

# Why Women Succeed, and Fail, in the Arts

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**Abstract.** I examine and test hypotheses for the differential performance of men and women in the arts. I consider whether observed outcomes are best accounted for by differing innate and genetic endowments across the sexes, variations in training opportunities, maternal responsibilities, or discrimination in the marketplace. More generally, I also consider how social mechanisms can give rise to observed patterns of unequal achievement.

**Key words:** household behavior and family economics; time allocation, worker behavior, and employment determination; particular labor markets; discrimination; labor, demography, education, income, and wealth

## 1. Introduction

The economics of gender discrimination and gender issues in labor markets have provided fruitful areas for economic research. We now have gender-oriented sub-fields in labor economics, development economics, and even macroeconomics, where household production is receiving growing attention. The field of cultural economics, however, has yet to develop a substantial literature on gender issues. In this paper I turn to cultural economics and examine whether the history of cultural production can shed any light on controversies about gender.

Differential gender achievements appear pronounced in the visual arts. Most renowned artists have been male. No list of female creators compares to Raphael, da Vinci, Michelangelo, Velazquez, Rembrandt, van Gogh, Rodin, Picasso, and Matisse. Philosopher Arthur Schopenhauer expressed a common attitude when he wrote: “[women] have proved incapable of a single truly great, genuine and original achievement in art, or indeed of creating anything at all of lasting value: this strikes one most forcibly in regard to painting. . . .” Camille Paglia, in her controversial book *Sexual Personae*, has provided a more recent polemic for male creative superiority.<sup>1</sup>

On the opposing side of the debate, many feminists attribute differential gender achievements to social and cultural barriers. Anne Fausto-Sterling, in her work *Myths of Gender*, challenges the case for female cognitive and creative inferiority. Germain Greer, in her seminal book *The Obstacle Race*, argues that external barriers and discrimination have held back women artists in particular.

This debate is certain to remain unresolved, but I wish to examine whether cultural economics can add to our knowledge of the relevant issues. Specifically, I consider to what extent incentives can account for differences in artistic achievement across genders. When choosing whether to become an artist, individuals compare costs and benefits. Potential artists look at the ease of obtaining training, their social responsibilities, their alternative occupations, and the market for their work. The creation of art is not just an aesthetic decision, it is also an economic decision. Women traditionally have faced lower returns to investing their energies into art.<sup>2</sup>

To the extent that differing incentives account for the variation in observed outcomes, the case for innate male creative superiority weakens. While the results of this paper by no means conclusively refute the case for intrinsic male superiority, they do show that the empirical case for male creative superiority is weaker than is commonly supposed.

#### FOUR HYPOTHESES

I outline four competing hypotheses to account for the observed differences between male and female artists. I will then examine how much the historical and economic evidence supports each hypothesis.

The first hypothesis, which I call the genetic hypothesis, claims that men and women have differing abilities at an innate biological level. According to this hypothesis, men are on average smarter, more artistically gifted, or more driven, for reasons that are genetically inherited and intrinsic to their maleness.

The second hypothesis claims that women have no less artistic potential than men, but women have not been able to develop their skills fully. Perhaps women have been given inferior training, women have received a negative self-image from family or society, or women have found it difficult to break into the marketplace. I call this the discrimination hypothesis.

The discrimination hypothesis is not committed to denying all intrinsic differences between the sexes. Rather, it maintains that existing intrinsic differences, whether large or small, need not hold women back in the arts. Even if men are more analytical, more aggressive, or more status conscious by nature, the female character provides compensating advantages. In the realm of art, women face no intrinsic lack of talent, on balance.<sup>3</sup>

The third hypothesis, which I call the maternal obstacles hypothesis, also claims that women are no less skilled than men. Nonetheless, women do not match male artistic achievements for reasons which are innate to the female sex. Child-bearing is the obvious culprit. The argument suggests that women are likely to become pregnant at some point in their lives, and thus face inferior career opportunities. The maternal obstacles hypothesis has greatest relevance when reliable, low-cost birth control technologies are unavailable.

The fourth hypothesis claims that female artistic accomplishments in fact have not been inferior to male artistic accomplishments, or that female artistic achievements are at least much more impressive than many individuals realize. I call this the parity hypothesis.

#### WHAT KIND OF EVIDENCE DOES EACH HYPOTHESIS IMPLY?

Each of the four hypotheses implies a testable proposition about female artistic achievement. These predictions are:

##### *The Genetic Hypothesis*

Prediction: To the extent that genetic endowments provide the relevant binding constraints, female achievements in the visual arts should be scattered randomly. If genes have been the primary constraints facing women artists, the exceptions should be determined by random genetic variation. In its purest form, this hypothesis suggests we should not observe systematic patterns in the lives and circumstances of the leading female creators.

Defenders of the genetic hypothesis might admit that both social and genetic factors place women artists at a disadvantage. Under this dual view, female artistic achievements will not be scattered randomly. Environmental factors might account for the variation in women's achievements, while genetic factors could still account for a generally lower level of achievement. This dual view, to the extent it places decisive weight on genetic factors, then suggests the following test: if we find superior female artistic accomplishments when we find superior incentives for women to produce, we should conclude that circumstances are the major obstacle holding women back and reject the dual view. If superior incentives for women still result in superior male production, we find support for the dual view.

Consider, for the sake of analogy, how we might evaluate a claim of intrinsic female superiority in an area where female achievements have outpaced male achievements. When we examine the female dominance of the needlework and embroidery arts, we do not necessarily conclude that men are intrinsically less dexterous, or unable to produce quality needlework art. In the few instances where men have had strong incentives to work in these areas (e.g., medieval times), they have shown great promise. That men show considerable upward mobility in these areas, when the circumstances are right, suggests that needleworking ability is not innate to sex. We should incline towards the view that needlework achievement is contingent on circumstances rather than contingent on genes, even if male embroiderers have never matched the achievements of female embroiderers. Likewise, if women flourish in the visual arts when the conditions are right, we would be similarly justified in adopting a skeptical attitude towards the genetic hypothesis for male artistic superiority.

