, ca. 1860.
Rates of Land Improvement.
Hatt Creek, 1859.
Ratio of Unimproved to Improved Acres.

- Less than 2:1
- Greater than 2:1

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decade. As one proceeded up the Hatt Creek hollow past the plantations of Doctor Thomas Massie’s heirs and the low hill of Mars Knob, the bulk of the valley’s best agricultural soils had been incorporated through a chain of purchases and inheritances into a row of large farms which stretched for a mile or more across the Hatt. Struggling families like the Montgomeries and Shields, as well as absentee planters like John Marr and Ryland Roads, had been replaced by ambitious upper middle class slaveholders like Nelson Clarkson, Nelson and Nathan Bryant, and Willis Plunkett. Furthermore, a handful of farmers had emerged from the older families of the neighborhood to build up sizeable operations alongside these men. Through the settlement of Lee W. Harris’ estate, Albert Harris had obtained control of the best Hatt Creek land his father had purchased from debt-ridden Joseph Montgomery early in the 1840s. From the breakup of Thomas Jones’ estate a decade previous, his now middle-aged son George had built a sizeable plantation around Jonesboro, while George’s brother Hezekiah had purchased a large tract of Shields and Brent land further up the narrow valley. Above Hezekiah Jones’ farm, Landon Brent, Jr. had secured control of six hundred acres of his family’s property, including a noteworthy amount of high quality land just below the gap in Horseshoe Mountain. A division was clearly emerging within that middle class of cultivators whose practices of traditional intensification had dominated the agriculture of the Tye Valley during the 1820s, 30s, and early 40s. While a few continued to cling to the valley walls, particularly below Cat Rock Mountain beyond the west fork of Hatt Creek, several more abandoned the neighborhood during the 1840s and 1850s, leaving others to build up the extensive farm properties and capital resources needed to embrace
entrepreneurial intensification.

The extent to which planters like Clarkson and the Bryant brothers had incorporated capitalist intensification into their farming is clear from the census as well. The emergence of hay cultivation, for example, had always been a key marker of successful farm modernization in antebellum Virginia. The value of clover and timothy as cover crops meant that the presence of hay making within a farmer's routine was strong evidence that rotation schemes on his property had advanced well beyond the simple and erosion- and exhaustion-vulnerable three-shift rotation common at the turn-of-the-century. Furthermore, cutting large amounts of hay for livestock feed (as opposed simply to housing the corn fodder) also indicated that intensive livestock husbandry had moved beyond just housing animals during the winter, to year-round penning and its attendant possibilities for controlled breeding and manure collection. Finally, as several scholars have pointed out, growing hay in Virginia was always a difficult undertaking, whether due to the tendency of warm, well-drained soils toward high levels acidity, or to the difficulty of growing luxuriant grass crops on clay soils eroded to near-hardpan conditions. Successful cultivation of various grasses was evidence, therefore, of farmers making considerable investments in the encouragement of the interdependent interplay of resources and cultivation practice necessary to sustain intensive entrepreneurial agriculture for any worthwhile period of time. Gullies must have been filled, manure, marl, and commercial fertilizers carted to the fields and dug into the soil, and several years of crops prudently plowed under as green manure before a hay harvest

72Rubin, "The Limits of Agricultural Progress," op cit.
worth the effort was possible. Hay, which had been spreading along Hatt Creek ten years previous, was by 1860 an almost ubiquitous aspect of farming in the neighborhood. And while a number of the middle class farmers like Willis Plunkett and the Bryant brothers were harvesting moderate crops of three to five tons in 1859, the larger yields of more established plantations such as those owned by Albert Harris, the Massies, the Boyds, and Joseph Shelton, offered strong evidence that the trend toward increased hay production would continue as long as comparatively high crop prices held up.

The evidence which this expansion of hay cultivation provided for the progress of capitalist intensification along Hatt Creek is reinforced by the rapid increase of farm property values in the region during the 1850s. Whereas assessments amounting to more than fifteen dollars to an acre had been almost non-existent ten years before, by the eve of the Civil War most of the farmland in the vicinity was deemed to have been improved to at least that value. Interestingly, this held true even of properties like those of Nathan Bryant, Willis Plunkett, and Landon Brent, which incorporated large expanses of forested hillside on either side of the narrow stretch of arable along the banks of the Hatt. Clearly, Willis Wills recognized that considerable effort was going into conserving soils and developing their productivity to enable these properties even to approach the prices he assigned to the bottomland fields and long-established rotations of Pharsalia. The extent to which the dramatic increases in farm value along the heart of the Hatt Creek hollow indicates investments in entrepreneurial intensification is displayed by the growing gap in those values between wealthier farmers like Nelson Clarkson and Albert Harris and their struggling neighbors on the lower slopes of Cat Rock Mountain. While
Clarkson and Harris both had their properties appraised at well over the fifteen dollar boundary (despite, for example, the 784 acres of unimproved land on the slopes of the south-jutting ridge of Pat’s Knob which formed a large part of the Clarkson plantation), their less prominent neighbors fell far behind. Nancy Blair, Thomas Bowling, and Mary Parish’s farms were appraised at around eight dollars an acre, while properties nearer the ridge line, such as those of William Burkman, James Penn, and James Steele, were worth hardly two or three dollars to the acre. Nor was this pattern solely the result of the census taker’s appraisal of the inferior productive potential of mountain soils. John Stevens, for example, who owned 154 acres above Willis Plunkett’s farm on the west side of the valley, had improved over half of his mountainside property and had it valued at fifteen dollars an acre. Peter Hill, who owned a small tract of forty acres on the hills above the Jones and Harris plantations, had his farm appraised at fully twenty dollars an acre.

Yet the success of men like Stevens and Hill in increasing the perceived value of their farms exposes another problem being faced by middle class farmers along Hatt Creek. Of Stevens’ 154 acres, Wills reported that only 54 were in an “unimproved” state in 1859, while Hill had improved all but four acres of his modest property. The lands which Stevens and Hill owned, however, were probably not capable of maintaining the kind of intensification implied by that level of land clearing and plowing for long. Both lay between the west fork of the Hatt and the pinnacle of Cat Rock Mountain on steepening slopes which the wealthiest planters of the neighborhood had thought unworthy of patent or purchase all the way back to the original land grabs of Parson Rose.
and Thomas Mann Randolph more than a century earlier. Neither man reported anything in their farm’s production that might have indicated that some attention was being paid to long term soil-maintenance – no hay, low numbers of manure-producing livestock, and arable cultivation focusing overwhelmingly on corn and root crops. Relatively high amounts of farm machinery (thirty dollars for Hill, fully one hundred for Stevens) further suggested that their lands were being aggressively plowed. Yet the low yields they reported from all of their ‘improved’ farmland suggests that the soils were less than overwhelmingly productive, and were likely growing less so as time passed. While the effort that had gone into clearing the chestnut forests from the slopes, as well as the farm buildings and equipment, clearly impressed Willis Wills, the long-term value of farms like these were distinctly doubtful. Traditional intensifiers reinforced their attempts to avoid landlessness through heightened labor investment in smaller properties by concentrating on fiscally-safe subsistence crops. Consistent with this approach, neither Stevens or Hill produced much in the way of agricultural produce in 1859 that would have interested localizers like the Massies. In addition, their fields and fences probably frustrated more prosperous farmers hoping to use the hills for woodland and summer pasture. The presence of farms like these on the valley walls of the Hatt Creek neighborhood was a constant reproach to the capitalist agroecosystem during the 1850s.

The circumstances farmers like John Stevens and Peter Hill found themselves in typified the struggles of the ‘other half’ of the middle class farmers of the antebellum Tye Valley. While a few of their neighbors were able to obtain both the capital resources and prime farmlands needed to enter the lucrative but risky world of high farming, large
numbers retained their allegiance to a heritage of traditional intensification. Making the step beyond the frontier agroecosystem into the financial responsibilities of landownership, they had begun intensifying their cultivation by increasing labor investment while resisting the temptations of quicker fixes through indebtedness. Across the Tye Valley they continued to intensively cultivate their lands during the 1850s, frequently expanding cash crop production to take advantage of high prices. Yet these efforts would in time undermine the ecological viability of their farms. Financial and social necessity had driven them from the prime lands along the rivers, creeks, and uplands onto the hillsides, where the temporary lure of high crop prices could tempt them away from their principles into growing more cash crops than their farms could long sustain. By 1860, the wealthier planters of the Hatt Creek neighborhood had retained an even balance between improved and unimproved land on their farms, indicating that many marginal fields had been turned back to wood lots while amelioration, cultivation and rotation were aggressively pursued on the deepest and most fertile soils. The farmers of the region who had ‘over-intensified’ their properties by clearing and improving large amounts of land were drawn almost exclusively from among owners of less than two hundred acres. Almost as a body, this class of poorer landowners along Hatt Creek and its forks also dramatically de-emphasized wheat production during the 1850s, tying their agricultural outlook more closely to the tenants and hill farmers of the bottom half of the Valley’s agricultural ladder than to the ambitious planters of the Hatt Creek bottomlands.

This approach left wealthier planters like Meeks, Shelton, and the Massies to retain their hard grain-focused crop rotations. While some of the smaller landholders like Hill and
Stevens avoided the booming crop markets of the decade by focusing on corn and oats, others less cautiously pushed their lands into tobacco for quicker returns. Among this group, rising incomes might have meant consumer spending and perhaps even further land purchases, yet the pressure they were putting on their land made them less than ideal magnets for agricultural capital and large-scale credit.

The additional presence of two groups of heirs and widows among the over-improving farmers along Hatt Creek reveals another problem that none of the farmers of the region could escape for long. In large measure, northern and particularly New England farm families had been forced into agricultural improvement by estate subdivisions which had steadily carved their properties down to sizes below even the levels at which traditional intensification could be sustained. Many cultivators responded not only by investing in crop rotations, fertilizers, and improved livestock, but also by changing inheritance patterns, leaving the farm intact to the youngest son while other children were sent off into the world with educations or cash inheritances.73 Outmigration combined with continuing republican ideals to maintain partible inheritance as typical practice throughout much of Virginia. Estates were divided upon the deaths of their owners, and re-consolidation was a lengthy and incomplete process. Even William Massie, by far the wealthiest planter in the vicinity, was not immune. His costly 1857 purchase of ‘Red Hill’ plantation from the Jacobs family was brought on by his realization that he would need to acquire more land in order to provide for his now large family after his death. After the Civil War, of course, the Massies would slip in

73Barron, Those Who Stayed Behind, op cit.
De-Emphasis of Wheat Cultivation, Hatt Creek, 1859.
status as William’s estate – both real and personal – was subdivided into smaller units.

For some of the families along Hatt Creek, this process was already well underway during the 1850s. As a number of prominent planters died during the 1850s, lengthy stretches of the hollow were left to heirs and partitioned. The Thomas Jones estate, of course, had been divided back during the 1840s, and while George Jones had rebuilt a sizeable capitalist farm by 1859, he had improved nearly two-thirds of the uneven lands around Jonesboro while more than half of his father’s estate remained in the hands of other family members and was in a considerably less developed state. The fate of Robert Anderson’s estate is even more indicative of the problems. At the time of the recording of the 1850 agricultural census, the elder Anderson had been one of the wealthiest planters in the vicinity, ranking in total worth just behind the Massie brothers, and comfortably within the top ten percent of the Tye Valley’s farmers. Yet when he died at some point around 1854, his estate of 671 acres of prime flatland just above Roseland was divided into fully six lots among his heirs and widow. Three sons, Charles, John, and Samuel, as well as daughter Mary and his widow, received patches of between 100 and 150 acres to farm. A fourth son Robert, got a piece of 50 acres of bottomland along the lowest reaches of the Hatt, but appears to have thought it too small to farm effectively, and by 1859 evidently had either sold out, or was renting, to his brother Samuel. By the end of the decade, the Anderson brothers continued to cultivate their father’s property, but had fallen far from the lofty position he had held within the Tye Valley’s rural hierarchy. Their farms were highly ‘improved’, but they each owned little in the way of farm machinery, their cattle and hog herds were dramatically reduced,
and their harvests were focusing on tobacco and corn at the expense of hard grains. Only Samuel was producing any hay, probably on the bottomland obtained from his brother, which was too vulnerable to freshes to commit to financially necessary cash crops. While farmers like the Bryants moved forward, the Andersons had slipped from affluence by the end of the 1850s, with their agricultural resources divided beyond the point at which entrepreneurial agriculture could be made to pay.

Entrepreneurial intensification was proving to be a powerful tool for transforming the landscape and increasing the profitability of rural neighborhoods like Hatt Creek. Yet at the same time, it could not be fully reconciled with the aristocratic vision of the gentry of the antebellum piedmont, particularly the hope of using profits from localization and capitalist agriculture to enable prominent families to continue to build neighborhood kin networks. The recurring division of estates among expanding ranks of heirs would continually undermine the profitability of farms, and the prosperity of neighborhoods. In an increasingly competitive economy, a real difference in quality was emerging between the 'whole' estate and an inherited parcel when the size of those parcels dropped to levels at which agriculture was increasingly both unsustainable and unattractive to investment capital. The battles within the Massie family over inheritances during the nineteenth century offer a picture of how realization of this trap was creeping into the consciousness of antebellum Virginians. The rupture between William and Doctor Thomas Massie came about in large measure because the latter felt that William had received by far the choicer portions of their father's enormous estate, and sued for redress. The middle brother, Henry, had received a minimal inheritance

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after fighting with his parents, but returned to the picture during the 1840s when legal
issues arose over the settlement of provisions the Major had made in his will for his
grandchildren. And when it came time to settle William Massie’s estate, improved in
profitability, but diminished in extent, further conflicts erupted, as William’s eldest son
Thomas battled with his father’s executor, his fourth wife, Maria, over division of the
estate among the multitude of heirs. The original goals of Major Thomas Massie in
moving to the Tye Valley had been frustrated by the end of the nineteenth century. As
much as rural entrepreneurialism might transform the landscape, secure capital, and
provide profit, it could not in the end maintain class structures based upon a very
different agroecosystem and economy.

The problems created for the capitalist agroecosystem by the vigorous longevity
of the republican ideal of land ownership and the free peasant aim of neighborhood kin
networks were particularly visible on the landscape of the Tye River forks in 1860. In
1850 the landscape had been dominated by large landowners like the Massies, Lemuel
Turner, the Hights and Cabells, who rented properties to a series of tenants who had
frustrated their gentry overlords by continuing to practice frontier cultivation and
pastoralism at the expense of the long-term value of the land. Ten years later, the
neighborhood had undergone a considerable development and stabilization. Yet this
progress was purchased at the price, for the capitalist agroecosystem, of entrenching
traditional intensification in the neighborhood. For want of a better term, the eastern

74See Refsell, “The Massies of Virginia,” passim, for the endless difficulties that
accompanied the settlement of two generations of Massie wills.
Family Landholding.
Tye River Forks, 1860.

- Massie
- Coffey
- Campbell
- Fitzgerald
face of the Blue Ridge mountains were experiencing an almost clichéd process of Appalachianization. Despite the economic opportunities of the boom years, a once aggressively commercial frontier agroecosystem was being transformed as land ownership passed out of the hands of the elite and into the possession of a growing class of common farmers unable and/or unwilling to embrace capitalist agriculture.75

The most visible aspect of this process along the forks of the Tye River was the evolution of the kin networks and family economies of the three mountaineer clans who had already been well established in the vicinity in 1850. As discussed in Chapter Six, the Campbell, Coffey, and Fitzgerrald families already constituted a large proportion of the population of the neighborhood around Fork Mountain at mid-century. A pair of family patriarchs, Edmund Coffey and Francis Campbell, had patented and purchased land along the small creeks flowing down into the forks, and were farming their properties. Most of the family members, however, made a living as tenant farmers, either renting land from their relatives, or more often, from major local landlords like Massie and Lemuel Turner.

Under these conditions, the Blue Ridge hillbillies forced a continuation of the frontier agroecosystem well into the nineteenth century. Frontier farmers, of course, tended to view the ecosystem as a collection of public resources, and when privatized, to see it as an extremely fungible commodity. This outlook’s easy accommodation with commercialism, of course, did provide considerable benefits for entrepreneurial

75 Again, for the reversion of Appalachia to subsistence farming during the mid-nineteenth century, see Salstrom, Appalachia’s Path to Dependency, 1-59.
localizers like William Massie. In their search for cash and book credit, members of the three clans worked for Massie, and presumably the other big men of the neighborhood, in varying capacities as day laborers. Tenants provided a cash income from some of the upland farms Massie was unable or unwilling to cultivate with his own slaves. The money nexus of rental farming, of course, provided a source of cash crops to build up Massie’s milling and mercantile interests. As with so many of the tenants and small holders along Hatt Creek, the Campbells, Coffeys and Fitzgerralds quickly took up Massie’s offer of rye seed in the late 1840s, and added considerably to the grain recorded in the 1849 agricultural census after having been brought to his mills.

Yet the short term benefits such family economies offered to the business of the community could not outweigh the harm which the creation of a frontier agroecosystem near the Blue Ridge crest did to the broader progress of agricultural intensification. Tenant farmers took the same attitude toward the land in 1850 as they had a century previous, “skinn[ing] and abus[ing]” it for all it was worth, dragging down its long-term value, and sabotaging Massie’s hopes either of expanding his quarter at Montebello and/or bequeathing it as a large, profitable farm to one of his children. Nor was Massie even assured of getting an immediate cash income from such tenants. As he had noted, mountain farmers responded to hard times simply by refusing to pay their rents in cash or cash crops, foisting potatoes and other ‘useless’ truck off on their frustrated landlords. This carefree approach to contractual relationships extended to their attitudes toward property law in general. Despite attempts on the part of progressive farmers to improve the efficiency of the exploitation of natural resources by bringing an end to ‘commons’
conditions in agriculturally marginal ecosystems like the forks neighborhood, frontier farmers ignored the law and continued traditional practice. Livestock roamed loose in the woods, where grazing was enhanced at the expense of farm investment by unregulated burning. When such indirect assaults on capitalist agriculture failed to provide sufficient forage, of course, the Campbells, Coffeys, and Fitzgerralds simply exploited Massie’s patient investments directly, pulling down fences and turning their stock into the Montebello fields (and doubtless those of other entrepreneurial farmers like Lemuel Turner, as well). In 1850, the “Hell cats” who lived and worked along the Tye River forks stood directly in the path of any attempts to intensify land use thereabouts.

