

PIN-UP ART  
INTERPRETING THE DYNAMICS OF STYLE

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A Thesis

Presented to  
The Faculty of the Department of Anthropology  
The College of William and Mary in Virginia

In Partial Fulfillment  
Of the Requirements for the Degree of  
Master of Arts

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by  
Linda Derry

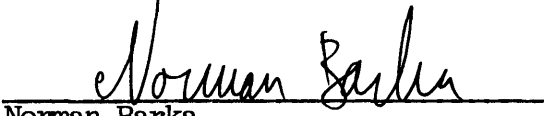
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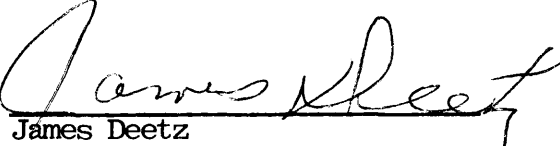
APPROVAL SHEET

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

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## ABSTRACT

The purpose of this study was to compare the pattern of stylistic change in modern pin-up art to the theories of stylistic change currently used in traditional archaeology.

The concept of pattern recognition was borrowed from the work of Stanley South but reworked with ideas earlier stated by the anthropologist Alfred Kroeber. Specifically, rather than defining a synchronic pattern in material culture from one point in time, the author attempted to define a dynamic pattern in her data that existed over time and contained variation.

The theories of stylistic change found in archaeology and their specific implications were reviewed and found to fall into two basic categories: those that provide functional reasons for this change such as social integration or historical events, and those that stress the regularity of change in material culture and do not see the gradual unfolding of patterning as controlled by function.

A study of the context and the reminiscences about pin-ups, illustrated that their primary function was to demarcate areas frequented by men and off-limits to women - also to symbolize comradeship among males. The pattern discovered in the content of pin-up art was one of regular change. These images of women were very slender in 1920 and became consistently huskier each year until the trend peaked in 1963, after which slender types returned. This trend seems to represent a non-functional unfolding of a pattern, however the limits to this pattern did have a functional explanation. These limits co-occur with major disruptions of the sex segregation of our culture. This connection was based on the symbolic import of the human body to our society.

Social integration also affected the amount and visibility of this art form. During World War II when male solidarity was important for survival and social networks increased, the amount and size of pin-ups increased also.

These results suggest that a combination of the two opposing theories on stylistic change is most appropriate. This study also suggests that pin-up art functions more as social fantasy than sexual fantasy.

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## CHAPTER I

### INTRODUCTION: ABOVE GROUND ARCHAEOLOGY

The defining characteristics of archaeology are currently being questioned. Even the standard concept of "archaeologist as anthropologist who digs" has been rejected recently by several archaeologists (Deetz 1970:123; Cotter 1976). John Cotter coined the term "above ground archaeology" when he wrote:

archaeology is not limited to the buried past of remote ages. It is a technique of discovering and conserving evidence of all times and places. It extends its inquiry both above and below ground (Cotter 1976:1).

Others have even questioned the idea that archaeological data must be old (Rathje 1979:2). Reed, Rathje, and Schiffer proposed in 1974 that archaeologists can apply their method and theory to the study of material culture in modern industrial societies for the purpose of deriving explanatory statements of modern human behavior (Reed et al. 1974:125). Many archaeologists have followed this lead. Four notable examples are Robert Ascher's junk car research (Ascher 1968:155-167), Wilk and Schiffer's archaeology of vacant lots in Tucson, Arizona (1979: 530-535), and Stanley South's work on soda can pop-tops (South 1979: 214-237). In addition, Rathje reports that many unpublished modern material culture studies have been produced by archaeology students at the University of Arizona. A long-term study of Tucson's garbage was an outgrowth of one of these class projects (Rathje 1979:5).

The rationale for choosing this new subject matter varies. Ascher explains that archaeology has developed "tools" or "a way of seeing" that centers around extracting information from objects, and that these tools can be employed in the investigation of the recent past (Ascher 1974:7,8). Others such as Deetz (1970:155), Salwen (1973:155), and Rathje (1979:2) state that the defining characteristic of archaeology should be a focus on the interaction between material culture and behavior, or ideas. In this regard, the present or very recent past can provide the most complete information on the socio-cultural context of material items.

Others disagree with the idea that the interaction of material culture and behavior is the single defining characteristic of archaeology. For example, prehistorians such as Fred Plog describe archaeology not only as a science which uses artifacts in explicating behavior but also in revealing cultural process (F. Plog 1973:182). Plog feels that archaeology's best justification and most significant contribution lies in the "answers to our many questions about the whys and wherefores of behavioral and cultural change." (F. Plog 1973:183). Even with this viewpoint, however, one can find certain benefits in the study of modern artifacts. Materials from the recent past provide the best data to use in answering Plog's questions. Only the recent past with its newspapers, magazines, and catalogs provides a tight control over the dimension of time and hence cultural process.

In summary, at least three legitimate reasons are currently available for conducting above ground archaeology:

- 1) Archaeologists have developed techniques that can be

useful to the study of the present.

- 2) The recent past can provide the most complete data on the socio-cultural context of material culture.
- 3) The recent past can provide the most stringent controls on chronology which will aid in the investigation of cultural process.

In this research, I have taken a non-traditional approach in order to test several concepts currently employed in traditional archaeology. Scholars involved in above ground archaeology have advocated searches of America's attics for items belonging to distant ancestors, often "those so far back in family history that they are only names dimly remembered or quite forgotten" (Cotter 1976). Since most Americans do not retain a wide range of family heirlooms, a more suitable application of above ground archaeological practices would involve a study of more recent and familiar items. These artifacts can be found in accessible places around the home and represent the material consumption of one's immediate family. Such recent items could be placed accurately in their socio-cultural context and in the case of dated materials, such as magazines and calendars, the investigator could work with a variety of controls that would facilitate the study of cultural process. The segment of material culture selected for this study conforms to this description and is presented in detail in Chapter Three.

## CHAPTER II

### BACKGROUND INFORMATION

#### Theories of Stylistic Change

I propose to use the concept of pattern recognition to study stylistic change in a selected segment of modern material culture. Since the publication of Stanley South's books, pattern recognition has become a popular goal for the historical archaeologist. However, South has only used the concept of "pattern" in a synchronic way. Both his Carolina and Frontier patterns are merely frequencies of artifact types found on a site without reference to time (South 1977). This is peculiar because, although South professes a dependence on anthropologist Alfred Kroeber for his theoretical base (South 1977:32-34), Kroeber saw pattern as having a diachronic meaning. Pattern existed over time and contained variation or change. Kroeber felt that "culture might be conceived of dynamically" (Kroeber and Kluckhohn 1963:359). My thesis is an attempt to apply the concept of dynamic patterns to the study of stylistic variation.

Two different explanatory models exist for this type of stylistic study in the anthropological literature. One has been built around Kroeber's work on patterns. He and Kluckhohn called this concept "cultural drift" when they wrote that "the performance of a culturally patterned activity appears to carry with it implications for its own change" (1963:374). In addition, anthropologists Sapir,

Murdock, and Herskovits similarly discussed pattern in this manner (Sapir 1949; Murdock 1949; Herskovits 1948). Herskovits in Man and His Works wrote that

the directives laid down by any traditional style govern the artist even as he introduces change into art forms. ...he is an innovator only within bounds...pre-existing patterns are the governor-bearings that prevent change from being haphazard (1948:403).

These anthropologists believed that one could delimit pattern in data that persisted over time as change with definable limits. But they carried this concept of pattern a step further. They were very much influenced by linguists of their time who described language as "characterized by an internal mechanics of its own" (Murdock 1949:199). Applying this concept to cultural patterns, Kroeber wrote that "cultural change is more pre-determined by earlier forms of the culture than caused by environmental press and individual variability" (Kroeber and Kluckhohn 1963:374). Even Sapir who often criticized Kroeber's ideas said that: "It is more than doubtful if the gradual unfolding of social patternings tends indefinitely to be controlled by function...." (Sapir 1949:341). In short, these anthropologists felt that cultural patterns did not correlate readily with social function.

The alternative to this theoretical model is one developed by the "new archaeology" and championed by Lewis Binford. Binford criticized those who viewed stylistic change as a result of built-in dynamics, or drift, and supported a systemic or functional view of culture. He wrote that "the more fruitful view is to recognize that cultural systems...articulate individuals into social units. Changes

...are to be understood in terms of the integrative stresses which articulate the group into a society capable of maintaining itself" (Binford 1972:297). Similarly, archaeologist Fred Plog describes style as "first and foremost the name of as yet unidentified functions" (1977:18). Binford has attempted to describe these functions in the following manner:

these formal qualities [style] are believed to have their primary functional context in providing a symbolically diverse yet pervasive artifactual environment, promoting group solidarity and serving as a basis for group awareness and identity. This pansystemic set of symbols is the milieu of enculturation and a basis for recognition of social distinctiveness (1962b:220).

Unfortunately, for the historical archaeologist, the new archaeology has ignored much of the above statement except that aspect dealing with enculturation. The now famous articles of Deetz (1965), Hill (1970) and Longacre (1970), which stand as the prime examples of new archaeology, all emphasized the importance of learning in their explanations of stylistic variation. Indeed, the concept of style has been derived "almost exclusively from the communication contexts of enculturation and acculturation via learning theory" (Wobst 1977:318). "In other words, archaeologists perhaps over-emphasize the component of style that focuses on the sociocultural context of manufacture" (Conkey 1978:66). These articles implicitly "assumed that ceramics were manufactured and used by each household. The role of ceramics outside such a situation has not been considered ..." (S. Plog 1980:138). Obviously this theoretical orientation prevented the historical archaeologist from jumping on the new archaeology bandwagon. With names like Wedgewood, Spode, and Clews to contend with,

the historical archaeologist could hardly forget that his artifacts were not manufactured and used by the same household.

Fortunately more recent work has taken another look at Binford's definition of stylistic function. This new step in archaeological theory could allow applications by the historical archaeologist because finally "style is more realistically integrated into the systemic matrix of which it forms a part" (Wobst 1977:319). Archaeologists are now studying stylistic form in terms of the use-life of the artifact rather than just in terms of the social context of production.

This current viewpoint has been labelled "information exchange theory," and according to this concept, stylistic behavior relates to processes of social integration and differentiation or boundary maintenance.

Stylistic messages of identification, ownership, and authorship link efficiently those members of a community who are not in constant verbal contact and who have little opportunity to observe each others behavior patterns....Stylistic messaging defines mutually expectable behavior patterns and makes subsequent interaction more predictable and less stressfull....it broad-casts the potential advantages or disadvantages to be realized from a more intimate encounter, before such an encounter takes place (Wobst 1977:327).

Information exchange theory was first presented by Martin Wobst in 1977, although David Braun suggests that some of the major concepts of this theory were proposed as early as 1940 by Kroeber and Richardson and were apparent in the writings of several archaeologists including Binford (Braun 1977:117). Wobst's complete theory of stylistic behavior as information exchange has been successfully applied to archaeological data by Braun (1977) and Stephen Plog (1980).

the inventor is able to follow out the potentialities of a pattern. Thereby a series of minor changes is made that has a consistent relationship to the pre-existing culture (1958:275).

Furthermore, Rands and Riley agreed with Kroeber that it is the nature of a pattern itself that limits these potentialities. The initial selection of a pattern dictates the number of forms it can take, and the concomitant boundaries of decay or elaboration (Rands and Riley 1958:60).

Archaeologist Joseph Caldwell explicitly defined his expectations for stylistic change based on this same pattern theory. He wrote that:

other things being equal, changes in material culture through time or space will tend to be regular....these special regularities are here called patterns. It is to include...any distinguishable trend or rate of change. From this view a discontinuity is the margin of a pattern (1958:1,2).

However, unlike Rands and Riley, Caldwell more closely aligned himself with the ideas of Herskovits who felt that when a historical accident occurred, an "established trend - a 'drift' - is deflected in a new direction" (1948:593). In other words, something besides the nature of the pattern itself determines its limits. While Herskovits described the implications of historical accident, Caldwell mentioned process. The latter felt that "patterns which can be distinguished give the archaeologist no rest but demand explanation of their significance for history or process....Patterns should be seen as limned against a matrix of other patterns and from which we are to infer events and processes in the context of others " (Caldwell 1958: 2).

In summary, the anthropologists of the 1940's and the archae-

ologists of the 1950's defined expectations for stylistic change. They expected directional change (Herskovits) in a single line of development (Haury) consisting of a series of minor changes (Rands and Riley) and a regular or distinguishable rate of change (Caldwell). On the other hand, anthropologists disagreed about when to expect discontinuities in this pattern. Archaeologists, basing their expectations on the work of anthropological theorists, also disagreed. Some believed a discontinuity occurred when a pattern reached its predetermined limits. Others felt that context, in the form of historical accidents and processes, disrupted regularities.

It was not a completely new idea in the 1960's when Binford advocated studying the functional context of stylistic change. He wrote that stylistic changes "are to be understood in terms of the integrative stresses which articulate the group into a society" (1972:297) leading us to expect that changes in group solidarity or identity would be reflected in style change (1962b:220). However, in actual studies, Binford, like most new archaeologists of that time, treated style as nonfunctional. The nonfunctional status of style and expectations for stylistic change are apparent in Binford's model of drift.