### THE DISCRIMINATION HYPOTHESIS

Prediction: Female achievements in the visual arts should be positively and strongly correlated with measures of available opportunities. We might, for instance, find that most of the notable female creators had exceptional artistic educations, or received extraordinary encouragement from their families. Since these forms of support are contingent, the evidence would suggest that women's achievements could, in principle, have reached far greater heights, if not for sex discrimination. Furthermore female artistic achievements should be greatest in areas requiring the least assistance from others, and weakest in areas requiring the most assistance.

### THE MATERNAL OBSTACLES HYPOTHESIS

Prediction: Female achievements in the visual arts should be correlated negatively and strongly with child-bearing. If the achievements of women have been held back by maternal responsibilities, notable women creators ought to have had fewer children, on average, than other women from their respective historical eras. In addition, women creators should blossom most prominently in the artistic genres related closely to child-raising and taking care of the home. Those women who did have children would find greater opportunities in these areas. Finally as women achieve more control over their reproductive decisions, the number of women artists should rise, and female artistic achievements should lose their correlation with the domestic arts.

### THE PARITY HYPOTHESIS

Prediction: The premise of superior male creative achievements is false. If we look at the historical data more closely, we will find that female achievements are not inferior to those of male achievements. Of the four predictions, this test is by far the most subjective and the most difficult to evaluate.

## **2. What Patterns Do We Find in Female Artistic Achievement?**

Large numbers of potential artists are born, but most of these individuals have no opportunity to develop their skills. The quality of artistic achievement is extremely sensitive to initial conditions, such as a favorable environment and education.

The most renowned artists usually arise in a thriving artistic climate. Michelangelo, Mozart, and Rembrandt, were not anomalous or lone figures in their eras. Each genius was drawn from a large pool of potential talent, received considerable education and support in childhood years, and faced strong competitive rivalry on the path to the top. They were surrounded by numerous peers, who, although inferior in ability, also produced notable achievements. Michelangelo blossomed at the peak of the High Renaissance, Mozart represented the culmination of Viennese classical music, and Rembrandt arose in the midst of the Dutch "Golden Age."

Great creators usually do not succeed in a vacuum or in a totally hostile cultural environment. Virginia Woolf (1957), in her essay "A Room of One's Own," believed that women artists would not succeed until they had "money and a room of one's own." These claims – consistent with the discrimination hypothesis – find support in the historical evidence.

The difficulties of receiving adequate training represented the most prominent obstacle facing would-be women painters. Until the nineteenth century, nearly all prominent women painters had artist fathers. Family training and support made up for the dearth of comparable opportunities in the outside world. In the overwhelming majority of cases where family training was not available, women could not receive an artistic education.

Eleanor Tufts (1974), in her highly regarded book on women artists, presented biographies of 22 of the most prominent female artists in Western history. Biographical research reveals that of the first 14 painters surveyed, 12 had artist fathers.<sup>4</sup>

Many of these painters had especially close relationships with their fathers, who served as mentors, managers, and buffers against a hostile outside world. The father of the Swiss painter Angelica Kauffmann, for instance, trained and pushed her from a very early age. Later he accompanied her on a tour of the galleries of Europe, and introduced her to the high society of Europe.<sup>5</sup>

The importance of the supportive father is illustrated by the renowned Peale family of nineteenth century America. The male members of the Peale family made a conscious decision to cultivate artistic talent among their daughters and nieces. The most notable source of support was Charles Peale, a well-known advocate of women's equality. Charles even named his four daughters after famous female painters of earlier eras (e.g., one daughter was named Angelica Kauffmann Peale). Many of the other male Peales were painters themselves, and lent support to promising female artists in the family. Charlotte Rubinstein's biographical dictionary lists nine female members of different branches of the Peale families. The best known female Peale painter is Sarah Peale (1800–1885), niece of Charles, who supported herself for sixty years as a professional portrait painter.<sup>6</sup>

Women with artists in the family had opportunities to receive training, critical feedback, artistic materials, and studio space. Without strong family connections, women had few means of painting at all, and only a scant chance of succeeding professionally.

The family links of female artists support the discrimination hypothesis, rather than suggesting a dominant role for the genetic transmission of artistic talent through the family. Male artists, who had superior resources and superior access to outside training, were not generally sons of artists. While Ghiberti and the della Robbias of Florence learned their trades from their families, most prominent male artists received formal instruction from an art school or a private teacher. If the development of male artists had been restricted to those who had learned from their families, the artistic record of males would be far poorer than what we observe.

Raphael was the son of an artist, but he did not need to rely on his family for training. His father lacked sufficient expertise, and sent Raphael to study with the notable Perugino. In contrast, sending females to intensive study with a male teacher was not considered socially accepted and was rarely done. In one exceptional case, Artemisia Gentileschi, arguably the most talented female Renaissance painter, was sent to an outside male teacher. She was not only raped, but when she brought the case to trial, she was tortured with thumbscrews in an attempt to ascertain the truth of the matter. Although this particular example is extreme, outside training usually involved much higher costs for women than for men.<sup>7</sup>

Well-developed training networks provided the foundation for male artistic achievements in the Renaissance. The artists of the Italian Renaissance were not lone self-taught geniuses. They worked as craftsmen or artisans from a very young age, and usually took on apprenticeships in the early teens. Apprentices received careful training in working with pigments, grinding colors, linear perspective, and geometry, among other skills. Later, men traveled freely to study art, worked with nude models, and even dissected corpses – all prerogatives that were denied to women. We find no record of female artistic apprentices during the Renaissance. Sofosniba Anguissola, sixteenth century female painter from Cremona, received a relatively complete artistic education, but even she was not given full apprenticeship training.<sup>8</sup>

