Toys and Tools in Pink
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Notes

Chapter 1


2. Spelke and Grace, "Sex, Math, and Science"; Summers, "Remarks at NBER Conference."


4. "Women and Science."

5. Songe-Möller, Philosophy without Women, 10.


7. Ferguson, A Companion to Greek Tragedy, 111–23.


9. Some material in this section is adapted from Colatrella, "Science, Technology, and Literature."

10. Pollack, "Scientists Seek a New Movie Role." Also see Frayling, Mad, Bad, and Dangerous, for a survey of film images of scientists.

11. Fontenelle, Conversations on the Plurality of Worlds, advertisement blurb.

12. Mellor, Mary Shelley.


15. See Joyrich, Re-Viewing Reception; Dow, Prime-Time Feminism; Donawerth, Frankenstein's Daughters; Telotte, Replications; Attebury, Decoding Gender in Science Fiction; and Yaszek, Galactic Suburbia; Sobchak, Screening Space.

16. Both literal and metaphorical uses of the word "stereotype" refer to processes
regarded as progressive for profit-making businesses because they minimize individual variations while maximizing productive output. See Colatrella, “The American Experiment in Criminal Justice and Its European Observers.”


18. Lubinski and Benbow, “Sex Differences in Personal Attributes for the Development of Scientific Expertise,” note greater variation in IQ between boys and girls, citing a Scottish IQ study that shows inverse bell curves for boys and girls. Hines, “Do Sex Differences in Cognition Cause the Shortage of Women in Science?,” asserts that “sex differences in cognitive abilities have not been clearly linked to either organizational or activation effects of hormones” (109). Hyde, “Women in Science,” reports gender differences in problem-solving ability. Also see Committee on Science, Engineering, and Public Policy, Beyond Bias and Barriers, 6.

19. According to COSEPUP’s Beyond Bias and Barriers, “Studies of brain structure and function, of hormonal modulation of performance, of human cognitive development, and of human evolution provide no significant evidence for biological differences between men and women in performing science and mathematics that can account for the lower representation of women in these fields. The dramatic increase in the number of women science and engineering PhDs over the last 30 years clearly refutes long-standing myths that women innately or inherently lack the qualities needed for success; obviously, no changes in innate abilities could occur in so short a time” (25).

20. Belkin, “Diversity Isn’t Rocket Science, Is It?” Other references to Hewlett’s study in the paragraph are also from this article.


22. Rosser, Fox, and Colatrella, “Developing Women’s Studies.”

23. Colatrella, “Feminist Narratives of Science and Technology.”

24. Reports include Kitzinger et al., Gender Stereotypes and Expertise in the Press; Haran et al., Screening Women in SET; Boyce and Kitzinger, Promoting Women in the Media; and Whitelegg et al. (In)visible Witnesses. Online versions of these reports appear at http://www.ukrc4setwomen.org/. Accessed October 29, 2009.

25. Kitzinger et al., Role Models in the Media.


27. Kitzinger et al., Role Models in the Media, 21–22.

28. Dawson, Soldier Heroes, 48. See Pease, “Leslie Fiedler, the Rosenberg Trial, and the Formulation of an American Canon,” 156: “By a Cultural Imaginary I mean, following Cornelius Castoriadis, to designate a realm wherein abide not the images of already existing social materials but the ‘undetermined abstract materiality of society itself.’ In relation to the Cultural Imaginary the things, objects, and individuals that society brings into existence can be said to be themselves only insofar as they are held to be self-evidently true, hence beyond debate.”

29. Peril, Pink Think.


31. The book is Evans’s She Wins, You Win. This anecdote was told during her speech at the Georgia Association for Women in Higher Education Conference, February 2004.

