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## Smallpox, the Continental Army, and General Washington

Fritz Hirschfeld

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SMALLPOX, THE CONTINENTAL ARMY, AND GENERAL WASHINGTON

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A Thesis

Presented to

The Faculty of the Department of History

The Collegé of William and Mary

In Partial Fulfillment

of the Requirements for the Degree of

Master of Arts

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by

Fritz Hirschfeld

1991

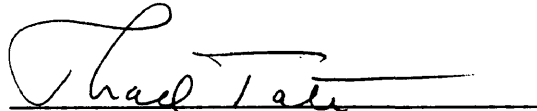
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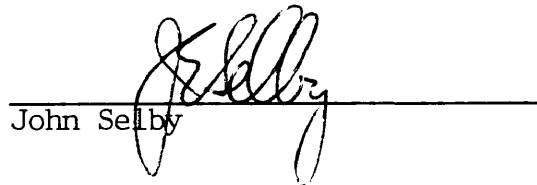
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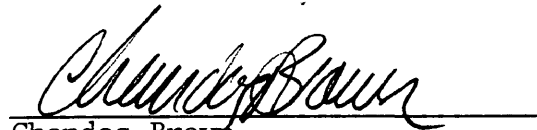
  
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## ABSTRACT

This thesis traces the events that led to the successful use of the technique of inoculation to prevent the outbreak of smallpox epidemics in the Continental Army during the Revolutionary War. It also provides an insight into the leadership role played by General Washington in bringing about the policy of inoculation for the soldiers in his command.

Ever since the smallpox virus was introduced to the North American continent by the European explorers and settlers in the colonial period, there had been controversy over the desirability of inoculation as a means of controlling the disease. It was known, of course, that if a victim recovered from an attack of smallpox he or she was assured of lifetime immunity. The controversy developed over the risks involved in deliberately spreading the infection. Since most people were afraid of contracting the deadly smallpox in any form, the procedure of inoculation remained under a cloud. In many of the colonies, inoculation was officially banned.

The Revolutionary War helped bring the inoculation controversy to a head. Smallpox epidemics debilitated the ranks of the Continental Army in the Canadian campaign of 1775-6. As a result, General Washington made the calculated decision to inoculate all of his troops despite the risk. Fortunately, his judgment proved sound. From 1777 onwards, as a result of a mandatory program of inoculation, the smallpox virus was virtually eradicated as a threat to the health of the Continental Army.

SMALLPOX, THE CONTINENTAL ARMY, AND GENERAL WASHINGTON

## INTRODUCTION

"The Smallpox is a more terrible Enemy than the British Troops."

(Governor Jonathan Trumbull of  
Connecticut to John Hancock,  
president of the Continental  
Congress in Philadelphia, July  
5, 1776.)

Smallpox is believed to have originated in Africa, tracing back as far as 10,000 B.C. From there it was carried by infected men, women, and children to the Middle East, Europe, Asia, and the Americas. For centuries, no one understood the nature of the disease and there was no known cure. It struck young and old, rich and poor, every color and race alike. It was extremely contagious and the infection was thought to have been spread by physical contact with contaminated persons or objects.

Epidemics of smallpox would appear periodically and unannounced. In some of the larger population centers, it was endemic and thus existed as a continually menacing presence. Once infected, the victim was likely to die within a matter of weeks. The affliction was extremely painful and horribly disfiguring. If the patients did manage to survive, it often left them with pockmarked skins, lameness,



blindness, loss of hair, and other crippling and unsightly disabilities. Recovering from an attack of smallpox did have one major beneficial side-effect: the individual was assured of lifetime immunity. When an epidemic of smallpox had run its course, it would generally subside as quickly as it had appeared leaving a trail of death and mutilation in its wake. There was no telling if and when it would return. The fatality rate could range from 10% to over 90%.

Smallpox, introduced by the Spanish into South and Central America and by the French into Canada in the fifteenth and sixteenth centuries, was considered to have been the chief killer disease responsible for wiping out entire native Indian societies in these regions. The same catastrophe took its toll of the local Indian tribes when the English established their colonies along the Atlantic seaboard in the seventeenth and eighteenth centuries. The European settlers, many of whom over the years had developed immunity to smallpox, fared somewhat better. Nevertheless, they still suffered grievous losses from the periodic visitations of smallpox epidemics. "In 1756 Dr. Benjamin Gale wrote to Dr. John Huxham, the English physician, that one in every seven or eight infected with smallpox in America died. The study made by William Douglass showed a death rate of one out of every seven cases in the Boston epidemic of 1721. The latter outbreak was one of the worst in colonial history."<sup>1</sup> At the

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<sup>1</sup>John Duffy, Epidemics in Colonial America (Baton Rouge: Louisiana State University Press, 1943), 22.

mere rumor of smallpox, many people would pack their belongings and flee from their homes in the towns and cities for the relative safety of the countryside in order to try to avoid the pestilential infection.

Amidst the hysteria, superstition, and fear that gripped the American colonists at the first sign of a smallpox outbreak one rational conclusion did emerge from their experiences. Quarantining and isolating infected victims were positive means of controlling and containing the ravages of the contagion. Since it was obvious at a fairly early date to the colonists, especially those in the port cities along the coast, that smallpox was arriving in their communities by way of infected victims on board contaminated ships, they quickly initiated steps to place any suspected vessels under strict quarantine. For example, in 1647 the Boston authorities established a quarantine procedure for all passengers and crew members on board ships originating from the West Indies, believed to have been a prime source of the disease. The quarantine procedures initiated in Boston were taken up as well by several of the other port cities. New York City in 1690 followed suit with its first quarantine measure specifically directed at a ship from St. Nevis carrying small-pox infected slaves.<sup>2</sup>

Isolation of smallpox victims was the other method of control

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<sup>2</sup>Donald R. Hopkins, Princes and Peasants: Smallpox in History (Chicago: University of Chicago Press, 1983), 238.

that soon became an accepted expedient. The selectmen of Salem in the Massachusetts Bay colony, for instance, issued an order in 1678 that sought to isolate smallpox victims who were found to be infected on shore as opposed to those who were shipboard victims. Virginia, in 1667, is said to have passed some of the earliest mandatory legislation in the colonies to ensure the safe isolation of smallpox patients.<sup>3</sup> The next logical step it seems would have been to construct hospitals for smallpox cases. The records show, however, that the only hospital in colonial North America that was specifically established to care for smallpox patients was the Hotel-Dieu in Quebec founded in 1639.<sup>4</sup> Special hospital facilities for isolating and treating smallpox sufferers would not arrive in the American colonies until the advent of the Revolutionary War.

The single best hope for actually preventing smallpox rested in the technique of inoculation. Probably most Americans, both in pre-Revolutionary days and during the Revolution itself, considered inoculation against smallpox to be a mixed blessing, i.e. if the patient recovered, it was clearly a success; and if the patient died, then it was of course a failure. Despite the ongoing controversy, public opinion was gradually moving in the direction of inoculation. The reason was plain. The certainty of obtaining lifetime immunity from this killer disease was apparently worth the risk involved in

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<sup>3</sup>Hopkins, Princes and Peasants, 238.

<sup>4</sup>Ibid., 238-9.

accepting the inoculation procedure; particularly if the risk was seen to be diminishing. The final and decisive argument was the track record. "The steadily increasing success of inoculation in Boston is clearly illustrated by a chart published at the end of the eighteenth century by the Massachusetts Historical Society:

| <u>Date</u> | <u>No. Inoculated</u> | <u>Deaths</u> | <u>Proportion</u>             |
|-------------|-----------------------|---------------|-------------------------------|
| 1721        | 247                   | 5             | 1 <u>in</u> 42                |
| 1730        | 400                   | 12            | 1 <u>in</u> 33                |
| 1752        | 2,109                 | 31            | 1 <u>in</u> 70                |
| 1764        | 4,977                 | 46            | 1 <u>in</u> 108               |
| 1776        | 4,988                 | 28            | 1 <u>in</u> 178               |
| 1778        | 2,121                 | 19            | 1 <u>in</u> 112" <sup>5</sup> |

The progress was impressive. Nevertheless, inoculation still remained a highly controversial procedure. For one thing, the techniques employed in infecting the patients were usually primitive, unscientific, and amateurish. Second, many of the so-called "doctors" who offered inoculation for a fee were little more than quacks and imposters. And third, the common sense safeguards during the critical period of infection were frequently neglected or disregarded. People tended to go about their routine affairs blithely ignoring the serious danger of spreading the virus. The inoculated patients thus inadvertently became the carriers of a highly contagious disease.<sup>6</sup>

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<sup>5</sup>Duffy, Epidemics in Colonial America, 36.

<sup>6</sup>Ibid., 38.

Consequently, there were two opposing schools of thought that developed with respect to the practice of inoculation, and public opinion would swing back-and-forth between the two poles depending upon the real or perceived threat of an outbreak of smallpox. All of the thirteen colonies at different times over the decades of the 1700s passed legislation regulating and controlling the practice of inoculation. The degree of enforcement, however, ranged from strict to indifferent, with fear being the governing factor. When an epidemic threatened, the laws were relaxed. When the danger was safely passed, the rules were once again upheld. Occasionally, too, the anger and agitation that was aroused by the inoculation dispute would result in acts of outright violence

The Reverend Cotton Mather, the notable Puritan divine, and Dr. Zabdiel Boylston, a Boston physician, are credited with introducing the technique of inoculation to America in the summer of 1721 during the course of the great smallpox epidemic in Boston that year. On June 26th, Dr. Boylston "used a 'sharp toothpick and quill' to inoculate his only son Thomas (age six), and two Negro slaves with pus from a smallpox patient.....All three developed favorable mild infections, which made them immune."<sup>7</sup> Even though this pioneering experiment turned out successfully, both men had to suffer severe abuse and villification for their respective roles in this humanitarian effort. It was a paradox that would continue well into the Revolutionary War years.

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<sup>7</sup>Hopkins, Princes and Peasants, 249.

The Reverend Cotton Mather, over and above his spiritual duties, nourished a long-standing interest in medicine. Through the years, Mather observed and noted the different diseases prevalent in Boston and elsewhere; although, as far as is known, he himself never engaged in any medical experiments or research. However, he diligently corresponded with leading scientists in England and on the Continent, as well as with his compatriots in the medical profession in the colonies. The close ties that he established with key figures in the Royal Society in London, the worldwide clearinghouse for scientific knowledge, would in later years prove mutually helpful in furthering the cause of inoculation on both sides of the Atlantic.

Approaching his sixtieth birthday in 1720, Cotton Mather decided to pull together all of his medical writings and correspondence into a single compilation to be called, The Angel of Bethesda. The book was completed but never published in his lifetime (it first appeared in print in 1972); perhaps because of some of the controversial practices that he advanced and advocated therein. In one chapter - "CAP. XX. Variolae triumphatae: The Small-Pox Encountered." - he listed in lengthy detail the symptoms as well as the measures to be used in alleviating the physical and emotional distresses caused by the disease. In the "Appendix" to this chapter, he then shared with his readers a remarkable breakthrough that had apparently come to his notice by sheer coincidence:

There has been a Wonderful Practice lately used in several Parts of the World, which indeed is not yett become

common in our Nation.