The term drift...implies a process of formal modification in culture content, particularly within classes of functional equivalents or in the relative frequencies of stylistic attributes which may crosscut functional classes. This process is dependent upon the operation of probability factors in sampling variation between generations of any given social unit (1972:299).

Recently, archaeologists have returned to a functional interpretation of style. Wobst equates "style with that part of the formal variability in material culture that can be related to the partici-

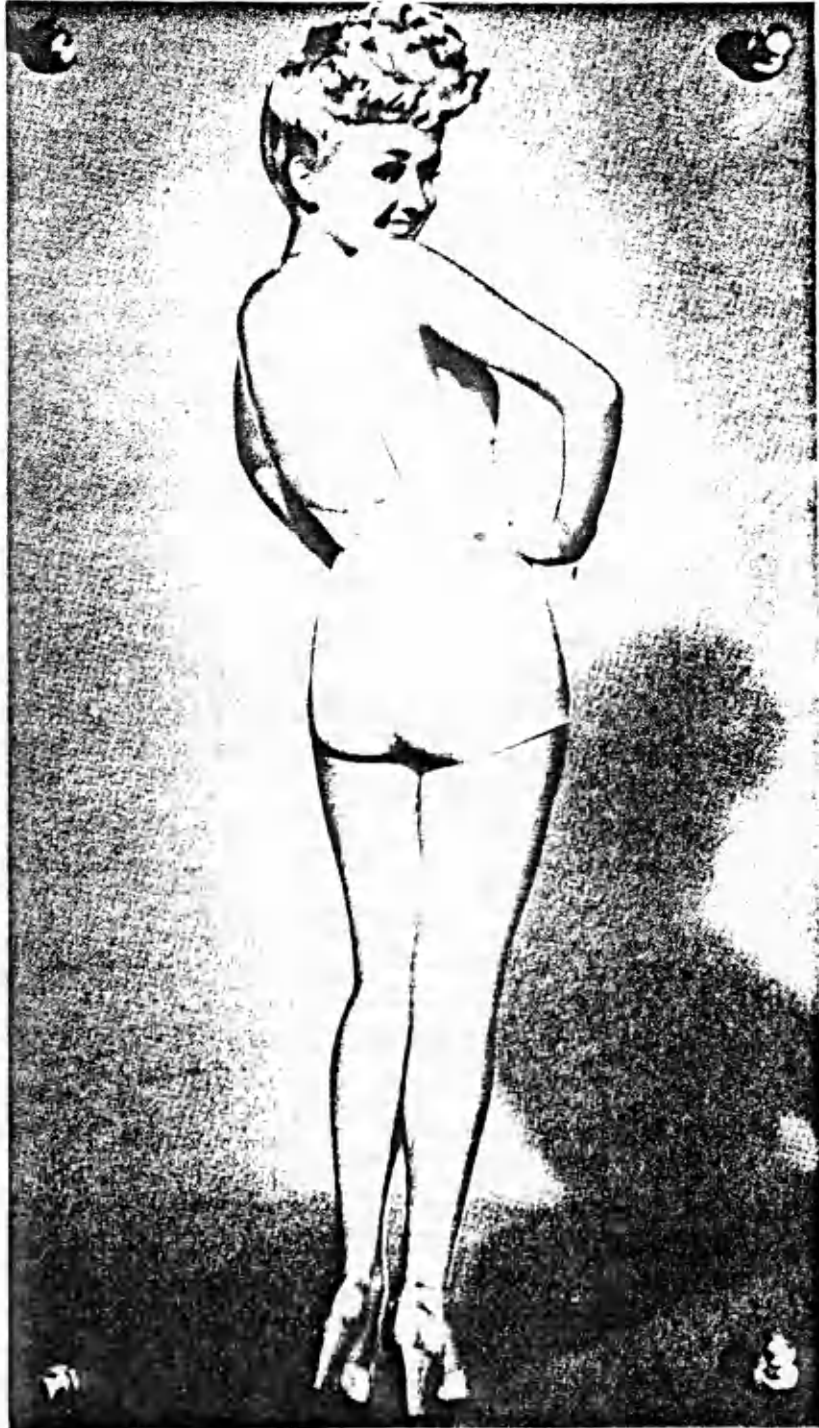
pation of artifacts in processes of information exchange" (Wobst 1977: 321). He suggests that only simple invariate and recurrent messages enter into processes of boundary maintenance (1977:330). Wobst's expectation was that "the amount of stylistic behavior should positively correlate with the size of social networks that individuals participate in" (1977:326), because stylistic behavior becomes more efficient relative to other modes of communication when there are more members in a socially distant group. He also expects that the more visible artifacts would be more appropriate for stylistic messages (1977:330).

Now that the major theories of stylistic change and their specific implications for artifact change have been summarized, the next section will discuss the segment of modern material culture to be analyzed in this study. I will not only present a description of the material in question but will also try to reconstruct aspects of its changing cultural context with final recognition of a dynamic pattern (in terms of Kroeber's and South's ideas). This data will be provided so that the pattern can be compared to the implications of the previously discussed theories of stylistic change. In the fourth chapter, I will determine which theories can explain the stylistic change observed. This should accomplish two things:

- 1) shed some light on the applicability or strength of these theories
- 2) increase our understanding of a part of today's world by filtering our observations through theories derived from the study of prehistoric or primitive cultures.

Figure 1

Betty Grable



CHAPTER III  
THE PIN-UP: CULTURE HISTORY, CULTURAL  
CONTEXT AND PATTERN RECOGNITION

Context

The segment of modern material culture presented here is the "pin-up," an artistic representation of the female form that is alluring but not explicitly pornographic. The best introduction to pin-up art is through the "type artifact," Betty Grable. Ms. Grable starred in the 1944 movie "Pin-up Girl," and her photo (figure 1) was the most famous of all the pin-ups. Demand for it during World War II was 20,000 copies per week. In the 1950's it was used in materials to teach new army recruits to hit their mark (Gabor 1972:77).

However, the pin-ups used in this study are not photographic. Instead, they are drawings of idealized girls, usually not rendered of any particular model but rather a composite of the best features of women in the artist's mind. Several artists are remembered as pin-up artists. One of the first, Rolf Armstrong was an ex-boxer who specialized in pastel brunettes (figure 2). The girls drawn by Chicago art student Earl Moran graced 25 years of calendars distributed by Brown and Bigelow (figure 3), while Gil Elvgren was probably the best known of Brown and Bigelow's pin-up artists (figure 4). Zoë Mozert, a former model, was the only famous woman pin-up artist and often used her

Figure 2

Pin-up art of Bolf Armstrong



Figure 3

Pin-up art of Earl Moran

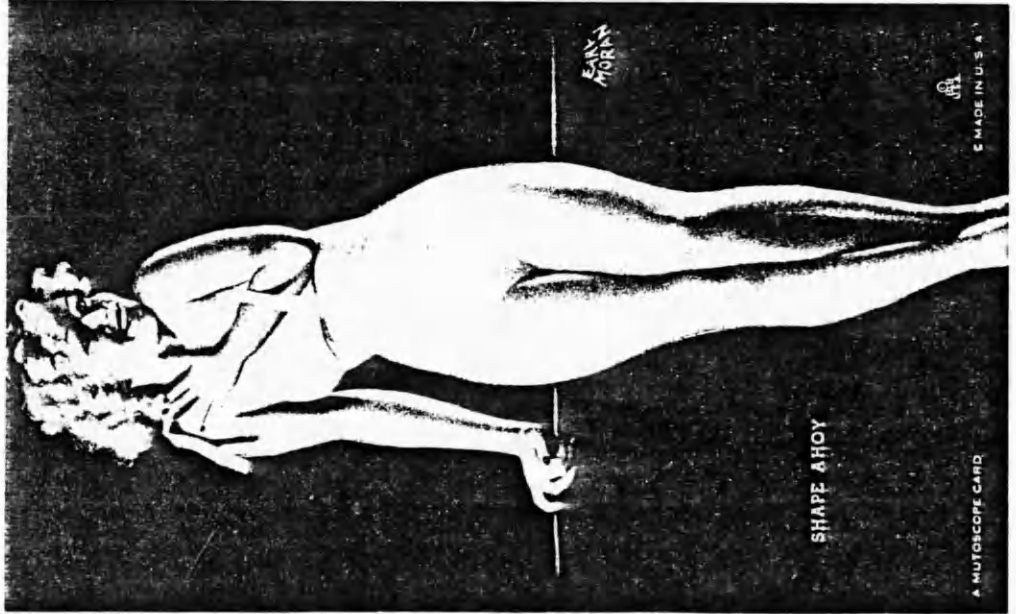


Figure 4

Pin-up art of Gil Elvgren



brother's legs as model types (personal communication, Zoë Mozert 1977) (figure 5). Petty, originally a photo retoucher and later a poster artist, created "cartoon" art of particularly stylized and streamlined upper class beauties (figure 6). His work is well remembered from the pages of Esquire and True magazines.

The best and certainly the most popular pin-up artist was Alberto Vargas (figure 7). His American career began in 1919 as a poster artist for Ziegfield's Follies and spans three generations. Vargas's work had the longest and widest circulation of any pin-up artist through the pages of Esquire and later Playboy magazines. His art, applied to various items, grossed well over one million dollars annually by the mid-forties. "Varga" (the spelling was changed for commercial purposes) calendars were an instantaneous success and sold over 1,000,000 copies per year. His new work still appears occasionally in Playboy, and his earlier pin-ups are currently part of a nostalgic revival on postcards and album covers.

Although the personalities and accomplishments of these various artists are interesting, the importance of this study lies not in the creativity of these peoples but in the use or function of the various pin-ups after they were distributed to the public. This parallels the task of any historical archaeologist, who, after studying a ceramic assemblage, tries to interpret the life ways of the people that used the dishes, and does not write a life history of the ceramist. Therefore, the following will be a presentation of pin-up art in terms of the cultural context of its use.

The most important point to make about the use of pin-ups is the

Figure 5

Pin-up art of Zoë Mozart

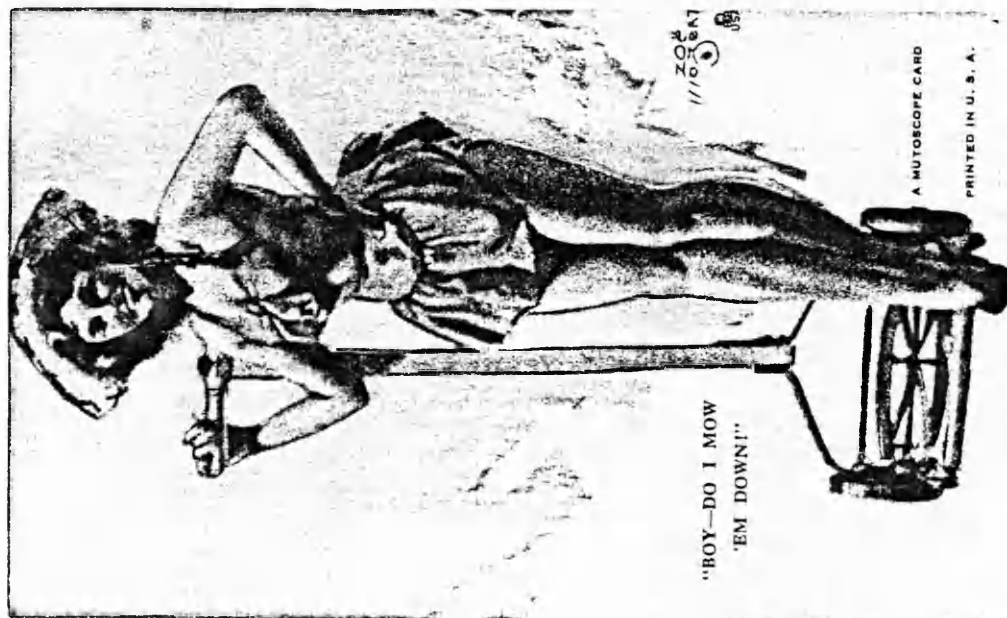


Figure 6

The first Petty Girl to appear  
in Esquire, Autumn 1933

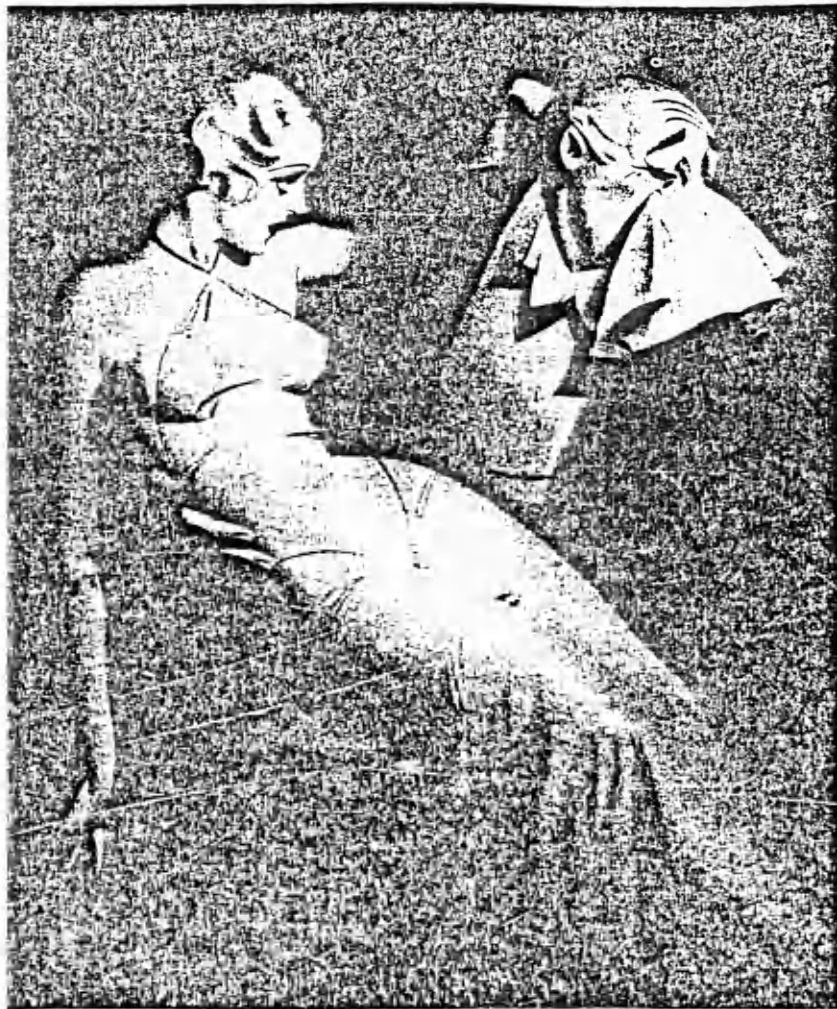


Figure 7

Pin-up art of Alberto Vargas  
"Lecacy Nude #1" 1939-1949  
copyright Playboy 1967