One European city, Bologna, did allow women to receive systematic artistic training. Bologna was a prominent Renaissance university town which prided itself on its ability to train women scholars. This gender egalitarianism included the visual arts. Female artists flourished in Bologna for over a century; two of the most notable women Renaissance painters, Lavinia Fontana and Elisabetta Sirani, came from this city.<sup>9</sup>

Most women did not have the opportunity to develop or even become aware of their artistic talents. Today, many children develop their interest in art by drawing. Drawing as a common pursuit of the middle class, however, is a relatively recent historical development. Paper and pencil were not generally available until the eighteenth century, and even then these items were not found in every home. Women had the opportunity to discover their artistic talents only when they received conscious, directed family support.

Discrimination within the family appears to have played a much larger role than discrimination against women in the outside marketplace. The evidence does not indicate that women faced comparable discrimination once they reached the art marketplace. Paintings by female artists often sold for high prices, even when talented female artists were a rarity. In her era a painting by Rachel Ruysch sold for more than a Rembrandt. Other female artists received enormous critical recognition and financial rewards in their own lifetimes. Angelica Kauffmann, Elisabeth Vigée-LeBrun, and Rosa Bonheur were each considered to be among the greatest painters of their respective lifetimes. In each case, even contemporary feminist art

historians do not accord these painters the praise they once received from male contemporaries.

It remains an open question why females might have been subject to greater discrimination within the family than in the marketplace. Families may have regarded it in their self-interest, or part of their moral code, to encourage their daughters to adopt certain roles or to adhere to particular social conventions. Parents may not have objected if someone else's daughter pursued a career as a painter and sold them pictures, but parents did not want their own daughter to choose the same route.

Women broke away from reliance on family training in the nineteenth century, when European art schools began accepting women in considerable numbers. In Paris, the first free drawing school for women was started in 1805. Art education for women expanded throughout the century. By 1896, the prestigious *École des Beaux-Arts* officially admitted women. For the first time, women could receive artistic training from individuals other than family members.<sup>10</sup>

An entire generation of women artists took advantage of expanding opportunities for artistic education. The four most prominent female artists of the nineteenth century were arguably Berthe Morisot, Mary Cassatt, Paula Modersohn-Becker, and Rosa Bonheur. Only one of the three, Rosa Bonheur, was the daughter of an artist. The others were able to receive more formal artistic instruction<sup>11</sup>

The need to pay art school tuition nonetheless kept women in a state of family dependence. The careers of Mary Cassatt and Berthe Morisot illustrate just how much external support budding women artists needed. Mary Cassatt, perhaps the finest female painter of her century, was born in America to a wealthy family from Pittsburgh. Her family paid for her four years of education at the Pennsylvania Academy of Fine Arts. Cassatt later moved to Paris, set up her own studio, and traveled extensively through Italy, Spain, the Netherlands, and Belgium to study art. All of this was done with money from her family. Furthermore, Mary was free of maternal responsibilities. She neither married nor had children<sup>12</sup>

Berthe Morisot also came from a wealthy family, who financed artistic training for her and her sister, Edma. Edma also showed early promise but gave up her artistic career to marry and have a family. Berthe remained single until the age of 33, at which point her talents were already well-developed. She was also fortunate enough to marry Eugene Manet, brother of the great painter Edouard. Eugene understood the demands of an artistic career and supported his wife's efforts. Furthermore, Berthe's art was not held back by large numbers of children. She had difficulties becoming pregnant, and had only one child when she was 37 years old. Even then, she managed to continue painting, and was ingenious enough to benefit artistically from the time spent with her child. Playing with her daughter's crayons strongly influenced the colors and textures of her later works.<sup>13</sup>

### 3. Variation of Artistic Achievement across Artistic Genres

The varying success of women in different genres further supports the discrimination hypothesis. First, if women are held back by discrimination, rather than lack of innate talent, they should be most underrepresented in the fields requiring the most cooperation from others. Second, these differences should narrow over time, at least if discrimination by gender is weakening.

If we look at four major fields in the visual arts – painting, sculpture, architecture, and photography – architecture usually requires the most cooperation from others. Architects need extensive training to develop their technical abilities, and require large-scale commissions to exercise their talents.

Women have been especially underrepresented in professional architecture. The historical record presents no tradition of well-known professional female architects, similar to that of painters or even sculptors. One study of the most famous American architects lists 234 entries, but none are solo female practitioners (three husband and wife teams are listed).<sup>14</sup>

The available exceptions do demonstrate that women can succeed at architecture when the initial conditions are conducive. In American history, for instance, women have been prominent in non-professional domestic architecture and home design. Women were adept at designing their own homes, and encountered insuperable obstacles only when forced to seek commissions from outside. Until recently, the most successful female American architects were partners with architect husbands; the husbands usually generated the commissions. Only in the last few decades have women moved into architecture in increasingly large numbers.<sup>15</sup>

The especially strong underrepresentation of women in sculpture also supports the discrimination hypothesis. Women working on their own in a hostile environment find it harder to become sculptors than to become painters. Sculptural materials of marble and stone tend to be far more expensive than painting oils and canvases, thus increasing the need for external financial support. If discrimination is rife, women will find it especially hard to obtain such funding. The genetic hypothesis, in contrast, suggests no particular reason why women's genes should predispose them to painting more than to sculpture.