I was first instructed in it, by a Guramantee-Servant of my own, long before I knew that any Europeans or Asiaticks had the least Acquaintance with it; and some years before I was Enriched with the Communications of the Learned Foreigners, whose Accounts I found agreeing with what I received of my Servant, when he showed me the Scar of the Wound made for the Operation; and said, That no Person Ever died of the Small-Pox, in their Countrey that had the Courage to use it.<sup>8</sup>

What the Reverend Mather was referring to, of course, was the technique of inoculation. The story that he had claimed to have heard originally from his North African slave, Onisemus (a native of Fezznan, a region in southern Tripoli)<sup>9</sup>, was confirmed by "two reports on variolation published in the Philosophical Transactions in 1714 and 1716."<sup>10</sup> While these scientific reports aroused only academic interest in England, it is said that they were directly responsible for the introduction of the practice of inoculation into

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<sup>8</sup>Cotton Mather, The Angel of Bethesda, Gordon W. Jones, ed. (Boston: American Antiquarian Society and Barre Publishers, 1972), 93, 107.

<sup>9</sup>Genevieve Miller, The Adoption of Inoculation for Smallpox. (Philadelphia: University of Pennsylvania Press, 1957), 53.

<sup>10</sup>Duffy, Epidemics in Colonial America, 28.

the American colonies.<sup>11</sup>

Cotton Mather, convinced that he had found a practical and workable solution to controlling smallpox epidemics, began his one-man campaign to persuade the local medical community to try the novel procedure on their patients.<sup>12</sup> His approach to Dr. William Douglass, the sole physician in Boston with a medical degree, was coldly rejected. The reactions of most of the other conservative medical men were the same. Dr. Zabdiel Boylston, it seems, was the only doctor in town who was willing to risk his reputation and the lives of his patients (including his own son as well as several of the Mather offspring) in the inoculation experiment. Boylston had apparently also heard similar stories from local slaves who were familiar with the practice in their native regions.<sup>13</sup> The outbreak in Boston of the serious smallpox epidemic of 1721 gave Dr. Boylston the unique opportunity to test on a relatively large-scale the effectiveness of the smallpox procedure.

One Saturday in mid-April 1721, two British ships fresh from the West Indies sailed past the quarantine station on

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<sup>11</sup> Ibid.

<sup>12</sup> "Assuming every apothecary to have been a physician, there were then [in 1721] in the Town [Boston] fourteen." Samuel G. Drake, History and Antiquities of Boston, From Its Settlement In 1630, To the Year 1770. (Boston: Published by Luther Stevens, 1856), 56ln.

<sup>13</sup> Duffy, Epidemics in Colonial America, 29.



Spectacle Island and docked at Boston's Long Wharf. On board the Seahorse, two blacks were ill with smallpox and several other crewmen were incubating the infection. The first two men were confined to houses near the shore, but the disease still began to spread. On 26 May, Cotton Mather wrote in his diary, 'The grievous calamity of the smallpox has now entered the town.'<sup>14</sup>

The response by the Bostonians to the program of inoculation was immediate, violent, and wholly unanticipated by its promoters. "As soon as the news was made public, a 'horrid clamour' arose from many people in Boston, who held that inoculation was a heathen practice and should not be adopted by Christians."<sup>15</sup> Cotton Mather was surprised and shocked by the demonstrations of anger and outrage. He wrote in The Angel of Bethesda that, "the Vilest Arts were used, and with such an Efficacy, that not only the Physician, but also the Patients under the Small-Pox Inoculated were in hazard of their very Lives from an Infuriated People."<sup>16</sup> Nor was the Revered Mather himself spared from the fury of an aroused populace. The hysteria and wrath culminated for him when an explosive device flew through the window of his house:

But I myself had thrown into my House in the Dead of the

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<sup>14</sup>Hopkins, Princes and Peasants, 247.

<sup>15</sup>Duffy, Epidemics in Colonial America, 29.

<sup>16</sup>Mather, Angel of Bethesda, 113.

Night, a fired Granado, charged with Combustible Matter, and in such a Manner, that upon its going off, it must probably have killed them that were near it, and would have certainly fired the Chamber and speedily have laid the House in Ashes. But the merciful Providence of God our SAVIOUR so ordered it, that the Granado passing thro' the Window, had by the Iron in the Middle of the Casement such a Turn given to it, that in falling on the Floor, the fired Wild-fire in the Fuse, was violently shaken out some Distance from the Shell, and burnt out upon the Floor, without firing off the Granado.<sup>17</sup>

The ultimate insult, however, arrived in the form of a note apparently attached in some fashion to the above-described fire-bomb. It read: "COTTON MATHER, You Dog, Dam you, I'll inoculate you with this, with a Pox to you."<sup>18</sup> Mather was not intimidated by the live bomb nor by the threatening message. While he deplored the passions of the reckless opposition, he went right ahead with his outspoken support of the inoculation experiments, in which he continued to express complete confidence:

The Opposition was carried on with a Folly, and Falsehood, and Malice, hardly ever known to be paralled'd on any Occasion; And in the Progress of the Distemper many

<sup>17</sup> Ibid.

<sup>18</sup> Duffy, Epidemics in Colonial America, 29.

Hundreds of Lives were Lost, which might have been Saved, if the People had not been Satanically filled with Prejudices against this Method of Safety. However, the Practice went on, and tho' the Physician was under Extreme Disadvantage on more Accounts than one, yett he was attended with Vast Success. The Experiment has now been made on Several Hundreds of Persons; and upon both Male and Female, both old and young, both Strong and Weak, both White and Black, at all Seasons, of Summer and Autumn and Winter: And they have generally professed, they had rather undergo the Small-Pox Inoculated once every year, than undergo the Small-Pox once in their Lives after the Common Way, tho' sure to Live.<sup>19</sup>

The scorecard - when the statistical evidence was in - was impressive. "By the following February [1722] when the epidemic which numbered 5,889 cases of smallpox was over, Boylston had inoculated 242 persons. Of 835 deaths from smallpox, only six were among inoculated patients."<sup>20</sup> But the opponents of inoculation were not convinced. Dr. William Douglass in Boston was the leading voice of the anti-inoculation claque. The gist of his arguments against inoculation are summarized in his letter of May 1, 1722, to Dr. Cadwallader Colden in New York:

I oppose this novel and dubious practice, not being

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<sup>19</sup>Mather, Angel of Bethesda, 113.

<sup>20</sup>Miller, Adoption of Inoculation, 93.

sufficiently assured of its safety and consequences; in short I reckon it a sin to propagate infection by this means and bring on my neighbor a distemper which might prove fatal and which perhaps he might escape (as many have done) in the ordinary way, and which he might certainly secure himself by removal in this Country where it prevails seldom. However, many of our clergy had got into it and they scorn to retract; I had them to appease, which occasioned great Heats (you may perhaps admire how they reconcile this with their doctrine of predestination).<sup>21</sup>

The charges and counter-charges that were flung from the pulpit and the words bandied about in the pamphlet wars apparently changed few minds in the colonies. But in England it was another story. "The news from Boston took several months to reach London, and the opponents to inoculation made themselves heard first. At the November 16, 1721 meeting of the Royal Society a letter was read from William Douglass.....telling that in September around 1000 cases of smallpox were reported and that sixty had been inoculated. Of these one or two had died."<sup>22</sup> The implication of this letter and similar reports in the same tenor was that inoculation had helped to spread the disease.

Cotton Mather was not far behind in presenting to the Royal Society his positive version of the events in Boston during the 1721

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<sup>21</sup>Duffy, Epidemics in Colonial America, 30.

<sup>22</sup>Miller, Adoption of Inoculation, 93-4.

smallpox epidemic. "As early as August 17, 1721, when Boylston had had seventeen successful inoculations, Cotton Mather had resolved to prepare a treatise on inoculation in order that 'it may be introduced into the English Nation, and a World of good may be done to the miserable Children of Men.'"<sup>23</sup> The statement - An Account of the Method and Success of Inoculating the Small-Pox in Boston in New-England. In a Letter from a Gentleman There, to His Friend in London. - together with a compendium of related material, reached the Royal Society the following year (1722). These findings were duly published in their Philosophical Transactions.<sup>24</sup>

The hard statistical data that had been accumulated in Boston was carefully studied by the scientific community in England. "Both Cotton Mather and Boylston realized the significance of this statistical approach, which involved one of the first historical instances of the quantitative analysis of a medical problem. They assumed that inoculation would stand or fall on the basis of the 'calculus of probabilities' of death under the two types of infection."<sup>25</sup> As it turned out, the findings were heavily in favor of the technique of inoculation. "The danger of death was at most

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<sup>23</sup>Ibid., 94.

<sup>24</sup>Ibid., 94-5.

<sup>25</sup>Otho T. Beall, Jr. and Richard H. Shryock, Cotton Mather: First Significant Figure in American Medicine (Baltimore: Johns Hopkins University Press, 1954), 108.

only one-sixth as great in artificial as in natural infection."<sup>26</sup>  
By their combined endeavors, Messrs. Mather and Boylston had taken an important step in publicizing the demonstrable benefits of inoculation. "Their findings.....made a marked impression at the time and thus became one essential link in the sequence that led eventually to a considerable adoption of the practice in both Europe and America."<sup>27</sup>

Thanks mainly to the progressive and farsighted policies of the Royal Society, the pioneer advocates of inoculation in the American colonies continued to look to it for support. They were not disappointed. Dr. Boylston may have been regarded as a pariah in Boston, but when he visited London he was warmly welcomed and conspicuously honored. "Dr. Zabdiel Boylston, elected F.R.S. [Fellow of the Royal Society] on July 7, 1726, after the publication of his book on the New England experience."<sup>28</sup> Unfortunately, Cotton Mather, who died in 1727/8 but who had long claimed to have been a F.R.S., missed receiving the personal accolades of his London colleagues that were surely his due.

In Charleston, South Carolina, in 1738, following in the footsteps of the Reverend Mather and Dr. Boylston, Dr. James Kirkpatrick was the only physician in that town who was willing to

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<sup>26</sup> Ibid.

<sup>27</sup> Ibid., 118.

<sup>28</sup> Miller, Adoption of Inoculation, 128.

inoculate patients during a serious outbreak of smallpox. "He inoculated eight hundred persons, of whom only eight died."<sup>29</sup> The low rate of fatalities was a remarkable achievement. However, Dr. Kirkpatrick - like Dr. Boylston before him - had to travel to London to receive recognition for his work. In 1734, he published his Essay on Inoculation which gave new and valuable ammunition to the inoculation cause. The founding of the Small-Pox and Inoculation Hospital in London in 1746 together with the publicity being generated on behalf of the immunizing procedure gave new impetus to the revival of the practice of inoculation.<sup>30</sup>

After years of acrimonious controversy and often heated debates, inoculation was finally given an official stamp of approval by the prestigious Royal College of Physicians at a meeting in London on December 22, 1755:

The College being informed that the Success of inoculating the Small Pox, and its reputation in this Country, have lately been Misrepresented among Foreigners, came to the following Resolution.

That in their Opinion the Objections made at first to it have been refuted by experience, and that it is at present more generally esteemed and Practised in England than ever, and that they Judge it to be a Practice of the

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<sup>29</sup>Hopkins, Princes and Peasants, 254.

<sup>30</sup>Miller, Adoption of Inoculation, 134.

utmost benefit to Mankind.<sup>31</sup>

That consensus judgment by a board of medical experts effectively settled the dispute. "From this time there was no professional resistance to inoculation."<sup>32</sup> And gradually the English people came to accept inoculation and to recognize it as a safe procedure. For all practical purposes, therefore, the inoculation controversy in England had evaporated. Public facilities were soon established to offer smallpox care and inoculation; not only to the wealthy classes but to the poorer classes as well. The Small-Pox and Inoculation Hospital in London, for example, reported in 1757 after ten years of operation, "that 3506 victims of natural smallpox had been treated, and 1252 persons had received inoculation."<sup>33</sup>

It is important to note (particularly as it pertains to the subject matter of this paper) that the British Army was among the first to adopt a smallpox policy for all of its new recruits. One authority (Sylvia R. Frey in her book, The British Soldier in America) on His Majesty's armies in America during the Revolutionary War has written as follows on the subject of the practice of smallpox inoculation:

To counteract the exceptional mortality produced by this disease [smallpox], the [British] army adopted the practice of inoculation. At the beginning of the Seven

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<sup>31</sup>Ibid., 170.

