An investigation of a sample of geography, physiology, and arithmetic textbooks used during the period 1880-1920 is described. The paper details the attitudes expressed in these books toward women in society: what they were expected to be, their status vis-a-vis the roles of men, the overlap between the roles of men and women. The paper also explores any possible correlations between (1) sex of author, and (2) sex of audience and the attitudes toward women expressed in the books. It suggests that American textbook writers during this period were slow to acknowledge the changes in society that affected the roles of women. (Author)
IMAGES OF WOMEN IN SCHOOL TEXTBOOKS, 1880-1920 *

by

Joan N. Burstyn, Carnegie-Mellon University
Ruth R. Corrigan, Carnegie-Mellon University

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Textbooks mirror society. They may distort, they may present only a segment of the whole picture. Nevertheless they provide one means of judging what a society wishes to pass on to its children. When the attitudes of a society are changing its textbooks may not reflect the changes for some years, both because of the time it takes to write and publish new books, and because authors may hesitate to adopt new attitudes before they have become part of the way of life of the majority. We can see this even today. During the years that Blacks have been fighting for recognition of their rightful place in society, textbooks have continued to reflect a society almost totally white, and it is only in recent years that a truer picture has begun to emerge. Accepting the possibility of a time-lag in the presentation of new ideas, we looked at Geography, Physiology, and Arithmetic textbooks, for school age students, written between 1880 and 1920, and at new editions of older books republished during that period, to find out how far changes in the roles of women in American society were reflected in them.

The years between the Civil War and 1920 were exciting ones for women. In politics women struggled successfully for the right to vote. In the work force, by 1920, women made up 20% of all workers, and were taking on new kinds of jobs. With the expansion of higher education after the Civil War, more women had become teachers, doctors,
librarians, and social workers. By 1920 a number had earned senior positions in libraries, colleges, school systems, and state and federal agencies.

The growing influence of women in the economy was reflected in changing societal values. Women led the movement for moral purity, to rid society of a double standard of sexual behavior for men and women. Reformers of both sexes worked to suppress vice so that society might progress towards perfection in morality as it had already progressed towards perfection in technology. These reformers aimed to educate men to develop the same restraints on sexual expression that women practised. During the 1880s moral reformers pressed for state laws to teach children of the dangers of alcohol, tobacco, and stimulants. When it became clear that self-restraint could not be enforced through education alone, reformers urged prohibition of liquor sales, another reform that was crowned with success in 1919 with the ratification of the 18th amendment to the Constitution.

In our study of 34 textbooks we found extensive evidence of the effectiveness of the reform laws in introducing information about liquor and other drugs into Physiology textbooks. Authors saw the threat of alcoholism and drug abuse as men's problems, endangering the well-being of their wives and families. Only one book, written by husband and wife physicians, spoke specifically of their
dangers to women as well as men. Another book, published in 1915 and written only for boys, dealt openly with the need for boys to develop sexual restraint, so that they might enter marriage as healthy as their spouses. It was the only book to mention the dangers of venereal diseases, although they posed at least as serious a social problem at the time as intemperance. With relation to women's place in the economy, we found women portrayed as unimportant in the world of work. The space allotted to them was small compared to their real importance in society.

Some male authors of Geography textbooks never once referred to a woman; work in all the countries they described was carried out by men alone. In some Geographies, particularly those published towards the end of the period, women were pictured in factories and on farms. However, only one book, a Physiology, told its readers that women could become doctors, architects or preachers. There was some suggestion in the textbooks written by men that women were losers: they gave incorrect answers; they sold their goods at a loss; their health was crippled by tight-lacing.

With relation to women's political aspirations, we expected to find fewer references to them than to other changes, since the suffrage movement reached its climax only in the second decade of the twentieth century, but we were surprised to discover only one reference to women in political life, and that to women's election to the post of school superintendent. Quite clearly there was a greater
consensus in society on the value of moral reform than on the value of women's right to equal participation with men in political affairs.

The textbooks we used for our study came from the Nietz Historical Textbook Collection, Hillman Library, University of Pittsburgh, and the Historical Textbook Collection at Montclair State College, Upper Montclair, N.J.