name itself, "pin-up." Since I began this project, several people have suggested that these pictures were used as sexual substitutes. I disagree, and maintain that this was not the primary function of pin-up art. The name itself, "pin-up," implies public display not private use. Mark Gabor, author of probably the only book on pin-up art, writes that the term was coined in the early 1940's. How it came into popular use is unknown, but Gabor suggests that its origin was with servicemen who cut their favorite pictures out of magazines and pasted or "pinned" them on the walls of their barracks, mess halls and planes (1972:77). The Phil Stack verse on the Varga pin-up in figure 8 corroborates the public use aspect:

Lament for a Pin-up Pip

We've pinned you up in barracks  
and we've raved about your charms  
we've had you up in bombers  
and we've had you under arms  
we've idolized you honey  
we've really made a fuss  
and say, you've got an awful nerve  
to turn your back on us

Pin-up art was not meant to be concealed. Instead, it was meant to be shared by a group of people frequenting an area containing that art.

Although pin-up art was often a picture removed from a magazine, it also took many other forms. To determine these various forms, I spent years conducting weekend searches through basements, garage sales, flea markets and library stacks and was rewarded with a collection of a wide range of materials. All of these items share much in common and can be presented in the following four categories.

THE VARGA GIRL

Figure 8  
Esquire gatefold by Vargas, November 1944



**LAMENT FOR A PIN-UP PIP!**

*We've pinned you up in barracks  
And we've raved about your charms,  
We've had you up in bombers  
And we've had you under arms,  
We've idolized you, Honey,  
It's us really made a fuss  
And say, you've got an awful nerve  
To turn your back on us!*

**PAINTING BY VARGA  
VERSE BY PHIL STALK**

### "Girly Magazines"

"Girly magazines" or "men's magazines" have been the dominant medium for pin-ups. The earliest examples were intended for World War I servicemen, and Captain Billy's Whiz Bang, published by W.H. Fawcett of the Fawcett publishing empire, was a leader in this type. Later magazines known for their illustrations by Petty and/or Vargas were True, Esquire and Playboy. During World War II, special military editions of Esquire were published at cost with no advertisements and new "Varga Girls" on each back cover. Official military entertainment magazines carried the pin-up lovelies as well. In fact, the term "girly magazine" probably gives a misleading image because the most popular of these publications were aimed at the upper social classes and presented fine literary and aesthetic traditions. Esquire promoted an image of good taste and fashion while, as stated in the first anniversary issue, Playboy's intention was to be:

welcome by that select group of urban fellows who were less concerned with hunting, fishing and climbing mountains than with good food, drink, proper dress, and the pleasures of female company.

Esquire magazine began publishing the art of George Petty in 1933 and continued to carry his work until 1941. To replace Petty, Vargas's work appeared in the October 1940 issue. His art appeared regularly under the name "Varga" until it was cancelled in 1946 amid bitter litigation. Prior to that, the Petty Girl, moved to True magazine in January 1945. Playboy published a Vargas nudes pictorial in 1957 and then took Vargas on a regular basis for the 1960's and 1970's. Several obvious changes occurred in Vargas's work at Playboy: the average age of the Vargas girl dropped from 25 to 19, the first

black model appeared, and pubic hair was occasionally revealed (Vargas and Austin 1978:51).

Very early on, each magazine presented pin-up art in a similar manner. There was usually a two and sometimes a three page fold out called a gatefold. These pictures could be removed easily from the magazine for display. In addition, readers could mail order the same centerfold rolled in a tube or backed with cardboard to avoid the unsightly fold. This feature would enable the consumer to display proudly an unmarred masterpiece.

#### Retail Calendars

The precedent for all non-advertizing calendars sold directly to the public was established during World War II by the pin-up calendar. These were so popular that publishers in the late 1950's and 1960's created other types of calendars for the potential market. The big sellers were published by Esquire (figure 9). In the fall of 1940 they capitalized on the popularity of their pin-ups by offering a mail order Varga calendar. It sold 320,000 copies and by 1946 the figure was just short of 3,000,000 (Vargas and Austin 1978:29).

Other companies also took advantage of this market. Shaw-Barton responded to this success by offering an artist's sketch book calendar in the forties. Each page contained a color pin-up with a backdrop of several black and white figure studies done by the artist MacPherson (Hellyer 1949:50-53). Brown and Bigelow, the world's largest calendar company also offered "Artist Sketch Pad" calendars by Withers and Willis. Based on a survey of available materials, this Brown and

Figure 9

Esquire advertisement for mail order calendars

# The VARGA BABY Makes her 1944 Bow



A COMPLETELY NEW, COMPLETELY KNOCKOUT VARGA GIRL CALENDAR

LIKE SHE IS AGAIN, gentlemen in full size, full color, and full ferris, the eye-ravaging, pleasing Girl. Strictly 1944 model, she in twelve delicious flavors over a 12-page Varga Girl Calendar, the ds on the preceding page being sample of the good things to come.

She'll brighten up locker, tent, or iceberg, if need be, with her inimitable blondeness, brunetteness, or red-headedness. She'll shine in tropical sun or in the shade of the back room with impartial splendor. Bound in non-slip plastic and printed on sturdy stock, she'll resist the wear and tear of weather and

enthusiasm alike — and as you'll see from the poem on every page, she knows readin' and writin', too.

She's yours for just 25¢. So whatever your motives — to permanently capture our versatile eye-fetcher, or merely to distinguish Wednesday morning from Sunday afternoon — you can't

afford to miss this best of all Varga Calendars, and that means you'll provide personal copies to your friends — to prevent snoring of the un-armed guards, just know a Varga Girl is the coupon — and toss two Varga Calendars into the mail. But remember, things in life are what you make 'em.

(SIZE 8 1/2" x 11")

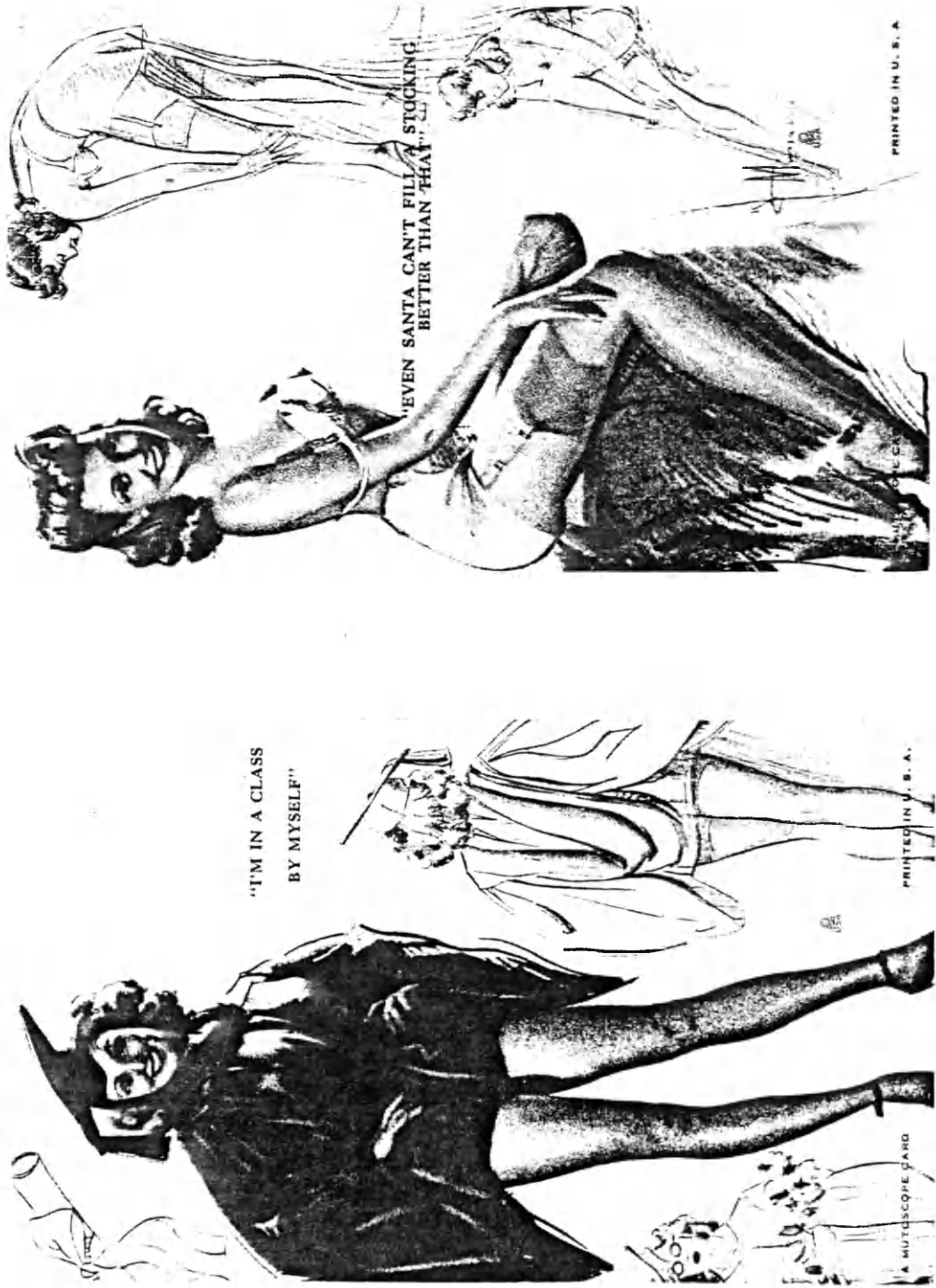
ESQUIRE, P. O. BOX 1143, CHICAGO 90, ILL.

Here's my advance order for the new plastic-bound, 12-page, full-size, and full-color Varga Girl Calendar. I want \_\_\_\_\_

25¢

Figure 10

Brown and Bigelow's artist sketch pad style



Bigelow format seems to date to the 1950's and 1960's (figure 10).

### Advertising Materials

The older format of advertising calendars was most successfully marketed by Brown and Bigelow. Based in St. Paul, Minnesota, they still print over 100 million calendars per year, and girlie calendars account for 2% of sales, or 2 million copies per year. In addition to calendars, Brown and Bigelow manufactured everything from ink blotters and memo pads to matchbooks with pin-up images on them (Gabor 1972:177). Brown and Bigelow notepads, blotters and calendars like the ones in figures 11, 12 and 13 advertised motorcycles shops, insurance agencies and foundries. The matchbooks in figure 14, made by the Mercury Match Corporation and the Superior Match Company, advertise service stations, garages, bars, beer distributors and liquor stores. The types of companies advertising through these items indicate the social context of pin-ups. It is apparent that these various businesses were exclusively male or male-dominated domains.

Another form of pin-up art that I encountered frequently was the mutoscope cards shown in figure 15. These were postcard size,  $3\frac{1}{4}$  by  $5\frac{1}{4}$  inches, and their purpose was not immediately obvious. After interviewing several middle aged men, the most plausible explanation was offered by Art Amsie, the proprietor of Girl Whirl, a shop specializing in collectable pin-up art. He suggests that these cards were sent to prospective calendar advertisers so they could choose the girls that would represent their product (Amsie, personal communication 1978). This explanation is believable since these cards display the

Figure 11

Brown and Bigelow notepad



YOU DON'T HAVE TO LISTEN to alibis when we handle your assignments.