At least since medieval times women have been far more prominent in painting than in sculpture. Women sculptors continued to be extremely rare in medieval times, even though some women painted, and others played a considerable role in manuscript illumination. The most famous female medieval sculptor, Sabina von Steinbach, has turned out, on closer inspection, to be a figment of the historical imagination.<sup>16</sup>

The Renaissance produced only one prominent woman sculptor, Properzia di Rossi (1490?–1530). Even through the seventeenth and eighteenth centuries, only a few names surface. None of these female sculptors comes close to matching the renown of the female painters Gentileschi, Kauffmann, or Vigée-Lebrun. Not



until the latter half of the nineteenth century did women have any real presence in large-scale sculpture.<sup>17</sup>

Most of the women who did sculpt in earlier centuries produced miniatures. Unlike the larger and more ambitious sculptural styles, these smaller scale works did not require access to studios and costly materials.<sup>18</sup>

In the twentieth century, however, prominent female sculptors have emerged in great numbers. Germaine Richier, Barbara Hepworth, Louise Nevelson, Eva Hesse, Mary Callery, Alicia Penalba, Sophie Täuber-Arp, Louise Bourgeois, Jackie Winsor, Marisol, and Niki de Saint Phalle, are but a few notable modern women sculptors. Most art critics would place both Hepworth and Nevelson among the best sculptors of their era.

Even within the field of painting, women have sought out and specialized in those genres with relatively low materials costs. Early women oil painters focused on portraits and still lifes, for which the materials were easily available. The more prestigious genres, such as religious and history painting, were dominated by men. Still life painting relies more on a good eye and hours of practice than on the traditional academic or establishment education given to male painters. One critic even mocked Berthe Morisot for her emphasis on non-traditional topics: "Since it is not necessary to have had a long training in draughtsmanship in the Academy in order to paint a copper pot, a candlestick, and a bunch of radishes, women succeed quite well in this type of domestic painting."<sup>19</sup>

Many female creators found water colors to be an especially inviting medium. Like oil paints, water color equipment is portable, can be laid out on a table, dries quickly, and does not require a studio or even an entire room dedicated to art.

Water colors have proved popular in other circumstances where artists operated under stringent constraints of space or materials. Artists on journeys of exploration, artists of the early American West, artists at sea, and artists at war have all favored the water color form. Like the women who painted water colors, these creators stood outside of the mainstream and lacked regular access to formal studios.<sup>20</sup>

It does remain a puzzle why women, although enamored of the water color technique, rarely rose to the top heights of achievement in that art. Perhaps women water colorists lacked the skills supplied by oil painting. The best male water colorists – such as Albrecht Dürer, William Turner, Winslow Homer, and Paul Cézanne – had also mastered oils and received formal training in composition and color use. The women who worked only in water colors could not develop the technical expertise to match these male artists. Georgia O'Keefe, arguably the most accomplished female water colorist, also had this strong background in oil painting.

Differential female achievements across artistic genres can be seen in the numerical evidence, as illustrated by a survey of the works exhibited at the British Royal Academy. In 1800 women were exhibiting approximately nine percent of the paintings. This figure fluctuated over the century, but by 1900 had risen to fifteen percent. In 1800 women exhibited less than two percent of all the architectural drawings,

with little change through the remainder of the century. In the first two years when data is available, 1820 and 1830, women do not exhibit any sculptures at all, and only in the 1880s do women exceed ten percent of the sculpture exhibitors. Women artists were active in water colors throughout, starting at twenty-two percent, and rising to forty-three percent by century's end. Membership figures for the Society of British Artists reveal similar findings.

The same general patterns are found in France. Throughout the nineteenth century, women exhibited between ten to fifteen percent of the paintings at the French Salon, depending on the year. Nearly every year women exhibited none of the architectural drawings. In sculpture female exhibitors start the century at seven percent of the total. This figure falls to below one percent by mid-century, and only in the 1880s does it exceed ten percent. The data on water colors are incomplete, but women generally consisted of between twenty and fifty percent of the exhibitors in that field.<sup>21</sup>

Evidence from other artistic genres helps us isolate the importance of training in influencing the scope of female achievement. Early photography and Naive Art provide two areas where formal training is less important than for more traditional forms of painting or sculpture. In both of these fields women assumed greater prominence than in more established artistic genres.

Women produced outstanding achievements in photography almost immediately after the birth of that genre. Photography was a new art with no academies, no formal schools, and no established techniques. Neither men nor women received special photographic training in their childhood. Trade unions, guilds, Academies, and licensing laws were absent from the field. Many women, such as Julia Margaret Cameron, Gertrude Käsebier, Dorothy Lange, Frances Benjamin Johnston, Imogen Cunningham, Margaret Bourke-White, Berenice Abbott, Helen Levitt, and Diane Arbus, have achieved the highest rank in this artistic medium. When comparing female achievements to the number of women who pursued photography, one historian of photography [John Szarkowski] noted: "The importance of women as photographers has been much greater than one would guess on the basis of a straight statistical projection."<sup>22</sup>

Julia Margaret Cameron, perhaps the first prominent female photographer, took pictures in her spare time while her well-to-do husband was running a plantation. Working in the 1860s, Cameron had to teach herself the proper techniques from scratch. She faced no comparative disadvantage, however, because all photographers at that time faced similar hardships and a similar lack of formal training.<sup>23</sup>

Women moved into photography in significant numbers in the late nineteenth-century. At this time equipment fell drastically in price and the technique of developing pictures became much easier. New technologies meant that photographers could now work with hand cameras, and no longer needed to process pictures immediately after they were taken. Photographic equipment no longer weighed fifty to seventy pounds, and the expense of maintaining a traveling darkroom was suddenly removed.<sup>24</sup>