Ten years later, however, the situation had changed considerably. The developing kin networks being built by the three mountaineer clans turned out to be admirable foundations for lower class localization. Mutual support enabled the families to jell the ephemeral residential patterns of the mountains, and establish the Tye River forks as a stable, agrarian community. Among farm tenants along the forks, for example, barely half had been named members of the Campbell, Coffey, and Fitzgerrald families in 1850. By 1860 that proportion had increased to fully two-thirds. Furthermore, several of the tenants from the three mountain clans were younger members who were establishing their own farms in the neighborhood rather than moving on to less crowded districts to the south and west. In contrast, most of the non-big three tenants were newcomers to the area who were continuing the frontier pattern of exploitation and outmigration, while the Campbells, Coffeys, and Fitzgerralds settled down.
This process of settlement was particularly reinforced by the purchases of land which the older members of these three families made during the decade. The patents and purchases made by Edmund Coffey for more than two decades previous matured into a rather dense community of Coffeys living and farming hillside properties along the creeks which flowed from the Blue Ridge crest down into the North Fork. The Fitzgerralds, who had been one of the poorest and most troublesome of the lawless mountain families in previous decades, evidently purchased land from William Massie, Lemuel Turner, and Dr. Thomas Massie’s heirs, particularly properties along the South Fork and around the Crabtree Meadows behind the Priest. The Campbells as well had some properties along the North Fork heading in the direction of the western face of three ridges mountain. These properties, particularly those of the Coffeys, had been subdivided several times during these years, to the point that more than half of the Coffey farms in the vicinity, and nearly a third of the Fitzgerrald, were owner-operated. This process of family localization was reinforced by the growing ability of mountain tenants to rely on their relatives for leases, rather than having to go to the major local landlords. Judging by the recording order of the agricultural and population censuses, many more of the Campbell, Fitzgerald, and particularly Coffey tenants were renting from their relatives than had been the case ten years previous.

This emergent stability within the Fork Mountain neighborhood boded well for the possibilities of establishing a capitalist agroecosystem there. Certainly the battles which Massie had waged with the mountaineer clans seemed from his own papers to have been dying down by the 1850s. His complaints about the trespasses being
Fork Mountain Tenant Farmers, 1859.

* --- Other Tenant Farmers
Nascent Capitalist Intensification, Tye River Forks, 1859.

... Farms Reporting a Ratio of Farm Values to Acres of Land Greater than 5:1
Farm Mechanization.
Tye River Forks, 1860.

--- Farms Reporting More than $100 in Farm Machinery in 1860.
Hay Cultivation,
Tye River Forks, 1859.

-- Farms Reporting Hay Harvests, 1859.
committed on his mountain properties, which had been quite brutal in their severity, occurred entirely during the 1830s and 1840s, and thereafter ceased. Mentions of the early spring fires being set by mountain residents, which had been almost an annual feature of his weather memoranda books during the 1840s, petered out during this next decade. The coincidence of the absence of these incidents from his record keeping with the increasing levels of landownership within the mountain kin groups could not have been entirely random. Land ownership enforced a limited degree of respect for mountain property boundaries that had been most deficient before.

If the “Coffey gang” were settling down to yeoman respectability along the hillsides above the North Fork, it boded well for attempts more intensively to cultivate and profit from the dark-soiled hollow farms behind Fork Mountain. Possibly in response to this, as well as to the high crop prices of the boom years, a number of comparatively advanced farms emerged in those hollows to go along with those quarters maintained by Lemuel Turner and William Massie. Along the upper reaches of the North Fork, in the relatively flat and open stretch through which it ran before plunging into the deep valley between Fork Mountain and the Blue Ridge, a number of proto-capitalist farmers, like George Wood, James Giles, Benjamin Hughes, and John Thornhill, emerged during the 1850s. These farmers, their families, and their small slave forces created a quickly evolving landscape of high farming in the hollows around Montebello and the North Fork. The unfolding stability of the Blue Ridge community made the investments they made in land development safe ones. County maintenance of the old Tye River and Blue Ridge Turnpike road (egged on, no doubt, by William Massie)
lessened the commercial isolation of the neighborhood, as did the development of rural iron foundries and their attendant residents at Vesuvius just across the ridge in Rockbridge County. The redevelopment of county roads and the extension of both the James River & Kanawha Canal and the Orange & Alexandria Railroad into the region made transportation of commercial crops to regional and national markets possible as well. For the first time, it was becoming financially feasible to make significant capital investments in the intensive cultivation of the deep and stable black loam soils of the hollows of the upper Tye River area. Evidence from the agricultural census demonstrated that capitalist intensification, although by no means as far advanced as down below along Hatt Creek, was progressing steadily on the open country beneath the Blue Ridge crest near Tye River Gap. Farms with high per acre cash values – albeit counted at the low level of five dollars to an acre or greater – were concentrated almost exclusively in that area. Two other key markers of entrepreneurial intensification, serious investments in farm machinery and the introduction of hay cultivation, had also spread from the quarters of Lem Turner and William Massie to the surrounding farms of Giles, Hughes, Thornhill, and others. It must of course be noted that this progress toward capitalist high farming was feeble when compared with what was going on just a few miles down the Tye River, to say nothing of other areas around the country. Yet when compared with the kind of agriculture that had typified the area ten or twenty years previous, or, as will be discussed below, what was being done with the hillside farms around these tracts, the improvement was conspicuous. From an almost lawless backwoods ruled by “maniacs” and their mangy cattle and hogs twenty years before, the
Tye River forks were maturing as the kind of rural community that could provide profitable farms and tractable commercial and political clients for the gentry of the Tye River Valley.

Yet at the same time, the developing agricultural and residential equilibrium of the neighborhood was being underpinned not so much by weighty investments in capitalist cultivation, but rather by the kind of traditional intensification which was one of the fiercest foes of the entrepreneurial agroecosystem. Even the more progressive of the neighborhood’s cultivators were not farming as intensively as might have been thought wise by ambitious agricultural reformers. Despite the obvious disadvantages created by their isolation, the Porter’s Black Loam soils and the Blue Ridge hollow forests were admirable ecosystems in which to make investments in capitalist intensification. The richness of the soils made returns quick, while their deep structures and topographic protection from erosion made larger investments likely to pay off in the long term. Yet the best of the hollow soils were quite small in extent, surrounding sodden creek bottoms exposed to ruinous freshes, and surrounded, in turn, by steep hillsides and rock-encrusted ridge lines which are still next to impossible to walk, let alone plow and farm. Yet several of the aforementioned ‘capitalist’ farmers, like Thornhill, Hughes, and Giles, had by 1859 ‘improved’ nearly half of their two to three hundred acre farms, a rate which, given the terrain, almost certainly was driving arable cultivation of row crops like tobacco and corn onto fertile, but rocky and very thin-soiled hillsides, which could not take advanced plowing and soil conservation techniques, and therefore would hardly sustain such cultivation for long. Such a plan of grain and hay
rotations on the creek bottoms, with row crops cultivated in a long-fallowing system on the slopes, might have been sustained if one adopted the land division of someone like George Wood, who had improved only 130 of his over 700 acres. At the rate of nearly one-to-one or worse, it was not a strategy that could sustain yields at the high levels possible under either frontier cultivation or capitalist intensification for more than a few seasons. Harvests would inevitably decline, and the farmers would have to retreat into the back-breaking work of building primitive ditches and terraces, and subsisting on low-grade livestock and root crops, in order to sustain themselves.

Certainly that was already the road being traveled by the tenants and landowners of the Campbell, Coffey, and Fitzgerald clans. Many of them had realized their ambitions for landownership, with its attendant security and respectability, during the previous decade. Yet that achievement had been purchased, as was so often the case for ‘upwardly-mobile’ yeoman families across the South, by retreating from the fertile farms they had rented from William Massie and Lemuel Turner and onto the rugged hillsides of the less accessible parts of the Fork Mountain neighborhood. Even though several of these tracts stretched back up the mountainside along narrow, but more level and well-soiled creek beds, farming the slopes would have been a daunting challenge. On these rocky hillsides, the thin layer of decomposing vegetative matter which sustained forest growth would quickly have been denuded by the erosion and soil exhaustion brought on by attempts to clear fields for row crops. Forced to accept declining yields as the result of permanent landownership, the small farmers of the Tye River forks had retreated into intensive subsistence cultivation on increasingly subdivided properties. While the elder
Edmund Coffey had assembled quite a sizeable estate for a gangster, his low quality lands had been divided several times in the course of the settlement of his estate. By 1859, the bulk of the landowners within the extended Coffey family owned farms of less than a hundred acres.

Men like Garland, Joseph and Holloway Coffey, and their families, scratched a subsistence from their tiny estates by means of intensive land clearing and subsistence production. Capitalist farmers like William Massie, George Wood, and Lemuel Turner in fact only ‘improved’ rather small portions of their mountain properties. Smaller farmers, on the other hand, particularly the Campbells, Coffeys, and Fitzgerralds, were conspicuous by the frequency with which their farms showed up among the most fully cleared and cultivated along the forks. Visually, that pattern of land improvement is reinforced by the patterns created by two of the most obvious markers of pre-entrepreneurial agriculture: root crops and hogs. The possessors of large hog herds (relative to their landed property) were overwhelmingly drawn from the three mountain clans. And with the exception of the tenants apparently renting farms from Massie and Turner, they were concentrated among the middle and lower class cultivators along the North Fork and the Fitzgerrald brothers farming the lands at the top of Crabtree Falls. The same pattern is repeated in the case of the production of several key non-commercial crops – Irish potatoes, sweet potatoes, and sweet peas and beans. Again, while these crops were grown at Montebello and Fork Mountain, Massie and Turner’s overseers appear to have committed only small amounts of land and labor to the effort. The Coffeys, Campbells, and Fitzgerralds, as well as some of the more progressive middle
Land Clearing.
Tye River Forks, 1860.

... Farm Properties with a Ratio of Unimproved to Improved Land of Less than 1.5:1

Note: Tenant Farms Excluded.
Subsistence Farming,
Tye River Forks, 1859.

Farms Reporting Harvests of Irish and Sweet Potatoes, Peas and Beans, Greater than 0.25 Bushels per Acre.
Large Hog Herds,
Tye River Forks, 1860.

Farms with a Ratio of Hogs per Acre
Greater than 0.08 : 1
class farm owners like Giles and Hughes, were the ones who were working hard on these crops, and probably on the turnips and other truck William Massie had complained about ten years before. By growing root crops, mountain farmers could cut down on the amount of forest clearing they had to do, and the threat of destructive erosion as a result, and they could cultivate fields on slopes too steep to plow. Of course, this kind of farming meant back-breaking spade and hoe work for the entire family, but those kind of labor investments were precisely the ones upon which traditional intensification was built.

However, if labor investment was the foundation of the agroecology of traditional intensification, then anti-commercialism underpinned its financial side. The retreat of the mountain farmers into marginal landownership, while bringing valuable permanence to the community, drained income and energy from the market economy. A once thriving market in hired labor appears, from the records of William Massie, to have contracted during the 1850s. Whereas Massie had regularly hired local white farmers and laborers to supplement his slave force (particularly at harvest time and for construction projects) during the 1830s and 1840s, he seems – anecdotally – to have relied more on his own slaves. A number of causes of this pattern can be suggested, of course: Massie's expanding slave force filled his labor needs; farmers in need of cash during the 1850s were better rewarded by putting their backs into growing tobacco and grain than farm labor for others; and so on. Yet one must not discount that the move of

76See both his crop memoranda for work schedules, and the annual accounts compiled by Refsell, in “The Massies of Virginia.”
mountain families into landholding and subsistence agriculture would have constricted the supply of local white labor for hire. Certainly the men of the Campbell, Coffey, and Fitzgerald families, who had made regular appearances in Massie’s memoranda and accounts as occasional workers, mostly faded from his records during the 1850s in favor of cottagers living closer to Pharsalia. Some farmers might have sustained cash incomes after dropping out of the local labor market by growing cash crops, but the farmers cultivating fields on the mountainsides above the forks were hardly in a position to build a row crop empire. Mountain farmers instead could only maintain their financial equilibrium by curtailing their use of consumer goods and consumer credit. Although accounts from stores and mills near the forks neighborhood are unavailable for the 1850s, one can surmise that just as cash crop production was expanding slower than localizers like Massie might have chose, so to spending in the mountains was failing to keep pace with the economic expansion of the region as a whole. The famed commercial quarantine around the southern mountains was only in part a product of physical isolation driving up prices and sustaining pre-modern material cultures. Consumer spending declined because poor families sought out agriculturally marginal ecosystems for their

77 Ibid.

abundant landownership opportunities, but were reluctant and unable to wring positive cash balances from hillside farms. Either the land or the consumer goods had to go, and yeoman farm families omitted the latter to preserve the former. In the end, while men like William Massie might have appreciated some of the gains in law-and-order derived from property ownership among mountain families, the attendant loss of local income enervated business. By the late nineteenth century, mercantile and petty industrial ventures in areas like the Virginia Blue Ridge might be a path toward local headmanship, but that headmanship never translated into the kind of wealth held by the antebellum plantation gentry.

Just as the boom years brought prosperity and development to the rest of rural Virginia, the Tye Valley witnessed a profound evolution of its economy and landscape as a result of the high crop prices. Profits flowed back into the region's farming, and were used to finance a consolidation of control over the local landscape by wealthy, progressive planters who built a capitalist agroecosystem upon the foundation of their investments in high farming. This new agricultural ecosystem offered Tye Valley farmers the hope that their agricultural system might become both sufficiently flexible and sustainable to ride out future fluctuations in crop prices without the kind of demoralizing social disruption occasioned by agroecological crisis and massive outmigration. Yet at the same time, the boom years presented a number of problems which threatened the hopes of entrepreneurial localizers to join sustainable high farming, agricultural profits, and petty commerce. A return to tobacco could not be easily integrated into grain and hay rotation schemes, but high prices forced farmers to push
new ground cultivation onto fragile soils. Middle class farmers were particularly guilty of this, as many attempted immediately to wring high yields from the impoverished base of an agroecosystem molded for decades by traditional intensification. Finally, while lower class farmers across the Tye Valley saw their landholdings reduced—a circumstance that in other regions dramatically invigorated dormant rural labor markets—many took advantage of easy cash and credit to purchase marginal lands and join the ranks of the now seemingly outdated traditional intensifiers. These developments threatened the capitalist agroecosystem in two key ways. First, labor and resources were diverted from soils best able to sustain the heavy resource flows of high farming onto easily-eroded hillsides where any investment in rotations, fertilizers, farm equipment, and so on, would soon come to grief. Second, shrinking but still significant amounts of land and labor were taken out of the capitalist agroecosystem and committed to a brand of ecological intensification which would bring little in the way of profit to stoke the fires of the local economy. While republican agrarians had been unable to offer a working solution to the problem of maintaining both economic independence and economic prosperity, some of their warnings about the incompatibility of even the most rational brand profit-chasing with agricultural sustainability and financial autonomy were coming true.

**Capitalism and the Demise of Localization.**

While the resistance of many small farmers to entrepreneurial intensification and economic development was a continuing cause of frustration for capitalist planters, the
1850s were marked by broader developments which were just as worrisome for the economic leaders of rural neighborhoods like the Tye Valley. During the course of the eighteenth century, Virginia's plantation gentry had built an impressively coherent system of local class rule through their control of undeveloped land, county courts, and church vestries. To be sure, the decisive turn of early national-era planters to rural commercial development was intended, like entrepreneurial intensification, to restore the financial affluence of the gentry class. Yet the form which localization took also revealed a drive to sustain the local headmanship of that caste. Capitalist evolution, it was subconsciously hoped, would sustain the established social structure of rural neighborhoods during an era when the political rule of self-appointed aristocrats was becoming unfashionable in the United States. Virginia's localizing planters envisioned a society in which the magnetism social standing and political power once exerted on popular deference might be assumed by centralized commercial and financial power in a developing national economy. Yet the centralization of economic authority which rural industry, commerce, and proto-finance began typically did not pause in the studies, offices, and account books of Virginia's capitalist farmers. In fact, as the Old Dominion's capitalist economy developed during the middle of the nineteenth century, commercial and financial authority flowed not only from small farmers to the localizing elite, but also through the hands of those planters to higher authorities, and, thereby, out of the communities of rural Virginia entirely.

The various strategies of traditional intensification practiced by ordinary farmers during the nineteenth century were particularly slow in their maturation — improving
production out of the genetic, biotic, and labor resources of the individual farm took a long time when compared to immediate purchases of additives — and farm families bought that extra time by embracing hard work and material privation. Yet as common farmers clearly understood, relying on resources and labor that were securely under their control reduced dependence upon erratic outside markets and oppressive credit. Entrepreneurial intensification, on the other hand, demanded that those capricious (even when actively shaped by the entrepreneur) markets be embraced, with the consequent relative loss of mastery over investment and return which that entailed. And while yeomen and small slaveholders had pressing reasons for contesting the dependence upon local millers, store owners, and creditors which localization and capitalist agriculture demanded, the localizers found themselves vulnerable as well. Attracting assets to rural neighborhoods, as well as negotiating the sale of expanding quantities of commercial crops to the broader world, forced the entrepreneurial gentry to deal with outside interests who were better capitalized, more efficiently organized, better informed and better connected — in other words, significantly more formidable than the piedmont planter, no matter how big his house or how old his family might have been. Underneath the savoir-faire of the boom years, the capitalist farmers of antebellum Virginia became uneasy and conflicted as centralized interests appropriated disturbing levels of control over the state’s economic and ecological transformation.