**CLAUDE SALMON CO.**

Harley-Davidson Motorcycles

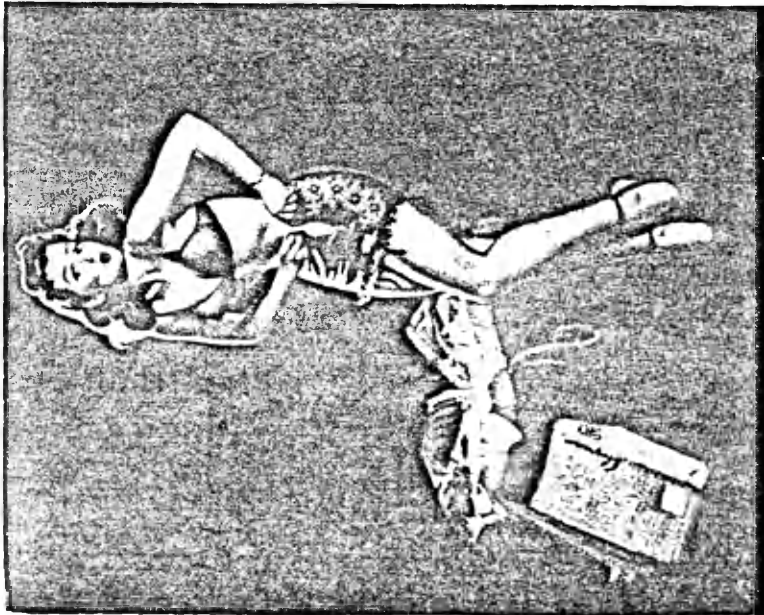
Humboldt 3-3500

3039 Myrtle St. :: OAKLAND 8, CALIF.

(At 31st and San Pablo Ave.)

Figure 12

Brown and Bigelow blotter



John A. Wenger

INSURANCE & BONDING  
SERVICE

▼ 25 Lincoln Way West ▼

*Chambersburg, Pennsylvania.*

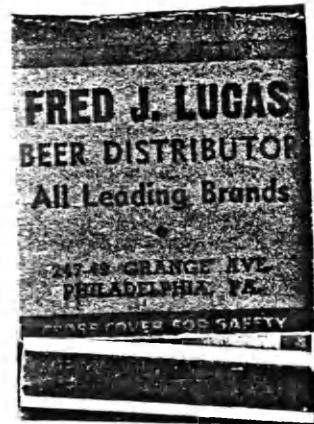
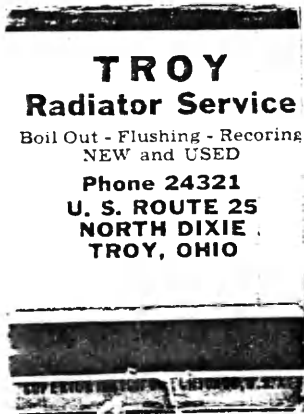
Phone 742

Figure 13

Brown and Bigelow calendar



Figure 14  
Match Books

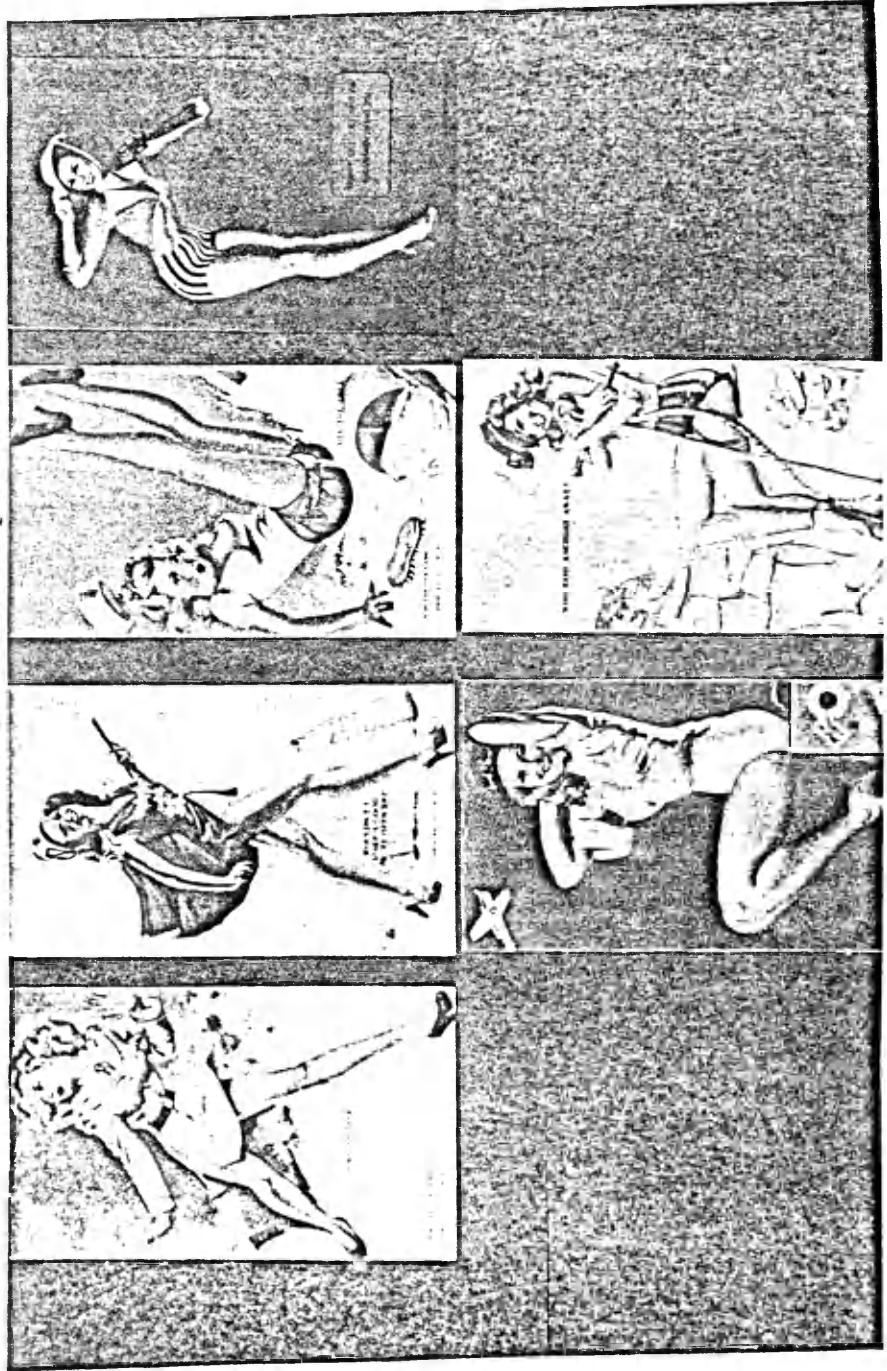


SUPERIOR WATCH CO., CHICAGO, U. S. A.



Figure 15

Brown and Bigelow mutoscope cards



work of artists under contract to the Brown and Bigelow calendar company.

An unusual form of pin-up art is the vegetable or fruit can label, one of which is illustrated in figure 16. It is interesting to note that these can labels survive only for the industrial-sized can, not for the common supermarket variety.

### Military

Military themes are very popular in pin-up art as evidenced in the collection of mutoscope cards in figure 15. Even before Pearl Harbor, Esquire promoted militarism and patriotism with the "Varga Girl" as their figurehead (Vargas and Austin 1978:31). Once America joined the war effort, the amount of pin-up art burgeoned within the all male world of the serviceman. I have already described the display of pictures cut from magazines in barracks and planes. This use is shown in the photograph in figure 17. Overseas editions of American magazines included special bonuses of extra pin-up art for the G.I., while official military entertainment magazines contained pin-up girls as well. Once this behavior was recognized in the retail market, items were produced specifically for this purpose. Figure 18 illustrates a pin-up kit containing items ready for display that required no cutting or tearing from another context.

During the war pin-up art was much more than these pieces of paper plastered over barracks walls by individual servicemen. In 1942 Vargas began to spend his nights filling requests by various units of the armed forces for "mascots." He also completed a number of six-foot

Figure 16

Can label  
(actual size)

# Planiti Grand

SELECTED  
CALIFORNIA  
AND ARIZONA  
VEGETABLES  
IN SEASON



Figure 17

World War II photograph  
taken from Logan and Nield's Classy Chassy



Figure 18

1943 pin-up kit containing four pin-ups

*Greetings from*

STAMP  
HERE



SET No. 1

Figure 19

Pin-up art as military insignia  
taken from Logan and Nield's  
Classy Chassy



tall blow-ups of "Vargas Girls" for briefing stations in Wichita and Grand Island (Vargas and Austin 1978:31,734). Reproductions of pin-up art were placed on plane fusilages and uniforms alongside military insignia (figure 19). Figure 20 illustrates such examples drawn exclusively from the pages of Esquire, and figure 21 illustrates the "Varga Girl" copied. Obviously, during World War II pin-ups were not only tolerated but were sanctioned by the armed forces. The war years were certainly the heyday of pin-up art.

Pin-up art manifested itself in many forms. Its popularity in the military setting and the types of businesses using this medium for advertising suggest that the public display of pin-ups was only located within a particular subculture - they were part of a man's world: garages, taverns, army barracks and so on. The only possible exception being the can label. However, these labels survive only for industrial-sized cans and were probably created for the male bulk-buyer and not for the shopping housewife.

The place and purpose of pin-up art is also reflected in the following three reminiscences on the subject.

...overt sharing of pinups seems to exist in men's working or living quarters - on factory walls, in men's rooms, locker rooms, "back rooms," dens, clubhouses, dormitories (Gabor 1972:24).

...the golden era of the art was between 1920 and 1960, when the pinup cavorted gaily and decorously on calendars and posters all over the factories and body shops of the nation...(Rock 1979:72).

In those days the ravishing pinup girls decorated places were men ruled and women rarely dared to enter: locker rooms, men's rooms, bars, and gambling joints. Any gas station worth its grease had its share of pinups, and driving in meant more than just "Fill'er up!" The sight of the provocative pinup girl on the wall established a bond between men, a friendly exchange of feelings for

Figure 20  
USAF photographs, World War II  
from Logan and Nield's Classy Chassy

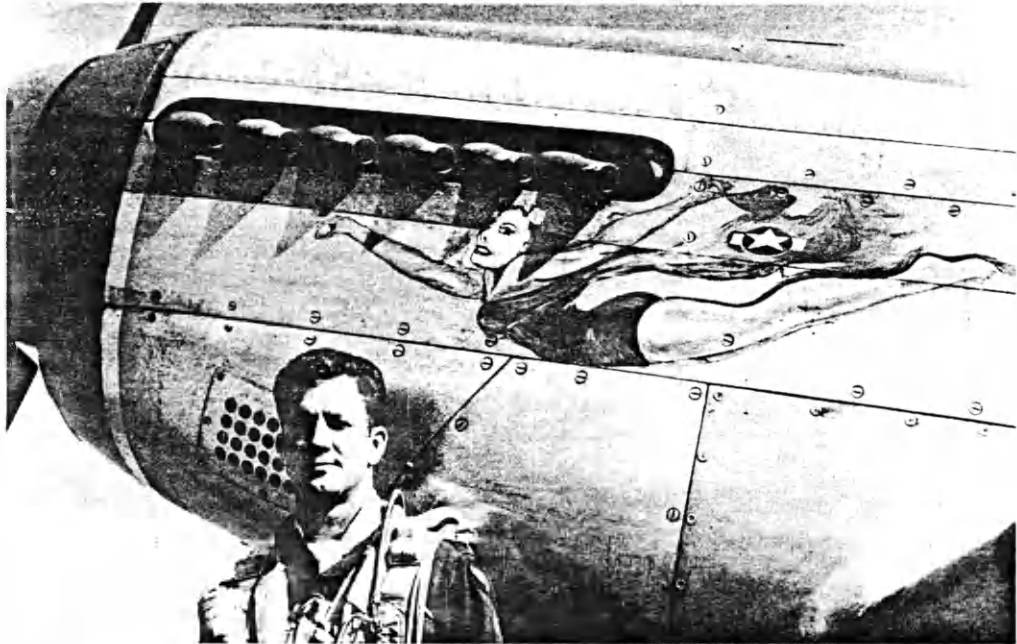


Figure 21

Varga Girl, "There'll always be Christmas"  
Esquire, December 1943



friends and strangers alike. There was always a good natured, good humored camaraderie among males in the presence of pinup lovelies....brotherhood among males (Harris 1976:64).

"Our personal and local material world is a symbolic expression of our identification with a certain group - our in-group or reference group - and a mark of our distinction from other groups - out-groups of different status, sex, ethnicity, or ideology" (Dawson et al. 1974:4). Based on the content of pin-ups and the reminiscences about them, we can assume that they symbolized camaraderie among men and demarcated areas that were frequented by men that were off limits to women.

The function of pin-ups is very similar to that of totems. The content of most totems, however, is plant or animals, representations of nature. The content of pin-ups is the female body. This is not inexplicable since several anthropologists have developed a structural model for Western culture that consists of the binary oppositions of female/male : nature/culture (MacCormack and Strather 1980). Consequently, for the purposes of totems, women could have been regarded as simply another aspect of nature.