<sup>32</sup>Ibid.

<sup>33</sup>Ibid., 152.



Years War, seven out of every nine soldiers in infantry regiments had smallpox, and nearly one in four who contracted it, "in the natural way" died. By the beginning of the Revolution, smallpox rarely occurred in epidemic proportions among army personnel.<sup>34</sup>

By having already adopted inoculation as official Army policy, the British forces fighting in the American colonies in 1775-1783 enjoyed a decided medical advantage over their adversaries, at least in the early stages of the conflict.

Broadly speaking, the thirteen American colonies modeled their institutions on British precedents. The medical profession was no exception but for the fact that in this category it lagged far behind. There was, for instance, nothing resembling - in function, prestige, or authority - the Royal College of Physicians. Medicine in America was still in its infancy. Colonel Louis Duncan in his book, Medical Men in the American Revolution 1775-1783, summarizes the state of the profession in the period leading up to the war:

At the close of the Colonial government there were two American medical colleges: one in Philadelphia, founded in 1763; the other in New York, founded in 1768. The operations of both were suspended by the war. Up to that

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<sup>34</sup>Sylvia R. Frey, The British Soldier in America: A Social History of Military Life in the Revolutionary Period (Austin: University of Texas Press, 1981), 43.

time they had conferred less than fifty medical degrees. Boston, although a medical center, had as yet no school of medicine.....In 1775 there was but one State medical society, that of New Jersey organized in 1766.....There were also but few hospitals. A hospital had been founded in Philadelphia as early as 1755.....The second permanent hospital was that in New York. Erected in 1771 it had been destroyed by fire in 1774.<sup>35</sup>

Except for a tiny intellectual elite - there were only a few foreign trained physicians in the colonies - the views of the English scientific and medical communities had no significant audience on this side of the Atlantic. The latest statistical findings and the techniques for controlling smallpox by inoculation that were being actively promoted and adopted in England were not as widely disseminated or as well-known in America. Thus, inoculation continued to be a practice regarded with irrational fear and looked upon with superstition. Public attitudes were still heavily shaped and influenced by rumors, gossip, and local prejudices. These beliefs tended to translate into legislation. "At one time or another nearly all the colonies prohibited the practice [of inoculation], but many of the laws either lapsed or were subsequently amended or repealed."<sup>36</sup>

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<sup>35</sup>Louis C. Duncan, Medical Men in the American Revolution 1775-1783 (Carlisle Barracks, Pa.: Medical Field Service School, 1931), 7-8.

<sup>36</sup>Duffy, Epidemics in Colonial America, 38.

Virginia is an interesting case in point. In Norfolk, in the late 1760s, James Parker, one of its wealthiest citizens, "provoked violent riots when they [he and his supporters] inoculated their families against the smallpox."<sup>37</sup> These Norfolk riots are said to have led directly to the passage of the following Virginia statute (published in November of 1768):

An act to regulate the inoculation of the Small-Pox within this colony.

I. WHEREAS the wanton introduction of the Small-Pox into this colony by inoculation, when the same was not necessary, hath, of late years, proved a nuisance to several neighbourhoods, by disturbing the peace and quietness of many of his majesty's subjects, and exposing their lives to the infection of that mortal distemper, which, from the situation and circumstances of the colony, they would otherwise have little reason to dread: To prevent which for the future, Be it enacted, by the Governor Council, and Burgesses, of this present General Assembly, and it is hereby enacted, by the authority of the same, That if any person or persons whatsoever, shall wilfully, or designedly, after the first day of September next ensuing, presume to import or bring into this colony, from any country or place

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<sup>37</sup> John E. Selby, The Revolution in Virginia 1775-1783

(Williamsburg: Colonial Williamsburg Foundation, 1988), 59-60.

whatever, the small-pox, or any variolous or infectious matter of the said distemper, with a purpose to inoculate any person or persons whatever, or by any means whatever, to propagate the said distemper within this colony, he or she, so offending, shall forfeit and pay the sum of one thousand pounds, for every offence so committed.<sup>38</sup>

Some fifty-plus years after Cotton Mather and Zabdiel Boylston in Boston had introduced the controversial technique of inoculation into the American colonies, the ongoing inoculation debate finally came to a head for the Continental Army (if not necessarily for the civilian population) during the War of Independence. Most of the leaders of the Revolution - military and political - would undoubtedly have agreed with the sentiments expressed by Governor Jonathan Trumbull of Connecticut when he wrote to John Hancock, the president of the Continental Congress in Philadelphia, on July 5, 1776: "The Smallpox is a more terrible Enemy than the British Troops."<sup>39</sup> The question on which they disagreed - often quite passionately - was whether inoculation was the problem or the cure. This was the key issue that General Washington, as Commander-in-Chief, was called upon to address and hopefully to resolve.

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<sup>38</sup>William W. Hening, ed., The Statutes at Large: Being a Collection of all the Laws of Virginia (Richmond: Cochran, 1821), 8:371-2.

<sup>39</sup>Papers of the Continental Congress, 1774-1789 (Microcopy 247, Roll 80, Item No. 66), I:193.

## CHAPTER I

### GENERAL WASHINGTON AND THE SMALLPOX

George Washington's own bout with the smallpox began when he was suddenly stricken by the disease on a trip to the Caribbean island of Barbados in 1751. The nineteen-year-old Washington had accompanied his older half-brother, Lawrence, who was seeking relief in a tropical climate for his tubercular condition. Shortly after landing, George had apparently contracted the virus. His first diary entry mentioning smallpox is dated November 4th, 1751: "This morning received a card from Major Clarke, welcoming us to Barbadoes, with an invitation to breakfast and dine with him. We went, - myself with some reluctance, as the smallpox was in his family."<sup>1</sup> Washington later confided in his diary that he "was strongly attacked with the small Pox: sent for Dr. Lanahan whose attendance was very constant till my recovery, and going out which was not 'till thursday the 12th of December."<sup>2</sup>

During the twenty-six days of his illness, Washington went

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<sup>1</sup>Donald Jackson, ed., The Diaries of George Washington 1748-65 (Charlottesville: University Press of Virginia, 1976, 1925), I:73.

<sup>2</sup>John C. Fitzpatrick, ed., The Diaries of George Washington 1748 - 1770 (Boston: Houghton Mifflin, 1925), I:25.

through an agonizing period of severe pain and acute suffering and discomfort. Starting with a high fever on November 17th, the disease progressed to violent headaches and pains in the back and loins. Then red spots appeared on his forehead and among the hair roots. These soon turned into thickly set papules and finally to vesicles. The pustules that developed from the vesicles eventually dried up and were replaced by scabs that itched furiously until they fell off. Underneath the scabs were reddish brown spots. "George knew that these would leave 'pits' which he would carry with him through life, but he had won the fight that almost every man of his generation expected to have to wage."<sup>3</sup>

How did Washington manage to recuperate from a disease that was usually considered to be fatal once contracted? Donald Jackson, editor of the most recent edition of Washington's Diaries, theorized that, "it is conceivable that GW [George Washington] had been inoculated sometime before his trip to Barbados, causing his attack to be a relatively mild one."<sup>4</sup> Whatever the explanation, George Washington now enjoyed lifetime immunity. Furthermore, his personal experiences with the disease apparently left him convinced that inoculation was the only real and meaningful control. He subsequently became a fervent and outspoken advocate of the procedure, in spite of

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<sup>3</sup>Douglas S. Freeman, George Washington: A Biography (N.Y.: Scribner, 1948), One:253.

<sup>4</sup>Jackson, Diaries of George Washington, I:33.

the acknowledged risks involved.

Having successfully survived his attack of smallpox, the record shows that Washington was next concerned to protect his valuable but vulnerable human property, his slaves, from the scourge. When several of his slaves were stricken with the smallpox in the spring of 1760, Washington moved quickly to halt the contagion:

[I] received letters from Winchester informing me that the Small Pox had got among my Quarter's in Frederick; determined therefore to leave Town [Williamsburg] as soon as possible and proceed up to them.....I was informd that Harry & Kit, the first of my Negroes that took the Small Pox were Dead and Roger & Phillis the only two down with it were recovering from it.....After taking the Doctrs. Direction's in regard to my People I set out for my Quarters.....Engagd. Vale. Crawford to go in pursuit of a Nurse to be ready in case more of my People shd. be seized with the same disorder.....Got Blankets and every other requisite from Winchester & settld things upon the best footing I could to prevt. the Small Pox from Spreading - and in case of its spreading for the care of the Negroes. Mr. Vale. Crawford agreeing in case any more of the People at the lower Quarters getting it to take them home to his House - & if any of those of the Upper Quarter gets it to have them removd into my Room and the Nurse sent for.<sup>5</sup>

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<sup>5</sup>Ibid., 273, 276-7.

Washington, of course, was just as concerned with protecting the members of his own immediate family as he was with protecting his slave property. In the spring of 1771, an interesting family episode occurred that throws further light on the extent of Washington's faith in inoculation. His stepson, John Parke Custis, or "Jackie" as he was affectionately called, seemingly on his own initiative had sought to become immunized. "Jackie's" tutor, the Reverend Jonathan Boucher, agreed to act as the intermediary in this delicate matter since Mrs. Washington felt very uneasy about exposing her only son to the hazards of the inoculation procedure. According to Washington's biographer, Douglas Southall Freeman, "Martha had expressed her wish that her son might have this protection but she never had been able to bring herself to approve the required step. She had said, in fact, that she wished 'Jackie' might be inoculated and might be out of danger before she knew anything about it, so that, in Washington's words, 'she might escape those tortures which suspense would throw her into, little as the cause might be for it.'"<sup>6</sup> With Washington's explicit but tacit consent, the Reverend Boucher took the boy to Baltimore and had him inoculated surreptitiously there. Freeman concludes that, "Washington had never planned a military operation with greater care than he now displayed in arranging to keep from Martha the news of the inoculation until 'Jackie' had completely recovered."<sup>7</sup> Happily for all

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<sup>6</sup>Freeman, George Washington, Three:268.

<sup>7</sup>Ibid.



concerned, when his worried mother next saw him, the youngster was healthy, unmarked, and with nothing to fear from the smallpox for the rest of his life.

Martha Washington, for reasons best known to herself, stubbornly resisted inoculation for almost five more years despite the importunings of her husband. Only when she visited Washington's headquarters in New York City in the spring of 1776 and was seriously exposed to infection did she finally yield. The General wrote to his brother, John Augustine Washington, from New York on April 29th that, "Mrs. Washington is still here, and talks of taking the Small Pox, but I doubt her resolution."<sup>8</sup> Martha did manage to overcome her long-held misgivings the next month in Philadelphia. Washington duly reported to his brother (John Augustine) on May 31st that, "Mrs. Washington is now under inoculation in this City [Philadelphia]; and will, I expect, have the Small pox favourably, this is the 13th day, and she has very few Postules."<sup>9</sup> True to her husband's prognosis, Martha fully recovered from her ordeal and was now numbered among the immune in the Washington family.

Although, as far as is known, Washington had never taken a public position with respect to inoculation, it is obvious from his own experiences that he was personally convinced of its efficacy. This

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<sup>8</sup>John C. Fitzpatrick, ed., The Writings of George Washington (Washington: Government Printing Office, 1932), 4:531.