Gertrude Käsebier was typical of the new class of women photographers. She had no formal photographic training, and started taking pictures in the 1880s to record the lives of her growing children. After her children were grown she devoted herself to the art full time, and by the end of the century she was one of the most accomplished photographers in the world.<sup>25</sup>

### 3.1. WOMEN IN NAIVE ART: A COMPARISON

Women have achieved far greater representation in Naive Art, in proportional terms, than in more traditional forms of painting. Prominent female “Naive” painters include Patricia Barton, Gertrude O’Brady, Grandma Moses, Séraphine, Nina Bar-ka, Minna Enulat, Alexandrine, Hanny Lüthi, Regine Dapra, Berthe Coulon, and Micheline Boyadjian.<sup>26</sup>

Naive Art, which by definition is painted by untrained “amateurs,” is usually uninformed by traditional approaches to perspective. A typical American Naive work uses bright colors, blunt shapes, and a distorted sense of depth and relative size. Popular subjects are rural farm scenes or family portraits. Long neglected by professional critics, Naive Art has recently attained high status as an innovative and vital pictorial tradition. The best Naive works stand among the most modern and provocative works of their time.

Naive Art catalogs provide quantitative measures of women’s presence in this genre. The four most comprehensive catalogs available contain numerous pictures by women. One catalog of American folk art between 1776 and 1876 presented 31 pictures by females to 46 by males; another presents 194 by females to 573 by males. The most comprehensive international catalog, *World Encyclopedia of Naive Art*, profiled 212 females to 594 males. In the *Lexicon of the World’s Naive Painters*, women are represented by 141 entries to 407 entries for men.<sup>27</sup>

Even the most male-heavy Naive Art catalog shows far more balance across the sexes than do surveys of traditional high art. For a comparison with the traditional high arts I chose the *Dictionary of Art*, edited by Eleanor S. Greenhill, a woman. The 770 entries for male artists compare to only 12 entries for female artists.<sup>28</sup>

Women, however, still do not provide one half of the Naive Art market; at least two factors may account for this continuing underrepresentation in Naive Art. First, although training is less important in Naive Art, many Naive artists have nonetheless received some artistic education. Lack of access to instruction does still matter, even if it matters less. Second, family responsibilities – as suggested by the maternal obstacles hypothesis – have provided another barrier. One of the best-known female Naive artists, Grandma Moses, enjoyed a lengthy and successful career only because she lived for 101 years. Only after giving birth to and raising ten children did Moses start painting at the age of 67, shortly after her husband died.<sup>29</sup>

## GENRES WHERE WOMEN HAVE DOMINATED

Female creators have excelled in textile-making, cloth-making, silk-weaving, needlework, and embroidery since antiquity. Female achievements far outweigh male achievements in these highly artistic areas.

Women's quilts, for instance, were the preeminent American visual art form of the nineteenth century. Women used cloth and a sewing needle to combine modernistic abstract designs with bold color combinations. In the eyes of many observers, eighteenth and nineteenth century quilts are more original and breathtaking than the American paintings from the same era, which were usually derivative of European styles.<sup>30</sup>

American quilt-making first blossomed in colonial times. Families had to produce many of their own clothes and household items, including towels, napkins, sheets, pillow covers, blankets, and coverlets. These tasks usually fell to women. During America's "golden age" of quilt-making (1740–1900), needlework was taught to girls both at home and at school. Building on the skills they had been taught and encouraged to cultivate, women produced an array of artistically original works.<sup>31</sup>

Until recently, the achievements of female quilt-makers had been neglected by mainstream art historians. Quilts were rarely been included in basic art history texts. Quilts also perish easily, and few have survived to the present day. Light, moisture, insects, and the quilt dyes themselves have taken a large toll. Only in recent times – well past the peak of quilt-making art – have systematic attempts been made to preserve these textiles and to evaluate women's artistic contributions in this area.<sup>32</sup>

Quilt-making provides only one example of a broader pattern of female artistic dominance in the area of textiles. The embroidery arts came from Persia, Egypt, and China, and were adopted by Europeans in medieval times. Women have almost always dominated these arts in their numerous manifestations. The wide variety of embroidered artworks, from American Indian blankets to Anatolian killims to woven silks, casts doubt upon the genetic hypothesis of intrinsic female artistic inferiority.<sup>33</sup>

The German Bauhaus is best-known for its contributions to modernist architecture (Walter Gropis, Mies van Rohe) and abstract painting (Paul Klee). Yet the women's Weaving Workshop produced many of the most creative Bauhaus works. The colors and abstract designs of these works place them high in the pantheon of modern art. Unfortunately, Bauhaus textile art had been neglected for decades, until the publication of a recent study, Sigrid Weltge's *Women's Work: Textile Art from the Bauhaus* (1993).

The history of embroidery training shows how proper encouragement affects artistic output. For centuries mothers have taught their daughters sewing and needlework skills. Female embroidery skills, although not treated as serious art, were highly valued for their practical and aesthetic functions. No culture has excluded

women from needle work, and some cultures, like that of the Inuit, have reserved it for women exclusively. In many cases, such as the Middle and Far East, women have even been forced to enter these occupations and to work under conditions not much better than slave labor. In all of these cases training has led to high levels of female creativity.<sup>34</sup>

Female prevalence in the embroidery arts also provides support for the maternal obstacles hypothesis. Women have flourished artistically in those activities, such as needlework, that have been complementary to child-rearing and homemaking. Female artists found it more difficult to find the time for other arts, like painting and sculpture, that conflicted with their domestic responsibilities.

Some commentators, such as Stephen Goldberg, have suggested that women specialize in those activities (artistic or otherwise) that lack social status. The evidence, however, suggests that the link to women's traditional domestic roles is a more important factor in allocating female artistic effort across genres. Female-dominated arts have, at various times in the past, achieved high status within their cultures.