While the general content was woman, the raison d'etre of pin-up art was the portrayal of her body. Mary Douglas and Marcel Mauss both maintain "that the human body is always treated as an image of society and that there can be no natural way of considering the body that does not involve at the same time a social dimension" (Douglas 1970:70). While the pin-up itself demarcated areas of male dominance, the symbolism of pin-up art probably represented the quality of social relations (integration or segregation) of the sexes.

The segregation of the sexes and camaraderie among males has been

a long-lasting aspect of American culture. In fact, some anthropologists have argued that male bonding was an adaptation in the evolution of the human species (Tiger 1969). Although women have entered the work force in increasing numbers during this century, they did not break into the domain of the American male. Generally they have been segregated into "female" occupations. A study by Edward Gross has shown that until 1960, no significant change in amount of segregation had occurred (Gross 1968).

...the movement of women into the labor market has not meant the disappearance of sexual typing in occupation. Rather, the great expansion in female employment has been accomplished through the expansion of occupations that were already heavily female, through the emergence of wholly new occupations (such as that of key punch operator) which were defined as female from the start, and through females taking over previously male occupations. This last may be compared to the process of racial invasion in American cities (Gross 1968:202).

After work hours, the situation is not much different. E.E. Le Masters conducted a study of life styles at a working class tavern and, although convinced that being deprived of the company of women all day would make these men anxious to associate with women after work, found that men seem to prefer the company of other men (Le Masters 1975:86). Lionel Tiger says that this kind of homogeneous social structuring is "both satisfying and constructively energizing for men" (Tiger 1969:208).

Two major assaults on the segregation of the sexes occurred forty years apart. The first, women's suffrage, required the masculine subculture to reluctantly give political power to women, a privilege previously reserved for themselves. On January 10, 1918, the suffrage amendment was introduced onto the floor of the house and eventually passed

only by one more vote than the required two-thirds. While the amendment was passed, it took another year and a half before the senate was won over for ratification on August 26, 1920.

The second conflict resulted from a series of events surrounding the feminist movement of the 1960's. In 1963, U.S. women were legally entitled to equal pay for equal work for the first time in American history (Equal Wage Bill: May 24, 1964). That same year, President Kennedy created his Commission on the Status of Women, the first government sponsored study of its kind (Hymowitz and Weissman 1978: 345). The biggest threat to sexual segregation was the Civil Rights Bill of 1964. Once again, male power was reluctantly shared. A conservative southern congressman in a last ditch effort to undermine the act suggested that Title VII of the bill, which outlawed employment discrimination on the basis of race, color, religion or national origin, should be amended to include the word, "sex." Although his joke was greeted with laughter, it backfired when the Civil Rights Bill was passed, and in the following decade more women than any other group noted in the bill filed discrimination complaints based on Title VII (Hymowitz and Weissman 1978:343-344).

In response to this legislation, the National Organization for Women (NOW) was established in 1966 to help bring women into the male world of economics and politics. Their goal as stated at the organizational conference in their statement of purpose was "to bring women into full participation in the mainstream of American society now, exercising all the privileges and responsibilities thereof in truly equal partnership with men" (October 29, 1966). With legal support, women began a strong and obvious move into the male occupational struc-

ture in 1963 and 1964.

### Content

Now that the changing context of pin-ups has been discussed, the changing content of these items should be described. The content of these items, of course, was primarily the female body. Such a discussion of body symbolism logically follows one of power struggles and changing social segregation because some anthropologists are "prepared to see in the body a symbol of society, and to see the powers and dangers credited to social structure reproduced in small on the human body" (Douglas 1966:115).

To describe the changing content, the stylistic variation in the female form, the heuristic model of a dynamic pattern, was used and pattern recognition was quantitatively derived. In order to discover a dynamic pattern in the manner described by Kroeber, I had to use raw data that existed over a long period of time, in large quantities, and for which I had tight chronological control.

After considering the collection of available pin-up art, I found that the source for pattern recognition could only be discovered through the work of Alberto Vargas. His work spanned a period from 1920 to the present, and since his art was published by magazine companies, chronological control is accurate to the year and in some cases the month. Vargas was also the most popular of his genre and consequently due to commercial pressure, the most prolific. For example, in 1944, Vargas produced 49 paintings for Esquire alone, although he was also involved in an American Weekly series, advertising work, and developed special drawings on a nightly basis for the armed forces. His contract with

Esquire called for not less than 26 drawings during each six months' period (Vargas and Austin 1978:31-41).

Works by other artists were not so long-lived and not always published in a form that was dated. Brown and Bigelow published pin-ups over and over, and many of their advertising materials carry no manufacturing dates.

Vargas's work was chosen only because it met the criteria required for this type of research. Above all, I do not want to over-emphasize the artist, because his public, the American male, is the true subject of this study. In order to accept this approach, one needs to assume a relationship between an artist and his society, first stated by John L. Fischer, a specialist in the field of art and anthropology:

It is assumed that the artist is in some sense keenly aware of the social structure and modal personality of his culture, although of course he cannot necessarily or usually put his awareness into social science jargon or even common sense words....all sane persons inevitably participate to a considerable extent in the modal personality of the group, and the successful artist has a greater than average ability to express the modal personality of his public in his particular art medium (1971: 143-144).

This "ability" is even more important in the world of commercial art and magazine sales. Since Vargas's work was so long-lived and always extremely popular, one can safely assume that Vargas Girls reflect the changing values of the American male.

Quantifying the changing content of pin-up art took some resourcefulness. From the outset, I realized that I would have to focus on the lower leg of the pin-up girl because, unlike other parts of the female form, it was consistently drawn from the same perspective and usually

not concealed beneath clothing. As the 1944 Varga Calendar illustrates (figure 22), contortions of the body were acceptable but until recently representations of pubic hair were not. To hide this portion of the body, the artist consistently gave the onlooker a side view of the leg, with toes pointed and calf muscles flexed. After perusing the years of work by Vargas, my subjective opinion was that this restriction would not be a problem. The legs of the pin-up girls were, of course, in proportion with the body, and therefore the slenderness or fullness of the body seemed to be reflected accurately in the legs.

However, any direct measurement of these two dimensional legs would be of no use because pin-up girls came in several sizes, one page, two page gatefolds, the rare three page fold out and the poster. To solve this problem, I created a "huskiness ratio" based on width and length measurements of the lower leg, so that drawings of various sizes could be compared. The leg length was derived from the measurement of the midtransverse line across the patella to the lateral malleolus of the tibia. The leg width was measured across the widest point of the calf (see figure 23). My "huskiness ratio" consisted of the width divided by the length measurements.

I was able to locate 93 surviving, measurable and dated pairs of legs - a disappointingly low number considering how prolific Alberto Vargas was. Some Vargas Girls were posed in a way that made measurements unattainable, but the major problem was the library situation. Usually libraries have chosen not to curate "girlie magazines" such as Playboy. More "respectable" publications such as Esquire have often been saved by librarians, but the primary function of pin-up art is obvious in these collections as one discovers that many of the pages

Figure 22

1944 Esquire calendar  
illustrating body contortions

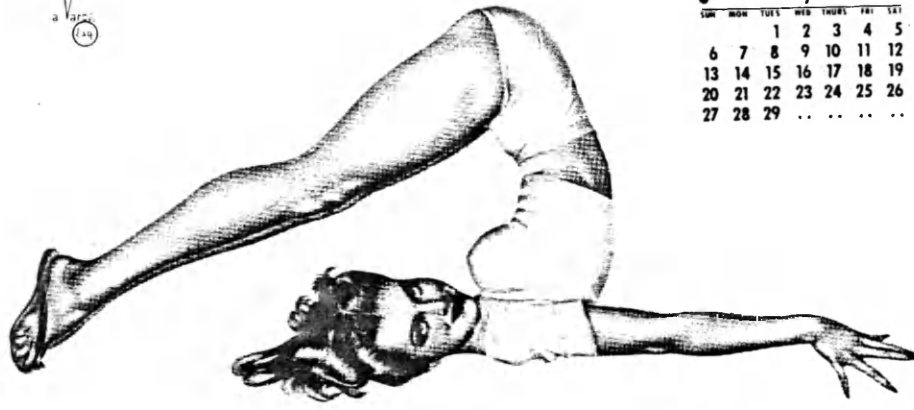


• January 1944 •

SUN	MON	TUES	WED	THURS	FRI	SAT
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31	..	..	..	..	..

a VARD  
1944  
(144)

Copyright 1943, Esquire, Inc.



• February 1944 •

SUN	MON	TUES	WED	THURS	FRI	SAT
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	..	..	..	..

a VARD  
1944  
(144)

• August 1944 •

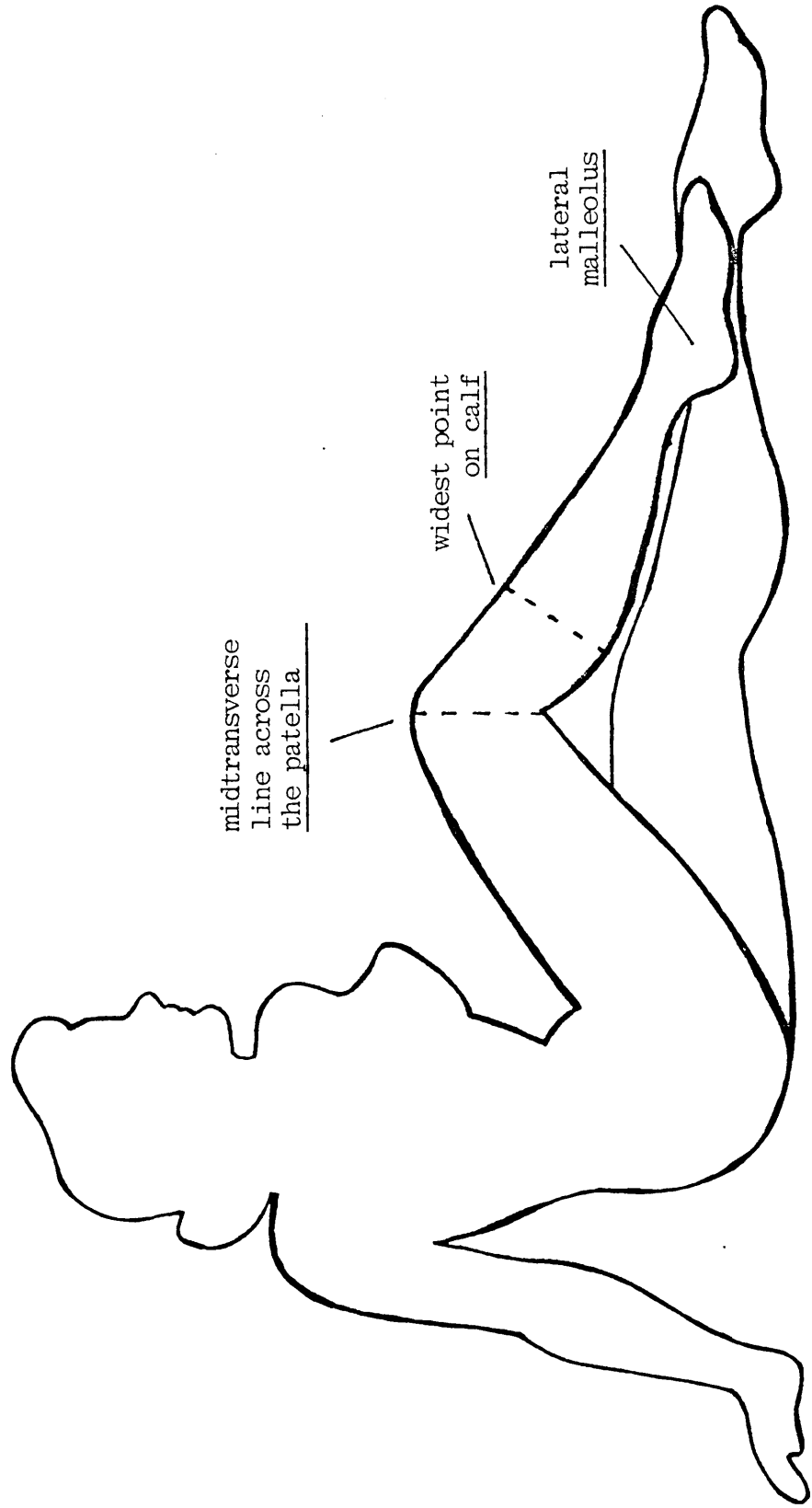
SUN	MON	TUES	WED	THURS	FRI	SAT
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31	..	..



a VARD  
1944  
(144)

Copyright 1943, Esquire, Inc.

Figure 23  
ANATOMICAL POINTS USED IN  
DETERMINING HUSKINESS RATIOS



containing Varga Girls have been removed.

The measurements, dates and ratios are presented in table I. The results are visually displayed in figure 24. Measurements taken from Varga Calendars were treated differently than those from magazine foldouts. Since all 12 calendar girls were published on the same date, those ratios were averaged to give each calendar only one value. For convenient presentation, results for each year were also averaged, so the graph illustrates only one value for each year.

Knowing that each dot represents an average of the given year, one can see that the graph indicates a slow and steady increase from long, slender legs in 1920 to short, husky ones in 1963. This steady increase can be described by the formula  $Y = -2.886 + .002 X$ , Y being the huskiness ratio and X being the year the pin-up art was distributed to the public. This regression equation has a Pearson's correlation coefficient (r) of .997. In this correlation, 1.0 is perfect and 0 indicates a random scatter. In this regard, .997 represents a very strong relationship and is, in fact, significant to the .001 level. Calculations for this regression and correlation are presented in table II.