In the first place, the remarkable revival of tobacco agriculture in the years after 1848 did not unfold without opposition from high farmers. The ideal rural landscape which piedmont farm reformers had been pursuing was one of permanent fields
maintained by manuring and complex crop rotations. Tobacco, however, given the unique combination of its extreme quality-sensitivity and the heavy depletion of soil nutrients its growth exacted, was difficult to incorporate into rotation schemes developed for hard grains. Crop rotations, while restoring and maintaining fertility for much longer than the frontier system of extensive long fallowing could manage, could never equal the remarkable burst of primary production which accompanied the biotic fever which followed the disturbance of a mature ecosystem. Market-quality tobacco regularly demanded higher levels of fertility than fields under most high farming rotations could manage, and depleted the soil of nutrients in such a way as frequently to interfere with smooth transitions to other crops in such a rotation. In competition with new tobacco-growing regions in central North Carolina, Kentucky and Missouri, who could grow the leaf on fresher soils, Virginia producers were under enormous pressure to return their cultivation to new grounds cleared from their shrinking – and often second- or third-growth – forests. Diverting land and labor out of the rotation schemes – which had produced critical feed crops like clover, timothy, oats, and corn fodder – and into independent tobacco cultivation also worked to undermine the livestock herds which produced the plentiful manure upon which fertility maintenance in high farming depended. While tobacco husbandry could benefit markedly from manuring (particularly in terms of providing the extremely high organic content and nutrient levels needed for the initial plant beds), that benefit collided with the weed’s partial obstruction of the

On the expansion of tobacco culture into the trans-Appalachian West, see Robert, Tobacco Kingdom, 142-143, and Gray, History of Southern Agriculture, 759.
dynamic between improved feed and cover crops, well-bred livestock, manure, and heightened fertility which had been the foundation of the system of modern farming as it had originally emerged in eighteenth-century England.

Yet tobacco prices were so high during the 1850s, and the long experience of Virginia farmers in growing and curing the leaf was giving them consistently better rates than western tobacco growers,\textsuperscript{80} that the pressure from merchants and creditors to return to the planters' ancestral crop was almost impossible to resist. When John Jones & Company wrote to William Massie in 1849, urging Tye Valley farmers to expand tobacco cultivation, Massie responded somewhat testily that, "as you know, I myself do not grow tobacco on any of my farms," but promised to inform his neighbors of the merchants' advice.\textsuperscript{81} Yet Massie was being unduly righteous, as his own crop memoranda from those years noted continued small-levels of tobacco being cultivated at Montebello – probably intended for local trade but chiefly to maintain a seed supply in anticipation of future market transformations. Such hedging of crop choice bets indicated the pull of tobacco for even a hard-boiled crop rotator like Massie. As noted earlier, during the 1850s that pull would blossom at Pharsalia, Level Green, and Tyro into the large-scale effort producing over sixty thousand pounds of leaf recorded in the last agricultural census before the War.

Yet Massie's aversion to following his agent's advice and planting tobacco from fence row to fence row at the first sign of rising prices also reflected the frustration

\textsuperscript{80}Robert, \textit{Tobacco Kingdom}, 142.

\textsuperscript{81}William Massie to John Jones, 6 June 1849.
which many of Virginia's high farmers felt about, and directed toward, the market-driven and commission merchant- and tobacco manufacturer-led return to the weed. While agricultural journals like the Southern Planter and the American Farmer were too dependent on a broad range of cultivators to condemn the tobacco renaissance out of hand, they did print vigorous debates over the crop's virtues throughout the decade.

Between 1858 and 1859, eminent Virginia agricultural and moral reformer John Hartwell Cocke (friend and earlier correspondent of Joseph Carrington Cabell) wrote a series of articles for the Southern Planter attacking tobacco and calling for its exclusion from Virginia's farms. Cocke especially condemned tobacco from the point of view of a classic agrarian republican concerned with plantation self-reliance. Tobacco took up far too many farm resources, both in terms of slave and family labor that had to be committed to such a sensitive crop, as well as in terms of the massive amount of farm 'fertility' – fresh land, manure, wood ashes, guano, etc. – that were required to make even the tiniest patches of arable sufficiently fertile for the demanding weed. With all of those assets diverted from other avenues into tobacco, many farmers had then to purchase food from off-plantation sources while planting other crops on denuded, unameliorated soils.82

Immediately upon publication of the first of Cocke's four-part series, however, a handful of correspondents leapt to the defense of tobacco in the pages of the Planter, indicating that tobacco was not wholly opposed within the ranks of Virginia's

entrepreneurial farmers. Cocke had laid particular emphasis on how difficult it was to integrate tobacco into crop rotations, given resource demands that defrauded other farm activities. His critics, however, defended the weed, contending that such an integration was far from impossible. The demands of tobacco cultivation for aggressive application of manures, they insisted, encouraged farmers vigorously to restore their lands, rather than simply accepting inferior grain crops from larger and larger chunks of arable. Furthermore, tobacco did not always use up that enhanced fertility, since in the experience of many farmers, wheat and other crops did better than otherwise when following tobacco in a crop succession. One author outlined a five-shift rotation – tobacco-wheat-grass-grass-grass – which, he claimed, would create a system of sustainable intensification more suitable for Virginia's soils than programs imported from England. Yet even if the matter was not as cut-and-dried as Cocke suggested in his polemics, the question of tobacco's addition or subtraction to sustainable soil fertility still remained a vexed one. Especially during periods of high prices like the 1850s, tobacco certainly repaid the labor invested in its cultivation. So if tobacco growth did not exhaust the heightened fertility created by plowing guano and animal manures into new grounds further ameliorated by the burning of cut timber – which remained a debatable point – then what was the incentive to take such fields out of tobacco after a year or more? Farmers hoping to rotate tobacco in with other cash and cover crops,

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while not bereft of hope, faced a struggle to create a delicate balance between labor, fertility, amelioration, crop prices, and personal finance. The pressure from the latter two factors could often be overwhelming. As one of Cocke’s critics pointed out when the essayist’s identity became known, Cocke could abandon tobacco with ease as he owned a cotton plantation in Alabama to supplement his short-term income. 

Most Virginia farmers did not have that luxury, and had no choice but to grow tobacco, often pushing beyond the narrow limits of what it could accomplish as a rotation crop.

William Massie’s attempts to revive large-scale tobacco production within a high farming system during the 1850s pointed up the difficulties the weed created, even for the piedmont’s more progressive planters. Throughout the decade, Massie successfully maintained the rotations and manure production which were the underpinning of high farming routines. His crop memoranda regularly noted large blocks of slave time during the late fall (post-harvest) given over to manure hauling and plowing at Pharsalia, Level Green, Tyro, and Montebello. He continued directing the cultivation of large amounts of hay, and expanded his livestock herds as well. Yet tobacco appears to have proven difficult to incorporate into Massie’s routine, particularly given its demands for high soil fertility. As long as his slave force continued to expand during these years – and as long as crop prices remained high – Massie evidently was able to balance tobacco and high farming by slipping tobacco cultivation onto new grounds he was clearing for later inclusion in the overall rotations. Early in the 1850s, his Level Green and Pharsalia

slaves were clearing new ground along swampy creeks like Muddy Branch, and planting them in tobacco. At Tyro, for further example, Massie’s slaves also opened eight acres of new land, before incorporating it into Field Number Three of that farm’s rotation plan in subsequent years. This practice would continue well into the decade, and he was still ordering stretches of second-growth forest to be cleared, burnt, and sown with tobacco as late as 1857. Yet in the long run, this was not a compromise which the upper Tye Valley planter could sustain, apparently. Whatever his short-term practice, tobacco was not mentioned in the crop rotation schemes he outlined in his private papers. Furthermore, even applications of commercial fertilizers to previously cultivated fields does not seem to have provided the kind of extravagant fertility he felt necessary. In 1852, he mentioned using plaster and guano on recently-cleared second-growth forest at Tyro, but immediately planted the field in corn. At Level Green in 1857, he felt confident enough in the use of guano and plaster to bring a marginal stretch of ground, the “Cornland [of] Field Number Seven,” out of fodder and feed production and put it into oats, but seemingly did not feel at all ready to bring old fields back into tobacco cultivation. All of the experiments Massie mentioned with different combinations of home-produced manure, plaster-of-paris, and guano, were made on his grass, hay, and cereal grain fields. Furthermore, the new ground he was clearing for tobacco cultivation increasingly appeared to push against the agroecological boundaries of his farm property. The land cleared at Pharsalia in 1857 was described in the memoranda books as, “(nearly swamp) land on muddy branch,” while the year before his slaves were clearing the hilly southern fringes of the main fields at Level Green for plant beds. Between 1850 and 1860, the
ratio between improved and unimproved land on William Massie's farms went from 1.38:1 to approximately 1:1. Massie seems to have been unable to effect the kind of permanent compromise proposed by tobacco's defenders. Lacking the windward anchor in the cotton belt John Hartwell Cocke boasted, Massie was forced to make concessions to tobacco to keep the money flowing, but likely remained apprehensive about the Faustian bargain he was making.

Despite the arguments of those among tobacco's defenders who insisted on the ease of its incorporation into self-sufficient crop rotations, as noted, many Virginia growers maintained its cultivation during the 1850s by making liberal donations of the greatest of nineteenth-century fertilizers, South American guano, to the soil. The American, and particularly Southern, craze for guano during the late 1840s and 1850s represented the establishment of a capitalist agroecosystem in perhaps its purest form. Guano – the petrified droppings of sea birds which collected on the cliffs and offshore islands along the Pacific coast of Central and South America – was the most potent crop fertilizer which came into widespread use before the advent of chemical soil additives after World War II. Extremely high in potassium, phosphates, and ammonia, guano was also notably suited to the acidified soils of the humid regions of the South because of its high lime content.

\[85\] See, for example, Rosser H. Taylor, "The Sale and Application of Commercial Fertilizers in the South Atlantic States to 1900." Agricultural History 21(1947), 47.

farm journal essayists engaged in a running debate during the 1850s comparing guano’s virtues with those of a nitrogen-fixing rotation crop, the cow-pea, whose use was also spreading across the South⁸⁷—many farmers looked to guano as practically a cure-all for depleted soil fertility. Moreover, unlike the painfully slow and expensive labor needed to develop manure- and clover-based rotations to restore exhausted native soils, guano was only a cash or credit purchase away, and offered immediate returns on the assets invested. Guano’s effectiveness in promptly reviving soil productivity made it an ideal venture for progressive agricultural capital—like improved stock and crop varieties, or new farm machinery, it strikingly increased labor efficiency without requiring fresh land.

Yet for all its benefits, guano was not without its critics. Right down to the Civil War, there was a group of farm reformers who, like John Hartwell Cocke, hewed to the old line of republican agrarianism. The purpose of high farming, they assumed, was to reduce the need of land-owning cultivators for debt-inducing outside purchases by maintaining and improving soil fertility, not to amplify that demand. Benjamin Hallowell told the Nottoway Agricultural Club in 1854, despite the obvious qualities of guano, “we must not depend on the use of this, as the settled policy of farming, to the neglect of our home manures. It is opposed to every principle of political economy, to send as far as half the circuit of our globe for guano, and neglect equally, or even more,”

Application of Commercial Fertilizers in the South Atlantic States.”

⁸⁷See, for example, Southern Planter, 18(1858), 371-2.
valuable manures, on our very premises, and in our neighboring cities." A number of correspondents and essayists responded to the growing guano craze among southern farmers by extolling the competing virtues of the cowpea, or those on-farm manures like marl, green sand, night soil, and marsh mud whose use was even more in line with the ideal of ecological and financial self-sufficiency. Yet the judgment of the bulk of practical farmers was manifested in the obsessive public discussion of guano, its many varieties and their qualities, and the many experiments made by a host of entrepreneurial cultivators – including William Massie – into the fertilizer’s optimal uses.

Correspondents to the farm journals reported and questioned experiments with rolling seed in guano, mixing guano with wood ashes and/or salt, using guano on old corn grounds, on tobacco plant beds, and on and on. Beyond the ideological preoccupations of a small segment of the narrow circle which produced opinion for the farm journals, the guano craze was unstoppable. Virginia’s popular press ignored the critics and heaped endless columns of praise on guano as the salvation of Southern agricultural and financial and political independence.

The real trouble with guano was an annoyance which lay well outside the

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89See, “Improving Land from Its Own Resources,” *Southern Planter*, 16(1856), 352-356.


boundaries of plantation ecology and far beyond the control of the planter elite. When combined with its almost miraculous restorative powers, it was this lack of control, in fact, that made the southern embrace of guano so feverish and desperate in the years before the Civil War. While Mexico, Colombia, and Chile all mined guano, what they produced was in small quantities and of presumably inferior quality. The world’s best deposits were found on a handful of islands in the Pacific, all claimed and effectively controlled by Peru. The Peruvian government, realizing the value of the ground rock to the burgeoning capitalist agricultural systems of the United States and northwestern Europe, moved quickly to establish a state monopoly, and to license agents in foreign countries with exclusive contracts to market Peruvian guano. In the United States, that agent was the firm of Barreda & Brother, a commercial partnership in Baltimore headed by an expatriate Peruvian. To the endless rage of Virginia’s popular and agricultural editors, the Peruvian government and their agents were periodically unable to meet the escalating North American demand for guano. Furthermore, Barreda and his partners were not above taking less than ethical advantage of their monopoly, and steadily raised prices on their precious commodity. And although those prices never rose above a point that might have crippled the trade, guano was so effective in restoring exhausted fields and quickly promoting high crop yields that it remained difficult to ascertain exactly where the point might be when its purchase could no longer be made to turn a profit.  

With such a commodity on the market – and in a commercial farm economy its

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92For a brief summary of the politics and diplomacy of the guano trade, see Gates, *The Farmers Age*, 327-329.
ecological value quickly made guano an positive necessity to planters of any ambition (or desperation) – the fact that it lay so far beyond the mastery of the plantation gentry was particularly galling to wealthy Virginians. In 1856, frustration had mounted to the point that a number of influential and well-connected Chesapeake and mid-Atlantic planters and agricultural merchants convened a ‘Guano Convention’ in Washington, D.C. After discussing a number of options for dealing with rising prices, including both quixotic hopes of organizing a boycott and a little wild-eyed talk of using military force against the Peruvian government, the delegates were forced to agree on their own impotence, and concluded that the only course available to them was continuing gentle remonstrance (read: begging) with Barreda and the Peruvian ambassador.93 This perfect helplessness in the face of unchallengeable commercial prerogatives infuriated Virginia’s capitalist planters. In place of effective action, editors chose instead to heap abuse upon Barreda – an editorial strategy which seemed never to fail in selling papers among the rural gentry. Describing the guano monopolist as, “a bear; not remarkably scrupulous in his dealings; and with as little of the true spirit of commercial liberality as any other Spaniard,” as Southern Planter editor Frank Ruffin opined,94 was among the milder insults Señor Barreda received from his customers in Virginia. During an age in which agricultural newspapers consciously attempted to avoid the partisan bile of the popular press, and therefore rarely made personal attacks on opponents, few essays on the guano


trade passed without Barreda being directly equated with the Prince of Darkness.95

In addition to leaving cultivators vulnerable to outside markets for additives, the speed demanded for competitive entrepreneurial intensification forced the adoption of practices that were well beyond their agricultural and technical experience. The slow pace of traditional intensification allowed farmers to develop an intimate understanding of agricultural ecosystems and their capabilities. The guano craze, in addition to bringing Virginia planters to their knees commercially, offered no such opportunity. Unlike marling's capricious effects, of course, guano did seem to produce such uniform and profitable results that its use spread with little hindrance from popular suspicions of book farming. Yet this did not change the equally important fact that Chesapeake planters had very little understanding of what they were dealing with — a reality that gave rise to considerable anxiety. This was especially true when farmers considered the possibilities of guano being adulterated by an unscrupulous Peruvian government, its American agent, or the various commission merchants. Being completely unaware of what the 'proper' composition of guano might be, Virginia in desperation appointed a state guano inspector to test and certify imports. Yet, as the Executive Committee of the state agricultural society reported in the pages of the Southern Planter, the inspection was next to useless. Accurately determining the phosphate and ammonia content of imported guano, it was disclosed, required the inspector to,

*add to the solution containing the acid a known quantity of per-nitrate of iron; precipitate by means of ammonia, and from the weight of the precipitate after ignition determine the phosphoric acid. To*

95Ibid., Editors Introduction, 80.
determine the ammonia, expel it from combination by heating with potash, condense in a receiver by means of hydrochloric acid, and add chloride of platinum so as to precipitate the double chloride of platinum and ammonia. By determining the weight of platinum in this precipitate after ignition, the weight of the ammonia may be estimated.

— in other words, an operation well beyond the means and ken of almost all planters, and, as the state agricultural society insisted, beyond the abilities and understanding of the state’s guano inspector as well. The Southern Planter used the ineffectiveness of the Virginia guano inspection to argue for either a repeal or at least a drastic revision of the aging inspection system, and to urge planters to trust to the commercial reputation of the firms with which they were dealing.96 Yet even the best capitalized and most conscientious of the Richmond commission merchants would have found thorough guano testing difficult or impractical. Occasional experiments in thorough testing revealed dramatic frauds to the readers of the popular and agricultural papers.97

And even with such meticulous testing, the fact remained that planters using guano could not be entirely sure of the importance to soil fertility and plant growth of the compounds they were testing for. During the 1850s, agricultural chemistry, despite considerable advances that had occurred during the preceding two decades, was still in its infancy.98 And even those understandings did not translate quickly to farm practice in

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96Ibid., 82-83.
97Ibid., 82.
an age before agricultural extension and government-subsidized soil testing. The
dominant theme of the essays and correspondence on guano in the agricultural papers
during the 1850s – apart from complaints about prices and slanders directed against
Barreda – were the wide variety of experiments (disparate stabs in the dark in many
cases) wealthy and ambitious planters were making in using the product with their
various crops and soil types. William Massie, for example, fiddled with guano on
different fields, in different quantities, on different crops, in different combinations with
lime, plaster, and manure, rolled seed in guano, and on and on, continually searching for
its most profitable uses. In 1853, for example, Massie was confident enough of his
understanding of his fields and fertilizers to set his slaves to work, “Sow[ing] a mixture
of 4 parts guano and 1 part plaster on all the Pharsalia fields except the old tobacco lot.”
Yet three years later, enough uncertainty about fields and fertilizer mixtures remained
that he reported instructing his Tyro overseer to, “leave a staked land in the upper end
above the head race, and another below the race staked near the millers house, to show
whether the plaster makes any impression on the wheat.” As committed to detailed
planning as he was, Massie appears never to have made guano a permanent part of his
farming routine. Other farmers were certainly less cautious, but the anxieties did not
disappear with greater aggression. In the end, the tensions and unease created by the
guano craze epitomized the process of creating a capitalist farm economy – its use left
planters at the mercy both of purveyors of information beyond their expertise as well as
the importers and dealers of a product in whose market the only serious competition was
among the purchasers.
Barreda certainly personified the apprehensions Virginia planters held about losing control of their businesses and communities – a disreputable commercial adventurer, an unscrupulous monopolist, and a Spaniard, to boot. Yet the problem of capitalist agriculture allowing financial and commercial power to be ‘excessively’ centralized also appeared within Virginia’s borders during the 1850s. The domestic nature of a growing dispute, and the fact that power was shifting within an increasingly fluid entrepreneurial class in Virginia, made the conflict less clear-cut for Virginia planters than that which purportedly arrayed honest white American businessmen against a sneaky, backstabbing Latin. Yet the tensions were clearly present throughout the decade on a number of key issues.