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34. “Mattel Dolls Up PCs with Barbie.”
36. Johnson and Learned, Don’t Think Pink.
38. I thank Svend-Erik Larsen and Trina Moenstad for guiding my tour of Legoland operations and their interviews with me in Billund, Denmark, on October 4, 2000. I am also grateful to Karin Sorenson who arranged for me to meet these Lego employees and to Kirsten Gomard, who initiated these contacts for me.
40. Dean Kamen (inventor of the Segway) sponsors FIRST LEGO League (FLL), a robotics competition in the United States, which is targeted at encouraging schoolchildren to persist in studying science and technology. FLL has grown exponentially, but there are disproportionately low numbers of girls involved, although many students are interested in Legos. See FIRST LEGO League.
41. Schwartz, “Turning to Tie-Ins, Lego Thinks beyond the Brick.”
42. I thank students in LCC3304: Science, Technology and Gender, Georgia Tech, fall 2001 and fall 2007, for sharing their comments about these products.
43. Similar scenarios with young children are enacted daily in schools and playgrounds. See Corinne Schiff, “Metropolitan Diary.”
44. Buchanan and Peskowitz, The Daring Book for Girls; Iggulden and Iggulden, The Dangerous Book for Boys.
45. McKellar, Math Doesn’t Suck; Inouye, Fly Girls.
46. Oldenziel, “Man the Maker, Woman the Consumer,” 144.
47. Merchant, The Death of Nature.
49. Rossiter, Women Scientists in America.
50. Keller, A Feeling for the Organism; Russett, Sexual Science.
51. Ehrenreich and English, For Her Own Good.
53. Wajcman, Feminism Confronts Technology and Technofeminisms.
54. Martin, “The Culture of the Telephone.”
55. Scharff, “Femininity and the Electric Car.”
56. Cowan, More Work for Mother; Cockburn and Ormrod, Gender and Technology in the Making.
57. Horowitz, ed., Boys and Their Toys?
58. These issues are salient for women in fields with long working hours and significant managerial responsibilities—positions that require education and the need to collaborate and that pressure employees to be productive, that is, positions such as those in academic science and engineering.
59. OECD, Public Understanding of Science in the OECD Member Countries.
60. Allum et al., “Science Knowledge and Attitudes across Cultures: A Meta-Analysis.”
61. Turner, “School Science and Its Controversies, or Whatever Happened to Scientific Literacy?”
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64. Tierney, “Tierney Lab: Male Bias or Female Choice.”

67. Efforts to recruit and retain more girls and women in science, mathematics, engineering, and technical disciplines have preoccupied many researchers in the United States and Europe in the decades since Title IX was enacted in 1972. See Stewart et al., eds., Transforming Science and Engineering, which describes initiatives developed by ADVANCE programs in U.S. universities.
68. Hanson, Swimming against the Tide, 1.
69. Figure C-1 in National Science Foundation, Women, Minorities, and Persons with Disabilities.
70. Figure D-1 in National Science Foundation, Women, Minorities, and Persons with Disabilities.
71. These NSF figures are cited in Belkin, “Diversity Isn’t Rocket Science, Is It?”
73. American Association of University Professors, AAUP Gender Equity Indicators; Handelsman et al., “More Women in Science.”
74. The Virginia Tech ADVANCE newsletter cites ASEE’s national percentage of women faculty in engineering as 11.3 percent in 2006, putting the percentage of VT female faculty in engineering at 12.5, with MIT’s and Georgia Tech’s percentages higher; see “ADVANCING Women at VT.”
75. Sommers, “Why Can’t a Woman Be More like a Man?”
76. Nelkin, Selling Science, 19.
77. LaFollette, “Eyes on the Stars,” 262.
78. For example, see Dean, “Women in Science.”
81. Dalle Vacche, Diva, 2.
83. Science and technology have historically been envisioned in literature and film as mostly male domains, although often symbolized by feminine figures. See Schiebinger, The Mind Has No Sex, 122; and Browner, Profound Science and Elegant Literature, 139.
84. Design News Staff, Engineers Making a Difference; Smallwood, “As Seen on TV,” A8; and Bollag, “Award-Winning Teaching.”
85. See Smallwood, “As Seen on TV.” Kim Loudermilk pointed out to me how some popular television shows such as The X-Files (initially broadcast in 1993) and Buffy the Vampire Slayer (based on a 1992 film and initially broadcast in 1997) depict female characters who
mix rational understanding of science with supernatural beliefs or even powers, particularly Buffy’s best friend Willow, who is both computer wizard and witch, and medical doctor Dana Sculley of The X-Files.