A rapid return to slender legs occurs after 1963. Examples from each decade are illustrated in figures 25 through 30. One should remember that although this study quantified leg size, the discovered trend parallels one in overall body size in pin-up art. Furthermore, the abrupt return to slenderness in the 1960's paralleled another change mentioned earlier, the age drop in Vargas girls from 25 to 19 (Vargas and Austin 1978:51).

Figure 24

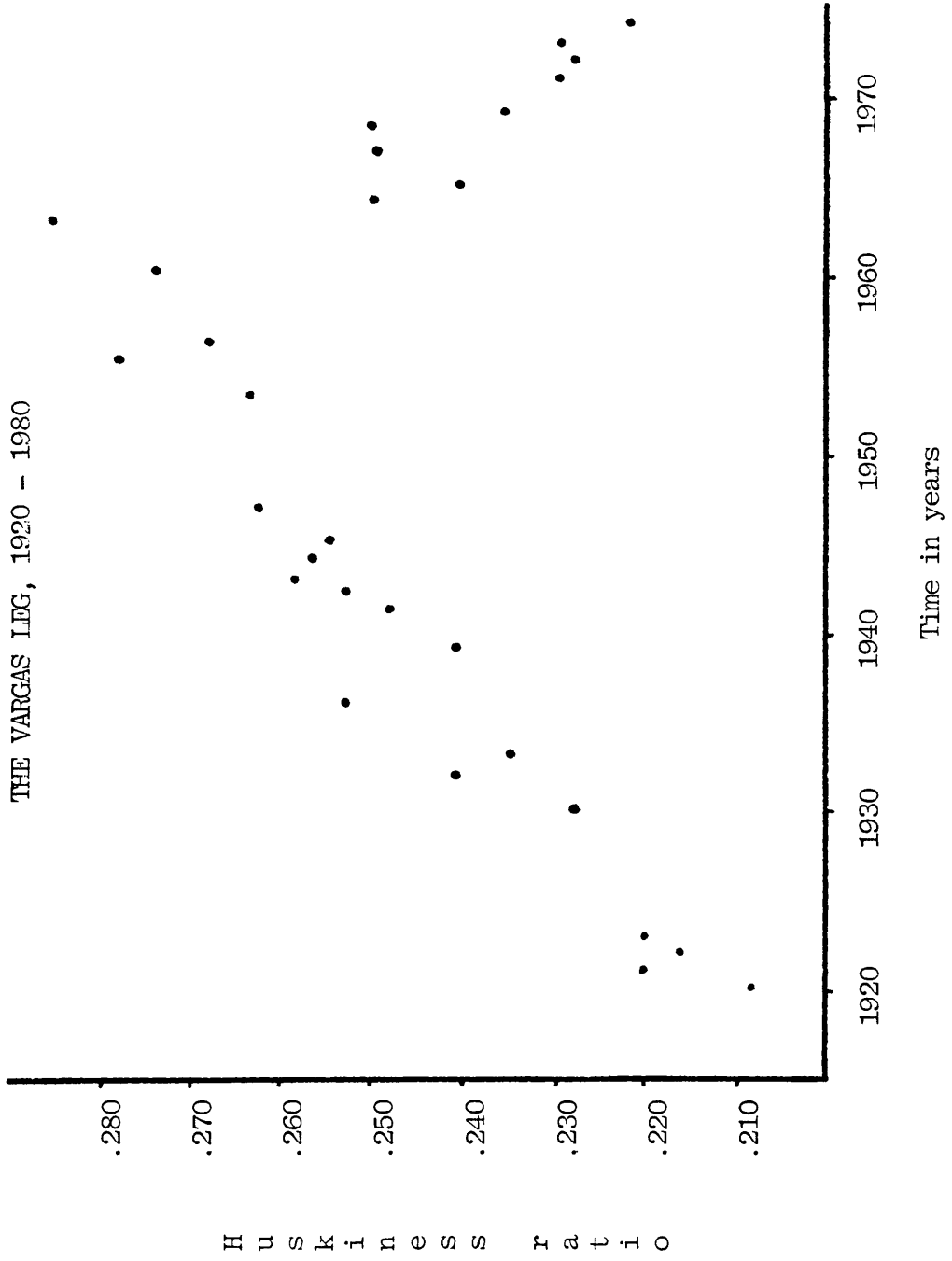
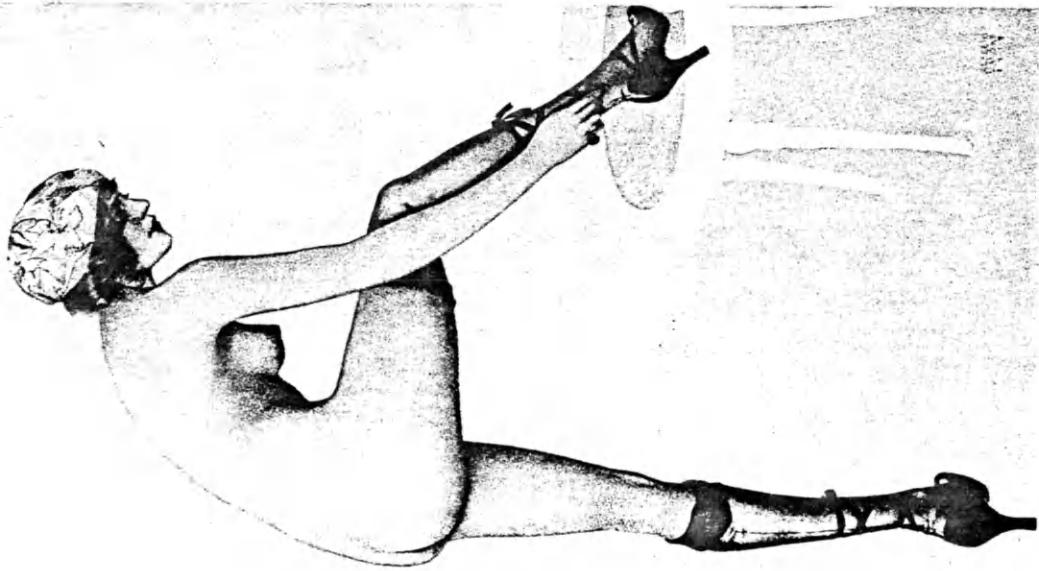
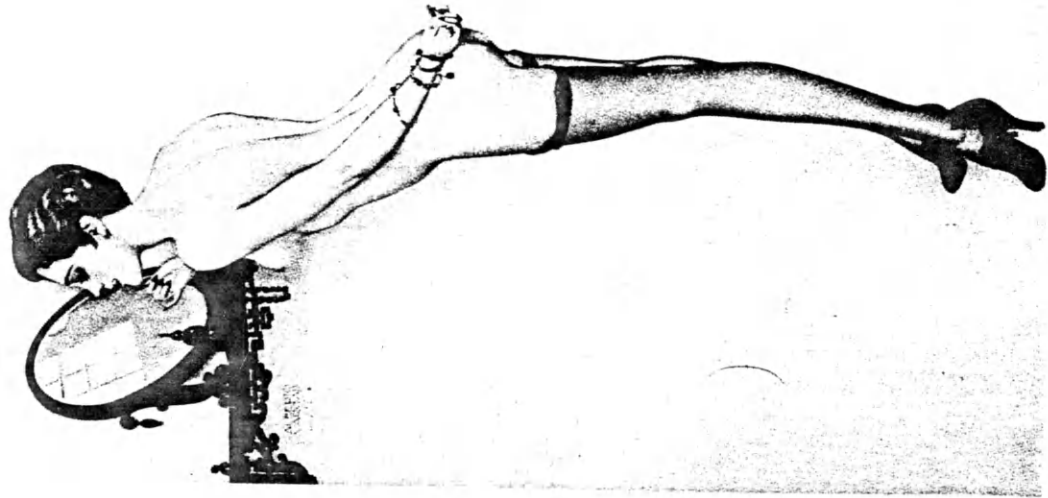


Figure 25  
Examples of the Vargas Girls of the twenties



1923 - Playboy copyright 1978



1921 - Red Stockings

Figure 26

Example of the Vargas Girls of the Thirties  
"Diana"



Figure 27

Example of the Vargas Girls of the forties  
'Patriotic Gal,' April 1944, Esquire gatefold



**PATRIOTIC GAL**

*The American gal  
Is a punch of a pal  
To the boys who are guarding our nation.  
She greets for the fight  
By the nation's curls light  
And her nose job is done with elation!  
She always responds  
If her she's asked to lay hands—  
No critic can label her flight,  
And because it's in style  
To converse with a smile  
She's conversing by day and by night!*

**PAINTING BY VARGA  
VERSE BY PHIL STARK**

Figure 28

Example of the Vargas Girls of the fifties  
"The Apple Girl," 1955

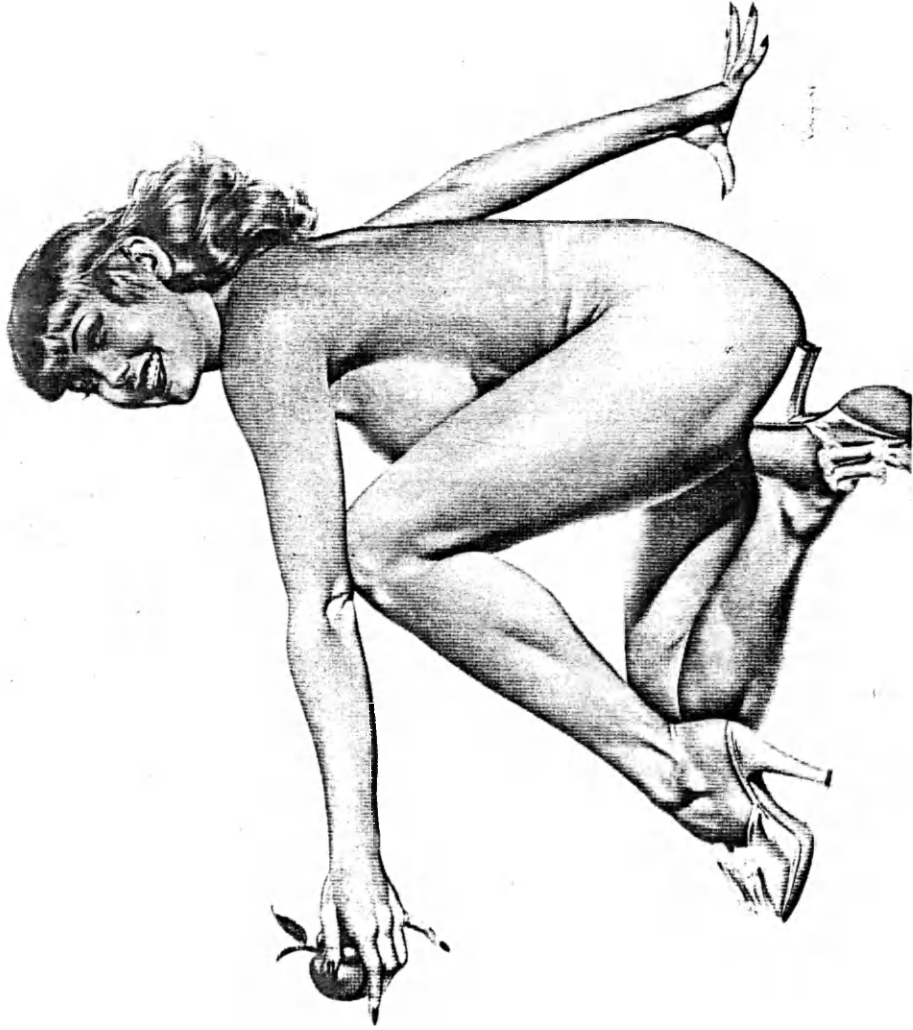
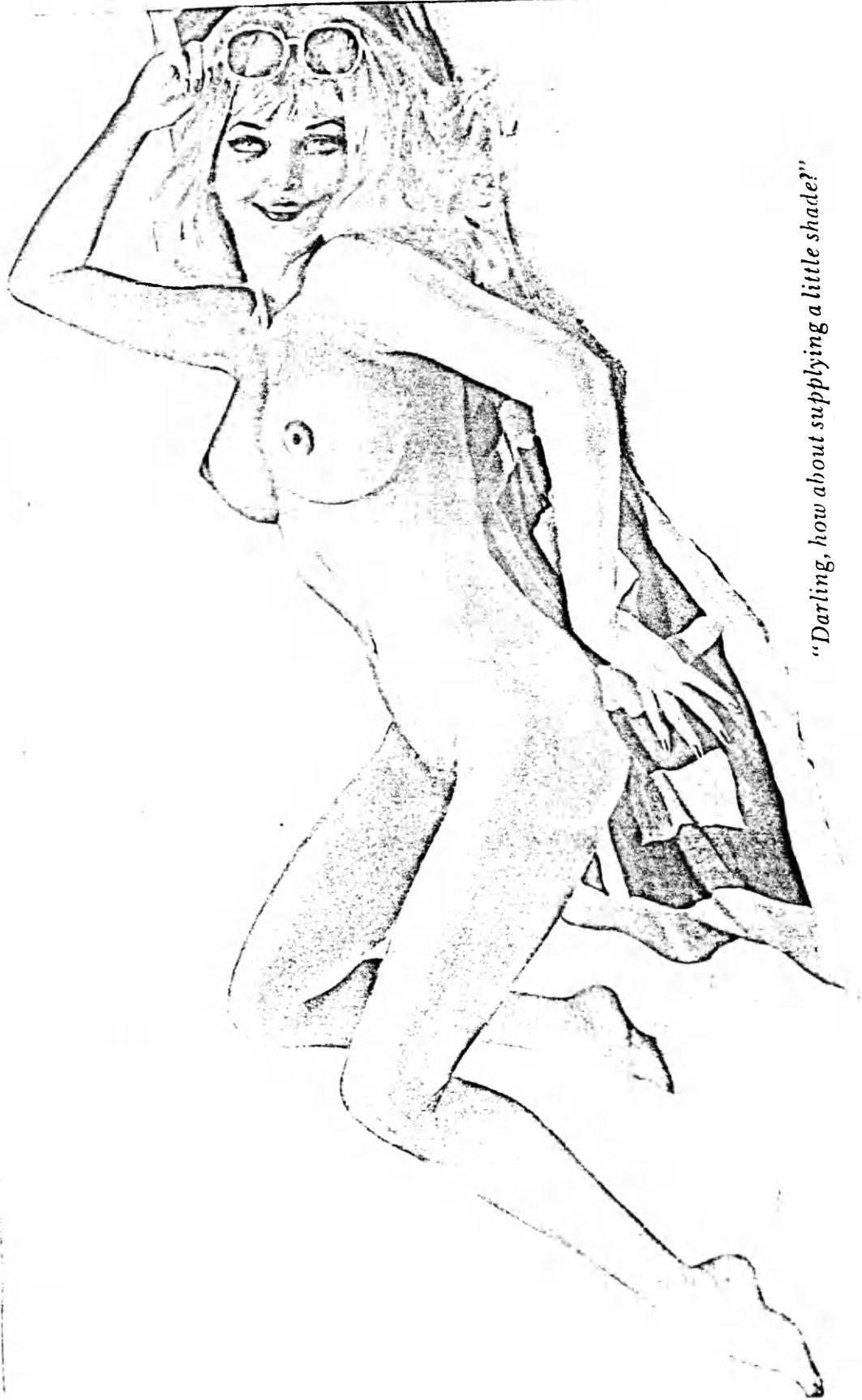