<sup>9</sup>Ibid., 5:93.

opinion would be put to the test when Washington took command of the Continental Army in Cambridge in July of 1775. On the 21st of that month, he wrote to John Hancock mentioning briefly the precautions he was instituting to prevent any outbreak of the disease:

I have been particularly attentive to the least Symptoms of the small Pox and hitherto we have been so fortunate, as to have every Person removd so soon, as not only to prevent any Communication, but any Alarm or Apprehension it might give in the Camp. We shall continue the utmost Vigilance against that most dangerous Enemy.<sup>10</sup>

Practical measures had already been organized by the local authorities in Cambridge to isolate smallpox victims even before General Washington arrived to take over his command. The editors of the Washington Papers have summarized these measures in this footnote:

A smallpox hospital had been established for the army near Fresh Pond, which lies about a mile and a half west of the Cambridge common. On 19 June 1775 General Ward directed that a sentry be posted constantly at the gate to the smallpox hospital with orders 'to permit no person to go in or out except the Doctor & such as the Doctor shall permit to pass.' On 2 July Ward ordered each company in the army

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<sup>10</sup>W. W. Abbot, ed., The Papers of George Washington (Charlottesville: University Press of Virginia, 1985), Revolutionary War Series 1:140.

to be inspected daily for smallpox symptoms. Any man suspected of having the disease was to be removed at once.<sup>11</sup>

In his very first "General Orders" dated July 4, 1775, at Cambridge, General Washington, referring to this same smallpox hospital, attempted to maintain its isolation. "No Person is to be allowed to go to Fresh-water pond a fishing or on any other occasion as there may be a danger of introducing the small pox into the army."<sup>12</sup> So far, the only precautions that Washington had adopted to protect his soldiers from epidemics of smallpox were isolation and quarantine. Inoculation was apparently not yet considered to be either necessary or appropriate. Dr. John Morgan, the Medical Director of the Continental Army who arrived in Cambridge in November of 1775, confirmed this policy of isolation and quarantine when he reported to Washington on December 17th regarding the current status of the smallpox threat:

And whereas the Small Pox hath made its appearance at several times in the Army, and a number of persons have been lately sent out of Boston and landed at point Sherley with the small pox on them; it is highly expedient, to fix on a proper place, for conveying such persons to, as may have the small pox, with the suitable Convenience to prevent its

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<sup>11</sup>Ibid., 58n.

<sup>12</sup>Ibid., 55.

spreading.<sup>13</sup>

Dr. Morgan's information that refugees from Boston coming into the American lines were infected with the smallpox touched a sensitive nerve. General Washington had already been alerted by other sources that the British might be deliberately trying to spread the disease among his troops. He had written to John Hancock on December 4th expressing his serious concern at the rumors that he had heard to this effect:

By recent information from Boston, Genl Howe is going to Send out a number of the Inhabitants.....there is one part of the information that I Can hardly give Credit to. A Sailor Says that a number of those Comeing out have been inoculated with design of Spreading the Smallpox thro' this Country & Camp.<sup>14</sup>

A week later (on December 11th), Washington again notified President Hancock to the effect that:

The information I received that the enemy intended Spreading the Small pox amongst us, I could not Suppose them Capable of - I now must give Some Credit to it, as it has made its appearance on Severall of those who Last Came out of Boston, every necessary precaution has been taken to prevent its being Communicated to this Army, & the General

<sup>13</sup>Ibid., Revolutionary War Series 2:541.

<sup>14</sup>Ibid., 486.

Court will take Care, that it does not Spread through the Country.<sup>15</sup>

It is true that Boston suffered a serious epidemic of smallpox in the siege of 1775-6, and there may well have been some justification for suspecting the British of trying to spread the disease to the Americans. As a matter of fact, they had resorted to germ warfare before (although there is no evidence that Washington had any knowledge of this earlier episode). One documented incident occurred during the Pontiac uprising in 1763. The British General, Sir Jeffery Amherst, in command of the British Armies in North America, made this unusual suggestion to his field commander, Colonel Henry Bouquet: "Could it not be contrived to send the small pox among the disaffected tribes of Indians? We must on this occasion use every stratagem in our power to reduce them.' Bouquet answered that he would try to spread an epidemic with infected blankets and mentioned a wish to hunt 'the vermin' with dogs."<sup>16</sup> Another slightly different version of the same incident is reported as follows: "He [General Amherst] added that he had heard that smallpox had broken out at Fort Pitt and wondered whether the disease could not be spread to good advantage. Bouquet replied, 'I will try to inoculate the bastards with some blankets that may fall in their hands, and take care not to

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<sup>15</sup>Ibid., 533-4.

<sup>16</sup>Howard H. Peckham, Pontiac and the Indian Uprising (Princeton: Princeton University Press, 1947), 226-7.

get the disease myself.'"<sup>17</sup>

Whatever the outcome of their germ warfare plans - first against the Indians and later possibly against the Americans - the devious intentions by the British to employ the smallpox weapon remained suspect throughout the Revolution. Though actual proof of complicity seems to be lacking, General Washington nevertheless continued to be apprehensive of the enemy's motives. As late as the Yorktown campaign, he was keenly alert to the smallpox menace while issuing these warnings (dated September 29, 1781) to his officers on the march southward: "Our ungenerous Enemy having as usual propagated the small Pox in this part of the Country, the Commander in Chief forbids the Officers and soldiers of this Army [from] having any connection with the Houses or Inhabitants in this neighbourhood or borrowing any utensils from them."<sup>18</sup>

Another smallpox precaution that Washington initiated took place when the British evacuated the pestilence-ridden town of Boston in March of 1776. He carefully ordered into the area at first only soldiers who were known to be immune to the smallpox (as he reported to John Hancock in his letter of March 19th): "As soon as the Ministerial Troops had quitted the Town, I order'd a Thousand Men (who had had the Small Pox) under the Command of General Putnam to take

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<sup>17</sup> John C. Long, Lord Jeffery Amherst: A Soldier of the King (N.Y.: MacMillan, 1933), 186-7.

<sup>18</sup> Fitzpatrick, Writings of George Washington, 23:152.

possession of the Heights."<sup>19</sup>

On July 20th, 1775, General Washington wrote to his brother Samuel (Washington): "I came to this place [Cambridge] the 2d Instant & found a numerous army of Provincials under very little command, discipline, or order."<sup>20</sup> Men mostly from rural communities who had never been exposed to the smallpox virus and who consequently had no immunity to the disease were suddenly thrown together in crude encampments living in crowded and often insanitary conditions. An outbreak of smallpox under these circumstances could have proven to be a disaster for the Continental Army. The fact that General Washington, together with the local Massachusetts authorities and with the help of his new Medical Director, Dr. John Morgan, were able to forestall this possibility stands as a tribute to their collective organizing skills. Also, the fact that they achieved their goal by relying solely on the non-controversial measures of quarantine and isolation demonstrates the effectiveness of these relatively benign methods of smallpox control. Thus, up to this stage of the war, there seemed to be no urgent call for engaging in the risky business of inoculation. And General Washington, whatever his personal feelings or inclinations regarding inoculation, apparently felt no compulsion to consider taking steps in this direction. The campaign in Canada, however, would quickly serve to change his mind.

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<sup>19</sup>Abbot, Papers of George Washington, Revolutionary War Series 3:490.

<sup>20</sup>Ibid., Revolutionary War Series 1:135.

## CHAPTER II

### DISASTER IN CANADA

The news from Canada was most distressing. Dr. John Morgan, the Medical Director of the Continental Army, wrote as follows from New York City on June 25th, 1776: "To the Honorable Samuel Adams Esqr. Member of the Medical Committee of Congress:"

The State of the Army in Canada, according to Dr. Lind's Account (who is just arrived from thence, by Order of Genl Sullivan, for a Supply of Medicines) is truly deplorable. I have seen no Returns of the Sick, but he assures me, that in the beginning of this Month, there were no less than 1800 Men down with the Small Pox, and the Total of Sick and unfit for duty amounted to 3,300 Men, and he says, they have no Medicines. Such a Report is scarcely credible, but you may learn the particulars yourself from him, as he intends going to Philadelphia.<sup>1</sup>

There is no record of Sam Adams' reaction to this news. But Congress had indeed received earlier warnings of the smallpox toll on

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<sup>1</sup>Papers of the Continental Congress, 1774-1789 (Microcopy 247, Roll 77. Item No. 63), 190.



the Continental forces operating in Canada. John Adams, who was also serving with his cousin Sam in the Continental Congress in Philadelphia in 1776, had been informed by Samuel Chase (in a letter sent from upstate New York on April 21st, 1776) that "we on the 5th, had before Quebec, 2500 [Men], of which about 800 are in the Hospital (the far greater part of the small Pox)."<sup>2</sup>

By the summer of 1776, when the full impact of the disaster in Canada had become painfully apparent, John Adams was busy assigning the blame. In his correspondence of June 9th from Philadelphia, he enumerated eight reasons for the failure of the expeditions against Quebec. The last (eighth) one read: "The Small Pox, an unexpected Enemy, and more Terrible than British Troops, Indians, or even Tories, invaded our Armies and defeated them more than once."<sup>3</sup> And in his letter of July 2nd, John Adams ventured this prediction: "The Small Pox is an Enemy more terrible in my Imagination, than all others. This Distemper will be the ruin of every Army from New England if great Care is not taken."<sup>4</sup>

As the American invasion of Canada collapsed in the summer months of 1776, the smallpox was almost invariably cited as the chief villain in the calamity. Brigadier-General Benedict Arnold, in his letter to Major-General Philip Schuyler of June 13th, from his headquarters at

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<sup>2</sup>Robert J. Taylor, ed., Papers of John Adams (Cambridge: Belknap Press, 1979), 4:134.

<sup>3</sup>Ibid., 243.

<sup>4</sup>Ibid., 357.

St. Johns (Canada), wrote: "Near one half of our army are sick, mostly with the small pox.....three thousand Men are sick here and at Chamble[y] and no Room or Conveniency for them."<sup>5</sup> Major-General John Sullivan, in his letter to Schuyler of June 24th from his headquarters at Isle aux Noix (Canada), reported that "this Cowardly affair [the headlong retreat from Quebec and Montreal] together with the want of Discipline & that infernal Disorder the Small Pox has ruined our Army."<sup>6</sup> And Major-General Horatio Gates, corresponding with John Hancock, wrote from Ticonderoga (N.Y.) on July 16th as follows:

I submitted and went with General Schuyler and General Arnold to Crown Point, where we found the wretched remains of what was once a very respectable Body of Troops. -- That Pestilential disease, the Smallpox, had taken so deep a root that the Camp had more the Appearance of a General Hospital than an Army.....I am exerting all my powers to prevent the pestilence getting to Skeensborough [N.Y.], for Should the Militia order'd there be infected, we shall be distroy'd beyond Example.<sup>7</sup>

When General Washington suggested to the Continental Congress in the summer of 1775 that a major offensive be launched against the two

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<sup>5</sup>Papers of the Continental Congress, (Roll 166. Item No. 152), II:193.

<sup>6</sup>Ibid., 179.

<sup>7</sup>Ibid., (Roll 174. Item No. 154), I:15.