Geography Textbooks

A close analysis of Geography textbooks revealed that early in the period it was the female rather than the male authors who were prepared to write about the roles of women in society. By the end of the period, however, some male authors also were incorporating into their work illustrations of and comments about women.

For our sample we chose 20 textbooks, 13 of which were written by men, 7 by women. The earliest copyright in our sample was 1880 and the latest 1907. The men and women seemed equally qualified to write the books judging from the information given in the books themselves.

When we looked for direct statements about women we found a great disparity between textbooks written by men and those written by women. The texts written by men tended to be very heavily "man"-oriented and contained very few direct statements about women. M.F. Maury, whose Manual of Geography had been adopted by 60% of the states by 1875, in the 1880 edition of his work described political geography as "treating of the inhabitants of the earth" but he made only two fleeting references to women and
instead spoke of the races of Man, the industrial pursuits of man, the working man, etc. Perhaps the best evidence for the "man"-orientation appeared in the Eclectic Complete Geography (N.Y., Am.Bk.Co., 1896) which described the Caucasian race thus: "It has a fair complexion, an oval face with a high rounded forehead, a symmetrical figure, an ample beard and generally wavy hair varying in color," as though women as well as men had "an ample beard"!

But even in those Geographies written by men there was some evidence that changes were taking place in the position of women in society, especially with regard to education and professional opportunities. We found a brief but significant reference to women educators in Charles F. King's The Picturesque Geographical Readers, Book III: The Land we Live In (Boston, Lee & Shepard, 1892) when in answer to the question: "Are women ever elected to be school superintendents?" The teacher replied: "Yes. A woman has been superintendent of schools in Bangor, Maine and women quite frequently fill this position in the West." The reply did not elaborate on women's contributions as superintendents, but the fact that the question was even asked reflected a change in expectations about the work women could undertake; while the teacher's reply reinforced the idea that to be a school superintendent was as reasonable for a woman as for a man.
When we examined the Geography books written by women we found a much greater awareness of the presence of women in the world. Few male authors mentioned the roles of women; female authors described those of both sexes. A particularly clear example of the female authors' awareness of the importance of women to any discussion of Geography appeared in Frances O. Sparhawk's Miss West's Class in Geography where, in talking about New England, Miss West said:

"And let us begin with the people, who are they?"

"Englishmen," said Frank Blake.

"Right. Englishmen and English women," answered Miss West."

This very awareness reflected the change taking place in women's attitudes towards themselves and their place in society. Perhaps the best evidence for the increasing awareness of the variety of women's roles in society were changes in illustrations, whether drawings or photographs, used in textbooks. In the earlier books very few women appeared anywhere in the illustrations. Pictures showing the races of the world were always of men. All close-ups were pictures of men. Gradually more and more women appeared in the illustrations - women in the fields, women in factories, and even pictures of individual women. By 1895 in Alex Everett Frye's Primary Geography both boys and girls were used to illustrate the races of the world.
In this sample of twenty books we found some reflection of women's changing roles. While some authors (male) did not mention women at all, others, particularly the female authors, described the roles of women in other countries, and alluded to new opportunities for women in the United States to take their place beside men in the learned professions, as well as in the fields, on the farms, and in the factories. Only one book touched upon women's political aspirations, acknowledging that some women had been elected school superintendents. The role of women in reforming society's morals was obliquely referred to in several books. A popular belief of the time, namely that as a country became more civilized its womenfolk no longer undertook manual labor could be inferred in several sources from statements describing primitive societies as those "where women do all the hard manual labor." References to the changes in women's roles were made by male authors as well as females, but the female authors showed a greater awareness that women were a part of every society, and, at an earlier date and more clearly than males, they described the changes taking place in the United States.

**Physiology Textbooks**

Textbooks in Physiology and Hygiene reflected clearly some of the changes taking place in society's attitude towards the double standard of morality. State laws of the 1880s
resulted in a spate of new Physiology and hygiene textbooks incorporating information on the dangers of alcohol. Some authors gained the accolade of recommendation from the Women's Christian Temperance Union to assist the sales of their books. There was less emphasis in Physiology than in Geography textbooks on women's roles in economic life, and no reference was found to women's political aspirations.