Figure 29

Example of the Vargas Girls of the early Sixties  
December 1963 Playboy



Figure 30  
Example of the Vargas Girls of the seventies  
June 1971 Playboy



*"Darling, how about supplying a little shade?"*

CHAPTER IV  
INTERPRETATIONS

Stylistic Change: Regularities

Now that the change in stylistic representation of the female body has been examined and some associated changes in social networks, sex segregation, and the use of pin-up art have been summarized, the implications of these changes for the theories of stylistic change can be considered. First of all, if one considers stylistic change in the pin-up representations of the female form only up to 1963, all the expectations of the anthropologists of the 1940's and 1950's are fulfilled. There was indeed a directional change, a single line of development, and a series of minor changes made at a regular rate. In terms of the width/length ratio, leg dimensions increased approximately .002 per year. This special regularity can be called a "pattern" in the same sense that Kroeber defined it. The concept of dynamic pattern can be applied to stylistic variation in artifacts. Patterns can have diachronic meaning. In this data set, a pattern has been delimited that persisted over time as a change with definable limits. The limits occurred in 1920 and 1963. In terms of the width/length ratio, legs have never been skinnier than .208 and never fuller than .286.

### Stylistic Change: Discontinuities

The reasons for the lower and upper limits are questionable. As one looks at representatives of pin-up art from the 1920's (figure 25), they appear bird-like, and it is hard to imagine a skinnier human body except in the context of famine and starvation. At the other end of the scale, the plump Apple Girl in figure 28 certainly seems "well rounded" and any additional fullness would push her image into what our society would consider fat. Perhaps these extremes do represent our culture's psychological limits to the ideal female form. The nature of this pattern itself could have dictated the abrupt drop when the psychological limit had been reached in 1963. The pattern, strained beyond acceptable standards, changed direction since the alternative of further growth was unimaginable.

Although this is plausible, an alternative theory provides a more complete explanation of the discontinuity in this pattern. Looking at this pattern in the context of others, as Caldwell suggests, illustrates a functional reason for the disruption in regularity. The established trend of fuller women each year was deflected in a new direction toward slenderness in 1964. This disruption occurred just as U.S. women made an obvious and strong move into the male world of economics and politics. This move might even be considered an historical accident since its legal basis was a fluke, a joke that backfired.

The connection between these two events is best made by studying the symbolic content of the pin-up image. Anthropologist John Fischer has written that "a very important determinant of the art form is social fantasy, that is, the artist's fantasies about social

situations which will give him security or pleasure..." (1971:142).

This fantasy is often a reversal of established trends when

under the threat of political and economic change a previously adequately functioning society may feel the need to retrench and intensify its native customs and values especially when under pressure....This may arouse revivals of the past or archaic traditions which bolster a sense of unique identity or link the people to a valued past (Dawson, Fredrickson, Graburn 1974:49).

The threat to the segregated male subculture occurred in 1964, and the revived tradition was the ideal female form of the 1920's, one of small and slender body.

The symbolic meaning of this ideal body type in terms of social fantasy is apparent in the language surrounding the feminist movement of the 1960's:

In the feminist group it is largeness in a woman that is sought, the power and abundance of the feminine, the assertion of woman's right to be taken seriously, to acquire weight, to widen her frame of reference, to be expansive, to enlarge her views, acquire gravity, fillout and gain a sense of self-esteem. It is always a question of enlarging, developing, and growing (Chernin 1980:100).

This metaphor repeatedly finds its way into the discussion of feminist groups and has been extensively documented by writer Kim Chernin (1980).

Unhappy with the invasion of their segregated world by assertive females, men rejected the body image of a powerful, mature woman in favor of the less disturbing slender body of a vulnerable child. This is evident not only in the reduction of the ideal female body, but also in the associated drop in the age represented, 25 to 19 years.

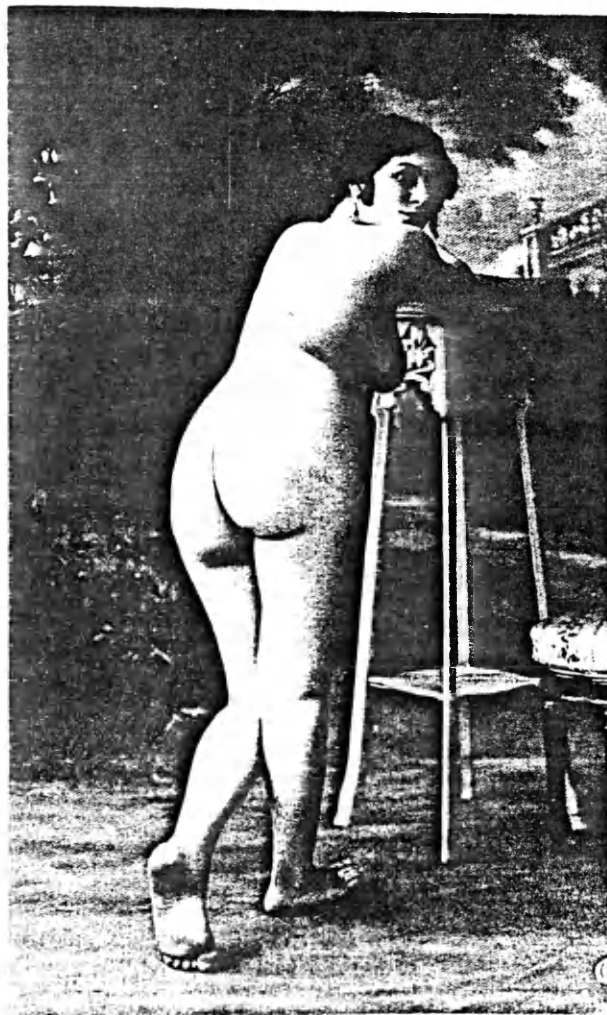
The slender body type was a revival of one popular in 1920, another period when women threatened expansion into the male sub-culture. It was a move into the political world with the right to vote. The slender Vargas Girl of 1920 has no artistic precedent in this study, since no good data are available prior to this date. However, picture postcards from the turn of the century show us an earlier ideal, females with large proportions (figure 31). Consequently one can assume that the slender pin-up of the 1920's was, like those of the 1960's, a reactionary response to a social situation. Men confronted with mature women attempting to "enlarge" themselves felt threatened and expressed their social fantasy of a segregated world with women of narrow or limited political and economic scope by idealizing a small and childlike female body.

#### Implications for the Theories of Stylistic Change

The implications for a theory of stylistic change are not easily defined. This study began by noting that theories of stylistic change fall into two categories, those that explain change by internal mechanics and those that seek functional explanations. At this point, one would have to admit that neither idea is completely wrong or right and that a hybrid theory is required. The evidence presented here suggests that regularities or patterns do exist over time, and as Caldwell suggests, other things being equal, changes in material culture through time will tend to be regular. Why this rule or law holds was probably best explained by Rands and Riley. Humans become

Figure 31

Turn of the century French postcard



bored easily. The American male desired change in his ideal woman but did not want to idealize a body that was socially unacceptable. In this regard, changes in pin-up art were minor, had a consistent relationship to previous changes, and were made in the direction of an established trend. This process could be called internal mechanics because it is indeed the nature of the beast.

However, the evidence presented here does not support the idea that discontinuities are caused by inherent pattern limits. Instead, these discontinuities had functional explanations in terms of the social context. In conclusion, pattern limits have functional significance but the piling up of minor variations are controlled by pre-existing tendencies. One has to admit, as Sapir noted, that the gradual unfolding of patterning tends not to be indefinitely controlled by function.

#### Other Archaeological Examples

This basic model of change shows up in examples of material culture well known to historical archaeologists. The pattern of change in pipe stems defined as the regression line  $Y = 1931.85 - 38.26 X$ , where Y represents the mean date of the sample and X represents the mean pipe stem diameter of the sample, reveals the same behavior (Binford 1962a:19). Pipe stem hole diameters were made smaller at a consistent rate over time. Ian Walker has criticized Lewis Binford for suggesting that this change in bore diameter is a stylistic change (Walker 1978:225), but, in Binford's defense, one has to admit that this pattern does fit the changes predicted by

models of stylistic change. Similiar to the pin-up pattern, the pipe stem pattern breaks down at the ends. Early and late examples of clay pipes do not fit the formula (A. Noël Hume 1963; South 1962; Binford 1962a). The obvious explanation for this occurence is that a limit was reached, and the pattern was disrupted. Unlike the psychological limit for the ideal female form, this limit was technological in origin. The existence of both technological and psychological limits was well defined by Goldenweiser in 1933.

Another good example is the concept of debasement in ceramics. This idea was introduced into historical archaeology by Ivor Noël Hume in the discussion of ceramic decoration such as painted brushwork on shell-edged plates. The earliest examples were well painted, giving the impression of a light, feathery edge. Later, it became common to take less and less care until the brush was swept around the edge producing a mere stripe (Ivor Noël Hume 1974:131). The reason given here is that the market had swamped the craftsmen thus forcing a quicker and less delicate technique.

Perhaps these two explanations are based on pattern limits and the context of manufacture because they were grounded in older paradigms implicit in the field of archaeology. If the newer perspective of style, one that is integrated into the systemic matrix of everyday life, filters down into the larger community of historical archaeologists perhaps further research will reveal functional reasons for the discontinuities in these patterns as well.

### Style and Symbolism

In the mean time, a more general implication for theories of stylistic change can be made. Archaeologists have often carefully avoided paleopsychology, understandably afraid that the limitations of their data would place any such conclusions on very shakey ground. An inevitable result of this tact was to reject any cognitive aspects of style and to demand that the two notions of symbolism and style be kept distinct (Sacket 1977:376). The study of stylistic change in pin-up art has shown that this separation is impossible.

It was body symbolism that created the discontinuity of this pattern in 1964. Although the fullness of the pin-up girl of 1963 was a product of stylistic drift or the piling up of each year's minor variations, the slenderness of the pin-ups to follow held symbolic import to the male social fantasy. Because of a changed social context, the largeness or smallness of the female body took on meaning that forced a change in the stylistic representation. Stylistic change in this case could not be explained without reference to the cognitive aspects of style and Mary Douglas's concept of the body as a symbol of social structure.

### More on the Functional Context of Stylistic Change

Symbols and social structure are concepts evident in Lewis Binford's theory of style. Certainly his expectation that stylistic changes are reflective of the integrative stresses in society has been borne out by this study of pin-up art. The major disruptions

of the pin-up pattern reflected feminist pushes for integration. Binford's theories can provide additional insight into the function of pin-up art in our recent past. To illustrate this point the following two quotes are repeated for comparison.

