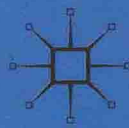


The New Science and Women's Literary Discourse

Prefiguring Frankenstein

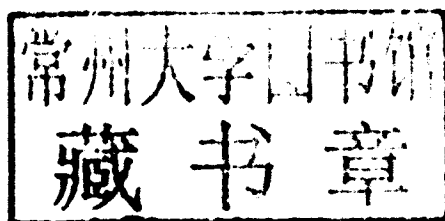


Edited by Judy A. Hayden

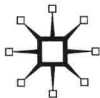


**The New Science and
Women's Literary Discourse**
Prefiguring *Frankenstein*

Edited by
Judy A. Hayden



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The New Science and Women's Literary Discourse

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INTRODUCTION

Women, Education, and the Margins of Science

JUDY A. HAYDEN

The fair sex can leave Descartes's vortices to whirl forever without troubling itself about them, even though the well-mannered Fontenelle wished to secure ladies a place amongst the planets. The attraction of their charms loses none of its force, even if they know nothing of what Algarotti has written for their benefit about Newton's theory of gravitational attraction.

—Kant, *Beobachtungen*¹

After the work of Francis Bacon in the early modern period and following the Restoration of the Stuart monarchy and the establishment of the Royal Society in England, the “New Science” assumed an exceptionally important focus in English literary discourse of the seventeenth and eighteenth centuries. As Richard Kroll has observed, “Changes in ideas about knowledge involved changes in ideas about language as a vehicle of knowledge.”² In his *History of the Royal Society*, Thomas Sprat argued that the aim of the new society was to correct the “excesses” of language, and to “return back to the primitive purity, and shortness, when men deliver’d so many things, almost in an equal number of words.”³ Excesses, digressions, and “swellings of style” would be rejected in favor of a plain and natural manner of discourse. “[O]f all the Studies of men, nothing may be sooner obtain’d, than this vicious abundance of *Phrase*, this trick of *Metaphors*, this volubility of *Tongue*, which makes so great a noise in the World” (112).

The repercussion of these ideas—although perhaps unintentional—was that this “native easiness” of the language of science offered accessibility to women. Maria Edgeworth (1767–1849) noted this change, observing that in the past “our books of science were full of unintelligible jargon, and mystery veiled pompous ignorance from public contempt; but now writers much offer their discoveries to the public in distinct terms; technical language no longer supplies the place of knowledge.”⁴

Nevertheless, to engage fully in the New Science necessitated the sort of understanding that accompanied a more detailed, masculine education. Women, who had long been denied the benefits of such learning, were curious about the explorations and discoveries that were reconfiguring societies' perceptions of their world. While a rigorous education may have been viewed as necessary for young men, since without it they would become effeminate and prone to unnatural vices,⁵ women's education was far less demanding and directed largely toward subjects such as music, dancing, household skills, and perhaps modern languages, which would fit them for their anticipated domestic roles. The quality and content of women's education, combined with the fact that scientific societies, such as the Royal Society, were constructed on collegiate models, like Oxford and Cambridge, seem to have "over-determined" women's exclusion from the New Philosophy.⁶ The purpose of female education was to construct "a virtuous, obedient, and pleasing wife, skilled in the ways of polite society and competent in domestic duties."⁷

While women's demands for a "masculine education" were no doubt alarming, they were also largely ignored. Although men may have feared that educating women would lead to arrogance and the usurpation of masculine privilege, women pointed out that the benefits of such an education would prove just the opposite. In fact, Margaret Cavendish, the Duchess of Newcastle (1623–73), claimed that men's neglect of women's education was the cause of their lack of prudence:

[T]hrough the careless neglects and despisements of the masculine sex to the female, thinking it impossible we should have either learning or understanding, wit or judgment, as if we had not rational souls as well as men . . . makes us quit all industry towards profitable knowledge, being employed only in low and petty employments, which take away not only our ability toward arts, but higher capacities in speculation, so as we are become like worms, that only live in the dull earth of ignorance, winding our selves sometimes out by the help of some refreshing rain of good education which seldom is given us, for we are kept like birds in cages, to hop up and down in our houses, not suffered to fly abroad . . . and wanting the experience of nature, we must needs want the understanding and knowledge, and so consequently prudence and invention of men . . .⁸

While one general concern of a too rigorous education was that it might exclude a young lady from the marriage market,⁹ a number of women suggested that, with a proper education, women would be happier, more virtuous, and less vain. Mary Wollstonecraft noted that given that women were "Confined in cages like the feathered race, they have nothing to do but plume themselves."¹⁰

Mary Astell (1666–1731) observed that men resented women tasting the "Tree of Knowledge," which for too long they "unjustly monopoliz'd,"

(83) but, she added, not only are “Women as capable of Learning as Men,”¹¹ but such an education would also raise women’s thoughts above the vanity of which they were so frequently accused. Daniel Defoe supported this argument, pointing out in *An Essay Upon Projects* (1697) that:

All the World are mistaken in their Practice about Women, for I cannot think that God Almighty ever made them so delicate, so glorious Creatures, and furnish’d them with such Charms, so Agreeable and Delightful to Mankind, with Souls capable of the same Accomplishments of Men, and all to be only Stewards of our houses, cooks, and slaves.¹²

And later in the eighteenth century Maria Edgeworth concurred, claiming that “[w]omen who have been well educated, far from despising domestic duties, will hold them in high respect; because they will see that the whole happiness of life is made up of... the punctual practice of those virtues which are more valuable than splendid.”¹³

The obstruction to women’s demands for education certainly troubled a number of intellectual and ambitious women, who desired to find fulfillment not only in learning but also in the communication of knowledge. In the “Introduction” to her collection of poems, Anne Kingsmill Finch, Countess of Winchilsea (1661–1720), asked:

How are we fal’n, fal’n by mistaken rules?
And Education’s, more than Nature’s fools,
Debarr’d from all improve-ments of the mind,
And to be dull, expected and designed;

Wistfully she observed that if but one woman “...wou’d Soar above the rest, / With warmer fancy, and ambition press’t,” then perhaps things might be better for all women. But for moment, Finch recognized, “So strong, th’ opposing faction still appears, / The hopes to thrive, can ne’re outweigh the fears, / Be caution’d then my Muse, and still retir’d.”¹⁴

Bathsua Makin (c.1660–c.1675), related to mathematician John Pell and a noted mathematician herself, took a different approach. She pointed out that women were already engaged in the sciences in their daily household routines, and since they accordingly demonstrated considerable intellectual ability, a further education, and particularly in the New Philosophy, would not change the status quo in the relationship between men and women. For her children to bless her and her husband to praise her, Makin claimed, a woman requires knowledge in Arts and Sciences.

To buy wooll and Flax, to die [*sic*] Scarlet and Purple, requires skill in Natural Philosophy. To consider a Field, the quantity and quality, requires knowledge in Geometry. To plant a vineyard, requires understanding in Husbandry: She could not govern so great a Family