Textiles were a highly prestigious art in the culture of the ancient Peruvian Incas. For centuries, the Incas held artistic cloth in high regard, higher than painting or sculpture. Incan textile-making was almost entirely the product of female labor, and it dominated the culture of one of the most advanced civilizations of its time. Textiles were used for clothing, grave decorations, sacrificial offerings, wall hangings, samplers, quilts, sacks, and slings.<sup>35</sup>

Women have flourished in other prestigious arts that are complementary to domestic life and home-making. Many sub-Saharan African tribes decorate their huts and mud houses with elaborate forms of wall painting, both inside and outside. These brilliantly colored murals are the dominant visual art form in their societies, and have attracted international attention for their hues and abstract patterns. Women are almost exclusively the creators, teachers, and students of African wall painting. This art spans the West African coast from the Sahara desert to South Africa, the home of the Ndebele, the most famous practitioners of the art.<sup>36</sup>

Related domestic arts are prominent in many parts of India, where women paint walls, rooms, and floors with vegetable dyes. As suggested by the domestic constraints hypothesis, many prominent regions for Indian wall painting place especially stringent restrictions on non-domestic opportunities for women.<sup>37</sup>

#### **4. Were Women Artists Held Back by Children and Marriage?**

Many women artists, or potential artists, gave up their careers for their children and husbands. For most of Western history, women married in their teens, sometimes even as early as twelve, and had as many as five to ten children. Reliable birth control did not become available until the late nineteenth century, and even, then, was often illegal, expensive, or hard to find. While revisionist accounts now suggest

that some birth control methods (such as herbal remedies) were available in earlier ages, these methods were unreliable and were often dangerous.<sup>38</sup>

Most women found their lives repeatedly interrupted by the bearing and raising of children. The years between 18 and 35, critical for the development of most artists, were rarely available to most women for training and development in the traditional high arts.

Some women artists, working against great odds, managed to combine careers with child-bearing. Rachel Ruysch, for instance, had ten children. Miraculously she continued to paint. More commonly, women restricted their careers following marriage or childbirth. Judith Leyster, for instance, appears to have painted only one picture after she married in 1636 at the age of 27. Up to that time she was one of Holland's promising oil painters. After Leyster's marriage only her husband, an inferior artist, continued to paint.<sup>39</sup>

Marietta Robusti had been trained in the studio of her father, Tintoretto. Both Philip II of Spain and Maximilian of Austria asked Marietta to come to their courts to paint. Tintoretto refused these offers on her behalf and instead arranged her marriage. Marietta died in childbirth four years later.<sup>40</sup>

More recent women artists also have died in childbirth. Even in the early 1900s, Paula Modersohn-Becker, one of the most talented woman painters ever, died from complications following childbirth, at the young age of 31. Elisabeth Vigée-Lebrun, who claimed to have continued painting while in the midst of labor, is the exception, not the rule.<sup>41</sup>

Lavinia Fontana, the sixteenth century Bolognese painter, is one of the very few female painters who received support from her spouse. Lavinia married a fellow painter, who subsequently gave up his career. He raised the children and helped Lavinia paint the garments and frames of her pictures. Without this unusual level of support, Lavinia's career might not have had a chance.<sup>42</sup>

Anna Lea Merritt (1844–1930), a well-known female painter in her day wrote: "The chief obstacle to a woman's success is that she can never have a wife." Anna continued, "Just reflect what a wife does for an artist:

- Darns his stockings;
- Keeps his house;
- Writes his letters;
- Visits for his benefit;
- Wards off intruders;
- Is personally suggestive of beautiful pictures;
- Always an encouraging and partial critic.

It is exceeding difficult to be an artist without this time-saving help. A husband would be quite useless. He would never do any of those disagreeable things."<sup>43</sup>

Rosa Bonheur, the renowned nineteenth century animal painter, was one of the few women artists who did have such a wife. Rosa was a lesbian and lived with a

companion named Nathalie most of her adult life. Nathalie proved of great use to Rosa's career and even helped pay off some of her debts.<sup>44</sup>

Nineteenth-century American sculptor Harriet Hosmer pointed out the difficulty of marriage for a female artist at that time: "I am the only faithful worshipper of Celibacy, and her service becomes more fascinating the longer I remain in it. Even if so inclined, an artist has no business to marry. For a man, it may be well enough, but for a woman, on whom matrimonial duties and cares weigh more heavily, it is a moral wrong, I think, for she must either neglect her profession or her family, becoming neither a good wife and mother nor a good artist. My ambition is to become the latter, so I wage eternal feud with the consolidating knot."<sup>45</sup>

We do not have systematic data on the marriages and children of prominent women painters of the past. Nonetheless, a brief look at some of the most prominent names shows they tended to have weaker domestic responsibilities than most women of their ages. Consider the twenty-one women painters portrayed in Eleanor Tuft's *Our Hidden Heritage: Five Centuries of Women Artists*:

- Sofonisba Anguissola: Married two times, no children.
- Lavinia Fontana: Married once, 3 children.
- Levina Teerling: Married once, one child.
- Catharina van Hemessen: Married once, one child.
- Artemisia Gentileschi: Married, at least one child.
- Judith Leyster: Married, at least one child (but gave up painting for her family).
- Elisabetta Sirani: Not married, no children.
- Maria Sibylla Merian: Married, two children.
- Rachel Ruysch: Married, ten children.
- Rosalba Carriera: Unmarried, no children.
- Angelica Kauffmann: Married twice, no children.
- Elisabeth Vigée-Lebrun: Married twice, one child.
- Sarah Peale: Unmarried, no children.
- Rosa Bonheur: Unmarried, no children.
- Edmonia Lewis, Unknown.
- Suzanne Valadon: Married, one child.
- Käthe Kollwitz: Married, two children.
- Paula Modersohn-Becker: Married, one child.
- Gwen John: Unmarried, no children.
- Germain Richier: Married twice, I cannot find out how many children she had.
- I. Rice Pereira: Married thrice, no children.