As noted above, the Executive Committee of Virginia’s state agricultural society began publically opposing the institution of the guano inspection during the mid-1850s, and moved on to fight against the other inspections as well, particularly those for flour and tobacco. Not surprisingly, given the political climate and culture of the United States during the mid-nineteenth century, the opponents of the Virginia inspection system portrayed their quarrel as a fight of struggling, honest taxpayers against an antiquated system which accomplished no useful commercial purpose and served only to keep a disreputable class of hack political appointees – the inspectors – firmly ensconced at the state’s public trough. Yet the high-flying commercial farmers and merchant-planters who led the state society appear to have directly run into opposition from the Old

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Dominion’s Democratic Party, acting in its self-appointed role as the defender of the state’s common farmers.\textsuperscript{100} The inspection system had been originated during the eighteenth century as a means for elite tobacco growers to curtail the participation of poorer farmers in the colony’s all-important tobacco export business. Yet the system, which had been only slightly revised and expanded during Jefferson’s revision of the laws in 1781, had become an obstacle to capitalist development one hundred and twenty-five years later. As such, it began to attract spirited defenders from among struggling commercial farmers in the hinterlands.

One of the key processes in the evolution of capitalist agriculture was the constant improvement of crop quality, both in terms of on-farm genetic stock and cultivation techniques, as well as post-harvest processing. Yet in most cases these improvements, especially in the instance of industrial crop processing, could only be achieved by larger concerns investing considerable amounts of capital in the most current and high-priced technology. In the case of flour, for example, a differentiation in quality had emerged between small country mills owned by planters like Major Thomas Massie or Robert Rives, on the one hand, and Richmond’s industrial flour mills. The growing ability of Richmond establishments like Gallego and Rutherford to grind finer and sift bran more thoroughly expanded price gaps between ‘city’ and ‘country’ flour from five to ten percent levels during the 1810s to more than twenty percent by mid-century.\textsuperscript{101} Yet

\textsuperscript{100}“Report to the Virginia State Agricultural Society,” 80.

\textsuperscript{101}For evidence of differential flour pricing, see the Thomas Massie Papers, Correspondence, and Accounts and Receipts, Virginia Historical Society, Richmond, Virginia. In their accounts and letters, Richmond commercial firms like Robert

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the inspection system retarded public and commercial recognition of this differentiation, as country flour worth as much as one-quarter less to conscientious and experienced buyers was still being classified by the Richmond inspector within the top category of ‘Extra Superfine’. In fact, as noted earlier, the price gap had begun to emerge when New York flour buyers had begun to ignore the Virginia flour inspection entirely, and demand the right to inspect each lot personally, or else to rely on the barrel brands of the industrial gristmills of the capital city. Apparently, the flour inspection was working, by the 1850s, largely in the manner which the advocates of localization might have hoped. It flattered the entrepreneurial ambitions of country millers by obscuring the declining relative quality of their product within categories whose upper boundaries might move forward as milling technology improved, but whose lower limits remained fixed. As the state agricultural society’s anti-inspection essayists noted, New York’s commodity exchanges recognized fully twenty or more grades of wheat flour, while Richmond’s state-appointed inspector was certifying only five.

The state society’s opposition to the flour inspection probably emerged from within the developing rural economy of Henrico County. The city of Richmond and the agricultural regions around it produced the largest number of members of the state

Gamble’s notified the Major of the prices being offered for ‘city’ and ‘country’ flour at the warehouses in Shockoe. This practice was continued by William Massie’s various agents in the capital.

102 See, for example, Hunt & James to William Massie, 17 August 1860.

103 "Report to the Virginia State Agricultural Society,” 84.
society,\textsuperscript{104} as well as the improved roads which made it possible for farmers to take their grain straight to the industrial mills, probably killing the neighborhood’s rural milling economy almost entirely. In contrast, the small-scale millers in rural localities like the Tye Valley whose isolation for a time protected their aspirations, needed the protection of the simplified flour inspection. To avoid the marginalization or elimination which was becoming the fate of rural mills throughout the nation, rural entrepreneurs had to maintain control over the laws of commerce. Maintenance of the inspection system in the face of powerful contrary interests was one of the most immediate means.

Furthermore, while the large scale of the flour consignment business operating out of Richmond by 1850 and afterwards were limiting the ability of wholesalers to differentiate grades of Virginia flour without recourse to the inspector’s brand, when it came to tobacco, such practices were almost impossible. While buyers might identify the particular marks of a handful of elite tobacco planters with a reputation for quality, most tobacco planters would be protected by the broadness of inspection categories. This would be particularly true of the growing amount of Virginia tobacco being purchased by the tobacco manufacturers in Richmond, Lynchburg, and other urban centers. As long as the inspector’s brand remained the only available generalization of quality short of unwieldy personal inspection and individual reputation, the mass of the state’s planters would be protected against being left behind by any rapid improvement of crop and processing.

\textsuperscript{104}An accounting of regional membership in the state society was included in the \textit{Southern Planter}, 16(1856), 363.
While a regressive inspection system did create divisions among farmers over the issue of tobacco quality, there was another manner in which the planter class appeared to have been united in defense of the more than century-old arrangement. In addition to their duties in examining and approving tobacco and flour, many inspectors apparently supplemented their income by acting as agent-auctioneers, selling crops (especially tobacco) entrusted to them by local planters to various manufacturers at the numerous inspection warehouses. Under this practice, the inspector’s brand served the valuable purpose of allowing tobacco planters to delay the marketing of their crop for significant periods of time. As long as tobacco sale was confined to the time around harvest – when supply was at its most abundant – prices would remain low. While buyers might have resented the inspection-auction system, it allowed planters to retain control of their crop while it was in the hands of the more pliable inspectors and wait for sale. The inspectors facilitated this power by an inspection certification that could preclude review of individual hogsheads. Under state law, the inspector’s brand had a three-month period of validity, which gave planters ample opportunity to chose their point of sale, and their leaf ample opportunity to decay in quality. Opponents of the inspection system declared the inspector’s brand to be little more than a legal license giving farmers the right to allow their crops to deteriorate – especially from the dampness that resulted from poorly constructed barrels sitting for months in poorly constructed, river-bottom warehouses.105

The leaders of the state agricultural society could court the ire of partisan leaders

105See Robert, Tobacco Kingdom, 88-93, and “Report to the Virginia State Agricultural Society,” 84.
by inveighing against the inspection system and auction sales while being financed by the state legislature. Yet it was in fact the merchants of Richmond who created a much more serious threat to the control planters held over the marketing of their crops. Increasingly frustrated by the scattered auction sales of tobacco in the hinterlands, and by the four separate inspection warehouses established within Richmond itself, the city’s merchants banded together in 1858 to form a ‘Tobacco Exchange’. This organization, modeled on the similar private commodities exchanges being established throughout the country, attempted to monopolize supervision of tobacco sales within the city under a Board elected by the Exchange’s merchant members. The Exchange was designed for the convenience of commission merchants and large-scale buyers. Yet, not coincidentally, such an Exchange would also have worked first to put the Richmond tobacco inspection out of business (by allowing buyers to personally inspect lots and samples at a single, central location), and second to focus the interest of buyers in Virginia’s largest tobacco market, and thereby draw the trade increasingly to the centrally-located capital.106

While the Richmond and Henrico County-focused state agricultural society supported the proposed organization – as did Frank Ruffin’s replacement as editor of the Southern Planter, Henrico County farmer and Richmond physician Dr. James E. Williams107 – rural tobacco planters quickly rallied against the project. Several of the neighborhood agricultural clubs whose numbers and membership had been mushrooming since the early 1840s – such as Prince Edward County’s ‘Bush and Briery Agricultural

106 See Robert, Tobacco Kingdom, 105-107.

Club’ and the Brunswick and Dinwiddie’s ‘Hole and Corner Club’ – indignantly petitioned the legislature through the pages of the agricultural and popular papers against the commission merchants’ attempt to consolidate the tobacco marketing system. Not surprisingly, near the forefront of the concerns of rural tobacco growers was the danger that the envisioned Richmond Tobacco Exchange would follow the model of so many other boards of commodity trade and use its local monopoly to extract immoderate commissions from sellers. Yet the petitioners in the agricultural clubs were even more vocal in their concern that what they saw as their commercial ‘liberties’ were being violated by an unwarranted consolidation of mercantile power. The initial menace of the founders of the Richmond Exchange, a resolution binding the assembled commission merchants not to purchase or sell tobacco at venues other than the new Exchange, seemed a naked attempt to kill off the ability of farmers to control the time and place of the sale of their crops in the search for the best prices. Already, petitioners claimed, planters dealing with the Richmond commission merchants under the traditional terms – the factors acted merely as agents carrying out quite specific directives as to the details of any sale – were seeing their instructions ignored by commercial firms seeking to streamline their operations. The proposed Exchange, the agricultural club-men charged, would act primarily to formalize and facilitate an already-initiated attempt by tobacco merchants to embark upon commercial strategies designed to expand their trade and lower their costs at the expense of their supposed service to the interests of the individual planters with whom they were dealing. \(^{108}\)

The criticism was not enough to stop the formation of the Exchange, nor its success to the point that a spacious building was constructed for its business in 1860. But the opposition of a sizeable proportion of the state’s tobacco planters was sufficient to force the Exchange to concede the right of non-member farmers to enter its confines, and to have their tobacco publically-sold by the Tobacco Exchange’s hired auctioneer at a commission rate of twelve and a half cents per hogshead, the same rate by law charged by the state’s inspectors. Furthermore, planter resentment of a thinly-veiled power grab on the part of the Richmond commission merchants was sufficient to keep the Exchange from quickly monopolizing the capital’s tobacco trade, and sales made by the state inspectors continued, albeit with apparently diminishing vigor, right down to the early months of the Civil War.\textsuperscript{109}

Yet despite their ability to defend the tobacco inspection system and warehouse auction custom, and to impede the monopolistic ambitions of Richmond’s tobacco merchants, the independent rural entrepreneur of eastern Virginia was clearly coming under siege. Capitalist economic growth of the kind promoted by localizing planters created markets with enormous built-in advantages for disciplined, large-scale operations. While the piedmont gentry had made significant strides in consolidating control over their communities by 1860, their political, social, and commercial mastery of their neighbors and neighborhood economies was, like that of rural capitalists elsewhere in the United States, insufficient to retain power in the face of advanced economic forces.

\textsuperscript{109}See Robert, \textit{Tobacco Kingdom}, 104-109, for the anticipated and experienced impact of the Richmond Tobacco exchange.
capitalist enterprise. This slowly-dawning condition left Virginia’s entrepreneurial farming class facing an uncertain future after the middle of the nineteenth century.

For the planters of the Tye Valley, the growing power of unified capital to consolidate business dealings at a regional or national level hit home during the 1850s in some direct and personal ways. William Massie’s dealings with William Prince & Company (discussed in Chapter Three, above) introduced the aging planter to a business world in which ties of personal experience and trust had become obsolete. The Long Island nursery businesses had grown so large that they apparently no longer felt the need for agents with local reputations to represent them, choosing instead to deal directly with customers. Nor did Prince & Company demand credit references from their clientele – their business had expanded enough that they could afford to swallow the occasional loss in exchange for the greater trade made possible by direct advertising. While Massie was uncertain of this way of doing business, it did have advantages for the customer. The hordes of middlemen – agents, factors, shippers, etc. – who facilitated long-distance commerce and credit in the age of face-to-face (to face) business dealings were no longer needed. Yet in many cases it was the localizing gentry who had been profiting from investing in the formation of such intermediary operations. Furthermore, in return for the conveniences of direct trade, businessmen like William Massie had to confront the fact that they were now simply names on a customer list, treated according to analytical categories developed in distant offices.

In February of 1860, Massie had an illuminating experience with the newly constructed Orange & Alexandria Railroad, which had been extended through the Tye
Valley to Lynchburg two years before. Massie had fought long and hard for the O & A, purchasing stock, negotiating rights-of-way, and besieging the company’s leadership with letters of solicitation and advice. In particular, Massie had fought to adapt the firm’s construction plans to that mid-1850s redevelopment of Nelson County’s roads which he had helped oversee. Massie appears to have understood that the railway company was mainly interested in the Tye Valley as a way to Lynchburg, whose trade would connect the line with the plantations and farms of the western Southside, southwest Virginia, and eastern Tennessee. He therefore spent much of the period between 1855 and 1858 peppering the new company’s president, reforming planter and attorney John S. Barbour, Jr., with ultimately successful requests to locate a Tye Valley O & A depot at the centrally-located crossroads hamlet of Arrington.\textsuperscript{110}

Yet this achievement proved to be an illusory one, as the incident two years later proved, and Massie came to understand that his extensive personal involvement with the railroad – which he had interpreted as translating into influence – did not outweigh the larger commercial picture the company’s directors were focused on. Massie, anticipating a delivery being sent to him by a wool manufacturer in Charlottesville, sent one of his slave carters down to the depot at Arrington to retrieve the shipment. The carter waited four hours past the scheduled arrival of the train, and when it showed up, it simply rolled right on past the depot. Leaning from a window, the conductor yelled out that the train had to make up time to Lynchburg, and that Massie’s shipment would be dropped off at

\textsuperscript{110}See, for example, William Massie to the President and Directors of the Orange and Alexandria Rail Road, 29 August 1855, or William Massie to John S. Barbour, 25 May 1859.
the (unmanned) depot on the way back, if at all possible. As the train moved off into the Rives family fields and wood lots around the crossroad, the conductor yelled back that he had just remembered, they also had some mail for Mr. Massie. He then pulled out two letters, and threw them into the woods a hundred yards down the line.111

The Tye Valley’s status as a rural backwater, ignored by commercial transport companies in their quest to connect well-capitalized merchants in the major cities with larger rural markets linked with secondary urban centers like Lynchburg, was reinforced by the impact of the James River & Kanawha Canal. The Canal, for which the Massies, along with so many other members of the Tye Valley’s entrepreneurial gentry, had fought so hard and placed such high hopes, began during the 1850s to shut the Valley off from commercial opportunity, rather than opening it up. Like the Orange & Alexandria’s freight trains, the packet boats that ran the route of the canal hurried past the Tye Valley on their way to the larger market of Lynchburg. As the road network of the Southside and the Tennessee Railway attracted the trade of the western part of Virginia to the growing city on the south side of the James, Tye Valley farmers saw their crops sit for weeks in the warehouses at New Market before shipment could be arranged.

Moreover, if the Canal was working to begin to seal the Tye Valley’s planters and farmers off from their markets figuratively, it soon began to do so literally as well. In order to provide a steady supply of water to the canal along its upper reaches, the Canal company had built a series of dams across the James River. The furthest downstream of these dams blocked the James just below the mouth of the Tye. As the dam slowed

111William Massie to C.C. Flanagan, 16 February 1860.
water flows behind it, both rivers began to silt up. This was particularly true of the shallower Tye, which began to dump the heavy loads of sediment it picked up from the cleared hillside fields upstream the instant its channel hit the backed-up water of the James. Within a few years after the construction of the canal past the Tye River’s confluence with the James, the smaller tributary had silted up to the point that the packets and batteaux could no longer turn out of the canal and move the quarter mile upstream to the New Market warehouses and stores. The dam and the siltation it caused regularly resulted in New Market being inundated during even the milder freshes along the Blue Ridge face. Although the flooding was bad enough, the inability of the boats to make it from the canal back up to New Market made the old settlement impractical. Crops and other shipments carted in from the surrounding farms to the small river town had to be hauled another three-quarters of a mile across the mud flats to the Company’s Tye River Locks for loading onto the occasional canal boat that did stop for Tye Valley produce. William Massie wrote to the directors, calling on his stock and his family’s thirty years of support for the improvement, in an attempt to get the Company to agree to the reasonable request that it aid the inconvenienced warehouse and store owners (including Massie himself) in removing their buildings to a new river settlement near the locks. Yet the man who had done so much to aid the Canal’s financial and political progress, and who had been a close political and personal acquaintance of the Company’s dynamic leader, Joseph Carrington Cabell, found the directors uninterested.
in contributing to the improvement of facilities in a small market like the Tye Valley.\textsuperscript{112} Instead the company continued investing in the expensive undertaking of raising the canal over the Blue Ridge into the Shenandoah Valley.\textsuperscript{113}

Attempts to stem the tide of the Tye Valley's loss of commercial power by continually bettering the quality of its agricultural production also produced mixed results. Rural agricultural processing suffered during the 1850s, as the ability of rural entrepreneurs to modernize their technology year after year encountered a steady decline relative to urban industry. Tobacco manufacturing, for example, which had originally been concentrated on the larger Southside and central piedmont plantations, had moved to town by the 1840s and 1850s. As the chewing public's taste in flavorings matured, even the wealthiest of individual rural planters lacked the capital, labor, or facilities to compete with genuine tobacco industrialists who used large-scale credit and hired labor (both free and slave) to build big operations in the urban centers of late antebellum Virginia.\textsuperscript{114}

A similar process took place in the case of wheat flour. As the Civil War approached, flour and grist milling technology advanced so steadily that soon only the Richmond giants like Gallego, Rutherfoord, and Dunlop could afford the new equipment,

\textsuperscript{112}William Massie to the President and Directors of the James River and Kanawha Company, 6 September 1850.

\textsuperscript{113}Dunaway, \textit{History of the James River and Kanawha Company}, 163-204, passim.