Canadian strongholds, Montreal and Quebec, a majority of the members of Congress enthusiastically agreed. A two-pronged movement was subsequently organized. One pincer would travel from Forts Ticonderoga and Crown Point in New York up along the western shore of Lake Champlain and attack Montreal. The other pincer, coming out of Cambridge, would follow the Kennebec and Chaudiere rivers into the St. Lawrence. The two pincers would then converge at Quebec for the final conquest of Canada. To implement these plans, Congress authorized the creation of a Northern Department with General Schuyler as the Commander-in-Chief. The little army that assembled at Crown Point in August of 1775 to invade Canada numbered perhaps 2000 men and was under the command of Brigadier-General Richard Montgomery. General Schuyler, having fallen ill, stayed behind.

To look after his soldiers' medical needs, the Congress, on General Schuyler's personal recommendation, approved the appointment of Dr. Samuel Stringer of Albany as Medical Director. It is believed that Dr. Stringer established his General Hospital at or near Fort George, which was also the headquarters of the Northern Department during the Canadian campaign. Congress, it seems, had hardly acted soon enough in hiring Dr. Stringer. As early as August 3rd, General Schuyler was writing (from his headquarters at Ticonderoga) to Governor Jonathan Trumbull of Connecticut, that "the Troops sicken alarmingly fast, ninety-two are now returned ill at this place."<sup>8</sup>

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<sup>8</sup>Peter Force, American Archives (Washington: M. St. Clair and Peter Force, 1840), Fourth Series, III:17.

Nevertheless, the invasion went forward.

Chambly on the Sorel River in Canada fell to the Americans on September 24th. St. John's was captured on November 3rd. And Montreal surrendered on November 12th. However, sickness, desertions, and the expirations of enlistments had reduced General Montgomery's original army to about five-hundred effectives. Leaving behind troops to garrison St. John's and Montreal, Montgomery with some three-hundred soldiers marched swiftly to join Colonel Arnold in the final stage of the expedition, the siege of Quebec. From the available records, the smallpox had not yet made serious inroads on the Americans. But as the investment of Quebec began in December of 1775, cases of smallpox were being reported. The virus had probably been brought from Montreal by Montgomery's men.

Anticipating that the invasion of Canada by the Continental regiments in the Northern Department had been set in motion, General Washington on August 20th wrote to Philip Schuyler from headquarters in Cambridge confirming a coordinate plan "to penetrate into Canada, by way of [the] Kennebeck River, and so to Quebec, by a Route 90 Miles below Montreal - I can very well spare a Detachment of 1000 or 1200 Men."<sup>9</sup> Colonel Arnold was designated by Washington to lead the detachment as its commanding officer.

Although they were not mentioned in the official orders, Arnold's

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<sup>9</sup>W. W. Abbot, ed., The Papers of George Washington (Charlottesville: University Press of Virginia, 1985), Revolutionary War Series 1:332.

detachment included several medical personnel. Dr. Isaac Senter and his three helpers were attached to the overall command. Young Senter, only twenty-two years old, who accompanied Colonel Arnold to the gates of Quebec and who was one of the lucky few to return safely from the Canadian campaign, is the best medical eyewitness to the events that took place there. He kept a diary of his activities. This has been preserved as The Journal of Isaac Senter and is an invaluable record of the sufferings and privations of the Continental soldiers in this ill-fated venture.

The story of the march through the Maine wilderness is one of the great adventures of all time. Yet, in spite of the incredible difficulties and hardships, in mid-November of 1775, in the opinion of Colonel Duncan, "the impossible had been achieved, and Arnold stood on the Plains of Abraham. Had his force been large enough, even two thousand men, Canada would have become part of the United States."<sup>10</sup> But the Continental Army had been decimated by desertions and disease. It was in too weakened a condition to exploit its initial advantage. After a futile bloody assault on the citadel of Quebec on December 31st, in which General Montgomery was killed and Benedict Arnold was wounded, the invaders were forced to withdraw. Dr. Senter picks up the narrative. Writing in his diary on January 6th, 1776, he comments on the growing smallpox problem:

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<sup>10</sup>Louis C. Duncan, Medical Men in the American Revolution 1775 - 1783 (Carlisle Barracks, Pa.: Medical Field Services School, 1931), 90.

The small-pox still continued in the army. Numbers of the soldiers inoculated themselves, and indeed several officers, tho' contrary to orders at this time. Scarce any of the New England recruits had ever had the disorder, and coming into the army when it was very brief, gave apprehension of taking it in the natural way.<sup>11</sup>

Failure at Quebec demoralized and discouraged the Americans. The siege of Quebec was lifted and the retreat commenced. Dr. Senter describes his role in preventing outbreaks of smallpox among the returning soldiers:

I was ordered by Gen. [John] Thomas, who commanded, to repair to Montreal and erect an hospital for their reception, as well by the natural way as inoculation. I accordingly made application to General Arnold [Arnold had been promoted to the rank of Brigadier-General], then commanding in the city, and obtained a fine capacious house belonging to the East India Company. It was convenient for nigh six hundred. I generally inoculated a regiment at a class, who had it so favourable as to be able to do garrison duty during the whole time.....Gen. Thomas caught the natural small pox, sickened at Sorel, was carried to Chamblee and died.....Our army, weakened by the smallpox, and in fine every movement against the enemy unsuccessful, a

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<sup>11</sup>The Journal of Isaac Senter (Philadelphia: Historical Society of Pa., 1846), 141.

retreat was ordered to St. John's.<sup>12</sup>

General Washington in Cambridge received the first reports of the setback at Quebec on January 17th, 1776. But five months elapsed before he made any comments (in writing) concerning the role that the smallpox had played in bringing about the disaster. The death of General John Thomas elicited this brief observation (in a letter to Brigadier-General John Sullivan sent on June 13th from New York City): "Having received Intelligence of the unfortunate Death of General Thomas, occasioned by the small Pox he had taken, the Command of the Army in Canada devolves on you."<sup>13</sup> On July 7th, after the facts of the defeat and retreat from Canada had become well known, he shared these further thoughts with Governor Trumbull of Connecticut:

The situation of the Northern Army is certainly distressing, but no relief can be afforded by me; this I am persuaded you will readily agree to. I should suppose, if proper precautions are taken, the Small pox may be prevented from spreading. this was done at Cambridge, and I trust will be contrived by Generals Schuyler and Gates, who are well apprized of the fatal Consequences that may attend its infecting the whole Army.<sup>14</sup>

Washington's statements of sympathy and good advice had no

<sup>12</sup>Journal of Isaac Senter, 141-3.

<sup>13</sup>John C. Fitzpatrick, ed., The Writings of George Washington (Washington: Government Printing Office, 1932) 5:132-3.

<sup>14</sup>Ibid., 234-5.

practical impact in mitigating the smallpox epidemics then raging in the Northern Department. Without any real guidance from the Commander-in-Chief, the situation soon deteriorated into a state of contradictions and confusion. Thus, the irony of Dr. Senter, according to his own account, busy inoculating the regiments of Continental soldiers while his superiors were simultaneously issuing orders outlawing the procedure:

General Orders before QUEBECK, MARCH 15, 1776.

As the spreading [of] the Small-Pox at this juncture will probably prove the entire ruin of the Army, the officers are desired to take all possible care to prevent it, by keeping the men from strolling from their quarters.

The Surgeons of the Army are forbid, under the severest penalty, to inoculate any person. And as many officers and men are preparing for the small-pox, it is said with an intention of taking it by inoculation; to prevent the fatal consequences attending such conduct, those who are found guilty, if officers, will be immediately cashiered; if private soldiers, punished at the discretion of a Court-Martial.<sup>15</sup>

The only preventive smallpox measures that appear to have had the unanimous endorsement of the authorities - by the field commanders in the Northern theater of operations as well as by the Commander-in-Chief - were isolation and quarantine:

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<sup>15</sup>Force, American Archives, III:551



General Orders before QUEBECK, FEBRUARY 11, 1776.

Whereas the repeated orders given to prevent the spreading of that fatal disorder the Small-Pox, have been in a great measure disregarded; it is ordered that the commanding officer of every company immediately send such of his company as are seized with it to the Hospital; and all soldiers who shall know of any persons with that disorder in their private quarters, and do not make immediate complaint thereof to the Barrackmaster, shall be treated as neglecting their duty, and guilty of a breach of the orders.<sup>16</sup>

During the late winter and early spring of 1776, General Washington apparently still nourished hopes of a victory at Quebec and he diligently continued to send whatever supplies and reinforcements he could spare to the north. But the flow of ominous tidings from Canada did not support his optimism. For instance, General Moses Hazen communicated to General Schuyler from Montreal on April 1st: "I have pretty good information that our strength in camp before Quebeck did not, on the 18th of March, much exceed that of the day after General Montgomery's fall. General Arnold had at that time about four hundred men in a small-pox Hospital."<sup>17</sup> And General David Wooster, now in command at Quebec, sent to Congress on April 10th this gloomy appraisal: "Troops come in to our assistance but slowly; and a great part of them who have arrived have been but of very little service, on

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<sup>16</sup>Ibid., v:550.

<sup>17</sup>Ibid., 751-2.

account of the small-pox."<sup>18</sup> On May 1st, a Congressional Commission sent to Canada from Philadelphia to evaluate firsthand the worsening outlook in the Northern Department, concluded their report from Montreal with these prophetic words: "The small-pox is in the Army, and General Thomas has, unfortunately, never had it."<sup>19</sup>

The arrival in Canada of strong British reinforcements in the spring of 1776 put an end to the American invasion of its northern neighbor. The hasty withdrawal that had begun from Quebec in May continued until the last of the Continental troops were back on their own territory by mid-summer. The best that General Washington could anticipate was that the retreat would remain orderly and would not turn into a disastrous rout. He counted on his newly-appointed commander, General John Sullivan, to implement this difficult and dismal assignment when he wrote him on June 13th: "I am therefore, to request your most strenuous Executions to retrieve our Circumstances in that Quarter, from the melancholy Situation they are now in, and for performing the arduous Tasks of bringing Order out of Confusion."<sup>20</sup>

However strong his exertions might have been, General Sullivan could not seem to find a quick and satisfactory solution to the smallpox infections that continued to plague his army. On July 29th, for instance, General Gates forwarded this depressing dispatch to

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<sup>18</sup>Ibid., 845-6.

<sup>19</sup>Ibid., 1166.

<sup>20</sup>Fitzpatrick, Writings of George Washington, 5:132-3.

General Washington:

Those troops, when they arrive [from Canada], are all ordered to halt at Skeneborough. Everything about this Army is infected with the pestilence; the clothes, the blankets, the air, and the ground they walk upon. To put this evil from us, a General Hospital is established at Fort George, where there are now between two and three thousand sick, and where every infected person is immediately sent; but this care and caution has not yet effectually destroyed the disease here; it is notwithstanding continually breaking out.<sup>21</sup>

Not only was the smallpox taking its toll of sick and dying soldiers, the fear of catching the deadly disease was seriously undermining morale and thus greatly hampering the enlistment of new recruits for the Continental service. That was the gist of Governor Trumbull's letter of July 4th to General Washington:

The prevalence of the small pox among them [the troops] is every way unhappy; our people in General have not had that Distemper. Fear of the Infection operates strongly to prevent Soldiers from engageing in the service and the Battalions Ordered to be raised in this Colony [Connecticut] fill up slowly.<sup>22</sup>

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<sup>21</sup>Force, American Archives, Fifth Series, I:650-1.

<sup>22</sup>Papers of the Continental Congress, (Roll 166. Item No. 152), II:205-7.