Of these 21 artists, only Rachel Ruysch had many children, with ten. Rachel managed only through exceptional circumstances – she came from an extremely wealthy background, had a supportive husband, a well-paying court post, and even won a large lottery prize. Few other women artists enjoyed such favorable circumstances. In most cases, children often proved to be a binding constraint. Most prominent female artists had only one or two children, in eras when women

commonly had from five to ten children. Eight of the twenty-one had no children, and five never married.<sup>46</sup>

Familial obligations help explain why we do not witness more prominent female creators. The data suggest that mothers with large families – the bulk of the female population for many centuries – have had little chance to pursue a successful career in the arts.

The maternal burdens placed on women have declined over time, primarily because birth control techniques became relatively widespread in this century. This easing of biological constraints has made women's artistic options less rigid. Women no longer dominate the embroidery arts as they once did, and correspondingly, they have achieved a far greater presence in painting and sculpture. Only in traditional societies, where sex roles remain highly inflexible, has female art kept its close links to domestic duties.

## **5. Concluding Remarks, or Where Does the Genetic Hypothesis Stand?**

The available historical evidence provides definite support for the discrimination, maternal obstacles, and parity hypotheses. The genetic hypothesis cannot be regarded as refuted, but we do observe numerous artistic areas where the achievements of women exceed the achievements of men. This fact places the genetic hypothesis under doubt. Women facing favorable or superior incentives often have met with extraordinary successes in their artistic endeavors.

Today, women are attaining increasingly high ranks as cultural producers, both in the visual arts and in music, literature, and other cultural pursuits. Economic growth, birth control, and new technologies are improving the lot of women, and easing the burdens of child-bearing. However much the maternal obstacles hypothesis may apply to the past, it has become less relevant with the spread of industrialization and the market economy.

Although discrimination and lack of training remain formidable obstacles, these barriers are contingent upon human belief and conduct. We do observe a variety of historical instances where women faced relatively strong incentives to produce art, and there we find an impressive female artistic record. If the historical evidence on the arts shows one dominant message, it is the overwhelming importance of contingent circumstances, for both men and women. In more narrowly economic terms, we may speak of the importance of incentives, if we consider incentives broadly to include training and social pressures, and not just short-term material rewards.

For at least four hundred years, the status and achievements of women in the visual arts, and in culture more generally, have been rising. The historical evidence therefore suggests two conclusions. First, the accomplishments of women can lie below their potential level for a very long time. The differences between women's previous and current achievements shows that changing circumstances and incentives can account for drastic variations in results.



Second, women's artistic achievements face no obvious long-term limit. Since women's accomplishments have been rising for hundreds of years, we have no reason to believe that today's situation represents their maximum (J.S. Mill 1970 [1869]).

Seen in the light of these two points, the time path of women's achievements offers evidence against the genetic hypothesis. Advocates of the genetic hypothesis focus too much on steady-state comparisons of total male achievements in a given period versus total female achievements in the same period. They focus too little on the changing course of female achievement over time and the variation of male and female achievements across genres and societies.

The steady-state comparisons invoked by the genetic hypothesis neglect the very rich information contained in the observed deviations from historical patterns of male dominance. Once we observe a pattern of historical dominance breaking down, whether across time or across genres, we should increase the explanatory emphasis we place on contingent circumstances. Consider the following analogy: we might have concluded, circa 1750, that ongoing, stable democracies were unlikely, that slavery was a natural state of affairs, or that accomplished women writers were a rarity. If we start counting with the Sumerians in 4000 B.C., these generalizations, now obviously false, would have had 4350 years of supporting evidence in 1750. But these 4350 years do not constitute separate, independent data points. The history of world is replete with examples of systematic improvements in human conditions that had few or no historical precedents – women's increasing achievements in the arts should be included in this category.

## Notes

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- 1. Schopenhauer (1970, p. 86). For a well-argued and more recent presentation of the male superiority view, see Goldberg (1993). For an objective and systematic survey of differing views on gender differences, see Abra and Valentine-French (1991).
- 2. The literature on cultural economics has paid little attention to issues of gender. The work of Throsby and Thompson (1994, 1995) provides one exception.
- 3. Moir and Jessel (1989), in their *Brain Sex*, argue for innate differences between male and female brains, without drawing normative conclusions. On male and female superiority on various tests, see Kimura (1992). Pool (1994) provides a comprehensive recent survey of the evidence.
- 4. The list includes Lavinia Fontana, Levina Teerling, Catharina van Hemessen, Artemisia Gentileschi, Elisabetta Sirani, Maria Sibylla Merian, Rosalba Carriera, Rachel Ruysch, Angelica Kauffmann, Elisabeth Vigée-LeBrun, and Rosa Bonheur; see Tufts (1974). Marietta Robusti (daughter of Tintoretto), and Elizabeth Chéron, two other early prominent female artists (not surveyed by Tufts), also had artist fathers. On the latter two names, see Nochlin (1971, p. 30). In the case of Merian, her stepfather, not her father was a painter; her mother remarried when she was four years old. Tufts fails to note that Rosalba Carriera had an artist father, attributing only an artist grandfather to her; on Rosalba's father's early career as a painter, see Munsterberg (1975, p. 35). For a directory of sources on woman artists, see "Women Artists: A Resource and Research Guide" (1982).
- 5. See Mayer (1972), especially chapters one and two, and Baumgärtel (1990).