\textsuperscript{114}For the best discussion of trends in Virginia tobacco manufacturing, see Robert, \textit{Tobacco Kingdom}, 161-226.
while rural millers saw their trade contract and their profits decline. As noted earlier, the inspection system was regarded with distrust by most outside purchasers of Virginia flour. The differential pricing of city and country products had already begun during Major Thomas Massie’s early years milling in the upper Tye Valley. Yet that gap steadily widened, and the rural entrepreneurs who had been using commercial milling as a path toward profit for over a hundred years began to abandon the battle. Interestingly, when protesting the inspection laws the Executive Committee of the state agricultural society appeared to have little sympathy for the plight of rural millers, who still made up a sizable segment of the state’s most prominent high farmers. Arguing that the quality of flour for baking was next to impossible to judge by sight or feel (leaving aside the question of obvious bran content, which Richmond’s industrial gristmills had largely solved by this point), the Committee noted that the custom in other countries and regions was trending steadily toward public inspection and auction sale of the grain itself, rather than the flour.115 Such a trend, as it indeed progressed in the nineteenth-century United States, was destined to drive rural millers out of the wheat flour business altogether.

William Massie’s career as a miller illuminates the problem in microcosm. Massie’s business papers and correspondence reveal an assiduous, abiding concern with maintaining the production of top quality flour at his upper Tye River mills. He hired his millers with even more comment and care (and subsequent turnover) than he practiced with his overseers,116 and made regular inquiries and purchases of new equipment


116William Massie to David Graham, 1 January 1850.
designed to keep his operations technologically current. As late as the mid-1840s, he
designed and supervised a complete and ambitious rebuilding of his mill at Pharsalia.117
Yet during that same decade, his flour was suffering increasing problems on the
Richmond market, as his agents reported more and more barrels slipping below the
inspector’s rating of superfine – in its expansiveness normally so solicitous of the pride
and profits of rural millers.118 By the early 1850s, Massie was beginning to temporize on
the question of new equipment purchases. He corresponded extensively with D.S.
Delaplane, the Richmond flour inspector, who apparently was trying to serve his loyal
clientele among the rural millers by serving as an informal technological advisor, on the
feasibility of various new methods designed to reduce bran content to the standard
established by the industrial gristmills. Massie mulled over the purchase of Delaplane’s
most persistent suggestion, a device known as a ‘hopperboy’, before finally rejecting the
it.119 Mentions of milling technology in Massie’s papers rapidly diminished thereafter, as
his income from milling appears to have done as well. After the Civil War, while many
of the Virginia country mills remained in operation, they were largely shut out of the
wheat flour market, and limped into the early twentieth century grinding corn and doing

117The mill plans Massie had drawn up are included in the William Massie
Papers, Plats and Oversize Papers, Barker Texas History Center.

118See, for example a running correspondence Massie received from his agents
about his flour being condemned for poor color and smell. John Jones to William
Massie, 4 December 1848, 21 December 1848, and 8 January 1849.

119See Smith and Roberts to William Massie, 1 October 1850, George Thurman to
William Massie, 28 August 1850, and D.S. Delaplane to William Massie, 31 August
1850.
local sawing. Mills kept open on the Blue Ridge face during the 1990s as historic tourist attractions largely grind cornmeal in an effort to be authentic, forgetting the period in which the country operations had been competitive in national and international markets.  

When William Massie’s father moved to the Tye Valley during the first years of the nineteenth century, he had believed that relocating from prosperous Frederick County to the backwater of the upper Tye need not cripple his milling business. As long as he worked to draw local farmers into the web of commercial production and small-scale credit, loyal clients like George Williams would provide an expanding base of customers for the Massie family’s localized entrepreneurialism. Massie and his sons, the major was convinced, would thereby be able to solidify their status as community leaders while at the same time reconstructing the financial independence and affluence that had been threatened by daily life and regional markets in Frederick. Yet the results were not entirely what he had foreseen. The struggle out of debt was longer and harder than expected – even hard-working and progressive William only surfaced in the black during the early 1850s – and many of the farmers of the upper Valley resolutely abstained from being drawn fully into the Massie’s commercial network. In the end, Major Thomas’  

Woodson’s Mill, on the Piney River in Nelson County, is an excellent example. Interestingly, the importance of such local, ‘custom’ mills to the southern economy – a significance that carried on into the first half of the twentieth century – has obscured the commercial orientation of flour mills among scholars as well. Larry Hasse, in an excellent piece on the importance of local corn mills to maintaining the insularity of the southern economy during the early twentieth century, did not deal with the importance of rural commercial flour mills such as Massie’s. See Hasse, “Watermills in the South: Rural Institutions Working against Modernism,” Agricultural History, 58(1984), 280-295.
youngest son was forced to watch as even the autonomy which the father had hoped to obtain from localization began to erode as Virginia’s capitalism was streamlined with decision-making being consolidated well above the ranks of prosperous plantation masters. For all of their embrace of capitalism, localizers had never entirely abandoned the republican desire for independence. When a maturing capitalist system demanded that from them as well, their unease was obvious.

Virginia Capitalists and the Piedmont Landscape on the Eve of the Civil War.

In the late summer of 1857, a young man named Alfred Brown Perticolas arrived at Amherst Court House to read law with a local attorney, preparatory to being presented to the Virginia Bar. During his months at Amherst County’s village seat on the western edge of the Tye Valley, Perticolas diverted himself from his studies by making detailed pencil sketches of the surrounding countryside and its rapid development.121 The young student’s artistic eye was drawn particularly to the progress through the region of the Orange & Alexandria and Southern States Railroads, as well as to other signs of economic progress in the region. The urban scene of nearby Lynchburg also merited several leaves in Perticolas’ sketchbook, as did the now-completed James River & Kanawha Canal’s trace through Nelson and Amherst. Yet his vision of the Tye Valley countryside was full of contradictions. Usually anchored by the solid mass of canal traces, railroad bridges and roundhouses, water mills, and the like, the backgrounds of


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Perticolas' drawings are occupied by a perplexing array of agricultural landscapes. Torn between visions of quiet rural prosperity and struggling, primitive farms bypassed by the modern world, the sketches of Alfred Brown Perticolas – a law student, an ambitious young professional, and a prospective member of late antebellum Virginia's expanding and evolving upper class – offer a fascinating insight into the hopeful, yet uneasy, view the capitalist class of the Old Dominion had of the agricultural ecosystem and economy emerging around them.

Certainly Perticolas could not qualify as a folk artist. He had clearly taken some at least elementary drawing lessons, as his obvious skills and a humorous landscape, self-entitled "A Want of Perspective," suggest. Furthermore, his compositions contrasting railroad construction with calm agricultural landscapes drew on a well-established tradition among British and American landscape painters. Yet Perticolas, consciously or not, was unable simply to copy the style and subject matter he had probably observed in paintings hanging in the houses of well-to-do friends. Professional painters on both sides of the Atlantic drew landscapes that juxtaposed the unearthly shape, color, and sound of the railroad with idyllic rural scenes being disrupted by the iron horse. Yet such hazy rural romanticism, it would appear, did not fit into Alfred Brown Perticolas' mental world with complete comfort. 'Mainstream' landscapes typically dwarfed the railroads that were their ostensible centerpieces with pastoral splendor. Perticolas' sketches, on the other hand, are dominated by massive structures (he was particularly fascinated by railroad bridges and trestles), while the countryside is often reduced to an overwhelmed backdrop. Furthermore, the relationship between the railroad (as well as other forms of
urban and industrial development), and the rural landscape around it, is much more complex in Perticolas’ sketches than in the stark, politicized juxtapositions of the professional landscape painters.\textsuperscript{122} The wide variety of backgrounds he chose for his sketches that indicate a very conflicted vision of the Virginia landscape.

In the first place, Perticolas view of the intrusion of modernity into the rural countryside is a much more positive one than the customary treatments of his subject matter might have pointed him toward. The railroad is never ugly, alien, or threatening in his work. Instead, it is often reduced to an afterthought detail, as the focus is drawn to the impressive architecture of the line itself. In a number of cases, in the course of searching out the railroad which so obviously impressed him, Perticolas did not even bother to locate a suitable vista for his compositions. Instead, he simply sought out the construction camps in the forest and sketched the works, reducing the landscape to undistinguished forest. On other occasions, for example in a handful of sketches of the James River & Kanawha Canal, transportation improvement is presented as being in picturesque harmony with the landscape about it. Furthermore, when Perticolas did choose to idealize the rural landscape, he preferred subjects that eliminated the railroad altogether, such as his drawing of the village of Amherst Court House nestled in oak and chestnut trees below the hazy backdrop of the Blue Ridge mountains.

In other drawings, the rural landscape Perticolas records varies widely in its message and meaning. In one of his best-composed sketches, "View from Garret Window," he frames what must have been an almost dreamlike vision rural capitalists had of their ideal landscape for piedmont Virginia. The well-engineered waters pass through a developed farm landscape, dotted by cleared fields and solidly constructed farmhouses and a water mill bordering the canal. In the center background, cattle graze in a fenced pasture. A small batteau is poled along, transports goods into the distance, while two men discuss business behind a small loading crane in the foreground. It is a picture of the kind of harmony between nature and economic development Virginia's entrepreneurial farmers had hoped to create—a perfect integration of capitalist agriculture, transportation, and trade into a tightly managed rural landscape. In some other sketches, Perticolas was prepared to abandon the agricultural landscape altogether in his admiration for economic progress. His drawing of the industrial waterfront of Lynchburg, "View from Bridge up Blackwater Creek," is (for the time) a remarkably sanguine artistic rendering of urbanization. Blackwater Creek, no doubt by this point in the century overflowing with industrial and domestic sewage, is quiet and clean. The smokestacks of the railroad engine and the tobacco factory in the center are quiet. Indeed, there seems to be almost none of the noise, bustle, stench of the nineteenth-century city, even a small one like late-antebellum Lynchburg. Yet even here, some hint of the localizers' dream of integrating economic progress with social stability remains. Urbanization and industrialization is being pursued successfully, yet in a manner and on a scale unthreatening to the social order of old Virginia. That the industrial leaders of
Lynchburg would still choose to build and live in mansion houses like those pictured on the tree-lined hill in the background indicated that the changes accelerated by the boom of the 1850s was still in the minds of many being easily incorporated into the standing order.

Yet in contrast with these images of economic progress reinforcing, rather than destroying, natural and social harmony, the agricultural landscape was not always a silent or quietly supportive element of Perticolas’ admiring sketches of transportation improvements in the western piedmont. In many cases, the railroad as an instrument of progress is subtly contrasted with an agricultural system which is underdeveloped, even decaying. In “Round House + depot from S.S.R.R. Bridge,” for example, Perticolas did continue the theme of reconciling industrial progress with the world of the antebellum gentry. The railway center in the foreground has been constructed under the watchful eye of a mansion house surrounded by well-maintained pastures, fences, and outbuildings on the hill above. Yet below the plantation lies another farm, of much poorer aspect. Of particular note is the crop field, probably tobacco, given its small size, grown on what appears to be new ground, recently hacked from the adjoining forest. The rest of the farm is covered either with vanishing second-growth forest or open pasture dotted by scrub trees. As a man like Perticolas doubtless would have realized, the railways stretching into the piedmont depended for their profits on the business of men like the plantation owner on the hill in the background, not on the small and uncertain crops of the small farmer in the center. Its presence creates a disruption in the idyllic picture of gentry-led economic development he so hopefully created in other scenes.
The continuation of older agricultural techniques around the most modern advances in crop and commodity transportation is a theme in other of Perticolas’ sketches. In an untitled drawing of a railroad bridge crossing a small river (the O & A crossing the Tye?), the low bluff on the far bank had obviously been cleared for cultivation in the past. By the time that Perticolas arrived with pad and pencil, however, it had been abandoned and was reverting to shrubs and red cedar. Internal improvement advocates had been promising that transportation projects like the railroad would bring agricultural prosperity, development, and heightened property values to the communities along its route. The landscape Perticolas sketches, on the other hand, is a far cry from the progressive farms which he saw lining the James River & Kanawha Canal from the garret window. There are, in fact, no farms visible in this sketch – no houses, no outbuildings, fences, or crops. The only signs of an active agricultural settlement in the area, interestingly, are the free-ranging cattle watering themselves in the river below the bridge, apparently unattended and unmanaged.

An even bleaker picture of the stunted improvement of the rural piedmont appears in another drawing, “S.S.R.R. Wagon Bridge.” In this sketch, the railroad does run by a farm, but that agricultural establishment is much less handsome than the farmhouses and mills lining the canal, or the plantation house in the background of the railroad depot drawing. The farmhouse is of moderate size, but appears perhaps to be of dubious stability, while the outbuildings are small and even more ramshackle in appearance. More disturbingly, the buildings are surrounded by unfenced, unregulated plant growth. Perticolas’ pencil scratchings might represent corn or tobacco, but the
haphazard outline of the 'field' and the lack of a visible rail fence makes that somewhat unlikely. More probably the fields near the house have been abandoned to scrub rather than maintained. In fact the farm may have been abandoned, or simply be inactive. Either way, it is nothing like the neat, well-managed, flourishing farms envisioned by agricultural reformers and sketched by Perticolas from the garret window. As whig capitalists in the Tye Valley were learning during these years, transportation improvement did not automatically bring abundance and stability to communities through which it passed. Like the O & A, the S.S.R.R. rushed on to Lynchburg, leaving large portions of the piedmont cut off from the resources farmers needed to catch up to modern crop markets. The farm in the background of this drawing, lacking the profits needed to attract the capital needed to intensify its cultivation, was withering into bankruptcy rather than charging into prosperity and permanence.

Perticolas, like other observers of the agricultural landscape of Virginia, could find many such farms, even in the midst of the runaway prosperity of the 1850s. At the same time, of course, when they sought out evidence of a stable, flourishing, capitalist agricultural ecosystem and economy, there was plenty to see as well. Perticolas' sketch of Amherst Court House, for example, supported a more positive entrepreneurial vision, despite the bucolic composition he chose. The village was clearly a bustling local center, despite the proximity of urban Lynchburg, and the flat land on the hamlet’s southern and eastern outskirts had been cleared and fenced. The mountain just in the background (probably Strode and Kentucky Mountains, in fact), on the other hand, was covered with forest rather than arable. Yet despite such comforting scenes, the members of late
antebellum Virginia’s capitalist class could see the signs of reservations, of incomplete success, all around them. Two stretches of hillside on the northern edge of Strode Mountain, for example, appear to have been excepted from the forest cover of the rest of the ridge line, and had been cleared, probably for pasture or low-grade tobacco. Here, even in his most romantic landscape sketch, Perticolas found himself unable or unwilling to ignore even small details which marred a scene which otherwise married abundance, stability, and control in the entrepreneurial gentry’s ideal rural community.

Even observing a bucolic scene like the one he saw from the banks of Rutledge Creek outside Amherst Court House, a man like Alfred Brown Perticolas could not give himself over completely to adoration of a rural idyll. He continually measured Virginia’s farm landscape against the standard of capitalist improvement, and frequently found it wanting. Perticolas expressed this tension by choosing topics that juxtaposed differing stages of agricultural development against the railroad and canal, the acmes of industrial progress. During the 1850s, he and other members of his class could on the one hand celebrate the achievements of economic development throughout the state, while on the other still remaining uneasy about their inability perfectly to coordinate rural and urban development with agricultural and communal sustainability. In the midst of the boom years, large populations remained outside the modern labor market, and shrinking but still unsettling stretches of land were left out of the capitalist agroecosystem. Furthermore, despite the plantation mansions on the bluffs above the S.S.R.R. roundhouse and the Lynchburg waterfront, capitalist development did not always reward the town and the plantation with an even hand. Alfred Brown Perticolas saw these facts
in the landscape of the Tye Valley and the railroad trace down to Lynchburg, and was particularly sensitive to them. As a result, he was unable to copy the association of the modern, capitalist farm with a pastoral Eden which so many romantic landscape painters found so uncomplicated. After decades of effort, elite Virginians understood that the railroad (in and of itself, and as the symbol of nineteenth-century entrepreneurialism) was a necessary element of landscapes of rural affluence and domination, but could not deliver on all of the promises attributed to it.
CONCLUSION

The Civil War proved to be a dramatic blow to the competing agricultural ecologies of the Tye River Valley. Even though the Valley escaped the most direct damage inflicted by passing armies, the district’s farms suffered in other ways. Livestock, both draft and meat, were requisitioned by the Confederate government, quickly undoing decades of patient improvement to the local breeds. Even more importantly, the Virginia financial system, into which entrepreneurial localizers had poured so much of their resources and profits, lay in shambles, undone by worthless Confederate currency and bonds. Finally, and most crucially, the very base of southern capital, slave property, disappeared with emancipation. The region’s agriculture – and the agricultural ecosystems envisioned by its various classes of farm operators – never recovered from the simultaneous blows. A large estate like that of the Massies was broken up in the years following the war, as inheritance, debt, and lack of capital took their toll on gentry finance. And while small farmers could take advantage of the newly available lands for a moment, their lack of capital frequently drove them below the level of petty, landed proprietors and down into the ranks of tenants and sharecroppers. Freedmen and women suffered much the same fate. Lacking resources to purchase lands, stock, or equipment, they became either farm laborers, tenants and sharecroppers, or left
the district entirely for limited opportunity elsewhere. Yet as much as the landowning white elite might have maintained control of the working lives of the Tye Valley’s black residents, they were largely unable to turn this power to their own profit. Mechanization of grain agriculture to the west, and the explosion of bright tobacco cultivation to the south, made all but the most fertile farm properties in the region uncompetitive. The major contribution the Tye Valley did have to make to Virginia’s post-war commercial agriculture, orchard products – particularly apples – shipped to urban regions on the railway, was a capital-intensive operation that could only be undertaken by a handful of the remaining wealthy planters.

In 1880, Virginia journalist Orra Langhome took a train trip along the Orange & Alexandria line through the Tye Valley, and described a devastated agricultural landscape and economy:

The ride from Lynchburg to Charlottesville, is, for the most part, through a desolate region. In Amherst and Nelson counties, little but rough craggy hills and bare fields can be seen from the car windows. At long intervals, an old-fashioned farm house with the mud-daubed, wood chimneyed, windowless cabins, once occupied by the slaves [but] now deserted and in ruins, came into view, and gave the impression of a God-forsaken land, unloved by nature, uncherished by man.