86. Cunningham et al., “Gender Representation in the NCAA News.”
89. Steinke and Long, “A Lab of Her Own?,” 91.
90. Culler, Structuralist Poetics, 137.
91. Rabinowitz, Before Reading, 53. Mackey, “At Play on the Borders of the Diegetic,” 619, offers a useful summary of Rabinowitz’s rules: “Rules of notice help readers decide what they will pay attention to and how they will distinguish between figure and ground. Rules of signification help readers decide how to attend to what they notice: whether a narrator is reliable, for example; whether readers should assume that the physical or social norms of contemporary life apply to the actions of the story; and so forth. Rules of configuration help readers to assemble the different elements of the story to make an overall pattern. Rules of coherence, applied after the reading is concluded, are used to help the reader make the best possible sense of the text. Gaps, for example, may be reinterpreted as significant ellipses and metaphorical explanations may be invoked to establish thematic interpretations.”
92. See Phelan, Reading People, Reading Plots, 2–3: “mimetic” aspects of characterizations referencing science and technology have corollaries in specific people who study and practice in these domains. “Synthetic” and “thematic” components of character should not be overlooked, for artificial and representative aspects of character in the narratives under discussion also convey how males and females engage with science and technology in gendered ways.
93. Valian, Why So Slow?
94. Brooks, Reading for the Plot, 10. On the influence of narrator on reader, see Zunshine, Why We Read Fiction, 76.
95. Warner, From the Beast to the Blonde, 238–39.
96. Faludi, Backlash, chapters 5 and 6, respectively: “Fatal and Fetal Visions: The Backlash in the Movies” and “Teen Angels and Unwed Witches: The Backlash on TV.”
97. See Douglas, Where the Girls Are, for an analysis of 1960s and 70s American television shows; and Watson, “From My Little Margie to Murphy Brown.” Canadian guidelines are considered in Trimble, “Coming Soon to a Station Near You?,” 326.
100. Revkin, “Filmmaker Employs the Arts to Promote Sciences.” Also see Perkowitz, Hollywood Science.
101. Haynes, From Faust to Strangelove.
102. Haynes, “From Alchemy to Artificial Intelligence,” 244.
103. Shepherd-Barr, Science on Stage, 205.
104. Macdonald, Representing Women.
105. Flicker, “Representation of Women Scientists in Feature Films,” sees six types of female scientists in films—“old maid,” “male woman,” “naïve expert,” “evil plotter,” “daughter or assistant,” and “lonely heroine.”
106. Gender differences are also apparent in the reactions of viewers to genres, according
to Oliver et al., “The Impact of Sex and Gender Role Self-Perception.”

107. See Colatrella, Literature and Moral Reform, for consideration of nineteenth-century theories of reading.

108. Kenschaft, “Just a Spoonful of Sugar?,” explains Disney’s reconfiguration of Mary Poppins as a story warning upper-class parents about being too committed to work and activism. The lower-class chimney sweep and nanny inspire Mr. and Mrs. Banks to be more involved and responsible parents. Kenschaft notes that her own mother justified her choice “to interrupt graduate work for six years to become a full-time mother” after seeing Mrs. Banks’s exemplary giving up of suffragette activity for her children’s sake, while “another professional woman . . . thought the movie’s portrayal of Mary Poppins’ and Bert’s beneficial relationship with Jane and Michael supported her choice to pay another person to nurture her children during the workweek while she pursued her career.”

109. Paul Newman was shocked that audiences admired Hud—a selfish, suspicious, conniving young man who is eager to get his hands on his ethical father’s legacy and who abuses everyone around him. Apparently the actor’s charisma and attractiveness caused audiences to see past the character’s moral failings. See Lyman, “Film: No Goons in Spats, No Rat-a-Tat Dialogue.”

110. Rabinowitz, Before Reading, 9.

111. Clough, Feminist Thought, 5.


113. See Douglas, Where the Girls Are, chapter 6, “Genies and Witches,” for an analysis of how supernatural abilities affect the characterizations of Jeannie and Samantha on I Dream of Jeannie and Bewitched.

114. Felski, Beyond Feminist Aesthetics, cautions against privileging the aesthetic over the pop culture product.

115. Hawthorne, Selected Tales and Sketches.


Chapter 2


2. Wylie and Nelson, “Coming to Terms with the Values of Science,” 59.


4. For a discussion of maternity in Mary Shelley’s life and work, see Mellor, Mary Shelley.


6. The film Frankenstein Unbound (Dir. Roger Corman, 1990), based on Brian Aldiss’s novel, also explores the analogies of big science with Frankenstein’s project.

7. Hawthorne, “The Birthmark,” Selected Tales and Sketches, 259. All quotations from the story included here are from this text.


9. Ibid., especially chapter 7, “Dominion over Nature.”


12. See Eagleton, *Literary Theory: An Introduction*, 12. The quoted text is preceded by the following: “The fact that we always interpret literary works to some extent in the light of our own concerns—indeed that in one sense of ‘our own concerns’ we are incapable of doing anything else—might be one reason why certain works of literature seem to retain their value across the centuries. It may be, of course, that we still share many preoccupations with the work itself; but it may also be that people have not actually been valuing the ‘same’ work at all, even though they may think they have. ‘Our’ Homer is not identical with the Homer of the Middle Ages, nor ‘our’ Shakespeare with that of his contemporaries; it is rather that different historical periods have constructed a ‘different’ Homer and Shakespeare for their own purposes, and found in these texts elements to value or devalue, though not necessarily the same ones.”


