They drew upon that science, however, in an apocalyptic, wildly romantic fashion.
—Robert Jay Lifton, *The Nazi Doctors*

In 1949 Robert B. Heilman published the essay “Hawthorne’s ‘The Birthmark’: Science as Religion.”¹ The year of the Soviet Union’s first successful test of an atomic bomb and four years after the United States’ use of atomic weapons against the Japanese, 1949 was a year inclined to provoke concern about the practice of science as religion. Heilman’s reading of Aylmer as a tragic overreacher who looks to science for “an ultimate account of reality” is a significant interpretation of the story’s most salient text.² But when Heilman asserts that science “has become religion not only for Aylmer but also for Georgiana,”³ he fails to credit the significant “absence” of the text: the plot and ideology of romance. Romance is Georgiana’s religion. It contributes to the metaphysical excesses of science as science contributes to the metaphysical excesses of romance. Combined, these two ideologies define the distribution of work in the story, the work of man and woman and of master and servant. The destructive effects of overreaching science and romance are evident in the work of the scientist Aylmer, his wife Georgiana, and his “earthly” assistant Aminadab. If Hawthorne’s narrator warns the reader about the excesses of science but not of romance, it may be because the domestic dangers of romance were too near the heart of the newlywed Hawthorne to be openly exposed when

¹Heilman’s essay was first printed in *South Atlantic Quarterly* (October 1949), 575-83; I use the reprint in *Nathaniel Hawthorne’s Tales*, ed. James McIntosh, Norton Critical Edition (New York: W. W. Norton, 1987), pp. 421-27.
³Heilman, p. 422.
he wrote “The Birthmark” in 1843.

Two late twentieth-century texts illuminate the ideologies of science and romance and their definitions of labor by gender and class: Brian Easlea’s *Fathering the Unthinkable: Masculinity, Scientists and the Nuclear Arms Race* and Rachel Brownstein’s *Becoming a Heroine: Reading About Women in Novels*. I will consider Easlea’s argument about science, gender, and labor and the relevance of his argument to Hawthorne’s story before turning to the imperatives of the romance plot and the relevance of Brownstein’s argument to “The Birthmark.”

Easlea’s thesis is that “modern science is basically a masculine endeavor” and that this

male behavior . . . is a consequence of an unsatisfactory sexual division of labor between men and women in both the “domestic” and “public” domains, in particular in the domestic domain of childbirth, baby and infant care and in the public domain of control over nature.4

Tracing the history of the philosophy of science from prescientific magic and alchemy to Francis Bacon, Rene Descartes, Sir Ernest Rutherford, the Manhattan Project and beyond, Easlea argues that scientists are motivated to conquer nature, consistently described by feminine metaphors, and that this history and these metaphors reveal man’s desire to create life (to transmute matter) without the help of women’s childbearing capacity. Easlea further asserts that in his zeal to succeed at this task, the competitive scientist isolates himself from society in general and domestic life in particular and, in so doing, loses his sense of the correct moral place of his achievements in society. To help explain his thesis, Easlea draws upon Mary Shelley’s *Frankenstein*; he might just as fruitfully have examined “The Birthmark.” Both authors’ imaginations were stirred by the transmutational possibility of the new discovery, electricity. Could it change matter into life, life into immortality? If so, what would the consequences be?

It is clear that Aylmer’s obsession with his science makes him unfit for human companionship,5 but what so motivates him to “correct . . . Nature”?6 His past, his beliefs, which are consistent with the history of science, and the behavior he exhibits in relation primarily to his wife but also to his assistant provide some insight into his motivations. Most of what Hawthorne reveals of Aylmer’s past Georgiana discovers in his folio, his record of failures to meet his own expectations. Between the discoveries of Aylmer’s youth, which “roused the admiration of all the learned

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societies in Europe” (208), and his determination to conquer the birthmark lie these accumulated failures of his middle years.

At some point, amidst these failures, Aylmer decided to wash the acid from his fingers and leave the lab to court Georgiana. Donohue vehemently argues that Aylmer left his lab because he needed a new source of experiment in the process of creation. His failures may also have provoked in him a need for domestic reassurance. Whatever his motivation, while courting Georgiana, Aylmer did not express the disgust he later expresses at the sight of the birthmark, for his revulsion surprises his bride. Zanger explains this shift in Aylmer’s behavior by reading the crimson hand as a symbol of menstrual blood, a courting secret but a marital reality.7 This is a very credible explanation, but another, less emblematic one is also possible: that in society—in Georgiana’s home with her mother and, it is implied, other suitors—Aylmer is not obsessed with correcting nature and creating perfection. Away from the isolation of his lab, Aylmer sees and seduces Georgiana in a social context in which he refrains from analyzing “physical details” or “aspir[ing] toward the infinite” (214) at least to a degree sufficient to win her as his bride. Such is the story of Aylmer’s past, preceding but contained in the plot of “The Birthmark.”