In fact, in his letter the very next day (July 5th) to John Hancock in Philadelphia, Governor Trumbull outlined the monetary inducements that the Connecticut Legislature had decided to pass in order to try to help boost enlistments to fill the ranks of the Continental Line:

[Because] the small pox in Canada naturally would deter those from engaging in the Service who had never passed thro' that Distemper, it was thought necessary by the Assembly to encourage them to Enlist by offering them a Bounty, and accordingly six pounds as a bounty to each able bodied man that should inlist into the Batallion destined for Canada and three pounds for those destined to New York.<sup>23</sup>

The ultimate goal that the military and political leaders were seeking to realize was a practical and expedient way of bringing to an end the constant menace of devastating outbreaks of smallpox epidemics in the Continental Army. "Are there no measures [that] may be taken to remove the impediment [and] may not the Army soon [be] freed from that Infection?"<sup>24</sup> This is how Governor Trumbull put the question to General Washington in his letter of July 4th. On July 5th, the Governor sought to promote with President Hancock the idea of assigning Connecticut troops to more healthy theaters (like New York) instead of to the Northern Department as one means of hedging the smallpox threat:

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<sup>23</sup>Ibid., (Roll 80. Item No. 66), I:193.

<sup>24</sup>Ibid., (Roll 166. Item No. 152), II:205-7.

Might not some of our Troops be sent to New York and serve there instead of the York or Jersey Battalions, which have generally passed thro that distemper, such an Exchange would be very agreeable, and greatly facilitate the filling up [of] our Regiments; our Intelligence from Crown point shows the Infection to be very great in our returning Army.<sup>25</sup>

Following the abandonment of Canada, there was much finger-pointing and soul-searching. John Adams in the Continental Congress, among the earliest and strongest Congressional supporters of the Canadian invasion and later probably the most vociferous critic of the manner in which it had been carried out, asked this question in his correspondence (with Samuel Cooper[?]) of June 9th: "The Small Pox is a Terrible Enemy, but why could not this have been kept out of the Camp before Quebec?"<sup>26</sup> Dr. John Morgan wrote to Sam Adams on June 25th: "Had there been a General Hospital in Canada, there would have been better Order, and some Subordination obtained, which is now wholly wanting."<sup>27</sup> General Philip Schuyler, corresponding with John Hancock on August 16th, placed the blame for the smallpox calamity squarely on the unauthorized practice of inoculation:

I am just now informed, by good authority, that some of

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<sup>25</sup>Ibid., (Roll 80. Item No. 66), I:193.

<sup>26</sup>Taylor, Papers of John Adams, 4:242.

<sup>27</sup>Papers of the Continental Congress, (Roll 77. Item No. 63),

the Militia from the eastward have inoculated themselves on the march to Skenesborough.....I am also informed that all the Field-Officers of one regiment have done the same at Skenesborough. I shall instantly write to General Gates on the subject, and direct that none of them be suffered to join the Army to prevent this terrible disaster from again distressing us.<sup>28</sup>

General Schuyler was among the foremost of the commanders in the Northern Department notorious for his facility for straddling the inoculation issue. On February 15th, 1777, for example, he communicated to Congress that "I fear Nothing will prevent Villains from continuing to inoculate in the Army, unless a Resolution of Congress making it Death for any Officer or Soldier to suffer himself to be inoculated and for any person that does it."<sup>29</sup> Yet a month later, on March 8th (perhaps because he had in the meantime received instructions from the Commander-in-Chief), he wrote to Congress again, this time expressing the exact opposite sentiments: "His Excellency General Washington has recommended to me to assist the Army in this [Northern] Department to be inoculated: it appears highly necessary."<sup>30</sup>

The role of the medical personnel of the Continental Army in the

<sup>28</sup>Force, American Archives, Fifth Series, I:984-5.

<sup>29</sup>Papers of the Continental Congress, (Roll 173. Item No. 153), III:88.

<sup>30</sup>Ibid., 110.

Canadian campaign is a blurred picture. Dr. Samuel Stringer, the Medical Director of the Northern Department, apparently ran the General Hospital at Fort George throughout the period and was responsible for the care of the returning sick and wounded soldiers. His hospital records have been lost. Of the regimental surgeons and mates who had accompanied General Montgomery's army, virtually nothing is known. Only Dr. Senter has managed to preserve his personal glimpses of the expedition. General Washington in Cambridge (and later in New York) was too far removed by distance to exercise any direct operational control over the medical problems facing his soldiers in Canada. He had to rely almost entirely on the judgment and good sense of his field commanders. Unfortunately, the lack of central authority, and in particular an established policy on inoculation, led to many of the contradictions in orders and probably to much of the resulting chaos and confusion.

Quantitatively, what was the extent and impact of the smallpox on the Continental Army in Canada? One "Return of Troops in Canada, May 11, 1776," shows the following enumeration:

|                                       | <u>Fit for Duty</u> | <u>Sick</u> |
|---------------------------------------|---------------------|-------------|
| Colonel Reed's Regt., N.H. ....       | 350                 | 81          |
| Colonel Stark's Regt., N.H. ....      | 389                 | 40          |
| Colonel Poor's Regt., N.H. ....       | 406                 | 96          |
| Colonel Patterson's Regt., Mass. .... | 238                 | 71          |
| Greateon's Regt., Mass. ....          | 281                 | 52          |
| Bond's Regt., Mass. ....              | 230                 | 43          |
| Colonel Wayne's, Penn. ....           | 128                 | 28          |

|                         | <u>Fit for Duty</u> | <u>Sick</u>        |
|-------------------------|---------------------|--------------------|
| Irvine's, Penn. ....    | 609                 | 33                 |
| Dayton's, N.J. ....     | 528                 | 28                 |
| Wind's, N.J. ....       | 377                 | 28                 |
| De Haas', Penn. ....    | 471                 | 68                 |
| Bedel's, N.H. ....      | 106                 | 53                 |
| Maxwell's, N.J. ....    | 227                 | 64                 |
| Burrell's, Conn. ....   | 279                 | 263                |
| Porter's ....           | 109                 | 254                |
| St. Clair's, Penn. .... | <u>312</u>          | <u>51</u>          |
|                         | 5040                | 1253 <sup>31</sup> |

Although this particular tabulation does not give any breakdowns, it can be inferred that one of the chief causes of sickness was the smallpox. An earlier report from Quebec - "A Return of the Troops before QUEBECK, in the service of the United Colonies, MARCH 30, 1776" - which is shown as Fig. 1 on the following page (51), does specify the smallpox cases and thus tends to confirm this assumption.

The inhabitants of the American colonies in the seventeenth and eighteenth centuries were afflicted with a wide variety of epidemic diseases: smallpox, diphtheria, scarlet fever, yellow fever, measles, whooping cough, mumps, tuberculosis, malaria, dysentery, typhoid fever, and syphilis, to name some of the most common maladies. Yet the single disease in this list that was universally dreaded and that claimed so many fatalities, smallpox, was also the single disease that

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<sup>31</sup>Duncan, Medical Men in the American Revolution, 108.



*A Return of the Troops before QUEBECK, in the service of  
the United Colonies, MARCH 30, 1776.*

| REGIMENTS.                    | Effectives. | Sick.      | Total.      | DISORDERS.                    |
|-------------------------------|-------------|------------|-------------|-------------------------------|
| Colonel Warner's.....         | 102         | 271        | 373         | Small-Pox by inoculation.     |
| Major Cady's.....             | 82          | 50         | 132         | Do. do.                       |
| Colonel De Haas's.....        | 225         | -          | 225         | Do. do.                       |
| Major Brown's Detachment...   | 38          | 132        | 170         | Do. do.                       |
| General Wooster's.....        | 42          | 48         | 90          | Do. do.                       |
| Colonel McDougall's.....      | 76          | 115        | 191         | Small Pox, great and various. |
| Colonel Van Schaick's.....    | 81          | 77         | 158         | Various.                      |
| Colonel Clinton's.....        | 207         | 20         | 227         | Various.                      |
| Colonel Holmes's.....         | 91          | 23         | 114         | Various.                      |
| Colonel Livingston's.....     | 206         | -          | 206         |                               |
| General Arnold's.....         | 117         | 50         | 167         | Various and wounded           |
| Captain Wool's Artillery..... | 31          | -          | 31          |                               |
| Colonel Duggan's.....         | 123         | -          | 123         |                               |
| Colonel Maxwell's.....        | 216         | -          | 216         |                               |
| Colonel Fellows's.....        | 82          | -          | 82          |                               |
| <b>Total.....</b>             | <b>1719</b> | <b>786</b> | <b>2505</b> |                               |

Fig. 1

<sup>32</sup>Force, American Archives, Fourth Series, V:1100.

could best be coped with by the medical men of that era. At least they knew how to use quarantine and isolation to control its spread; and inoculation to help prevent infection and provide immunity.

This elementary knowledge by itself was not sufficient to keep the smallpox scourge from continuing its ravages throughout the early period of the Revolutionary War for two basic reasons: First, none of the initial preventive measures was adequately and consistently employed; and second, none of the known steps to control smallpox was risk-free. Therefore, it was soon apparent to the leaders of the Revolution that tough decisions would have to be made and enforced in order to clear up the ambivalence. Specifically, a firm policy regarding quarantine and inoculation needed to be established to deal effectively with the ever-present threat of smallpox to the Continental soldiers gathered in army camps and marching units. The leaders recognized that while the smallpox plague could never be completely eliminated, it could definitely be minimized.

Thus, the Canadian disaster did have a very positive effect: it set the stage for a resolute policy on inoculation. While most agreed that something had to be done to avert another Canadian-type fiasco, it was up to the Commander-in-Chief to make the final determination. Quarantine and isolation had worked well enough during the Boston siege, but it had proven inadequate in Canada. Inoculation, in spite of its known risks, was an answer. The decision on whether or not to accept the risks now rested with General Washington.

## CHAPTER III

### SMALLPOX AND THE CONTINENTAL ARMY

On January 6th, 1777, from his winter headquarters at Morristown, N.J., General Washington wrote to the then Medical Director of the Continental Army, Dr. William Shippen, Jr., detailing the following specific instructions with respect to inoculation:

Finding the small pox to be spreading much and fearing that no precaution can prevent it from running thro' the whole of our Army, I have determined that the Troops shall be inoculated. This expedient may be attended with some inconveniences and some disadvantages, but yet I trust, in its consequences will have the most happy effects. Necessity not only authorizes but seems to require the measure, for should the disorder infect the Army, in the natural way, and rage with its usual Virulence, we should have more to dread from it, then from the Sword of the Enemy. Under these circumstances, I have directed Doctr. Bond, to prepare immediately for inoculating in this Quarter, keeping the matter as secret as possible, and request, that you will without delay inoculate all the Continental Troops that are in Philadelphia and those that

shall come in, as fast as they arrive. You will spare no pains to carry them thro' the disorder with the utmost expedition, and to have them cleansed from the infection when recovered, that they may proceed to Camp, with as little injury as possible, to the Country thro' which they pass. If the business is immediately begun and favoured with the common success, I would fain hope they will be soon fit for duty, and that in a short space of time we shall have an Army not subject to this, the greatest of all calamities that can befall it, when taken in the natural way.<sup>1</sup>

Thus, by a stroke of his pen, General Washington put an end to the long-running inoculation controversy; at least insofar as the military forces under his jurisdiction were concerned. The Continental Army now had in place a firm and clearly stated policy on inoculation which everyone would come to understand (once the initial secrecy was lifted) and which every soldier was expected to obey. The personal discretion of the individual field commanders in this matter had been replaced by the authority of the Commander-in-Chief. The Medical Department could proceed to establish proper hospital facilities for treating its smallpox patients. New recruits were assured that they would be given the best available protection against the smallpox virus. Immunized soldiers could move with relative

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<sup>1</sup>John C. Fitzpatrick, ed., The Writings of George Washington (Washington: Government Printing Office, 1932), 6:473-4.

freedom in areas where the smallpox was endemic without fear of contracting it. General Washington's landmark order of January 6th was carried out for the most part effectively and efficiently by the medical personnel of the Continental Army. In retrospect, the action proved successful in achieving its objectives.