Furthermore, the ruin of the region’s agricultural landscape only reinforced the growing centralization of financial and commercial power which had troubled planter-entrepreneurs during the 1850s. Langhome concluded, that while the domestic agricultural economy of the Tye Valley was destitute, “there is hope in the near future for this forlorn looking district. These rugged hills are full of fine minerals, which are fast

1Nelson county landholding article.
attracting the attention of capitalists in the North and West who are making large investments here....” 2 In other words, the only hope for a renewal of the region’s commercial fortunes lay in turning its natural resources over to outside investors. This decision, of course, would do nothing to uphold the fading dream of successful commercial localization, as an economy of wage-earning miners would provide little in the way of a consumer base. Nor could an economy based upon mineral extraction be expected to sustain land values and community stability. Mining and timber industries the world over continue to be renowned for devastating ecosystems and exchanging stable agricultural communities for work camps full of underpaid transients. Even had this debilitating resource-extraction economy emerged in the closing decades of the nineteenth century, the Tye Valley’s planter gentry would have been unable to take advantage of it. While some of the prominent local families, such as the Cabells and Colemans, did retain their mansion houses and some of their properties, by the end of the century most had left the Tye Valley in order to try to maintain their fortunes in other ventures.

The rural community they left behind quickly became a commercial backwater. The dramatic soil crises of the early nineteenth century had largely abated, but only because the Valley’s farmers, by and large, could not obtain the commercial returns needed to encourage a more debilitating brand of exploitive cultivation. Traditional intensifiers might have gained sway over the region’s agricultural ecosystem, but the

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bulk of the Valley's population would pay the price in material poverty. By the early
twentieth century, what remained of the Tye River district's leadership were so desperate
for capital investment and any kind of local wage base to support consumer spending,
they were prepared to welcome small-scale, but still outside-controlled, extractive
industries with open arms. Small mines and pine-timber clear cuts dotted the region
during the first half of the twentieth century, leaving the Tye Valley with lasting
environmental problems. Local small farmers quickly sold first part- and then full-time
labor to these concerns, further restricting the labor available for the management of any
variety of agricultural ecosystem. When the mines were abandoned in the face of
domestic and foreign competition, the Valley was left even further deserted.3

The inability of the Tye River Valley's landowners and farmers successfully to
manage their agricultural ecosystem in the years after the Civil War must be put down to
their helplessness in the face of competitive markets and outside capital. Doubtless, an
element of that powerlessness was already emerging in the centralization of economic
authority entrepreneurial planters witnessed during the 1850s. The retreat of the Tye
Valley community and landscape into limited farming and small-scale resource
exploitation might well have occurred in any event, but it is fascinating to consider just

3As noted earlier, the long-running television drama, "The Waltons," was based upon the
creator's experiences growing up in the depression-era Rockfish Valley. Although probably not
entirely accurate—certainly not with the tall pines of the southern California hill country
standing in for the Southwest Mountains—the show did offer an enlightening picture of the early
twentieth-century economy of the region. Many of the residents of the lower Rockfish were, in
fact, employed by a small soapstone mine and factory. The Walton patriarch, doubtless like
many small farmers across the region, drifted between part- and full-time labor with the
company throughout the show's narrative.
how much of that impotence was the result of the War. While the modernization of the region’s farm economy still trailed well behind the most entrepreneurially-intensive practices in the Atlantic world, the Valley’s leading planters had gone a long way toward gaining the power and resources necessary to control their landscape. Building upon their power base as owners of black human beings and aristocrats of white communities, during the antebellum era the Tye Valley’s planters had assembled considerable amounts of capital, land, expertise, and other assets essential to building a potentially successful capitalist agroecosystem. The Civil War and emancipation, while not removing them from community leadership, did dramatically curtail the power of the planter gentry, over labor, over finance, and, most importantly, over the natural world around them.

In the absence of a clear resolution to the potential ecological, social, and economic sustainability of the entrepreneurial agroecosystem when coupled to the Virginia social and labor systems, the competition between agroecological and social visions in the early nineteenth-century Tye Valley raises fascinating questions concerning the roles of capitalism, liberalism, and power in responding to environmental crises.

Population ecologist Garrett Hardin has argued persuasively that freedom and sustainability are incompatible – unbridled self-seeking will create inequalities in the economic and social order that will drive further competitive, destructive exploitation of limited resources. The only answer for implementing a politically-workable conservation, Hardin once wrote, was, “mutual coercion, mutually agreed upon.”

based in a healthy cynicism about human nature, Hardin’s vision is still somewhat
quixotic. Successful managed ecosystems are built upon a generous helping of coercion,
to be sure, yet such coercion is rarely mutual and never mutually agreed upon. As a
result, conscious attempts to align human institutions and managed ecosystems are
usually driven by concentrated social power.

Centralizing power in this manner, however, is not always an easy task,
particularly within a ‘liberal’ political and social order like the United States. The kind
of smallholder ecological conservatism represented by the Tye Valley’s traditional
intensifiers was difficult to maintain against the social and economic ambitions of so
many white men. Even while investing more labor in more ‘efficient’ exploitation of the
agricultural ecosystem, small farmers kept a constant eye on possibilities for further land
purchase, and drove their political representatives to keep the national and regional land
system expanding. The constant drain of labor and capital out of traditional
intensification represented by frontier migration muted the process to the point that it
only becomes clearly visible in the statistical record. The possibility of politically
forcing open the property system kept the frontier agroecosystem alive and well, even in
late antebellum Virginia. Traditional intensification, for all its successes in stabilizing
man-land relationships elsewhere in the world, proved difficult to adapt to the
nineteenth-century United States. As much as a culture of democratic republicanism
supported an emphasis on maintaining property ownership, the demands which
traditional intensification made for the sacrifice of individual ambition could not be
reconciled even with the most rigid agrarianism.
Capitalism, for its part, offered an intriguing but still highly uncertain alternative. Certainly many Virginia planters found financial, infrastructure, and market development easy to reconcile with an extremely conservative social vision. The entrepreneurial localizers of antebellum Virginia maintained a rigid system of race slavery while creeping cautiously but steadily toward exerting greater levels of economic and political control over the mass of less exalted white farmers. In the Tye Valley, at any rate, it was the most self-consciously ‘paternalistic’ of slaveowners, men like William Massie, who embraced rural capitalism with the greatest passion. The centralization of capital in a modern economy clearly laid a possible foundation for the centralization of power within American society. Furthermore, the demands of large-scale capital for extensive payoffs and valuable security enforced a degree of long-term thinking about sustainable fertility and attendant property values on capitalist farmers that was absent from the bumptious land-grabs which characterized the family property economics of small holders. Building out from their own farms, capitalist cultivators were able to use networks of local credit, property buyouts, as well as land management legislation and publically-sponsored agricultural experiment and education from a cautious but increasingly receptive state (and eventually national) government. To be sure, the forceful expansion of capitalist agroecological management and its attendant political economy did not go unchallenged in the Tye Valley. And furthermore, it still operated in tandem with a remarkably oppressive system of forced labor. Yet the competing agroecosystems of the post-Revolutionary Tye River region remained contained within a single, albeit not entirely stable, social order. The challenge capitalist development made to
republicanism was profound, but never socially destructive, as conflict was contained within the community.

Yet the capitalist agroecosystem was not without serious potential weaknesses. Any successful combination of a sustainable capitalist agriculture with the hierarchical social order of Old Virginia rested upon a locally-oriented elite, lucrative crop markets, and a financial system secured by high-value land. When the concentration of capital and the elaboration of markets moved beyond Virginia’s capitalist class of entrepreneurial planters and businessmen, those building blocks might easily be lost. The ecosystems of the late twentieth-century Tye Valley – despite some ugly wounds left from resource extraction and processing⁵ – are probably more stable, mature, and diverse than they were at any time during the later eighteenth or early nineteenth centuries. Yet by the same token, the at least somewhat stable (albeit oppressively hierarchical and exploitive) community of the revolutionary and antebellum eras has vanished. The Tye River Valley’s economic, social, and cultural life is now almost entirely dependent upon the urban settlements and economies of Lynchburg and Charlottesville. During the current century, at least, capitalist development partially rebuilt the Valley’s ecosystem in the simplest way possible. By destroying the social system, it mandated the transfer of much of the population’s economic and social ambitions onto other regions, leaving the Tye Valley open to the widespread return of the hardwood forests.

Some environmental historians have asserted the compatibility of sustainability

⁵Including an abundance of clear cut paper mill timber stands below Findlay’s mountain and an EPA Superfund site near an old ore processing plant along Piney River a few miles from Pharsalia.
and freedom, arguing that the best way of balancing social system and eco-system is through allowing individuals and communities to make patient adaptation to unique local natures through long processes of trial and error.\textsuperscript{6} Human social, economic, and political institutions, however, tend to enforce a degree of conformity that crosses the indistinct boundaries of local ecosystems. Large-scale social formations like cultures, nation-states, and markets, require large-scale, comprehensive landscape management in order to have any hope of sustainability. That kind of management demands an concentration of power in the hands of an aggressive authority committed to stabilizing the relationship between humanity and the rest of the Earth. Yet the questions of where this kind of power is going to be concentrated, and how it might be controlled, remain troubling ones. Although the Virginia agricultural reformers might well be fairly ranked as the nation's first conservationists, who among contemporary Americans would be prepared to embrace the egotism and violence that characterized their social ambitions? Yet it was those very ambitions that were crucial in turning their minds toward natural resource conservation, and toward assembling the kind of power necessary to pursue their program. How can we create the powerful institutions necessary successfully to manage a planet-sized environment, without sacrificing the blessings of political and cultural libertarianism?

\textsuperscript{6}Particularly James Malin, of course.
APPENDIX - STATISTICAL TABLES

Table 2.1
Crop Choice among Deceased Planters in Old Amherst County(*), 1761-1799.

<table>
<thead>
<tr>
<th>Crop</th>
<th>N</th>
<th>Crop</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Barley</td>
<td>1</td>
<td>Oats</td>
<td>17</td>
</tr>
<tr>
<td>Indian Corn</td>
<td>55</td>
<td>Peas</td>
<td>1</td>
</tr>
<tr>
<td>Cotton</td>
<td>13</td>
<td>Rye</td>
<td>19</td>
</tr>
<tr>
<td>Flax</td>
<td>25</td>
<td>Tobacco</td>
<td>33</td>
</tr>
<tr>
<td>Fodder</td>
<td>18</td>
<td>Wheat</td>
<td>27</td>
</tr>
<tr>
<td>Hemp</td>
<td>16</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Amherst County (Va.) Will Books, 1-4.
Note: 98 out of a total of 268 inventories for this period contained entries for crops.
(*)In Virginia, most local historians refer to county territories prior to their subdivision as ‘Old [County Name] County’. Hence, Old Amherst refers to the extent of the county between its founding in 1761 and the creation of Nelson out of it in 1807.
Table 2.2
Crop Combinations among Deceased Planters in Old Amherst County, 1761-1799.

<table>
<thead>
<tr>
<th>Crop</th>
<th>Barley</th>
<th>Corn</th>
<th>Cotton</th>
<th>Flax</th>
<th>Fodder</th>
</tr>
</thead>
<tbody>
<tr>
<td>Barley</td>
<td>x</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Corn</td>
<td>1</td>
<td>x</td>
<td>5</td>
<td>10</td>
<td>15</td>
</tr>
<tr>
<td>Cotton</td>
<td>0</td>
<td>5</td>
<td>x</td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td>Flax</td>
<td>0</td>
<td>10</td>
<td>4</td>
<td>x</td>
<td>4</td>
</tr>
<tr>
<td>Fodder</td>
<td>0</td>
<td>15</td>
<td>0</td>
<td>4</td>
<td>x</td>
</tr>
<tr>
<td>Hemp</td>
<td>1</td>
<td>13</td>
<td>2</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>Oats</td>
<td>1</td>
<td>14</td>
<td>2</td>
<td>7</td>
<td>7</td>
</tr>
<tr>
<td>Peas</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Rye</td>
<td>1</td>
<td>12</td>
<td>2</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Tobacco</td>
<td>0</td>
<td>20</td>
<td>2</td>
<td>6</td>
<td>2</td>
</tr>
<tr>
<td>Wheat</td>
<td>1</td>
<td>18</td>
<td>3</td>
<td>8</td>
<td>7</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Crop</th>
<th>Hemp</th>
<th>Oats</th>
<th>Peas</th>
<th>Rye</th>
<th>Tobacco</th>
<th>Wheat</th>
</tr>
</thead>
<tbody>
<tr>
<td>Barley</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Corn</td>
<td>13</td>
<td>14</td>
<td>1</td>
<td>12</td>
<td>20</td>
<td>18</td>
</tr>
<tr>
<td>Cotton</td>
<td>2</td>
<td>2</td>
<td>0</td>
<td>2</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Flax</td>
<td>4</td>
<td>7</td>
<td>0</td>
<td>3</td>
<td>6</td>
<td>8</td>
</tr>
<tr>
<td>Fodder</td>
<td>2</td>
<td>7</td>
<td>0</td>
<td>3</td>
<td>2</td>
<td>7</td>
</tr>
<tr>
<td>Hemp</td>
<td>x</td>
<td>8</td>
<td>0</td>
<td>8</td>
<td>3</td>
<td>8</td>
</tr>
<tr>
<td>Oats</td>
<td>8</td>
<td>x</td>
<td>1</td>
<td>10</td>
<td>3</td>
<td>12</td>
</tr>
<tr>
<td>Peas</td>
<td>0</td>
<td>1</td>
<td>x</td>
<td>1</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Rye</td>
<td>6</td>
<td>10</td>
<td>0</td>
<td>x</td>
<td>5</td>
<td>13</td>
</tr>
<tr>
<td>Tobacco</td>
<td>3</td>
<td>3</td>
<td>0</td>
<td>7</td>
<td>x</td>
<td>5</td>
</tr>
<tr>
<td>Wheat</td>
<td>8</td>
<td>12</td>
<td>1</td>
<td>11</td>
<td>5</td>
<td>x</td>
</tr>
</tbody>
</table>

Source: Amherst County (Va.) Will Books, 1-4.
### Table 2.3
**Crop Choices among Deceased Planters in Old Amherst County, By Decade, 1761-1799.**

<table>
<thead>
<tr>
<th>Decade</th>
<th>Barley</th>
<th>Corn</th>
<th>Cotton</th>
<th>Flax</th>
<th>Fodder</th>
</tr>
</thead>
<tbody>
<tr>
<td>1761-1769</td>
<td>1</td>
<td>13</td>
<td>1</td>
<td>7</td>
<td>2</td>
</tr>
<tr>
<td>1770-1779</td>
<td>0</td>
<td>14</td>
<td>3</td>
<td>9</td>
<td>7</td>
</tr>
<tr>
<td>1780-1789</td>
<td>0</td>
<td>16</td>
<td>8</td>
<td>5</td>
<td>2</td>
</tr>
<tr>
<td>1790-1799</td>
<td>0</td>
<td>12</td>
<td>1</td>
<td>4</td>
<td>7</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Decade</th>
<th>Hemp</th>
<th>Oats</th>
<th>Peas</th>
<th>Rye</th>
<th>Tobacco</th>
<th>Wheat</th>
</tr>
</thead>
<tbody>
<tr>
<td>1761-1769</td>
<td>4</td>
<td>6</td>
<td>0</td>
<td>6</td>
<td>5</td>
<td>8</td>
</tr>
<tr>
<td>1770-1779</td>
<td>3</td>
<td>3</td>
<td>0</td>
<td>2</td>
<td>8</td>
<td>7</td>
</tr>
<tr>
<td>1780-1789</td>
<td>5</td>
<td>4</td>
<td>0</td>
<td>5</td>
<td>12</td>
<td>3</td>
</tr>
<tr>
<td>1790-1799</td>
<td>4</td>
<td>4</td>
<td>1</td>
<td>5</td>
<td>7</td>
<td>9</td>
</tr>
</tbody>
</table>

Source: Amherst County (Va.) Will Books, 1-4.

Note: The total number of inventories (N) by decade are - 31 (1760's), 55 (1770's), 91 (1780's), and 58 (1790's).

### Table 2.4
**Technological-Class Differences in Tobacco and Wheat Farming, Old Amherst County, 1761-1799.**

<table>
<thead>
<tr>
<th></th>
<th>Tobacco Farmers</th>
<th>Wheat Farmers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hoes (#)</td>
<td>8.84</td>
<td>13.73</td>
</tr>
<tr>
<td>Plows (#)</td>
<td>1.97</td>
<td>1.86</td>
</tr>
<tr>
<td>Plowhoes (#)</td>
<td>1.25</td>
<td>3.00</td>
</tr>
<tr>
<td>Average Plow Value</td>
<td>0.98</td>
<td>1.15</td>
</tr>
<tr>
<td>(£ sterling)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Appraised Value</td>
<td>316.40</td>
<td>451.66</td>
</tr>
<tr>
<td>(£ sterling)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Amherst County (Va.) Will Books, 1-4.
Table 2.5
Range in Plow Values in Tobacco and Wheat Farming,
Old Amherst County, 1761-1799.

<table>
<thead>
<tr>
<th>Percentage of Inventories</th>
<th>Tobacco Farmers</th>
<th>Wheat Farmers</th>
</tr>
</thead>
<tbody>
<tr>
<td>(By Economic Class)</td>
<td>Average Plow Value (£ sterling)</td>
<td></td>
</tr>
<tr>
<td>0 - 50 %</td>
<td>0.39</td>
<td>0.52</td>
</tr>
<tr>
<td>50 - 90%</td>
<td>1.19</td>
<td>1.46</td>
</tr>
<tr>
<td>90 - 100%</td>
<td>3.12</td>
<td>3.15</td>
</tr>
</tbody>
</table>

Source: Amherst County (Va.) Will Books, 1-4.
Note: The particularly low values for individual plows at the bottom end of the scale indicate, it would seem, more the willingness of inventory takers to view any piece of bent, rusted iron as of value. Broken plow irons are listed with an appraised value in several inventories across the 1761-1799 period.

Table 2.6
Average Livestock Values by Decade, Old Amherst Count, 1761-1799.