The placement of Aylmer’s type in the history of science is a more obvious feature of the plot. Easlea gives Francis Bacon a prominent place in this history as the initiator of modern science (and a practitioner of “scientific” gender metaphors). Bacon chastises pre-modern, Greek science as boyish, “too immature to breed.”8 He calls for mature men who will discover “still laid up in the womb of nature many secrets of excellent use.”9 Descartes adds to this cry for dominion the conviction that Nature is matter, mindless and lifeless, yet still metaphorically female.10 The male mind is then the only measure of existence: he thinks; therefore, he is. And science is, as Bacon put it, a “chaste and lawful marriage between Mind and Nature,” successfully consummated when it brings forth a “race of Heroes.”11

Aylmer’s goals and his metaphors are consistent with Bacon’s. Hawthorne’s narrator tells us on first introducing Aylmer that he loved this science which wished to “lay [its] hand on the secret of creative force,” to have “ultimate control over Nature” (203). The narrator concludes this passage with the significant remark: “His love for his young wife might prove the stronger of the two; but it could only be by intertwining itself with his love of science and uniting the strength of the latter to his own” (203). Aylmer does precisely this when he feels “fully competent,” indeed

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9Cited in Easlea, note 11 on p. 20.
10Easlea, pp. 22-23.
11Cited in Farrington, p. 131.
compelled, to “correct what Nature left imperfect” (207)—the birthmark—despite his own “unwilling recognition,” recorded in his folio, that Mother Nature “keeps her own secrets” and permits us to “mar,” perhaps to “mend,” but “on no account to make” (208). Once isolated in his lab, Aylmer leaves this truth far behind: he brings to Georgiana a vial of fragrance “capable of impregnating all the breezes” (212) without the help of a female. And of this paradoxical, poisonous elixir of immortality, he assures his wife: “Its virtuous potency is yet greater than its harmful one” (212). (Pierre Curie, though more modestly, said much the same of radiation.) Aylmer’s past experiments, his dream, every evidence tells him this experiment will be fatal for Georgiana, yet he proceeds. As she dies, he is recording details in his folio.

That she dies is nonetheless as much her own doing as his. Or, to be more precise, her death is the doing of her gender role as defined by romance. Before her marriage to Aylmer, Georgiana had a mother to protect her, lovers to court her, and other women—as the narrator tells it—to compete with. In this realm of romance, lovers made of Georgiana’s birthmark a fairy mythology. Flattered, Georgiana did not know that some, or at least Aylmer, would wish the birthmark away. It is no wonder that “soon after their marriage,” when Aylmer proposes removing the crimson hand, Georgiana is hurt and angered (204). Nothing in courtship has prepared her for this.

Georgiana is a heroine like those described by Brownstein in Becoming A Heroine. Her success is measured by her ability to attract suitors and, at the height of her beauty, to marry one. But at the point she succeeds, her story is over. It is, according to this code, better for Georgiana to die for love and perfect beauty, the rewards of a heroine, than to live beyond the romance plot—in marriage where her flaws are acknowledged.

Romance prepared Georgiana only for submission, even martyrdom, in marriage. So after several “seasons” (205), aware that Aylmer’s obsession has entered his dreams, Georgiana “voluntarily took up the subject” of removing the hand (206). She perceives her life to be a “burden” (207), “a sad possession” (217), “which [she] would fling down with joy” (207), a martyr’s ecstasy. True to the code of romantic heroines, she worships Aylmer even more after reading of his ambitions and failures, and she projects her romantic exultation onto him, imagining, “trembling . . . at his honorable love—so pure and lofty” (217). Just as he loves her because

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13In his Nobel Prize acceptance speech in 1903 (cited in Easlea, p. 46), Pierre Curie acknowledged that radiation could one day be used for mass destruction and wondered “whether it be to the advantage of humanity to know the secrets of nature, whether we be sufficiently mature to profit by them.” Yet he believed “humanity will obtain more good than evil from future discoveries.”

14See Gollin, Nathaniel Hawthorne and the Truth of Dreams, p. 113.

15Rachel M. Brownstein, Becoming a Heroine: Reading About Women in Novels (New York: Viking, 1982).
she is a willing subject and admiring audience (not the woman who “loves life for life’s sake” and thus whose interference Pierre Curie feared),¹⁵ she loves him because he is obsessed with his singular power of creation, which she imagines includes her—in fact, is she. They both imagine she is his creation. Neither his overreaching code of science nor her overreaching code of romance addresses the physical creation possible through sex.