14. My thinking about the Council’s reading of Hawthorne’s story has been shaped by Susan Squier’s talks on related subjects at various meetings of the Society for Literature, Science, and the Arts and by informal discussions with her.


18. Child, *The Children of Mount Ida and Other Stories*, 205. All further references to the story are from this text.


22. Tannen, *You Just Don’t Understand*.

23. My discussion here about Melville’s short fictions is adapted from my argument in *Literature and Moral Reform*, 68–73.

24. For example, see Kellner’s “Slaves and Shrews.”

25. For more information about Melville’s marriage, see the special issue “The New Melville,” especially Elizabeth Renker, “Herman Melville, Wife Beating, and the Written Page,” and Scott Heller, “The ‘New’ Melville,” both of whom work to identify a “New Melville,” one who “was a tyrant at home” and who is presumed to have “beat his wife.” As I note in *Literature and Moral Reform* (264–65), my reading of Elizabeth Shaw Melville’s letters to the Shaw family convinced me that her great admiration and respect for her husband outweighed fears she had about his doing harm to himself or others.

26. Quotations from this story and the others by Melville discussed in this chapter are taken from Melville, *The Piazza Tales and Other Prose Pieces*.

27. As Bickley, *The Method of Melville’s Short Fiction*, 48, notes, “Jimmy was vain and artificial, but Ford could not let himself admit it.”

28. The wife generally displays patient forebearance of her husband: “Now, husband,” said my wife, “I am convinced that, whatever it is that causes this ticking, neither the ticking nor the table can hurt us; for we are all good Christians, I hope. I am determined to find out the cause of it, too, which time and patience will bring to light. I shall breakfast on no other table but this, so long as we live in this house. So, sit down, now that all things are ready.
again, and let us quietly breakfast” (386–87).

29. See Karcher’s consideration of “The Apple-Tree Table” as a satire on supernatural explanations of spiritualism mocking orthodox Christian approaches (“Philanthropy and the Occult in the Fiction of Hawthorne, Brownson, and Melville”).


31. Naslund, Ahab’s Wife, or The Star-Gazer, 380. All quotations are from this text.

32. There are literary antecedents in other works by Melville for some challenges Una faces: cannibalism is a preoccupation in Typee and Omoo; desertion is a theme in these novels, in “The Encantadas,” and in the Agatha story that Melville sent to Hawthorne after hearing it from John Clifford. Melville writes about a parent’s reaction to the death of a child in Redburn and Israel Potter. Naslund’s novel emulates the form of Moby-Dick by beginning with “Extracts,” which cites quotations from Moby-Dick and texts contemporary with it. There is also a Melvillean tone in certain episodes: Una’s water breaks in her second pregnancy while she is at the shore; she lets the waters mix (502). Interlaced with Una’s tale are Starbuck’s and Ahab’s meditations, with Starbuck commenting on her unfortunate marriage to Kit (284ff).


34. Robertson-Lorant, Melville, 604.


37. My details and phrasing are drawn from Kohlstedt’s essay.

38. Una’s turning away from her mother and aunt, and her friend Susan’s refusal to leave her mother in slavery; provide points of contact with Stowe’s Uncle Tom’s Cabin and Frances Ellen Watkins Harper’s Iola Leroy.

39. Instead of regarding Una as unusual for running away to sea and for marrying Ahab, readers view her as a more moderate version of reformers like Mitchell and Fuller, and her story becomes more authentic in that it stays within the historical compass allowed them.

40. See Norling, Captain Ahab Had a Wife, and Blum, The View from the Masthead, for consideration of whaling as work.

41. Barlowe, The Scarlet Mob of Scribblers, writes, “Women’s scholarship must continue to destabilize and disrupt body(ies) of scholarship so that it presses us all to examine academic and cultural assumptions and practices that objectify, exclude, or nominalize the Other” (123).

42. See Naslund’s claim that her novel is an “epic story of an American woman,” revealed in Allen. Iyer’s and Urquhart’s reviews are excerpted at The Women’s Press (www.the-womens-press.com). For other references to epic qualities, see review of the novel by Adam Dunn.

43. Kirn, “Call Me Mrs.”

44. Cohan and Shires, Telling Stories, 79–80. See also pages 78–79: “Although romance is not fixed but, in fact, has changed in response to different historical situations, we can none-
theless offer some generalizations about this genre. Its structure paradigmatically stresses marriage and aligns that event to the story’s closure in order to define a woman’s social choices as personal choices (i.e. love). This transformation keeps her in the domestic sphere of the home, the site of familial relationships. Through the generic traits of the female character in terms of integrity, emotionality, and insecurity, the domestic sphere establishes a contrast to the public space of money and property dominated by fathers and husbands. The typical traits of the male character in terms of arrogance, dominance, emotional distance, and social position reinforces this homologous oppo-/sition of public (his)/private (hers) and economic power (his)/emotional knowledge (hers).”