<table>
<thead>
<tr>
<th>Decade</th>
<th>Cattle</th>
<th>Hogs</th>
<th>Horses</th>
<th>Sheep</th>
</tr>
</thead>
<tbody>
<tr>
<td>1761-1769</td>
<td>1.12</td>
<td>0.35</td>
<td>4.48</td>
<td>0.31</td>
</tr>
<tr>
<td>1770-1779</td>
<td>1.17</td>
<td>0.29</td>
<td>4.26</td>
<td>0.33</td>
</tr>
<tr>
<td>1780-1789</td>
<td>1.25</td>
<td>0.31</td>
<td>4.92</td>
<td>0.39</td>
</tr>
<tr>
<td>1790-1799</td>
<td>1.20</td>
<td>0.35</td>
<td>5.86</td>
<td>0.24</td>
</tr>
</tbody>
</table>

Source: Amherst County (Va.) Will Books, 1-4.
Note: All of these average values are adjusted for inflation using the currency deflator developed by John McCusker, in How Much is That in Real Money? A Historical Price Index for Use as a Deflator of Money Values in the Economy of the United States. (Worcester, MA: American Antiquarian Society, 1992). A deflator designed specifically for Chesapeake-region probate inventories has been developed by researchers at Saint Mary’s City and Colonial Williamsburg. This deflator, however, only runs through the early 19th Century. Given that continuing reference will be made to the Tye Valley probate inventories down through the later 1840s, in order to maintain consistency, McCusker’s more inclusive deflator is used throughout.
Table 2.7
Average Livestock Values in Tobacco and Wheat Farming,
Old Amherst County, 1761-1799.

<table>
<thead>
<tr>
<th>Species</th>
<th>Tobacco Farmers</th>
<th>Wheat Farmers</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Average Animal Value (£ sterling)</td>
<td></td>
</tr>
<tr>
<td>Cattle</td>
<td>1.08</td>
<td>1.15</td>
</tr>
<tr>
<td>Hogs</td>
<td>0.24</td>
<td>0.38</td>
</tr>
<tr>
<td>Horses</td>
<td>5.96</td>
<td>7.16</td>
</tr>
<tr>
<td>Sheep</td>
<td>0.29</td>
<td>0.33</td>
</tr>
</tbody>
</table>

Source: Amherst County (Va.) Will Books, 1-4.

Table 2.8
Correlation between Wealth and Livestock Values,
Old Amherst County, 1761-1799.

<table>
<thead>
<tr>
<th>Species</th>
<th>Pearson's $r$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cattle</td>
<td>0.4944</td>
</tr>
<tr>
<td>Hogs</td>
<td>0.4279</td>
</tr>
<tr>
<td>Horses</td>
<td>0.8853</td>
</tr>
<tr>
<td>Sheep</td>
<td>0.8546</td>
</tr>
</tbody>
</table>

Source: Amherst County (Va.) Will Books, 1-4.
Table 3.1
Still Values in the Tye Valley by Wealth Category, 1761-1829

<table>
<thead>
<tr>
<th>Percentile of Appraised Values</th>
<th>Mean Still Value</th>
<th>Stills</th>
<th>Inventories</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 - 50 %</td>
<td>10.761</td>
<td>15</td>
<td>183</td>
</tr>
<tr>
<td>50 - 90 %</td>
<td>27.969</td>
<td>24</td>
<td>134</td>
</tr>
<tr>
<td>90 - 100 %</td>
<td>47.152</td>
<td>9</td>
<td>30</td>
</tr>
</tbody>
</table>

Source: Amherst County (Va.) Will Books, 1761-1829; Nelson County (Va.) Will Books, 1808-1829.

Table 3.2
Tye Valley Still Values by Time Period, 1761-1829

<table>
<thead>
<tr>
<th>Time Period</th>
<th>Mean Still Value</th>
<th>Total Still Value</th>
<th>Inventories</th>
</tr>
</thead>
<tbody>
<tr>
<td>1761 - 1799</td>
<td>22.588</td>
<td>722.808</td>
<td>32 (231)</td>
</tr>
<tr>
<td>1800 - 1829</td>
<td>40.547</td>
<td>1335.237</td>
<td>40 (297)</td>
</tr>
</tbody>
</table>

Source: Amherst County (Va.) Will Books, 1761-1829; Nelson County (Va.) Will Books, 1808-1829.
Table 4.1

Per Animal Values for Cattle, 1790-1850.

<table>
<thead>
<tr>
<th>Economic Status (percentage of appraised value)</th>
<th>Value in 1860 dollars</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1790s</td>
</tr>
<tr>
<td>0-50%</td>
<td>4.799</td>
</tr>
<tr>
<td>50-90%</td>
<td>5.179</td>
</tr>
<tr>
<td>90-100%</td>
<td>5.616</td>
</tr>
</tbody>
</table>

Source: Amherst County (Va.) Will Books 1-7. Nelson County (Va.) Will Books A-H.

Table 4.2

Per Animal Values for Hogs, 1790-1850.

<table>
<thead>
<tr>
<th>Economic Status (percentage of appraised value)</th>
<th>Value in 1860 dollars</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1790s</td>
</tr>
<tr>
<td>0-50%</td>
<td>1.392</td>
</tr>
<tr>
<td>50-90%</td>
<td>1.323</td>
</tr>
<tr>
<td>90-100%</td>
<td>2.203</td>
</tr>
</tbody>
</table>

Source: Amherst County (Va.) Will Books 1-7. Nelson County (Va.) Will Books A-H.
Table 4.3

Per Animal Values for Sheep, 1790-1850.

<table>
<thead>
<tr>
<th>Economic Status (percentage of appraised value)</th>
<th>Value in 1860 dollars</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1790s  1800s  1810s  1820s  1830s  1840s</td>
</tr>
<tr>
<td>0-50%</td>
<td>0.957  0.967  1.169  1.119  1.280  1.456</td>
</tr>
<tr>
<td>50-90%</td>
<td>1.041  1.077  1.261  1.280  1.429  1.471</td>
</tr>
<tr>
<td>90-100%</td>
<td>1.039  1.117  1.528  1.100  1.408  1.519</td>
</tr>
</tbody>
</table>

Source: Amherst County (Va.) Will Books 1-7. Nelson County (Va.) Will Books A-H.

Table 4.4

Numbers of Sheep per Inventory, 1790-1850.

<table>
<thead>
<tr>
<th>Economic Status (percentage of appraised value)</th>
<th>Average Number of Animals per Inventory</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1790s  1800s  1810s  1820s  1830s  1840s</td>
</tr>
<tr>
<td>0-50%</td>
<td>2.000  6.400  12.111  10.000  10.800  10.667</td>
</tr>
<tr>
<td>50-90%</td>
<td>9.182  11.516  19.133  13.500  22.000  28.000</td>
</tr>
<tr>
<td>90-100%</td>
<td>19.000 21.333  28.500  57.167  33.000  98.333</td>
</tr>
</tbody>
</table>

Source: Amherst County (Va.) Will Books 1-7. Nelson County (Va.) Will Books A-H.
Table 5.5
Harrors in the Tye Valley, 1790–1850.

<table>
<thead>
<tr>
<th>Economic Status (percentage of appraised value)</th>
<th>Total Number of Harrows Reported</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1790s</td>
</tr>
<tr>
<td>0-50%</td>
<td>0</td>
</tr>
<tr>
<td>50-90%</td>
<td>0</td>
</tr>
<tr>
<td>90-100%</td>
<td>0</td>
</tr>
</tbody>
</table>

Source: Amherst County (Va.) Will Books 1-7. Nelson County (Va.) Will Books A-H.

Table 5.6
Cultivators in the Tye Valley, 1790-1850.

<table>
<thead>
<tr>
<th>Economic Status (percentage of appraised value)</th>
<th>Total Number of Cultivators Reported</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1790s</td>
</tr>
<tr>
<td>0-50%</td>
<td>0</td>
</tr>
<tr>
<td>50-90%</td>
<td>0</td>
</tr>
<tr>
<td>90-100%</td>
<td>0</td>
</tr>
</tbody>
</table>

Source: Amherst County (Va.) Will Books 1-7. Nelson County (Va.) Will Books A-H.
Table 4.7

Average Plow Values, 1790-1850

<table>
<thead>
<tr>
<th>Economic Status (percentage of appraised value)</th>
<th>Average Cost per Plow (in 1860 dollars)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1790s</td>
</tr>
<tr>
<td>0-50%</td>
<td>1.243</td>
</tr>
<tr>
<td>50-90%</td>
<td>1.071</td>
</tr>
<tr>
<td>90-100%</td>
<td>0.937</td>
</tr>
</tbody>
</table>

Source: Amherst County (Va.) Will Books 1-7. Nelson County (Va.) Will Books A-H.

Table 4.8

Crop Incidence in the Tye Valley, 1790-1850

<table>
<thead>
<tr>
<th>Crop</th>
<th>Times Reported in Estate Inventories</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1790s</td>
</tr>
<tr>
<td>Bacon</td>
<td>0</td>
</tr>
<tr>
<td>Beehives</td>
<td>0</td>
</tr>
<tr>
<td>Potatoes</td>
<td>0</td>
</tr>
<tr>
<td>Corn</td>
<td>12</td>
</tr>
<tr>
<td>Fodder</td>
<td>7</td>
</tr>
<tr>
<td>Tops</td>
<td>0</td>
</tr>
<tr>
<td>Shucks</td>
<td>0</td>
</tr>
<tr>
<td>Blades</td>
<td>0</td>
</tr>
<tr>
<td>Oats</td>
<td>4</td>
</tr>
<tr>
<td>Tobacco</td>
<td>7</td>
</tr>
<tr>
<td>Rye</td>
<td>5</td>
</tr>
<tr>
<td>Wheat</td>
<td>9</td>
</tr>
<tr>
<td>Total Inventories</td>
<td>85</td>
</tr>
</tbody>
</table>

Source: Amherst County (Va.) Will Books 1-7. Nelson County (Va.) Will Books A-H.
Table 6.1
Cash Value per Acre Ratios for the Tye Valley, 1850-1860.

<table>
<thead>
<tr>
<th>Economic Class (%)</th>
<th>1850 Mean</th>
<th>1850 Median</th>
<th>1860 Mean</th>
<th>1860 Median</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 - 50 %</td>
<td>3.2594</td>
<td>2.9398</td>
<td>8.710</td>
<td>6.6933</td>
</tr>
<tr>
<td>50 - 90 %</td>
<td>6.9037</td>
<td>6.0</td>
<td>18.8678</td>
<td>10.0</td>
</tr>
<tr>
<td>90 - 100 %</td>
<td>13.537</td>
<td>12.406</td>
<td>70.9757</td>
<td>20.0</td>
</tr>
</tbody>
</table>


Table 6.2
Ratios of Improved to Unimproved Land for the Tye Valley, 1850-1860.

<table>
<thead>
<tr>
<th>Economic Class (%)</th>
<th>1850 Mean</th>
<th>1850 Median</th>
<th>1860 Mean</th>
<th>1860 Median</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 - 50 %</td>
<td>3.2594</td>
<td>2.9398</td>
<td>21.8757</td>
<td>1.2750</td>
</tr>
<tr>
<td>50 - 90 %</td>
<td>6.9037</td>
<td>6.0</td>
<td>1.9368</td>
<td>1.0</td>
</tr>
<tr>
<td>90 - 100 %</td>
<td>13.537</td>
<td>12.406</td>
<td>1.4605</td>
<td>1.0</td>
</tr>
</tbody>
</table>

Table 6.3
Per Acre Ratios of Key Crops and Livestock for the Tye Valley, 1850.

<table>
<thead>
<tr>
<th>Crop/Animal</th>
<th>0 - 50 %</th>
<th>50 - 90 %</th>
<th>90 - 100 %</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>Median</td>
<td>Mean</td>
</tr>
<tr>
<td>Group A (Subsistence Crops)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corn (bushels)</td>
<td>3.2594</td>
<td>2.9398</td>
<td>1.5779</td>
</tr>
<tr>
<td>Oats (bushels)</td>
<td>0.6355</td>
<td>0.3693</td>
<td>0.4237</td>
</tr>
<tr>
<td>Beans (bushels)</td>
<td>0.0496</td>
<td>0.0428</td>
<td>0.0204</td>
</tr>
<tr>
<td>Potatoes (bushels)</td>
<td>0.1635</td>
<td>0.1000</td>
<td>0.0892</td>
</tr>
<tr>
<td>Sweet do. (bushels)</td>
<td>0.1543</td>
<td>0.1000</td>
<td>0.0561</td>
</tr>
<tr>
<td>Group B (Subsistence Livestock)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hogs</td>
<td>0.1594</td>
<td>0.1176</td>
<td>0.1025</td>
</tr>
<tr>
<td>Group C (Swing Items)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Livestock Value ($)</td>
<td>1.4081</td>
<td>1.0000</td>
<td>1.2743</td>
</tr>
<tr>
<td>Rye (bushels)</td>
<td>0.3132</td>
<td>0.2500</td>
<td>0.1434</td>
</tr>
<tr>
<td>Group D (Cash Crops)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tobacco (pounds)</td>
<td>16.171</td>
<td>14.476</td>
<td>11.317</td>
</tr>
<tr>
<td>Wheat (bushels)</td>
<td>0.4693</td>
<td>0.3200</td>
<td>0.4994</td>
</tr>
<tr>
<td>Group E (Markers of Entrepreneurial Intensification)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Work Oxen</td>
<td>0.0018</td>
<td>0.0013</td>
<td>0.0079</td>
</tr>
<tr>
<td>Farm Machinery ($)</td>
<td>0.1786</td>
<td>0.0800</td>
<td>0.3236</td>
</tr>
</tbody>
</table>

Table 6.4
Per Acre Ratios of Key Crops and Livestock for the Tye Valley, 1860.

<table>
<thead>
<tr>
<th>Crop/Animal</th>
<th>0 - 50 %(*)</th>
<th>50 - 90 %</th>
<th>90 - 100 %</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>Median</td>
<td>Mean</td>
</tr>
<tr>
<td>Economic Class</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Group A (Subsistence Crops)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corn (bushels)</td>
<td>11.4100</td>
<td>4.0000</td>
<td>4.4126</td>
</tr>
<tr>
<td>Oats (bushels)</td>
<td>0.2260</td>
<td>0.1250</td>
<td>0.1385</td>
</tr>
<tr>
<td>Beans (bushels)</td>
<td>0.1449</td>
<td>0.0667</td>
<td>0.0591</td>
</tr>
<tr>
<td>Potatoes (bushels)</td>
<td>0.0622</td>
<td>0.0333</td>
<td>0.0463</td>
</tr>
<tr>
<td>Sweet do. (bushels)</td>
<td>0.0785</td>
<td>0.0374</td>
<td>0.0423</td>
</tr>
<tr>
<td>Group B (Subsistence Livestock)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hogs</td>
<td>0.0731</td>
<td>0.0458</td>
<td>0.0884</td>
</tr>
<tr>
<td>Group C (Swing Items)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Livestock Value ($)</td>
<td>0.5964</td>
<td>0.4658</td>
<td>0.6322</td>
</tr>
<tr>
<td>Rye (bushels)</td>
<td>0.0520</td>
<td>0.0300</td>
<td>0.0410</td>
</tr>
<tr>
<td>Group D (Cash Crops)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tobacco (pounds)</td>
<td>76.2700</td>
<td>45.4267</td>
<td>40.5234</td>
</tr>
<tr>
<td>Wheat (bushels)</td>
<td>0.1829</td>
<td>0.0300</td>
<td>0.0700</td>
</tr>
<tr>
<td>Group E (Markers of Entrepreneurial Intensification)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Work Oxen</td>
<td>0.0022</td>
<td>0.0010</td>
<td>0.0106</td>
</tr>
<tr>
<td>Farm Machinery ($)</td>
<td>0.1378</td>
<td>0.0667</td>
<td>0.7654</td>
</tr>
</tbody>
</table>


*Note: The Per Acre Ratios for the lowest economic class will seem abnormally high in comparison with 1850, due to a discrepancy in the recording methods. In 1850, the Nelson County census taker recorded acreages for tenant farms, but did not ten years later. As a result, no ratios could be calculated for a large percentage of the lower class farmers. The ratios for the landowners in the lowest grouping are included for comparison with the top half of the Valley's farms.
Table 6.5
Crop Reporting Incidence by Economic Class for the Tye Valley, 1850-1860

