C. R. Resetarits, "Experiments in Sex, Science, Gender, and Genre: Hawthorne's 'Dr. Heidegger's Experiment,' 'The Birthmark,' and 'Rappaccini's Daughter'." *Literary Imagination* 14.2 (2012): 178-193.

In this rich and illuminating article, C. R. Resetarits considers three short stories by Nathaniel Hawthorne in light of Hugo Gernsback's concept of "scientifiction." The term refers to proto-science fiction: stories which meld romance, prophesy, and scientific fact. Resetarits fills a gap in Hawthorne studies by considering, in one discussion, the tales' dysfunctional male-female amorous relationships alongside their "scientifiction" and "sexual dynamics" (178-79). Resetarits draws two key conclusions: Firstly, that Hawthorne sees interactions between male characters as ultimately more important than those between men and women; secondly, that Hawthorne extends his discussion of "issues of sexuality and science" to include "power" (192). Resetarits draws on David Leverenz's work, stating: "These power struggles exist not only between genders but also within a male dynamic that Leverenz labels the 'ideology of manhood'" (192).

Resetarits's nuanced readings of each short story are as stimulating as the article's over-arching conclusions about Hawthorne's fiction. For Resetarits, in "Dr. Heidegger's Experiment" (1837), the author employs gothic and science imagery to show "that the real sexual play" in the tale is between Dr. Heidegger and his deceased bride rather than between the widow and the doctor's three male guests as is usually stated (182). Resetarits adds: "Hawthorne takes the gothic interest in necromancy and alchemy and gives it new life through 'scientifiction,' allowing scientific doubt and the anti-Faustian character of Dr. Heidegger [...] to breath [sic] new life into a very ancient idea" (182). In the analysis of "The Birthmark" (1843), Resetarits asserts that the scientist, Aylmer, is driven to remove his wife Georgiana's defect not just by "revulsion," as has been suggested, but by sexual attraction: "In Georgiana he [Aylmer] has the perfect project, one that offers him the look of science and the feel of sex" (186). The focus of the tale, however, is the "state of mutual dependence and competitive individualism" that exists between Aylmer and his male scientific sidekick Aminadab (190). Should Georgiana not have died when the birthmark was removed "there might not have been a place for her in Aylmer's competitive and perfecting (progress at all costs) world" (190). Resetarits speculates "that, unless Avlmer and Aminadab can create their own progeny in the lab, their world of science is not sustainable" (190). Similarly, while in "Rappaccini's Daughter" (1844) there exists the gothic feature of "three men rivaling for the love of a beautiful young woman" (190), Resetarits notes that Hawthorne's "genre-straddling gothic or science fiction [...] makes the rivals more interested in the science than the person of Beatrice" (190). Moreover, the anxiety expressed by the main protagonist, Giovanni, is more expressive, Resetarits argues, of his desire for status within the male scientific community, than "his normal, young male attraction to a beautiful woman" (191). In this story, the critic states, "Hawthorne finally makes the bifurcation (of science or intellectual passion and sexuality or physical passion) explicit" (191). Further, Beatrice's father Rappaccini's "experiment[s]" on his daughter make her poisonous and prevent her from mixing with other men until he sees fit (192). For the critic, Giovanni's contamination by Beatrice and his consequent assumption of her role as isolated prisoner in Rappaccini's garden make him "Rappaccini's next creature or creation" (192). According to Resetarits, the fact that Giovanni both takes the place of a woman who is manipulated by a man and retains his 'male' scientific credibility makes his gender indeterminate. This indeterminacy, the critic suggests, also applies to the genre of Hawthorne's stories which combine the gothic, romance, prophesy, and science.

The article makes significant contributions to both Hawthorne studies and the field of literature and science, most notably perhaps by illuminating the origins of what we now call science fiction, and showing how Hawthorne anticipates many of the genre's preoccupations, for instance those of "time, immortality," notions of a "perfect future in the present," and "the pursuit of 'new and improved' genders, creations, procreations, ways of knowing, and the power games that accompany such displays of power" (188, 192). Resetarits's research could be further developed through greater examination of the feminist sexual-political implications of malefemale interactions in Hawthorne's proto-science fiction, and through an expanded analysis of the narrators' commentary. In the final lines of "The Birthmark," for example, the implication is that men can achieve a heavenly state of happiness in their earthly life by embracing what we might interpret as women's "fallen nature," an idea which needs to be analysed along feminist lines. One might ask why the narrator deems the notion of women's "badness" necessary to men's contentment. The former perhaps sees "fallen" women as enabling men to feel comforted by a sense of moral superiority to their female counterparts. Consideration of this issue would fruitfully extend Resetarits's scholarly, sophisticated and powerfully persuasive argument.

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