45. In chapter 4 of Literature and Moral Reform, I consider the heterogenous style of Moby-Dick.

Chapter 3

1. Shields, 10.
3. Showalter, The Female Malady, surveys madness as a cultural trope identified with femininity.
5. Foucault, Discipline and Punish, 299–300: “Replacing the adversary of the sovereign, the social enemy was transformed into a deviant, who brought with him the multiple dangers of disorder, crime and madness.” Sections of this chapter are adapted from Colatrella, “At optraevle kniplingen”; Colatrella, “The Significant Silence of Race: La Cousine Bette and ‘Benito Cereno’”; and Colatrella, “Fear of Reproduction and Desire for Replication in Dracula.”
6. Wright, Between the Guillotine and Liberty, describes the reform movement inaugurated by Cesar Beccaria’s Essay on Crime and Punishment as preferring “prevention rather than punishment” (11).
9. For a brief survey of these scientists, see “Histoire de la criminologie.”
10. Gould describes the political bias of such pseudo-scientific study in The Mismeasure of Man.
11. Lavater, Essays on Physiognomy, 38 and 84.
12. Ibid., 226: “Is it not perceptible in each species whether it be warlike, defensive, enduring, weak, enjoying destruction, easy to be crushed, or crushing?”
15. Ibid., 54: “In the inferior classes where instruction is practically nil, the habits of women approach closer to that of men.”

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20. “La Bette était... d’un entetement du mule” (85); “parfois elle ressemblait aux singes habillés en femmes” (86); she shows “une jalousie de tigre” (109).
22. For a discussion of race in the novel, see Colatrella, “The Significant Silence of Race,” from which this paragraph and the previous one were adapted.
24. The translations of Zola’s novel provided with page numbers in the text are from the English translation published as *The Kill*. Unpaginated translations are mine.
25. Lombroso and Ferrero, *Criminal Woman, the Prostitute, and the Normal Woman*.
28. Ibid.
30. See Barthes, *Michelet*, for a description of Michelet’s fear of blood (120).
31. See Orlrik, “Le sang impur,” for an analysis of Lombroso’s obsession with menstruation as a symptom of female deviance.
32. As Kelly points out in *Fictional Genders*, “the undecidability of gender” represents a questioning of “the very nature of masculinity and femininity” (2).
33. Sidonie gave up her child Angelique for adoption and ended her days in a convent.
See Zola’s *Le Rêve* and *Le Docteur Pascal*.
35. For a summary of science in two of Stoker’s fictions, see Senf, “Dracula and the Lair of White Worm,” 219.
36. I thank Carol Senf for bringing these points about Van Helsing to my attention.
38. Stoker, *Dracula*.
40. In Dracula’s castle Jonathan remarks that if Dracula had recognized the shorthand journal as being a threat, he would have surely taken it and possibly destroyed it; see *Dracula*, 40.
41. Wicke, “Vampiric Typewriting.”
42. Eisenberg, Murkoff, and Hathaway, *What to Expect When You’re Expecting*, 106.
43. See O’Flinn, “Production and Reproduction in the Case of *Frankenstein*.”
45. Walton and Jones, *Detective Agency*, consider the politics of female detectives.
46. Haran et al., *Screening Women in SET*, 3.
47. In the series finale of *Monk* (2002–9), the daughter of Monk’s deceased wife Trudy tells him that his police skills, which depend upon his detailed, insightful observation
of crime scenes, are “a blessing” and not “a curse” because they enabled him to solve Trudy’s murder after 12 years and to find the daughter she thought had died shortly after being born. Monk’s obsessive-compulsive disorder is a psychiatric syndrome, and it functions in the show’s diegesis in similar ways as the supernatural abilities of other detectives. Finding Trudy’s daughter provides Monk with someone to love, as his assistant Natalie tells him, and, along with solving the murder, ends his trauma about Trudy’s death.

48. “Biography for Catherine Willows from CSI (Crime Scene Investigation).”
49. Haran et al., Screening Women in SET.