Georgiana is neither a mythic spiritual guide¹⁶ nor a passive-aggressive manipulator;¹⁷ like Aylmer, she is a victim who participates in her own destruction. They are people of their class and time (or Hawthorne’s class and time). Domestic life no longer requires manual work of Georgiana’s class and gender; it provides only the power and danger of childbearing, for which neither his science nor her romance prepares them. Given this situation, the crimson hand may well be the symbol of menstruation, the womb, the frightening source of life, which its color has suggested to Zanger, Young and others. If Aylmer could eliminate his wife’s crimson mark of creation, then he would be the only one in the family with creative powers. He could then usurp Georgiana’s crimson sexuality and childbearing potential. In the code of science, she is passive Nature on whom the Mind of the scientist works. But in the code of romance she is also the passive bride to whom her husband’s destructive obsession seems pure and noble love.

Science and romance conspire to take from Georgiana her crimson mark, a red sign of her sex’s power. But an equally serious transgression is the attempt to remove the mark which is a hand, a tool of useful work. In the rarified atmosphere of the boudoir, the home that is dependent upon the man’s work,¹⁸ Georgiana is a kept and useless creature. At first she reads—though only to learn about Aylmer—but then, restless and bored, she enters the lab. There, however, she is perceived as a curse. Returned to the boudoir, she nevertheless thinks only of her husband’s great love. When he brings her the fatal vial, she drinks, eagerly, sleeps and dies. She fulfills the role of the perfect romantic heroine.

When Aylmer brings her the draught, she says to him:

... I might wish to put off this birthmark of mortality by relinquishing mortality itself in preference to any other mode. Life is but a sad possession to those who have attained precisely the degree of moral advancement at which I stand. ... Were I stronger, it might be endured hopefully. But, being what I find myself, methinks I am of all mortals the most fit to die. (217)

¹⁵Easlea (p. 45) quotes Curie’s diary from Marie Curie’s biography Pierre Curie (1923; rpt. New York: Dover, 1963, p. 36).
This sad statement is true within the code Georgiana lives by—except for her use of the word “moral.” It is the degree of social advancement, gender confinement, which impedes her progress in life, as a woman and as a worker.

A worker permitted to use his hands, Aminadab, is nonetheless also confined. Ironically, his confinement in the public labor class is what has allowed Georgiana to be trapped in purposeless leisure. The industrial worker who carries out what the mind of management would have him do, Aminadab is also the “invisible” servant privy to marriage’s intimacies, about which he has opinions that carry no weight. His past is unknown: some critics suggest he was made by Aylmer as Frankenstein made the monster. Whether or not Aylmer literally made Aminadab, it seems clear he perceives Aminadab as a mindless machine, a worker who, like Georgiana, would have no purpose if Aylmer himself did not give him one.

When Aminadab first appears in the story by name, he is asked to enter the boudoir and “burn a pastille” (209). Though Georgiana lies unconscious in her quarters, Aylmer shows no self-consciousness about asking another man to enter the room. It is understandable that Aminadab would look at the supine and beautiful woman and “mutter to himself, ‘If she were my wife, I’d never part with that birthmark’ ” (209). His opinion does not necessarily demonstrate Aminadab’s moral superiority to Aylmer. Rather it seems an obvious sexual and wishful statement by a man to whom such ladies are not available. In addition, to a grimy, shaggy man accustomed to poor women equally shabby, Aylmer’s obsession with a small birthmark may well seem a silly, upper-class affectation.

Nevertheless Aminadab goes along with the work, not only because it is the work he is given, but also because, even if he did protest, he could not save two willing victims. Indeed, he seems little inclined to save anyone. He acquiesces to the situation, deriving his only pleasure from Aylmer’s failure. Apparently, he is the same assistant who had witnessed other experiments and failures; then, as now, he may well have laughed because the mighty had fallen. For the same hoarse chuckle that Aylmer perceives as delight at his success is heard again after Georgiana dies. The narrator interprets this final laugh as the “triumph” of what is “gross” and “earthly” (220), but there is very little triumph for one whose only success is in his employer’s failure.

The extreme division of labor by gender and by class serves none of the characters. In fact, the ideologies and “advances” of science and romance, and their divisions of labor by gender and class, together defeat all of the characters. And yet at some point in the story, each character actually “succeeds” according to the code he or she lives by. Aylmer’s scientific Mind controls Georgiana’s passive Nature. Georgiana dies a martyr to

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19For a balanced overview of opinions about Aminadab, his character and his name, see John O. Rees, “Aminadab in ‘The Birthmark,’ ” Names, 28 (September 1980), 171-82.
romance. Even Aminadab has his moment, the last laugh. The narrator, however, does not acknowledge these separate ideologies as such. The narrator, who both appreciates and condemns the scientists’ ambition, does not note how science intertwines with romance (thus dividing labor) and produces not tragedy—as Heilman describes the plot—but ironic failure.