<table>
<thead>
<tr>
<th>Crop</th>
<th>0-50%</th>
<th>50-90%</th>
<th>90-100%</th>
<th>0-50%</th>
<th>50-90%</th>
<th>90-100%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Animals Slaught.</td>
<td>92.9</td>
<td>92.4</td>
<td>96.3</td>
<td>66.0</td>
<td>85.8</td>
<td>89.2</td>
</tr>
<tr>
<td>Buckwheat</td>
<td>2.2</td>
<td>2.2</td>
<td>0.0</td>
<td>8.0</td>
<td>9.2</td>
<td>1.5</td>
</tr>
<tr>
<td>Butter</td>
<td>95.5</td>
<td>96.9</td>
<td>98.1</td>
<td>52.9</td>
<td>82.0</td>
<td>89.2</td>
</tr>
<tr>
<td>Corn</td>
<td>94.4</td>
<td>98.7</td>
<td>100.0</td>
<td>43.0</td>
<td>87.2</td>
<td>96.3</td>
</tr>
<tr>
<td>Home Man.</td>
<td>63.3</td>
<td>62.5</td>
<td>61.1</td>
<td>7.1</td>
<td>22.1</td>
<td>35.4</td>
</tr>
<tr>
<td>Oats</td>
<td>75.3</td>
<td>90.6</td>
<td>90.7</td>
<td>23.8</td>
<td>74.2</td>
<td>86.2</td>
</tr>
<tr>
<td>Beans</td>
<td>37.5</td>
<td>51.8</td>
<td>55.5</td>
<td>29.1</td>
<td>60.7</td>
<td>70.8</td>
</tr>
<tr>
<td>Potatoes</td>
<td>75.3</td>
<td>83.0</td>
<td>83.3</td>
<td>47.7</td>
<td>75.3</td>
<td>84.6</td>
</tr>
<tr>
<td>Sweet do.</td>
<td>48.3</td>
<td>61.6</td>
<td>66.7</td>
<td>30.0</td>
<td>58.8</td>
<td>70.8</td>
</tr>
<tr>
<td>Horses</td>
<td>94.8</td>
<td>99.1</td>
<td>98.1</td>
<td>58.2</td>
<td>89.1</td>
<td>97.4</td>
</tr>
<tr>
<td>Milch Cows</td>
<td>97.0</td>
<td>98.7</td>
<td>100.0</td>
<td>85.1</td>
<td>95.8</td>
<td>98.5</td>
</tr>
<tr>
<td>Other Cattle</td>
<td>85.4</td>
<td>95.1</td>
<td>100.0</td>
<td>41.5</td>
<td>77.5</td>
<td>98.5</td>
</tr>
<tr>
<td>Swine</td>
<td>91.4</td>
<td>96.4</td>
<td>100.0</td>
<td>68.7</td>
<td>89.5</td>
<td>98.5</td>
</tr>
<tr>
<td>Flax</td>
<td>2.2</td>
<td>5.4</td>
<td>14.9</td>
<td>0.0</td>
<td>0.4</td>
<td>1.5</td>
</tr>
<tr>
<td>Hay</td>
<td>5.6</td>
<td>21.4</td>
<td>35.2</td>
<td>2.2</td>
<td>18.0</td>
<td>49.2</td>
</tr>
<tr>
<td>Rye</td>
<td>33.7</td>
<td>22.3</td>
<td>27.8</td>
<td>15.5</td>
<td>23.2</td>
<td>15.4</td>
</tr>
<tr>
<td>Tobacco</td>
<td>33.0</td>
<td>53.6</td>
<td>79.6</td>
<td>35.6</td>
<td>62.5</td>
<td>80.0</td>
</tr>
<tr>
<td>Wheat</td>
<td>67.4</td>
<td>90.2</td>
<td>100.0</td>
<td>12.4</td>
<td>44.6</td>
<td>84.6</td>
</tr>
<tr>
<td>Mules</td>
<td>2.2</td>
<td>10.3</td>
<td>48.1</td>
<td>1.9</td>
<td>10.1</td>
<td>44.6</td>
</tr>
<tr>
<td>Sheep</td>
<td>34.8</td>
<td>68.8</td>
<td>81.5</td>
<td>8.0</td>
<td>31.8</td>
<td>56.9</td>
</tr>
<tr>
<td>Wool</td>
<td>29.6</td>
<td>62.5</td>
<td>77.8</td>
<td>6.2</td>
<td>37.7</td>
<td>52.3</td>
</tr>
<tr>
<td>Work Oxen</td>
<td>15.7</td>
<td>65.2</td>
<td>100.0</td>
<td>6.5</td>
<td>40.4</td>
<td>87.7</td>
</tr>
</tbody>
</table>

Table 6.6

Rates of Improved to Unimproved Land in the Tye Valley, 1850-1860.

<table>
<thead>
<tr>
<th>Terrain Type</th>
<th>1850</th>
<th>1860</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>Median</td>
</tr>
<tr>
<td>Mountain</td>
<td>2.3419</td>
<td>1.2308</td>
</tr>
<tr>
<td>(N=125)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lowland</td>
<td>1.4602</td>
<td>1.0000</td>
</tr>
<tr>
<td>(N=391)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>


Table 6.7

Per Acre Ratios of Key Crops and Livestock for the Tye Valley, 1850.

<table>
<thead>
<tr>
<th>Crop/Animal</th>
<th>Mountain</th>
<th>Lowland</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>Median</td>
</tr>
<tr>
<td>Corn (bushels)</td>
<td>1.7361</td>
<td>1.5000</td>
</tr>
<tr>
<td>Oats (bushels)</td>
<td>0.5311</td>
<td>0.3579</td>
</tr>
<tr>
<td>Beans (bushels)</td>
<td>0.0439</td>
<td>0.0328</td>
</tr>
<tr>
<td>Potatoes (bushels)</td>
<td>0.1550</td>
<td>0.1000</td>
</tr>
<tr>
<td>Sweet do. (bushels)</td>
<td>0.0784</td>
<td>0.0417</td>
</tr>
<tr>
<td>Hogs</td>
<td>0.1433</td>
<td>0.1079</td>
</tr>
<tr>
<td>Rye (bushels)</td>
<td>0.3280</td>
<td>0.2542</td>
</tr>
<tr>
<td>Tobacco (pounds)</td>
<td>12.1049</td>
<td>10.0000</td>
</tr>
<tr>
<td>Wheat (bushels)</td>
<td>0.3799</td>
<td>0.3125</td>
</tr>
<tr>
<td>Work Oxen</td>
<td>0.0142</td>
<td>0.0086</td>
</tr>
<tr>
<td>Farm Machinery ($)</td>
<td>0.2002</td>
<td>0.1000</td>
</tr>
</tbody>
</table>

Table 6.8
Crop Reporting Incidence by Land Type for the Tye Valley, 1850-1860

<table>
<thead>
<tr>
<th>Crop</th>
<th>1850 Mountain</th>
<th>1850 Lowland</th>
<th>1860 Mountain</th>
<th>1860 Lowland</th>
</tr>
</thead>
<tbody>
<tr>
<td>Animals Slaughtered</td>
<td>91.7</td>
<td>92.9</td>
<td>72.0</td>
<td>71.2</td>
</tr>
<tr>
<td>Buckwheat</td>
<td>2.6</td>
<td>1.7</td>
<td>19.6</td>
<td>3.3</td>
</tr>
<tr>
<td>Butter</td>
<td>90.4</td>
<td>97.1</td>
<td>73.2</td>
<td>66.7</td>
</tr>
<tr>
<td>Corn</td>
<td>92.9</td>
<td>95.4</td>
<td>57.1</td>
<td>63.4</td>
</tr>
<tr>
<td>Home Manufactures</td>
<td>66.7</td>
<td>60.6</td>
<td>16.1</td>
<td>16.0</td>
</tr>
<tr>
<td>Oats</td>
<td>75.0</td>
<td>83.0</td>
<td>41.7</td>
<td>53.6</td>
</tr>
<tr>
<td>Beans</td>
<td>37.8</td>
<td>47.2</td>
<td>53.6</td>
<td>43.5</td>
</tr>
<tr>
<td>Potatoes</td>
<td>66.0</td>
<td>83.0</td>
<td>58.9</td>
<td>63.9</td>
</tr>
<tr>
<td>Sweet do.</td>
<td>33.3</td>
<td>63.0</td>
<td>36.9</td>
<td>48.9</td>
</tr>
<tr>
<td>Horses</td>
<td>91.7</td>
<td>97.6</td>
<td>65.5</td>
<td>78.2</td>
</tr>
<tr>
<td>Milch Cows</td>
<td>97.4</td>
<td>98.1</td>
<td>92.3</td>
<td>89.7</td>
</tr>
<tr>
<td>Other Cattle</td>
<td>86.5</td>
<td>91.0</td>
<td>44.0</td>
<td>68.0</td>
</tr>
<tr>
<td>Swine</td>
<td>91.7</td>
<td>93.7</td>
<td>86.3</td>
<td>78.0</td>
</tr>
<tr>
<td>Flax</td>
<td>2.0</td>
<td>5.8</td>
<td>0.0</td>
<td>0.1</td>
</tr>
<tr>
<td>Hay</td>
<td>8.3</td>
<td>17.3</td>
<td>8.3</td>
<td>15.0</td>
</tr>
<tr>
<td>Rye</td>
<td>42.9</td>
<td>21.4</td>
<td>26.8</td>
<td>15.8</td>
</tr>
<tr>
<td>Tobacco</td>
<td>31.4</td>
<td>49.1</td>
<td>51.2</td>
<td>50.9</td>
</tr>
<tr>
<td>Wheat</td>
<td>64.7</td>
<td>82.5</td>
<td>15.5</td>
<td>38.6</td>
</tr>
<tr>
<td>Mules</td>
<td>2.6</td>
<td>12.4</td>
<td>2.4</td>
<td>11.9</td>
</tr>
<tr>
<td>Sheep</td>
<td>37.8</td>
<td>57.2</td>
<td>22.6</td>
<td>22.6</td>
</tr>
<tr>
<td>Wool</td>
<td>26.9</td>
<td>54.5</td>
<td>20.2</td>
<td>19.1</td>
</tr>
<tr>
<td>Work Oxen</td>
<td>23.1</td>
<td>50.4</td>
<td>16.7</td>
<td>32.4</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Terrain Type</th>
<th>1850 Mean</th>
<th>1850 Median</th>
<th>1860 Mean</th>
<th>1860 Median</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mountain</td>
<td>3.9588</td>
<td>2.5000</td>
<td>5.9971</td>
<td>4.0000</td>
</tr>
<tr>
<td>(N=250)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lowland</td>
<td>7.2446</td>
<td>5.3405</td>
<td>13.5283</td>
<td>10.0000</td>
</tr>
<tr>
<td>(N=1076)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 7.1
Changes in Tye Valley Crop Priorities, 1850-1860.

<table>
<thead>
<tr>
<th>Census Category</th>
<th>Sum of Tye Valley Production</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1850</td>
</tr>
<tr>
<td>Tobacco (pounds)</td>
<td>2,106,007</td>
</tr>
<tr>
<td>Wheat</td>
<td>161,440</td>
</tr>
<tr>
<td>Rye</td>
<td>19,407</td>
</tr>
<tr>
<td>Hay (tons)</td>
<td>1,510</td>
</tr>
<tr>
<td>Orchard Products ($)</td>
<td>3525.00</td>
</tr>
<tr>
<td>Market Gardens ($)</td>
<td>97.50</td>
</tr>
<tr>
<td>Swine</td>
<td>27,402</td>
</tr>
</tbody>
</table>

Source: Seventh and Eight Censuses of the United States (1850-1860), Manuscript Schedules for Agriculture, Amherst and Nelson Counties (Va.).
Table 7.2
Agricultural Expansion in the Tye Valley, 1850-1860.

<table>
<thead>
<tr>
<th>Census Item</th>
<th>Total Production – 1850</th>
<th>Total Production – 1860</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Reporting</td>
<td>900</td>
<td>1425</td>
</tr>
<tr>
<td>Farms</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Improved Acreage</td>
<td>177,729</td>
<td>152,067</td>
</tr>
<tr>
<td>Unimproved Acreage</td>
<td>237,177</td>
<td>170,778</td>
</tr>
<tr>
<td>Cash Value of Farms ($)</td>
<td>2,460,726.00</td>
<td>5,798,338.00</td>
</tr>
</tbody>
</table>

Source: Seventh and Eight Censuses of the United States (1850-1860), Manuscript Schedules for Agriculture, Amherst and Nelson Counties (Va.).
Table 7.3
Intensification of Livestock Production in the Tye Valley, 1850-1860.

<table>
<thead>
<tr>
<th>Census Category</th>
<th>Total Production – 1850</th>
<th>Total Production – 1860</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cattle</td>
<td>6543</td>
<td>4653</td>
</tr>
<tr>
<td>Sheep</td>
<td>12,930</td>
<td>7374</td>
</tr>
<tr>
<td>Swine</td>
<td>27,402</td>
<td>25,509</td>
</tr>
<tr>
<td>Horses</td>
<td>3525</td>
<td>3616</td>
</tr>
<tr>
<td>Mules</td>
<td>295</td>
<td>544</td>
</tr>
<tr>
<td>Oxen</td>
<td>1695</td>
<td>1896</td>
</tr>
<tr>
<td>Milch Cows</td>
<td>3289</td>
<td>4071</td>
</tr>
<tr>
<td>Value of Livestock ($)</td>
<td>379,891.00</td>
<td>516,321.00</td>
</tr>
<tr>
<td>Animals Slaughtered ($)</td>
<td>103,179.00</td>
<td>185,442.00</td>
</tr>
</tbody>
</table>

Source: Seventh and Eight Censuses of the United States (1850-1860), Manuscript Schedules for Agriculture, Amherst and Nelson Counties (Va.).
Table 7.4

<table>
<thead>
<tr>
<th>Census Category</th>
<th>0-50%</th>
<th>50-90%</th>
<th>90-100%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cattle</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1850</td>
<td>1600</td>
<td>2928</td>
<td>1867</td>
</tr>
<tr>
<td>1860</td>
<td>643</td>
<td>1842</td>
<td>2070</td>
</tr>
<tr>
<td>Sheep</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1850</td>
<td>1744</td>
<td>7056</td>
<td>4089</td>
</tr>
<tr>
<td>1860</td>
<td>738</td>
<td>3978</td>
<td>2404</td>
</tr>
<tr>
<td>Swine</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1850</td>
<td>7332</td>
<td>13,107</td>
<td>6724</td>
</tr>
<tr>
<td>1860</td>
<td>4914</td>
<td>8890</td>
<td>10,503</td>
</tr>
<tr>
<td>Livestock Val. ($)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1850</td>
<td>66,043</td>
<td>183,955</td>
<td>126,967</td>
</tr>
<tr>
<td>1860</td>
<td>74,337</td>
<td>201,964</td>
<td>222,235</td>
</tr>
<tr>
<td>Anim. Slaught. ($)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1850</td>
<td>22,659</td>
<td>44,770</td>
<td>29,809</td>
</tr>
<tr>
<td>1860</td>
<td>29,299</td>
<td>72,927</td>
<td>76,440</td>
</tr>
</tbody>
</table>

Source: Seventh and Eight Censuses of the United States (1850-1860), Manuscript Schedules for Agriculture, Amherst and Nelson Counties (Va.).
Table 7.5
Concentration of Agricultural Resources in the Tye Valley, 1850-1860.

<table>
<thead>
<tr>
<th>Census Category</th>
<th>0-50%</th>
<th>50-90%</th>
<th>90-100%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Improved Acreage</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1850</td>
<td>26,394</td>
<td>77,578</td>
<td>48,079</td>
</tr>
<tr>
<td>1860</td>
<td>10,653</td>
<td>76,713</td>
<td>90,363</td>
</tr>
<tr>
<td>Unimproved Acreage</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1850</td>
<td>34,752</td>
<td>91,738</td>
<td>44,257</td>
</tr>
<tr>
<td>1860</td>
<td>20,329</td>
<td>95,275</td>
<td>121,573</td>
</tr>
<tr>
<td>Cash Value ($)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1850</td>
<td>175,447</td>
<td>1,102,252</td>
<td>1,183,026</td>
</tr>
<tr>
<td>1860</td>
<td>114,417</td>
<td>1,881,534</td>
<td>3,802,378</td>
</tr>
<tr>
<td>Value of Livestock ($)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1850</td>
<td>66,043</td>
<td>183,955</td>
<td>126,967</td>
</tr>
<tr>
<td>1860</td>
<td>74,337</td>
<td>201,964</td>
<td>222,235</td>
</tr>
<tr>
<td>Animals Slaughter ($)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1850</td>
<td>26,659</td>
<td>44,770</td>
<td>29,809</td>
</tr>
<tr>
<td>1860</td>
<td>29,299</td>
<td>72,927</td>
<td>76,440</td>
</tr>
<tr>
<td>Farm Machinery ($)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1850</td>
<td>11,433</td>
<td>47,145</td>
<td>65,344</td>
</tr>
<tr>
<td>1860</td>
<td>5829</td>
<td>44,103</td>
<td>66,855</td>
</tr>
</tbody>
</table>

Source: Seventh and Eight Censuses of the United States (1850-1860), Manuscript Schedules for Agriculture, Amherst and Nelson Counties (Va.).
Table 7.6
Capitalist Agriculture among Tye Valley Farmers, By Class, 1850-1860.

<table>
<thead>
<tr>
<th>Census Category</th>
<th>0-50%</th>
<th>50-90%</th>
<th>90-100%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tobacco (pounds)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1850</td>
<td>291,697</td>
<td>962,203</td>
<td>852,105</td>
</tr>
<tr>
<td>1860</td>
<td>526,488</td>
<td>2,128,522</td>
<td>1,551,198</td>
</tr>
<tr>
<td>Wheat (bushels)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1850</td>
<td>17,896</td>
<td>73,662</td>
<td>69,762</td>
</tr>
<tr>
<td>1860</td>
<td>5359</td>
<td>89,305</td>
<td>35,002</td>
</tr>
<tr>
<td>Hay (tons)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1850</td>
<td>52</td>
<td>900</td>
<td>534</td>
</tr>
<tr>
<td>1860</td>
<td>103</td>
<td>1563</td>
<td>1275</td>
</tr>
<tr>
<td>Grass (tons)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1860</td>
<td>19</td>
<td>150</td>
<td>231</td>
</tr>
<tr>
<td>Corn (bushels)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1850</td>
<td>99,735</td>
<td>215,718</td>
<td>158,100</td>
</tr>
<tr>
<td>1860</td>
<td>70,335</td>
<td>221,053</td>
<td>188,724</td>
</tr>
<tr>
<td>Oats (bushels)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1850</td>
<td>23,094</td>
<td>52,971</td>
<td>26,190</td>
</tr>
<tr>
<td>1860</td>
<td>17,206</td>
<td>58,920</td>
<td>55,615</td>
</tr>
<tr>
<td>Irish Potatoes (bs.)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1850</td>
<td>5638</td>
<td>9493</td>
<td>4489</td>
</tr>
<tr>
<td>1860</td>
<td>5395</td>
<td>6006</td>
<td>9376</td>
</tr>
<tr>
<td>Peas/Beans (bushels)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1850</td>
<td>951</td>
<td>2338</td>
<td>535</td>
</tr>
<tr>
<td>1860</td>
<td>769</td>
<td>1173</td>
<td>2100</td>
</tr>
<tr>
<td>Sweet Potatoes (bs.)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1850</td>
<td>3385</td>
<td>4179</td>
<td>2163</td>
</tr>
<tr>
<td>1860</td>
<td>3562</td>
<td>2440</td>
<td>7230</td>
</tr>
<tr>
<td>Swine</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1850</td>
<td>7332</td>
<td>13,107</td>
<td>6724</td>
</tr>
<tr>
<td>1860</td>
<td>4914</td>
<td>8890</td>
<td>10,503</td>
</tr>
</tbody>
</table>

Source: Seventh and Eight Censuses of the United States (1850-1860), Manuscript Schedules for Agriculture, Amherst and Nelson Counties (Va.).
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VITA

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1800.”

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