We chose for our sample 11 textbooks, 9 written by men and 2 written jointly by a woman and a man. The earliest copyright in our sample was 1883, and the latest 1919. Authors tried to capture as broad an audience as possible for their books, designing them, for instance, primarily for high schools and normal schools, but adding a recommendation for their use in lower grades as well. One book was intended for use by boys only, and that was the sole book to include a discussion of sexuality.

Unlike the Geography textbooks, some of which invoked fictitious teachers and students to put across their information, most Physiologies were strictly factual. Two of them, however, were written as allegories, with the body described as a house, a curious house, indeed, with a kitchen (stomach and digestion), a dining room (small intestine), a laundry (lungs), but no bedroom (reproductive system), and no bathroom (excretory system). Authors of the period usually omitted any reference to either the reproductive or excretory systems in school textbooks of Physiology. As a result, such books, in
the period 1880 to 1920, ignored one of the most controversial topics of the period: the effect of intensive study upon the reproductive organs of women. Since so much medical opinion was antagonistic to women studying as men did, the reluctance of school textbook authors to discuss the reproductive system benefited those who supported the extension of women's education.

Several authors made general statements about the need to balance work and recreation, but only one, a woman, rebutted the claims in the medical literature that intensive study affected a girl's nervous system adversely.

Although most male authors agreed that exercise was as essential for women as for men, most merely advised walking and the exercise afforded by housework as sufficient for women. Dr. Albert F. Elaisdell was one man who urged women to develop greater muscular strength than was usual in their sex, and he advocated rowing as a suitable exercise. The doctors Shilson and Mary Allen were equally sure that trained muscles were as necessary for a girl as for a boy; however, they were more concerned than Elaisdell with the use women made of their strength, deciding that women, like men, should be trained for the practical arts. Their ideas on employment were radical: for adult women the Allens advocated economic equality with men; women could take up anything "from dressmaking to doctoring, from teaching to preaching." This was the most forthright support for the opportunities opening for women that we found in any textbook.
All the textbooks made some reference to the dangers of alcohol, tobacco, and other drugs. Usually their effects were described in relation to men and boys. The Allens, however, spoke specifically about the dangers of tobacco to women: "Girls in their youthful ignorance, and their natural love of safety, sometimes fancy that to smoke a cigarette is a harmless aping of masculine folly ... but Tobacco shows no partiality for sex."

All the books attempted to educate young people to avoid the evils of alcoholism and drugs, but one author, Harry H. Moore, also dealt overtly with the issue of a double standard of sexual behavior for men and women. Moore described in detail the dangers of venereal diseases, ascribing the responsibility for spreading such diseases solely to the female partners in promiscuous intercourse. Since cures for venereal diseases could not be relied on, the only course for a man who wished to protect his (future or present) wife and children was to abstain from promiscuous intercourse, however great the struggle. "This may be 'the biggest fight ever waged by man - a fight in secret - without applause,' a fight requiring self-control and will power, a determination not to yield till he can go joyfully and clean into marriage with one woman he is willing to wait for." All women, wrote Moore, should be treated as future mothers of the race and revered for their "self-sacrificing love". No man should so excite a girl sexually that she had to restrain her own sex.
impulses and his also, an interesting acknowledgement of
women's innate sex drives that most writers of the mid-
ineighteenth century had been at pains to deny.

Most of the pictures in physiology textbooks were not
sex specific, and the same drawings appeared in many books.
There were, however, several illustrations of the
skeleton of a female chest showing the bone malformation
caused by tight stays. One picture showed how the heart,
liver and stomach were pushed towards the small intestine.
One presumes these drawings were based upon anatomical
evidence, although no references are made to support their
validity.

In this sample of eleven textbooks we found some
definite evidence of the changing attitude of society
towards the double standard of morality. Both male and
female authors joined in deploring the effects of alcohol
and drugs, although only one book, written jointly by
husband and wife physicians, described equality of the
sexes in terms of women's equal temptation to sin as well
as their equal opportunity to work.