From Lewis Binford:

[Style] has its primary functional context in providing a symbolically diverse yet pervasive artifactual environment promoting group solidarity and serving as a basis of group awareness and identity ....It provides a milieu for enculturation (1962b: 220).

From High Society, a "girlie magazine:"

In those days the ravishing pinup girls decorated places where men ruled and women rarely dared to enter: Locker rooms, men's rooms, bars, and gambling joints. Any gas station worth its grease had its share of pinups....The sight of the provocative pinup girl on the wall established a bond between men, a friendly exchange of feelings for friends and strangers alike. There was always a good natured, good humored camaraderie among males in the presence of pinup lovelies....brotherhood among males (Harris 1976:64).

While the stylistic representation symbolically created the social fantasy of a world segregated from women, the mere presence of pin-up art was an actual expression of identification with an all male in-group and a visual marker of areas off-limits to women. The context of pin-up art presented in chapter three supports this viewpoint.

Wobst also sees stylistic variation as transmitting recurrent messages of group affiliation and social boundaries. Considering these theories of style and the function of pin-ups, one would expect a change in pin-up art to accompany any change in the in-group's solidarity. Wobst has defined his expectations for changes in such a case: if the size of the in-group or social network increases, the amount of stylistic behavior should also, and that the more visible artifacts

would display the stylistic messages.

Pin-up art on materials advertising male gathering places such as taverns and garages was always meant to reach socially distant people. These items such as calendars and matchbooks were highly visible ones. However the real proof of Wobst's theory comes with the war years when male survival depended on male solidarity, but at the same time a large number of men from very different backgrounds were thrown together. The size of social networks greatly increased especially for the many small town boys. This situation made mechanisms that promoted group identity and social solidarity very important. The placement of pin-up girls on uniforms and planes, along-side official military insignia, indicates their function as a basis for group identity and cohesion. Various units of the armed forces had pin-up girl "mascots" and official briefing stations had six-foot Varga Girl paintings. Indeed, there is no better place for pin-up art than a briefing station where subliminal stylistic messages could define "mutually expectable behavior patterns and make subsequent interaction more predictable and less stressfull" (Wobst 1977:327).

During World War II, pin-up art continued to serve as a basis of group awareness and was even reified by conversion to official insignia. The point to be made here is that in that time of increased social networks, the amount of pin-up art burgeoned just as Wobst's theory of stylistic behavior predicted. In addition, the physical size of the item increased as well. Pin-ups became more visible. Instead of just matchbooks and calendars, larger-than-life pin-ups were decorating planes and briefing stations. Once again, Wobst's pre-

diction holds true, the more visible artifacts display the stylistic messages.

In summary, the implication of change in pin-up art as it relates to theories of stylistic change is that functional contexts do affect stylistic behavior. In a stable social context, changes in the actual form of stylistic messages are regular. However, major events or processes in the social context of an item can disrupt the natural patterning. In addition, the absolute number or physical size of items carrying these stylistic messages correspond to happenings in the social context.

## CHAPTER V

### CONCLUSION

This study has tried to accomplish two things. First, I have attempted to shed some light on the applicability or strength of theories of stylistic change. In doing so, this study has created a dialectic of the two opposing categories of theories, those that explain change by internal mechanics and those that seek functional explanations. Both effects can be apparent in the life span of a single pattern. Perhaps this explains why both theories exist side by side in the literature and why scholars, like Binford, can contradict themselves by advocating functional studies of style while still maintaining that style crosscuts functional classes and is dependent upon the operation of chance. Credit must be given to Caldwell and Herskovits. Both recognized that there were internal mechanics involved in the gradual unfolding of patterns, but at the same time, limits to this process were imposed by social context. In fact, even Kroeber finally admitted that a combination of these factors caused stylistic variation:

Sociocultural stress and unsettlement seem to produce fashion strain and instability. However they exert their influence upon an existing stylistic pattern, which they dislocate or invert. Without reference to this pattern, their effect would not be understood (Richardson and Kroeber 1940:149).

Information on pin-up art is consistent with the expectations

of Wobst's information exchange theory suggesting that this perspective could be of value to historical archaeology. Changes in the amount and size of pin-up art support Wobst's and Binford's emphasis on the social context and use of artifacts. Analyses of style can inform researchers on the functional context of style as well as on the context of manufacture.

The second goal of this research was to increase our understanding of part of today's world by filtering our observations through theories derived from the study of prehistoric or primitive cultures. In the final analysis, the big accomplishment was to discover that despite our culture's commercialism and advanced marketing skills, our material culture changes according to rules developed for less complex societies. We are not qualitatively different from other cultures or even our own past.

The use of techniques and theories derived in the context of traditional archaeology has revealed an interesting insight into a segment of our material culture. Items which on the surface appear to serve a sexual release function, are upon closer inspection, important aids to social integration and boundary maintenance. This small, previously unstudied aspect of our culture is rigidly patterned and holds the key to a history of social relationships and social fantasy.

TABLE I  
SUMMARY OF DATA COLLECTED ON VARGAS GIRLS

SOURCE* & PAGE	DATE OF ORIGINAL	MEASUREMENT Width/Length	CALENDAR RATIOS	ITEM RATIO	YEARLY RATIO	YEAR
V- 56	1920	12.2/ 61.5		.198		
V- 63	1920	28.0/128.0		.218	.208	1920
X	1921	7.3/ 36.6		.213		
V- 64	1921	15.9/ 70.0		.227	.220	1921
V- 62	1922	7.8/ 33.4		.233		
V- 62	1922	6.5/ 32.5		.200	.216	1922
X	1923	31.7/144.0		.220	.220	1923
V- 73	1930	6.2/ 27.4		.225		
V- 87	1930	14.6/ 63.6		.230	.228	1930
V- 83	1932	7.8/ 32.6		.241	.241	1932
X	1933	16.1/ 68.5		.235	.235	1933
V- 85	1936	27.1/107.0		.253	.253	1936
V- 49	1939	27.2/113.0		.241	.241	1939
C	1941: May	19.5/ 81.2	.240			
	July	14.5/ 54.0				

SOURCE* & PAGE	DATE OF ORIGINAL	MEASUREMENT Width/Lenght	CALENDAR RATIOS	ITEM RATIO	YEARLY RATIO	YEAR
	1941: Sept.	19.0/ 80.0	.237			
E	July, 1941	28.2/127,5		.222		
E	Sept., 1942	27.1/ 98.7		.275	.248	1941
E	Dec., 1942	35.1/138.5		.253	.253	1942
C	1943: Feb.	3.5/ 13.5	.259			
	May	23.9/ 97.7	.245			
	Aug.	19.5/ 65.6	.297	.267		
	Sept.	22.7/ 78.0	.291			
	Dec.	26.7/108.2	.247			
E	Feb., 1943	31.6/123.0		.257		
E	March, 1943	50.6/183.0		.277		
E	April, 1943	22.0/ 82.0		.268		
E	Dec., 1943	29.0/116.5		.249		
V- 92	1943	6.4/ 27.2		.235	.259	1943
C	1944: Jan.	24.6/ 97.5	.252			
	Feb.	21.5/ 84.0	.256			
	March	24.5/ 95.8	.256			
	April	20.0/ 69.8	.287			
	May	25.0/ 93.5	.267	.263		
	Aug.	24.6/ 91.5	.269			
	Sept.	21.6/ 82.0	.263			
	Nov.	30.0/118.7	.253			
E	Feb., 1944	11.1/ 46.5		.239		
E	April, 1944	38.9/152.5		.255		

SOURCE* & PAGE	DATE OF ORIGINAL	MEASUREMENT Width/Length	CALENDAR RATIOS	ITEM RATIO	YEARLY RATIO	YEAR
E	June, 1944	11.0/ 45.0		.244		
E	July, 1944	36.2/123.5		.293		
E	Aug., 1944	29.4/120.4		.245	.257	1944
C	1945: Jan.	23.8/103.4	.230			
	March	18.4/ 66.2	.278			
	April	20.0/ 72.0	.289			
	May	22.6/ 94.3	.240			
	June	17.2/ 64.5	.267	.255		
	July	16.9/ 78.0	.227			
	Aug.	20.1/ 75.2	.267			
	Sept.	21.8/ 91.6	.238			
	Oct.	18.1/ 70.1	.258			
E	Feb., 1945	2.9/ 11.6		.250		
E	Oct., 1945	36.5/140.0		.261		
E	unknown, 1945	32.5/122.0		.266		
E	unknown, 1945	31.0/126.0		.246		
E	unknown, 1945	29.5/118.0		.250		
E	unknown, 1945	31.5/123/0		.256	.255	1945
V-107	1947	20.0/ 76.0		.263	.263	1947
V-115	1953	22.2/ 84.0		.264	.264	1953
V-117	1955	16.1/ 57.9		.278	.278	1955
V-113	1956	11.3/ 42.1		.268	.268	1956
P	Oct., 1960	2.0/ 7.3		.274	.274	1960

SOURCE* & PAGE	DATE OF ORIGINAL	MEASUREMENT Width/Length	CALENDAR RATIOS	ITEM RATIO	YEARLY RATIO	YEAR
P	Dec., 1963	33.0/115.3		.286	.286	1963
P	March, 1964	17.0/ 66.0		.258		
P	April, 1964	20.5/ 84.1		.244	.250	1964
P	Jan., 1965	32.0/132.6		.241	.241	1965
P	July, 1967	22.0/ 88.0		.250	.250	1967
P	Feb., 1968	37.1/142.9		.260		
P	Aug., 1968	23.4/ 98.0		.239	.250	1968
P	June, 1969	36.4/115.5		.229		
P	Aug., 1969	20.8/ 88.1		.239		
P	Oct., 1969	30.3/118.1		.257		
P	Nov., 1969	20.8/ 91.1		.228		
P	Dec., 1969	32.1/141.2		.277	.236	1969
P	Feb., 1971	26.5/112.6		.235		
P	March, 1971	31.5/157.4		.200		
P	June, 1971	17.1/ 68.9		.248		
P	July, 1971	15.6/ 66.3		.235		
P	Dec., 1971	28.5/123.0		.232	.230	1971
P	March, 1972	23.9/100.5		.238		
P	April, 1972	24.9/117.0		.213		
P	June, 1972	27.3/117.2		.233		
P	Aug., 1972	27.1/118.0		.230		
P	Nov., 1972	20.8/ 92.2		.226	.228	1972

SOURCE* & PAGE	DATE OF ORIGINAL	MEASUREMENT Width/Length	CALENDAR RATIOS	ITEM RATIO	YEARLY RATIO	YEAR
P	Feb, 1973	26.9/119.0		.226		
P	April, 1973	27.6/107.8		.256		
P	May, 1973	24.0/ 95.0		.253		
P	July, 1973	24.0/ 97.7		.246		
P	Sept., 1973	14.0/ 68.6		.204		
P	Oct., 1973	17.4/ 89.0		.196	.230	1973
P	July, 1974	18.0/ 81.3		.221		
P	Sept., 1974	17.3/ 80.1		.216		
P	Oct., 1974	20.3/ 88.8		.229	.222	1974

\* E = Esquire magazine

P = Playboy magazine

C = Esquire calendars

V = Vargas - a book by A. Vargas & R. Austin

X = 'Playboy's Vargas Girls,' Playboy, December, 1978

TABLE II

DATA FOR REGRESSION FORMULA

Formula:  $Y = a + bX$

$$b = \frac{N\sum XY - (\sum X)(\sum Y)}{N\sum X^2 - (\sum X)^2}$$

$$a = \frac{\sum Y - b\sum X}{N}$$

X	Y	X <sup>2</sup>	Y <sup>2</sup>	XY	
1920	.208	3686400	.043264	399.360	
1921	.220	3690241	.048400	422.620	
1922	.216	3694084	.046656	415.152	
1923	.220	3687929	.048400	423.060	
1930	.228	3724900	.051984	440.040	N = 20
1932	.241	3732624	.058081	465.612	
1933	.235	3736489	.055225	454.255	ΣX = 38805
1936	.253	3748096	.064009	489.808	
1939	.241	3759721	.058081	467.299	ΣX <sup>2</sup> = 75294687
1941	.248	3767481	.061504	481.368	
1942	.253	3771364	.064009	491.326	ΣY = 4.967
1943	.259	3775249	.067081	503.237	
1944	.257	3779136	.066049	499.608	ΣY <sup>2</sup> = 1.242613
1945	.255	3783025	.065025	495.975	
1947	.263	3790809	.069169	512.061	ΣXY = 9642.529
1953	.264	3814209	.069696	515.592	
1955	.278	3822125	.077284	543.490	
1956	.268	3825936	.071824	524.208	
1960	.274	3841600	.075076	537.040	
1963	.286	3853369	.081796	561.418	

$$b = \frac{20(9642.529) - (38805)(4.967)}{20(75294687) - (38805)^2} = -2697.2765$$

$$a = \frac{4.967 - (-2697.2765)(38805)}{20} = .5233390.5$$

$$Y = -2.886 + .002 X$$

TABLE II cont.

DATA FOR REGRESSION FORMULA

Pearson's Correlation Coefficient

$$r = \frac{XY}{\sqrt{(X^2)(Y^2)}}$$

$$r = \frac{9642.529}{\sqrt{(75294687)(1.242613)}}$$

r = .99687532 (significant at the .001 confidence level)

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