For approximately the first eighteen months of his command, however, Washington seemed committed to pursuing an anti-inoculation policy. He did so for several valid reasons. Many of the colonies had statutes on the books prohibiting inoculation and Washington, as a public figure, prided himself on obeying the law. As has been emphasized in previous chapters, public opinion itself was sharply divided, often very passionately, on the issue. Enlistments were dropping off; perhaps in part due to the smallpox scare. In New York in the spring and summer of 1776, sickness and disease had begun to take a serious toll of the men of the Continental Army. Colonel Duncan records that "a return of the army [in New York] at the middle of September [1776] showed that of the rank and file there were present, fit for duty, 15,243; present sick, 6,098; absent sick, 1,215. The total number of sick was 8,528, more than a third of the army."<sup>2</sup> A program of mandatory inoculation might well serve to worsen the medical crisis. In any case, on May 20th, General Washington issued these stringent orders:

No Person whatever, belonging to the Army, is to be

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<sup>2</sup>Louis C. Duncan, Medical Men in the American Revolution 1775-1783 (Carlisle Barracks, Pa.: Medical Field Service School, 1931), 7.

innoculated for the Small-Pox--those who have already undergone that operation, or who may be seized with Symptoms of that disorder, are immediately to be removed to the Hospital provided for that purpose on Montresor Island. Any disobedience to this order, will be most severely punished-- As it is at present of the utmost importance, that the spreading of that distemper, in the Army and City, should be prevented.<sup>3</sup>

On May 20th, this interesting episode concerning the ban on smallpox inoculations appeared in Washington's General Orders:

In Provincial Congress, New York, May 25, 1776.

.....Doctor Foster appearing before the Committee says, that information was given to General Putnam, that several persons had been inoculated, at the house of one Fisher, in Stone Street, contrary to a resolve of the Provincial Congress of this Colony, he, the examinant (agreeable to Genl: Putnam's order) immediately went to the house of the above mentioned Fisher, where he discovered that Lt. Colonel Moulton, Capt. Parks, Doctor Hart and Lieut. Brown had been inoculated by Doctor Azor Betts.

Doctor Azor Betts being sent for, appeared before the Committee, allowed the charge against him, and offer'd in his vindication--that he had been repeatedly applied to by the officers of the Continental Army to inoculate them, that

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<sup>3</sup>Fitzpatrick, Writings of George Washington, 63.

he refused but being overpersuaded, he at last inoculated the persons above-mentioned.

Resolved, That Doctor Azor Betts, be committed to the Gaol of this City, and be kept in safe custody, until released by the Provincial Congress.

Ordered, That a Copy of the minutes relating to Doctor Azor Bett's case, be handed to the Provincial Congress.....

Messrs. Berrian and Harpur further inform, that the wife of Azor Betts, on her examination, says That Lieut. Seymour from Long Island had informed her, that seven persons of the Army (Officers as she understood) on Long Island, were taking mercurial preparations, and as he supposed, were inoculated, or preparing to be inoculated for the small pox.

Ordered. That a Copy of the report of the General Committee, to this Congress, be delivered to Major Genl. Putnam--that he give such direction to the Continental Army, for preventing the Small Pox among them on Long Island, as he may think necessary.<sup>4</sup>

Since General Washington at this time was not in favor of inoculation for the officers and men of the Continental Army, he readily agreed with the above findings of the New York Provincial Congress:

The General presents his Compliments to the Honorable

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<sup>4</sup>Ibid., 62-3.

the Provincial Congress, and General Committee, is much obliged to them, for their Care, in endeavouring to prevent the spreading of the Small-pox (by Inoculation or any other way) in this City, or in the Continental Army, which might prove fatal to the army, if allowed of, at this critical time, when there is reason to expect they may soon be called to action; and orders that the Officers take the strictest care, to examine into the state of their respective Corps, and thereby prevent inoculation amongst them; which, if any Soldier should presume upon, he must expect the severest punishment.

Any Officer in the Continental Army, who shall suffer himself to be inoculated, will be cashiered and turned out of the army, and have his name published in the News papers throughout the Continent, as an Enemy and Traitor to his Country.

Upon the first appearance of any eruption, the Officer discovering of it in any Soldiers, is to give information to the Regimental Surgeon, and the Surgeon make report of the same, to the Director General of the hospital.<sup>5</sup>

It is impossible to say from the available records exactly when General Washington decided to completely reverse his course and to embrace, instead of condemn, inoculation. Perhaps he was pushed by military necessity. Perhaps the initiative came from the Continental

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<sup>5</sup>Ibid., 83-4.



Congress. Perhaps the Congress and Washington had agreed that an official policy endorsing inoculation was essential to preserve the health of the Continental Army. That some consultation occurred is suggested by the resolution Congress adopted on February 12th, 1777:

Ordered, That the Medical Committee write to General Washington, and consult him on the propriety and expediency of causing such of the troops in his army, as have not had the small pox, to be inoculated, and recommend that measure to him, if it can be done consistent with the public safety, and good of the service.<sup>6</sup>

The decision to inoculate all Continental soldiers (including new recruits) and the consequent need to set aside hospital facilities for their proper care and treatment helped pave the way for a more formal structuring of the Medical Department. On February 27th, 1777, the Congress recommended the following plan for organizing three medical districts to cover the thirteen colonies:

The Medical Committee having taken into their consideration a plan for establishing Military Hospitals, [transmitted to Congress by General Washington] agree to report---Section 1. That the Continent be divided into three districts. The Middle to extend from Hudsons river to Potomac. The Southern to extend from Potomac to Georgia, and the Northern from Hudsons river to Quebec or Crown

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<sup>6</sup>Journals of the Continental Congress 1774-1789 (Washington: Government Printing Office, 1905), VII:110.

Point.<sup>7</sup>

General Washington's own detailed plans for organizing the hospitals are described in his letter to Dr. John Cochran, sent from Morristown, N.J., on January 20th, 1777:

You are to proceed from hence [Morristown], to morrow, and there inquire into the state of the small pox and use every possible means in your power, to prevent that spreading in the Army and among the Inhabitants, which may otherwise prove fatal to the service; To that end you are to take such Houses, as will be convenient, in the most retired parts of the Country and best calculated to answer that purpose. You will then proceed to Philadelphia and consult Doctor Shippen the Director, about forming an Hospital for the ensuing Campaign, in such a manner, as that the Sick and Wounded may be taken the best care of, and the inconveniences in that Department, so much complain'd of, the last Campaign, may be remedied in future. You will also, in conjunction with Doctor Shippen, point out to me, in writing, such Officers and Stores, as you may think necessary for the arrangement of an Hospital, in every branch of the Department, as well to constitute one for an Army in the field, which may be stiled a flying Hospital; as also, fixed Hospitals in such parts of the Country, as the nature of the service from time to time may require. Let

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<sup>7</sup>Ibid., 161-2.

your standard be for 10,000 Men for one Campaign, and so in proportion for a greater or less number, as you may hereafter be ordered.<sup>8</sup>

In the overall organization chart that evolved, Dr. William Shippen, Jr. continued in his post as "Director General of the American Hospitals." Dr. John Cochran was confirmed as the "Physician and Surgeon General of the Army in the Middle Dept." And on May 18th, 1776, the Congress "proceeded to the election of a director of the Hospitals in Virginia; and the ballots being taken, William Rickman was elected director and chief physician of the hospital in Virginia."<sup>9</sup> When inoculation was adopted as Army policy, Alexandria was selected as the main site for an inoculation station and it became mandatory for all of the regiments coming up from the Southern colonies to pause at Alexandria for inoculation.<sup>10</sup>

There were, of course, other inoculation hospitals in the colonies but their records have not survived and little if anything is known of their operations. However, because of a number of serious complaints by Continental Army officers about Dr. Rickman and his performance (that led to his dismissal later on), and because some of these records have been preserved, it is possible to gain an insight into the day-to-day activities at the Alexandria inoculation hospital during a brief period in the year 1777. Between September

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<sup>8</sup>Fitzpatrick, Writings of George Washington, 7:44-5.

<sup>9</sup>Duncan, Medical Men in the American Revolution, 201.

<sup>10</sup>Ibid., 202.

22nd and November 30th (1777), 773 men were received into Dr. Rickman's hospital stations ; 693 were discharged to duty; 21 died; 1 was reported down; and 58 remained hospitalized.<sup>11</sup>

In an undated affidavit, Colonel John Williams of the 9th North Carolina Regiment "declares that he thinks there was great neglect & mismanagement of the Officers & Soldiers Inoculated for the smallpox at Alexandria under the care of Doctr Rickman, that the men in general complained of being neglected, the Director seldom appearing leaving the business to his assistants.....That he was called upon to view these men who were in a misirable condition in a cold part of the house without one blanket to cover them, in a little straw, that he sent for Mr. Parker one of the assistant's, Doctor Rickman being in the Country, who refused to attend, untill he was brought by Force, who excused himself by saying that he did not know the men were in so bad a situation.....there were about 300 inoculated out of whom 20 died."<sup>12</sup>

Another affidavit from Lieutenant John Crittenden, dated February 26, 1778, tends to confirm Colonel Williams' account: "John Crittenden Lieut in the 5th Virga Regiment being duly sworn deposeth & saith that he was informed by the Soldiers there was very little care and attention paid to them while under Inoculation for the Small pox at Alexandria; that he never saw Doctor Rickman in the Barracks where

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<sup>11</sup>Papers of the Continental Congress, 1774-1789 (Microcopy 247, Roll 101, Item No. 78), XIX:139.

<sup>12</sup>Ibid., (Roll 73. Item No. 59), III:189.

his men were sick, tho' he was absent on days when they were at the worst, having been called to Williamsburg by Colo. Mason, & that he understood but one dose of Physick was given to a man before he had the Small Pox & numbers had none afterward."<sup>13</sup>

Jacob Walker, a Captain in the Continental Artillery, however, submitted this dissenting opinion on January 20th, 1778: "I hereby certifie that I was under the small pox under care of Doctor Rickman at Alexandria and that during my continuance there which was I believe near six weeks, as far as I was capable of judging, he paid the strictest attention to the soldiers under his care in the small pox that his constant custom was to visit the soldiers round every morning and never failed either giving himself or sending Doctr. Dixon or Parker when ever sent for to a sick soldier. As I lodged with Doctor Rickman when I was at Alexandria his diligence necessarily came under my observation. I remember once or twice he had left his bed when called on by a soldier. The Doctor never that I remember was absent two days together from Alexandria during my stay there. I was at Alexandria in October and left in November. There were some Carolina Troops and many new recruits for the Virginia Regiments then under the small pox."<sup>14</sup>

Anthony T. Dixon, an apothecary, confirmed the positive side of the testimony in his affidavit of February 7th, 1778: "I here by Certify that Doctr Rickman attended the Carolina and Virginia Troops

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<sup>13</sup>Ibid., (Roll 101. Item No. 78), XIX:119

<sup>14</sup>Ibid., 107.

that were Inoculated at Alexandria with the greatest care and diligence. That he prescribed medicines which I dispersed to them before and after the Smallpox. That I did not have an Officer or Soldier that suffered for want of his attendance nor did he absent himself from duty when his assistance was required neither did I ever hear any Complaint from Colonel Williams or any Other officer of neglect, and in my Opinion they had the attendance both by the Director & his assistant---"<sup>15</sup>

These and other testimonials were duly forwarded to the Continental Congress: "Congress having received information that the inoculation of recruits in the hospital in the State of Virginia has of late been attended with much ill success; Resolved, That the Medical Committee make strict enquiry into the truth of this information, and report to Congress with all possible despatch."<sup>16</sup> Ten days later, on December 20th, 1777, the Medical Committee decided that the detrimental evidence was sufficient to call for the dismissal of Dr. Rickman as director of the inoculation hospitals in Alexandria:

The Medical Committee, to whom it was referred to enquire into the conduct of the director of the hospitals at Alexandria, reported, "That from the information of several officers in the Virginia and North Carolina regiments, which are annexed, it appears obvious to the committee that Dr. Rickman, director of the said hospitals, has been guilty of

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<sup>15</sup> Ibid., 113.