Arithmetic Textbooks

We have only begun our study of Arithmetic textbooks,
but in the three books we have analysed so far we have found
few references to the changes taking place in women's roles.
On the whole, women in the books were assigned traditional
roles, when they were assigned any roles at all. None of
the three books was written by a woman, and despite the fact
that these books were designed for girls as well as boys, they gave the impression that the world of work was rarely open to women. Two eighth year Arithmetics, William L. Felter's *One Thousand Problems and Exercises in Arithmetic* (Boston, 1919) and John O. Stone and James F. Millie's *Higher Arithmetic* (Chicago, 1917), contained between them 381 word problems dealing with human beings. Of those, only 11 referred to women in any way; one problem in Stone & Millie, 10 in Felter. Three of the eleven problems referring to women described transactions in which women were losers. One question ran: "After the wages in a factory had been cut down 10%, the girls received $8.64 per week. How much did they receive at first?" Since the daily rate for a male laborer was given elsewhere as $2.75 per day (excluding Sundays), his weekly wage would have been $16.50, almost double that of the unfortunate factory girls. Presumably the men in the factory also took a 10% cut in wages, but as they were not mentioned one was left with the impression that women's were the vulnerable wages. Lastly, of the 11 questions, only six showed women taking an active role in their lives. In the other five women were passive recipients of actions performed for them by men. The picture of women that emerges from these problems is one in which women received low wages, lost money if they dared enter the stock market, inherited money from fathers and husbands, and otherwise bought and sold in small quantities. No women travelled; no women bought houses;
no women took out life insurance policies. Men alone did these things.

It would be a mistake to infer that all arithmetic books ignored the changes taking place in women's lives. An 1895 arithmetic by Edward Brooks, for instance, had several references to women shareholders and one to a woman taking out a life insurance policy. However, as with the other two books, questions referring to women were few, and there appeared a tendency for questions to imply that women were unsuccessful— or, at least naive—in business transactions. (Lest one feel that women were the only people singled out for financial ineptness, Brooks also included, among the very few questions in which losses rather than gains had to be calculated, a Professor Allen who made a loss in selling his library!)  

Conclusion

Our study suggests that American textbook writers in the period 1880 to 1920 were slow to acknowledge the changes in society that affected the roles of women. They were unwilling to include material that reflected conflicts within society and we found only one reference to women's increasing political power. Women's struggle for the right to vote passed unnoticed in these textbooks. There was, however, greater awareness of women's increasing importance to the country's economic life, and to the changing moral code that aimed to abolish vice and the double standard of sexual behavior. In both geography and
Physiology textbooks it was female authors who expounded most clearly the new awareness of women's importance in society. By choosing to discuss each issue in its relation to women, these authors passed on an image of women's importance. Many of the male authors, by ignoring women's roles, unconsciously or consciously conveyed an image of women's insignificance. In particular, those who wrote Arithmetic textbooks as late as the second decade of the present century, seemed to ignore or demean women. It is interesting to speculate how far students may be influenced to like or dislike a subject by their inclusion or exclusion from its textbooks. Each individual belongs to many groups in his or her life, and one of the most crucial of these, in our society, has been one's sex group. Certainly there is a coincidence of female exclusion from American Arithmetic textbooks, and a lesser interest in Mathematics among American women than men. Finally, we did discover some evidence in Geography and Physiology textbooks that male authors who published later in the period included comments on the role of women more frequently than those who wrote at an earlier date, suggesting that women's active participation in the world of work was a less controversial subject in 1920 than it had been forty years earlier.
Notes:

1 Janet M. Hoeks, Women's Occupations through Seven Centuries, U.S. Women's Bureau, Bulletin 218 (Washington, D.C., 1947), 33-34.