Chapter 4

1. Davis-Floyd, “Birth as an American Rite of Passage,” 158; Lowrey, “Understanding Reproductive Technologies as a Surveillant Assemblage.”
3. Sicko (Dir. Michael Moore, 2007) considers different national health care systems.
7. Zola researched theoretical positions established by Gonnard, Nitti, Bergeret, Canu, and Brochard to support his personal observation; see Baguley, Fécondité d’Emile Zola.
9. Shorto, “No Babies?”
10. Davidson, Revolution and the Word, notes readers’ responses to American sentimental fiction.
12. Michelet, La Femme, 119.
14. Michelet rehabilitated the traditionally feared femme fatale into a “femme malade” whose menstruation wounds and incapacitates her; Moreau, Le Sang de l’histoire, 57, 60, and 92.
15. See Barthes, Michelet (120) for a description of Michelet’s fear of blood.
17. Zola, Oeuvres complètes, 8: 978.
20. Baguley, 179.
21. The Morrill Act in 1860 created land grant colleges, which also opened educational opportunities to women.
23. Pringle, Sex and Medicine, 27.
24. The television series *Dr. Quinn, Medicine Woman* (1993–98) focused on medical cases and social challenges facing the title character, a female doctor from Boston who locates to Colorado in the late nineteenth century.


27. Both Phelps and Gilman address these issues in expository works as well. See Phelps, “What Shall They Do?,” “Why Shall They Do It?,” “What They Are Doing,” “Women and Money,” “A Talk to Girls,” and “A Few Words to the Girls.” Gilman’s ideas are explicated in *Women and Economics* (1898) and *The Man-Made World* (1911), excerpted in Schwartz’s anthology *The Yellow Wallpaper and Other Writings*.

28. “The homeopaths had three central doctrines. They maintained first that diseases could be cured by drugs which produced the same symptoms when given to a healthy person. This was the homeopathic law of similars—like cures like. Second, the effects of drugs could be heightened by administering them in minute doses. The more diluted the dose, the greater the ‘dynamic’ effect. And third, nearly all diseases were the result of a suppressed itch, or ‘psora.’ The rationale for homeopathic treatment was that a patient’s natural disease was somehow displaced after taking a homeopathic medicine by a weaker, but similar, artificial disease that the body could more easily overcome” (Starr, *The Social Transformation of American Medicine*, 96–97). Also see Sartisky, “Afterword,” *Dr. Zay*, 274.


31. For an account of how sectarian domestic medical practices compete with the regulars’ “rounds of bleedings, blisterings, and purgings,” see Numbers, “Do-It-Y ourself the Sectarian Way,” 5.


34. This view counters that of Morris, “Professional Ethics,” 150. I argue that the novel is about Waldo’s awakening to profession and Zay’s to love, as each learns to discard preconceptions.

35. Lears, *No Place of Grace*, 221.

36. Masteller, 144.


38. Jewett, *Novels and Stories*.

39. When Joan Bascom ran away from her family as a young girl to attend college, “the whole countryside rocked with gossip” (270), but as a successful medical doctor Joan is “a source of real pride to her sister, and of indefinable satisfaction to her brother-in-law” (271).

40. For examples in English, see Stith’s “The Use of the Movie ‘Lorenzo’s Oil’ as a Teaching Tool”; Gostinger, “Adrenoleukodystrophy (ALD)”; and Burr, “Fortune Favors the Brave.”

42. Ibid., 569.

43. Bosk and Frader apply Lewis Hyde’s formulation of gift exchange to a discussion of shifting medical attitudes and practices, explaining that “AIDS has become what the French anthropologist Marcel Mauss called a ‘total social phenomenon—one whose transactions are at once economic, juridical, moral, aesthetic, religious and mythological, and whose meaning cannot, therefore, be adequately described from the point of view of any single discipline’” (“AIDS and Its Impact on Medical Work,” 150).

44. Goldstein, “The Implicated and the Immune: Responses to AIDS in the Arts and Popular Culture,” indicates that artists and activists share credit for shaping cultural understanding: “Cultural representation, combined with political activism, forged the current consensus on AIDS” (39).

45. Works such as Shilts’s And the Band Played On and Patton’s Inventing AIDS chronicle the history of how medical and political authorities learned to respond to concerns voiced by gays, African Americans, intravenous drug users, and children, all of them demonized by their HIV status. These books describe political struggles in the early 1980s as symptomatic of how medical experts confronted different diseases and how Reagan-era officials reacted too slowly to the medical and political crisis because the disease appeared to affect few, and socially marginal, groups—homosexuals, Haitians, hemophiliacs, and intravenous drug users.


47. Treichler, “How to Have Theory in an Epidemic,” 57 and 64.


49. George Miller, who has a medical degree, indicated he envisions his films as describing mythic journeys (including Mad Max, Lorenzo’s Oil, and Babe, A Pig in the City). Also see Jones, “Medicine and the Movies: Lorenzo’s Oil at Century’s End”; and Crawford’s reference to the quest narrative at the heart of Mervyn LeRoy’s film of Marie Curie in “Glowing Dishes,” 74.