<sup>16</sup> Journals of the Continental Congress, IX:1016.

great neglect in not giving proper attendance to the officers and soldiers under inoculation at Alexandria:"

The said report and the informations being read,

Resolved, That Dr. Rickman be immediately suspended, and that he attend the Medical Committee, to answer the several complaints exhibited against him.

Ordered, That the Medical Committee transmit to Dr. Rickman a copy of the complaints against him, and direct his attendance.

That the said committee write to Dr. Shippen, director general, and direct him to send immediately a skilful physician to take care of the sick and superintend the inoculation of the soldiers at Alexandria.<sup>17</sup>

It required the combined (and occasionally the separate) efforts of both the Continental Congress and the Commander-in-Chief to keep the inoculation program on track. As can be seen from the Alexandria episode and the charges against Dr. Dr. Rickman, the Congress seriously examined the complaints of the officers and men under inoculation and it acted promptly to rectify any real or perceived wrongs. Throughout the critical years of 1777-8, when it was especially vital to rebuild the strength of the Continental Army and to boost its spirit and morale, General Washington used his authority to see to it that his inoculation orders were fully obeyed and properly executed. For example, his "General Orders" issued at Valley

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<sup>17</sup> Ibid., 1039.

Forge on March 18th, 1778, emphasized the importance of the inoculation procedures:

Inoculation for the Small Pox having been happily performed on all the subjects in Camp it is necessary to guard against the fatal effects of that disorder taken in the natural way. The Commander in Chief therefore enjoins all officers commanding Regiments upon the arrival of recruits or return of absent soldiers to make immediate and strict inquiry whether they have had the Small Pox, and order such as have not to be inoculated without loss of time by the Regimental Surgeon; and in case of the Regiments being unprovided with one to give instant notice to the Surgeon General.<sup>18</sup>

Washington had travelled an arduous path from the aftermath of the Canadian disaster to the acceptance of smallpox inoculation as a routine Army procedure. By June 17th, 1777, in a letter to General Samuel Parsons from Middle Brook, N.J., he sounded very confident:

I have consulted, the Surgeon General upon the propriety of those of your Brigade coming on [from Peekskill, N.Y.] who have not had the small pox. He tells me that he does not apprehend the least danger, as there is but one Woman in the whole Army who has it, and she will be removed.<sup>19</sup>

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<sup>18</sup>Fitzpatrick, Writings of George Washington, 11:107.

<sup>19</sup>Ibid., 8:258-9.



## CONCLUSION

"May not those objections be easily done away [with], by introducing Inoculation into the State [of Virginia]?"

(George Washington to Governor Patrick Henry of Virginia, April 13, 1777.)

Fig. 2 is a copy of the "RETURN of the SICK and WOUNDED in the AMERICAN MILITARY HOSPITAL at Danbury [Connecticut] Eastern Department FROM October 20th TO November 7th 1778" which lists the most common "DISORDERS" that afflicted and immobilized soldiers and qualified them for hospitalization and medical treatment. Many of the names of the illnesses and diseases are familiar. Others are not. The one thing, however, that all of these sicknesses had in common was that nobody in America during the Revolutionary War knew what caused them or how to cure them. The drugs and herbs and occasional bloodlettings prescribed by the doctors for their patients were little better than folk medicine. More often than not, the prescriptions were worse than the disorders. Consequently, the casualties caused by these infectious diseases far exceeded battlefield wounds.

Dr. James Thatcher, a surgeon in the Continental Army throughout the Revolutionary War and one of the most astute and reliable contemporary medical observers of the entire conflict (from 1775 to

# RETURN of the SICK and WOUNDED in the AMERICAN MEDICAL HOSPITAL at *Danbury* Eastern Department.

FROM *March 20<sup>th</sup>* TO *November 7<sup>th</sup> 1778*

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| DISORDERS,            | Admitted since<br>last Return. | Absent with<br>Leave. | Absent without<br>Leave. | Discharged the<br>Army. | Dead since last<br>Return. | Dismissed to<br>Camp cured. | Remain con-<br>tinued. | Remain sick or<br>hurt. |
|-----------------------|--------------------------------|-----------------------|--------------------------|-------------------------|----------------------------|-----------------------------|------------------------|-------------------------|
| Fever Inflammatory,   |                                |                       |                          |                         |                            | 10                          | 2                      |                         |
| Intermittant,         | 2                              | 1                     |                          |                         |                            | 1                           | 1                      | 4                       |
| Bilious,              | 3                              |                       |                          |                         | 4                          | 30                          | 33                     | 6                       |
| Putrid,               |                                |                       |                          |                         | 2                          | 11                          |                        |                         |
| Nervous,              |                                |                       |                          |                         |                            |                             |                        | 1                       |
| Hectic,               |                                |                       |                          |                         | 1                          |                             |                        |                         |
| Dysenteries,          |                                |                       |                          |                         | 1                          | 8                           | 2                      | 1                       |
| Diarrhæas,            |                                |                       |                          |                         |                            |                             | 1                      | 3                       |
| Dropys                |                                |                       |                          |                         |                            |                             |                        |                         |
| Icteric,              |                                |                       |                          |                         |                            |                             |                        |                         |
| Scurvys,              |                                |                       |                          |                         |                            |                             |                        |                         |
| Coughs,               | 2                              |                       |                          |                         |                            | 21                          | 11                     | 3                       |
| Phthifis,             |                                |                       |                          |                         |                            |                             |                        |                         |
| Small-Pox,            |                                |                       |                          |                         |                            |                             |                        |                         |
| Inoculated,           |                                |                       |                          |                         |                            |                             |                        |                         |
| Diabetes,             |                                |                       |                          |                         |                            |                             |                        |                         |
| Rheumatisms,          | 1                              |                       |                          |                         |                            | 4                           | 2                      | 5                       |
| Veneral,              | 1                              |                       |                          |                         |                            | 5                           | 1                      | 5                       |
| Scrophulæ,            |                                |                       |                          |                         |                            |                             |                        |                         |
| Pforæ,                |                                |                       |                          |                         |                            | 6                           |                        |                         |
| Epilepsy's,           |                                |                       |                          |                         |                            |                             |                        |                         |
| Asthmata,             |                                |                       |                          |                         |                            |                             |                        |                         |
| Debility,             | 3                              | 1                     |                          |                         | 4                          | 61                          | 65                     |                         |
| Herniæ,               |                                |                       |                          |                         |                            | 2                           |                        |                         |
| Hæmorrhoids,          |                                |                       |                          |                         |                            |                             |                        |                         |
| Fist. in Ano,         |                                |                       |                          |                         |                            |                             |                        |                         |
| Wounded by the Enemy, |                                |                       |                          |                         |                            |                             |                        |                         |
| Casual Hurts,         | 3                              | 1                     |                          |                         |                            | 1                           | 4                      | 2                       |

Fig. 2.

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1783), "estimated the total deaths in the war as 70,000.....As the period of active hostilities covered seven years, 1775-1781 inclusive, Dr. Thatcher's estimate gives a mortality [rate] of 10,000 per year."<sup>2</sup> Colonel Louis Duncan, a twentieth-century military medical authority, adds his own personal observation to the effect "that ten men died of disease to every one whose life was taken by the enemy is a safe estimate."<sup>3</sup> Smallpox accounted for a good many of these deaths. Exactly how many, it is impossible to say. According to Dr. Hugh Thursfield (in his 1940 article, "Smallpox in the American War of Independence"), "it is on record that the deaths from the natural [smallpox] disease exceeded 16 per cent and that the mortality from the inoculated disease, when proper control was exercised, averaged but one in three hundred, and that many regiments of five hundred men were inoculated without a single loss."<sup>4</sup>

As this thesis has pointed out, General Washington, in January of 1777, finally took the necessary action to bring to an end the inoculation controversy in the Continental Army. His mandatory inoculation policy effectively served to cleanse the Army of the

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<sup>2</sup>Louis C. Duncan, Medical Men in the American Revolution 1775 - 1783 (Carlisle Barracks, Pa.: Medical Field Services School, 1931), 370.

<sup>3</sup>Ibid., 371.

<sup>4</sup>Hugh Thursfield, "Smallpox in the American War of Independence." Annals of Medical History II 3rd Series (1940):316-7.

smallpox virus. It was not solely a military decision; it had apparently become an emotional issue with the General as well. The extent of the involvement of his personal feelings are perhaps best captured in the following lines which he wrote to Lieutenant Colonel Robert Harrison from Morristown, N.J., on January 20th, 1777:

I beg of you to consult, and in my name advise and direct such measures as shall appear most effectual to stop the progress of the Small pox; when I recall to mind the unhappy situation of our Northern Army last year I shudder at the consequences of the disorder if some vigorous steps are not taken to stop the spreading of it.<sup>5</sup>

Even after the issuance of his mandatory inoculation order, Washington continued to cajole, scold, and plead with his officers and medical personnel (in a stream of memoranda and directives) to practice what today would be called preventive medicine, inoculation and quarantine, in maintaining the health of his soldiers. Nor did Washington spare the civilian sector once he had made up his mind to promote actively a pro-inoculation campaign for the Continental Army. Referring to the anti-inoculation statute in Virginia that was still on the books, Washington wrote to his brother, John Augustine (Washington), in June of 1777:

Surely that Impolitic Act, restraining Inoculation in Virginia, can never be continued. If I was a Member of that

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<sup>5</sup>John C. Fitzpatrick, ed., The Writings of George Washington (Washington: Government Printing Office, 1932), 7:38.

Assembly, I would rather move for a Law to compell the Masters of Families to inoculate every Childborn within a limited time under severe Penalties.<sup>6</sup>

He had used essentially the same argument (again referring to the Virginia anti-inoculation statute) when addressing Governor Patrick Henry of Virginia on April 13th, 1777, while upbraiding the Governor for the lagging enlistment quotas from his State:

The apologies you offer for your deficiency of Troops, are not without some Weight; I am induced to believe, that the apprehensions of the Small pox and its calamitous consequences, have greatly retarded the Inlistments; but may not these objections be easily done away [with], by introducing Inoculation into the State, or shall we adhere to a regulation preventing it, reprobated at this time, not only by the Consent and usage of the greater part of the civilized World, but by our Interest and own experience of its utility? You will pardon my observations on the Small pox, because I know it is more destructive to an Army in the Natural way, than the Enemy's Sword, and because I shudder, when ever I reflect upon the difficulties of keeping it out, and that, in the vicissitudes of War, the scene may be transferred to some Southern State.<sup>7</sup>

In summary, the virtual elimination of the smallpox threat to the

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<sup>6</sup>Ibid., 8:158.

<sup>7</sup>Ibid., 7:409.

Continental Army after 1777 was indeed the outstanding medical success story of the entire period of the Revolutionary War. Thanks to inoculation, the Army was saved from the one disease (of all those listed in Fig. 2) that could have seriously immobilized it and perhaps even have destroyed it.

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## VITA

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