2 Women's role in the purity movement is described in David J. Piver, Purity Crusade: Sexual Morality and Social Control, 1868-1900 (Newport, Conn., 1973). Piver deals specifically with attempts to abolish prostitution and to educate society to a new morality. The importance of women to the Temperance movement is well documented. J.C. Furnas puts it succinctly in The Life and Times of the Late Lemon Rum (London, 1965), 213, when he says: "Whatever the choice of weapon here or there, it remains true that had women failed to take a large hand in Temperance, we would probably never have embarked on national Prohibition."

3 Both collections contained many textbooks for the period, we should like particularly to thank Mrs. Margaret Zenk and Charles Aston at Hillman, and Miss Selma Harris at Montclair State College Library for their assistance in locating material.

4 We were not able to find any Geography books written or copyrighted later than 1907, probably because during the second decade of the twentieth century Geography became a part of the Social Studies curriculum. See, James T. Preston, "The significance of Geography in American Education," Journal of Geography 68 (1969): 478.


6 King, The Land We Live In, 9-10.

7 Sparhawk, Miss West's Class, 74.

8 The theory that differentiation of work roles was a concomitant of civilization, and that women in civilized societies did not have to undertake manual labor was well-established in anthropological literature of the nineteenth century. One of the most influential writers on the subject was Carl Vogt, whose Lectures on Man were first translated into English in 1864. According to Vogt: "The lower the state of culture, the more similar are the occupations of the two sexes. Among the Australians, the Bushmen, and other low races, possessing no fixed habitation, the wife partakes of all her husband's toils, and has, in addition, the care of the progeny. The sphere of occupation is the same for both..."
Notes continued.

8 sexes, whilst among the civilized nations, there is a division both in physical and mental labour." (Carl Vogt, Lectures on Man (James Hunt, ed.), (London, 1864), 82.) We found this theory reflected in the following Geography texts among others: Alex Everett Frye, Primary Geography (Boston, 1895), 56, 66; Eva X. J. Kellogg, The World and its People: Book VIII Australia and the Islands of the Sea (N.Y., 1898), 84; Mary Jane Smith, The World and its People: Book VI Life in Asia, 94.

9 John A. Nietz, Old Textbooks (Pittsburgh, 1961), 301-02, and 313-14, discusses the role of the W.C.T.U. in Physiology textbook changes.

10 Harry H. Moore, Keeping In Condition: A Handbook on Training for Older Boys (N.Y., 1919). This was one of two books we included that were designed as guides to physical fitness but dealt at some length with issues of Physiology and Hygiene.

11 Helen Barton, "A Study of the Development of Textbooks in Physiology and Hygiene in the United States," (ma. University of Pittsburgh doctoral dissertation, 1942), analyzed 62 textbooks published before 1900 and 19 textbooks published after that date. In the nineteenth century textbooks she found descriptions of the excretory system accounted for 0.87% of the total number of pages, and descriptions of the reproductive system, 0.31% (all of which were found in one book - none of the other 61 books mentioned the subject). (See: Barton, "A Study," 117.) In the twentieth century textbooks, Barton found that descriptions of the excretory system accounted for 1.15% of the total number of pages, and descriptions of the reproductive system 0.00%. In twentieth century textbooks, however, sex education, which did not appear in the previous century, accounted for 0.35% of the total number of pages. (Ibid, 119.) The textbooks written as allegories were: Chilion B. Allen & Mary A. Allen, The Man Wonderful in the House Beautiful (N.Y., 1888. Copyright, 1888), and J.H. Kellogg, First Book in Physiology and hygiene (N.Y., 1888. Copyright, 1887).

Notes continued.

12 (September, 1973): 332-356. The Association of Collegiate Alumnae's report, that collated evidence from 705 women graduates, included material on the health of these women while at school as well as at college. (See: Annie G. Howes, chairman, Health Statistics of Women College Graduates (Boston, 1885), 40 et seq.)


14 Ibid., 264.

15 Moore, Keeping in Condition, 61. The comments on prostitutes may be found on pages 38-39.

16 Felter, One Thousand Problems, 8. The laborer's wages were on p. 32, and the chauffeur's on p. 61.


18 This corroborates the findings of Elson for nineteenth century textbooks in general. (See: Ruth M. Miller Elson, Guardian of Tradition (Lincoln, 1964), 314.)