50. Balzac’s Père Goriot and Dickens’s Little Nell are only two of many characters who disappear from fiction because they are too good to exist in a troubled world. Tompkins, Sensational Designs, analyzes little Eva’s death from consumption as a religious parable demonstrating how the innocent suffer, a lesson that can also be applied to the situation of the slaves sacrificed for the sake of their masters’ greed.

51. The notice of Lorenzo’s death appears at the Myelin Project site (http://www.myelin.org/). The obituary indicates he died of aspiration pneumonia; see Weil, “Lorenzo Odone,” 30.


53. See Concar, “Lessons from Lorenzo.” This interview with Augusto Odone includes his comments on studies of transplanting cells into the brain.


56. See Rubin, “Lorenzo’s Oil Brings Hope for the Afflicted.”

Chapter 5

1. I thank Laura Otis for sharing her views of scientific life and her novels and for pointing me to LabLit.com, a thoughtful, entertaining site edited by scientist and science writer Dr. Jennifer Rohn for anyone interested laboratory life and representations of it.

2. FIRST NXT blog of Katie, age 14.

3. Haran et al., Screening Women in SET.

4. The Internet Movie Database lists hundreds of film and television shows tagged with “babe scientist” as a keyword. Another term with different resonance is “girl geek.” As “History of Girl Geeks” at GirlGeeks.org explains, “Starting with on-camera interviews and an informational website, the name originally included a question mark—GirlGeeks?—because the filmmakers wanted to explore the stereotype of the word ‘geek,’ meeting women who considered ‘geekiness’ to be an insult and others that considered it a badge of honor. Turns out that Geek was a powerful description and definitely chic, so GirlGeeks dropped the question mark and pioneered the use of rich content, mentored community, and career-enhancement commerce online to gather, train and promote women with technology skills of all kinds into better jobs.”

5. From Publishers Weekly’s review of “Self-Experiment.”


7. Høeg, Smilla’s Sense of Snow.

8. Smilla’s difficult relationship with her father also sets her apart.


13. Haynes, From Faust to Strangelove; Shepherd-Barr, Science on Stage.


15. Rossiter, Women Scientists in America; Noble, A World without Women.

16. As noted in Perkowitz, “Female Scientists on the Big Screen.”

17. According to Flicker, there are six types of female scientists in films—old maid, male woman, naive expert, evil plotter, daughter or assistant, and lonely heroine (“Representation of Women Scientists in Feature Films”). See Haynes, “From Alchemy to Artificial Intelligence”; and Flicker, “Between Brains and Breasts.”


20. See “Center for the Study of Women, Science, and Technology.” Since the 1970s, many U.S. universities have worked to attract and retain more women in science; intervention programs for women in STEM include the Georgia Tech Center for the Study of Women, Science, and Technology (WST). Founded in 1998, WST provides students with information about career development, arranges for mentoring, and enables networking among students and faculty.

21. Newitz and Anders, She’s Such a Geek.

22. Flicker, “Representation of Women Scientists in Feature Films.”
23. The Hollywood formula for framing this heterosexual plot as “boy-meets-girl, boy-loses-girl, boy-gets-girl” is well-known as the basis for many movies. Yet the meaning of “meets” is more complicated than one might assume. The mediation of the audience in the romance film is critical regardless of whether the characters share the same film screen. Following in a tradition stretching from Shakespeare’s romances, many romantic film comedies, such as Nora Ephron’s *When Harry Met Sally* (1989), *Sleepless in Seattle* (1993), and *You’ve Got Mail* (1998), promote the audience’s learning about the protagonists more than the films illustrate characters revealing themselves to each other. Romances tend to enforce heterosexuality as normative even if they are also normalizing homosexuality. In Shakespearean comedies, a female lead masquerades as a male before revealing her true identity. In the 2006 film *She’s the Man* based on Shakespeare’s *Twelfth Night*, actress Amanda Bynes plays a girl taking her brother’s place at a boys’ prep school so that she can play soccer after her own girls’ school cuts their team. In disguise as her twin, she ends up falling in love with her roommate, a male soccer player who wonders how he could feel so close to another “guy.”

24. “Q and A with Nell Minow.”
25. Race and ethnicity are sometimes invoked in romances as a challenge to the partners (e.g., *West Side Story*, *Guess Who’s Coming to Dinner*). Socioeconomic class differences separate lovers in Jane Austen’s and other realist novels. Temperamental differences divide male and female protagonists in comedies such as *My Girl Friday* (1940), while depicting the newspaper editor and reporter at odds and also trading witty barbs.