“The Birthmark” has been described as an “indictment of modern science,” but the text and modern life both acknowledge the extraordinary achievements of science. Science is not unequivocally evil; it is, however, dangerous in isolation from human society’s other influences, including sexuality, work of all kinds, and familial relations. It is dangerous in the speed with which it progresses, an incredible pace far outrunning the cumbersome gait of social and moral change. And it is dangerous when the study of minute details becomes a system of belief, as it is for Aylmer. He says to Georgiana that her birthmark can be removed because it is a “trifle” compared to this or that achievement of “deep science,” just as in this century we say that the removal of all pollution or the obsolescence of nuclear weapons is, if not a trifle, at least a possibility, because “we put a man on the moon.” But as Aylmer once knew, creation, let alone resurrection, is not the business of isolated science. These tasks require considerable human cooperation.

Aylmer, however, does not want to cooperate by seeing his science as one study among many: his science must also be philosophy and religion. The narrator explains: “He handled physical details as if there were nothing beyond them; yet spiritualized them all and redeemed himself from materialism by his strong and eager aspiration towards the infinite” (214). Aylmer makes infinity of his empirical observations rather than accepting how far beyond his own mind knowledge and infinity extend. The irony of his eschewing the very physical details that his scientific work requires presents Aylmer as a hapless descendent of Franklin and Emerson or of the Puritans, those material survivors and spiritual autocrats. The inherited contradiction of materialism and spiritualism produces in Aylmer a belief in the oxymoron, science deity. In this century the result of mistaking the physical for the metaphysical may be seen in the belief that a nuclear holocaust would be the Armageddon that God had in mind.

But it is not science alone which can be dangerous; romance can also be a code of belief which turns against life, preferring perfection in annihilation to the birthmarks and shaggy characters of life. Georgiana, the romantic heroine, succeeds not only in dying perfect but in having the opportunity to say so: “You [Aylmer] have rejected the best the earth could offer” (219). In this position of romantic power, perverse though it be, she can pity him. “My poor Aylmer” (219). Her soul then takes a “heavenward
flight” (220), and he is left with another failure to add to his folio. Thus, with help from a science pursuing the secret of transmutation, the romantic heroine escapes the imperfections and dangers of life. In our century, in which real transmutation is possible—matter into energy—science together with romance has given us the opportunity to imagine, to desire, a more perfect annihilation: extinction. This would remove all the world’s flaws. Robert Lifton argues that modern humanity is fascinated in this way by the bomb, a product of science whose power approaches the infinite.

As ideologies, science and romance can both be particularly dangerous because they offer the highly coveted reward of immortality to their believers. Through children, works of the imagination, the continuation of nature, or spiritual attainment, every individual seeks if not the promise at least the hope of immortality. But that hope too easily becomes conviction. Science promises immortality in exchange for a unique discovery, sometimes regardless of the cost to life. Easlea, in fact, argues that one of the primary motivations of research scientists is the desire to announce a history-making breakthrough. Just so, Aylmer pushes ahead despite the warnings of his past experience and troubled dreams. He records the details of his work—to be discovered if not in his generation, then in the next. Romance, on the other hand, promises immortality (and moral superiority) through transcendence of (one could say, desertion of) life. Just so, Georgiana rather quickly acquiesces to life-threatening experiments to prove her love (as well as her husband’s love of her) and sacrifices her life to teach a lesson her lover may well not have learned. Separated from the physical labor and sexuality that Aminadab’s earthly form embodies, Aylmer and Georgiana try to leap painlessly beyond the modest possibilities for immortality which are to be found in work or in the conception, birth, and rearing of children.

The narrator’s final comment on eternity would suggest that he draws rather different conclusions. Judging Aylmer’s ideology but not Georgiana’s, he asserts, “The momentary circumstance was too strong for him; he failed to look beyond the shadowy scope of time, and, living once for all in eternity, to find the perfect future in the present” (220). But if I consider all of the overt and covert beliefs that rule the text, this moral is not very clear. In fact, Aylmer was living in history, recording his findings, knowing what discoveries came before him and imagining what would follow. Unfortunately, he could too well imagine his unforgettable place in that history. He could have lived in an “eternity,” a “perfect future” which is “present,” only if he had lived by Georgiana’s romantic code. Only by arresting history, a function of romance, can a perfect future seem to be

22Lifton, pp. 64-65.
23Easlea, pp. 49-58.
lived in the present. And yet to maintain such a present—which after all is subject to time and imperfection—the only thing one can do is die.

Marriage, beyond the romantic’s plot, outside the scientist’s lab is not a perfect future, though in 1843 Hawthorne, like most newlyweds, may have wished it so. It is a social institution subject to gender codes which sexually divide labor in order to propagate the myths of romance, science, and class division, and quite a few others that modest seeking will uncover.