6. On the various Peales, see Rubinstein (1982, pp. 46–50).
7. On Raphael and his father, see Greer, (1979, p. 14). On Gentileschi, see Harris and Nochlin (1976, pp. 27, 118). For a full account of the rape trial, see Garrard (1989).
8. On the lack of women apprentices, see Greer, (1979, p. 172). On Anguissola, see Perlingieri (1992, chapter III).
9. On the Bolognese tradition, see Greer (1979, chapter XI), and Ragg (1907). We do find a few cases where female painters subsequently trained their daughters. Artemisia Gentileschi taught one of her daughters to paint. Nonetheless, even Artemisia showed more concern with finding a husband for the daughter. See Greer (1979, p. 26).
10. On the growth of art education for women in the nineteenth century, see Slatkin (1985, pp. 97–8).
11. See Slatkin (1985, p. 98).
12. On the life of Mary Cassatt, see Hale (1975, *passim*, pp. 10, 34, 46, 49, 150), and Mathews (1994). On the late date when financial assistance from her family ceased; see Mathews (1994, pp. 129–130).
13. On Morisot, see Higonnet (1990); on the role of crayons, see Higonet (1990, p. 192).
14. On the paucity of female architects in early times, see, for instance, Harris and Nochlin (1976, p. 29n). The study of famous American architects is by Williamson (1991, pp. 26–7). Torre (1977) provides a general study of female architects in America.
15. On the role of American women in domestic design, and on partnerships with architect husbands, see Cole (1973, *passim*, p. 83). On Scandinavian female architects, see Lorenz (1990, *passim*, p. 8). On recent progress in America, see Berkeley (1989, “Introduction”).
16. On the rarity of early women sculptors, see Munsterberg (1975, pp. 11–12, chapter seven), and Harris and Nochlin (1976, p. 29n). On the mistaken legend of Steinbach, see Heller (1987, p. 13).
17. On the female sculptors of this era, see Munsterberg (1975, chapter seven). On the breakthrough of women sculptors in America, see Rubinstein (1990, p. 25, *passim*).
18. On women’s work with miniatures, see Krull (1984, p. 49).
19. Cited in Garb (1986, p. 6).
20. On the popularity of water colors in these other areas, and for a history of water colors in general, see Brett (1984). On reasons why women preferred water colors, see Higonnet (1990, p. 14).
21. For these figures, see Yeldham (1984, pp. 200–1, 205).
22. On female photographers, see Slatkin (1985, pp. 116, 132–9), and Rosenblum (1994). For a catalog of works by women photographers, see Sullivan (1990) and Tucker (1973). For the quotation, see Szarkowski (1973, p. 52).
23. On Cameron, see Hill (1973), and Hopkinson (1986).
24. On the late nineteenth century revolution in photography, and its effect on female participation, see Gover (1988).
25. On Käsebier, see Michaels (1992) and Tucker (1973).
26. On these painters, see Jakovsky (1979). 10 out of the 60 painters presented in that book are women. On the history of women in Naive Art more generally, see Greer (1979, chapter VI).
27. These counts exclude anonymous pictures, or pictures with a first name that is ambiguous by sex. The first American catalog is Lipman and Winchester (1974); the second is Sellen (1993). The first world catalog is Bihaljo-Merin and Tomasevic (1984); the *Lexicon* is by Jakovsky (1976). Chotner (1992) is more heavily weighted towards men than the above catalogs (70 to 5), but most of the entries in this book are anonymous. Virginia Woolf (1957) remarked: “Anonymous was a woman.”
28. See Greenhill (1974).
29. On Grandma Moses, see Kallir (1984, p. 9).
30. Peck (1990) and Kiracofe (1993) provide two good introductions to women’s quilts.
31. On American quilts, see Orlofsky and Orlofsky (1994, p. 11, *passim*). On needlework and colonial education, see Edmonds (1991, p. 10, *passim*). Two other good general sources of quilt-making are Mainardi (1982) and Ferrero, Hedges, and Silber (1987). On how quilts anticipated developments in modern abstract art, see Holstein (1991).

32. On the perishability of quilts, see Orlofsky and Orlofsky (1974, p. 37).
33. On female textile production in antiquity, see Slatkin (1985, pp. 14–5).
34. On medieval embroidery education, see Slatkin (1985). For a history of women in the domestic arts more generally, see Dewhurst, MacDowell, and MacDowell (1979).
35. On Incan textile art, see Munsterberg (1975, pp. 6–9).
36. On wall painting and murals in West Africa, see Courtney-Clarke (1986, 1990). On Ndebele wall painting, see van Wyk (1993), and on African women's art more generally, see LaDuke (1991).
37. On Indian wall painting, see Huyler (1994). On oppression in these areas, see Huyler (1994, pp. 53, 87, 191).
38. On the greater availability of birth control in the late nineteenth century, see Anderson and Zinsser (1988, vol. II, p. 203). For one revisionist account of early birth control, see Riddle (1992). Even in modern times, however, women have cited childbearing responsibilities as an obstacle to artistic achievement; see Throsby and Thompson (1994, p. 47 and 1995, p. 23).
39. On those women painters who had large numbers of children, see Krull (1984, p. 34). On Judith Leyster, see Kloek, (1993, p. 66, *passim*). For a list of other prominent women artists who ceased to paint after marriage, see Harris and Nochlin (1976, p. 29).
40. On this episode, see Anderson and Zinsser (1988, vol. II, pp. 66–8).
41. On Lebrun, see Petersen and Wilson (1976, p. 52).
42. On Lavinia's husband, see Munsterberg (1975, p. 20).
43. Cited in Slatkin (1985, p. 111).
44. See Greer (1979, p. 59).
45. Cited in Comini (1987, p. 21).
46. On Ruysch, see Mitchell (1973, pp. 222–4).

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