28. Ibid., 72.

29. Much is made of Roxanne’s nudity in comic moments. See Maslin, “Steve Martin.”
30. I thank Rick and Charlie Denton for pointing out the musical intertexts.
31. On the conflict between Ellie and Drumlin, see Steinke, “Women Scientists Role Models on Screen,” 125.

32. Palmer responds to Ellie most ardentley when she appears more feminine: nude in bed with him, dressed in a ball gown for an official reception, in pajamas just before the launch.
33. Leslie Charteris’s fictions were the source of a number of films/film series about the character, and there were several television series based on Charteris’s works. See “The Saint.”

34. Students Elizabeth Stowe, Christy Striplin, Trevor Christensen, and Savannah Brown, in my LCC 3304 “Science, Technology, and Gender” course, noted *The Saint’s* emphasis on trust and transformation in their spring 2008 team project.

35. In a featured interview on the DVD of the film, Cholodenko describes *Laurel Canyon* as a comedy-drama about a female record producer based on Joni Mitchell.
36. Potter, *Yes: Screenplay and Notes*.
37. To indicate She’s voiceover narration, this dialogue appears in italics in Potter’s published screenplay.

38. Shafner, “‘Intuition’ Rings True in World of Science.”

40. For a recent account of Franklin’s life and work, see Maddox, *Rosalind Franklin*.

41. See Kevles, *The Baltimore Case*, 307. In 1992, “[t]he O.S.I. was taken away from the N.I.H. and reconstituted as the Office of Research Integrity (O.R.I.) within the office of the assistant secretary for health.”
42. The novel’s plot concerning a post-doc’s accusation of lab fraud resembles elements of Kevles’s *The Baltimore Case*, a nonfictional account, but Goodman’s novel elaborates a romantic plot and a characterization of the accuser that are distinctly different from Kevles’s account. I thank Jay Labinger for pointing to Kevles’s book as a source for Goodman’s novel.

**Chapter 6**

1. Sundin, “Gender and Technology.”
2. Cowan’s ideas are referenced in Pursell, “Feminism and the Rethinking of the History of Technology,” 115.
3. Wajcman, *Feminism Confronts Technology* (150) and *Technofeminisms*.
10. From “Pioneers in Improvement and Our Modern Standard of Living.”
11. The more recent *Cheaper by the Dozen* films (Dir. Shawn Levy, 2003, and Dir. Adam Shankman, 2005) are updated to revise sex roles, recasting the Gilbreth parents as a college football coach (Steve Martin) and a homemaker-turned-author (Bonnie Hunt). The first film illustrates how the father has his hands full running a household and coaching a big-league team while the mother takes off on a tour to promote her book about family life; the second shows how the father cannot resist competing with a wealthier neighbor.
15. Horace E. Scudder, the editor of *The Atlantic Monthly*, wrote to Gilman that he could not accept the story, noting, “I could not forgive myself if I made others as miserable as I have made myself.” See Gilman, *The Living of Charlotte Perkins Gilman*.
17. See Knight, *Charlotte Perkins Gilman*, regarding Gilman’s use of the phrase “short sermons” in advertising for *The Forerunner*. Knight’s analyses have significantly contributed to my understanding of Gilman’s work and my argument about the theme of work for women as outlined in her fictions. On Gilman’s ideas about evolution, see Hausman, “Sex before Gender,” and Magner, “Darwinism and the Woman Question.”
18. This section is adapted from Colatrella, “Work for Women.”

21. References to Gilman’s fictions are from Shulman’s Oxford edition.


23. See “50 Greatest Screen Legends.” Google notes that as of December 8, 2009, there were around 1,040,000 Web sites that included information on Hepburn. Bergan, Katharine Hepburn, points out that in a 1995 “poll conducted among 50 critics worldwide and the general public by the Guardian newspaper Kate was selected as the greatest woman film star ever, alive or dead. She topped a similar poll among film-makers in Time-Out magazine a few months later” (186). Dougherty, “Katharine Hepburn,” is one example of a fan site.


26. David Selznick reportedly remarked on her “horse face” when he viewed rushes of A Bill of Divorcement, and Louis B. Mayer complained about her unnatural crying in rushes for Sea of Grass, but Hepburn cared more about how she felt than what they, or anybody else, thought. See Bergan, Katharine Hepburn, 31 and 101.

27. Edwards, A Remarkable Woman, 96; and Higham, Kate, 40, quoted in Mayne, Directed by Dorothy Arzner, 60.

28. Bergan, Katharine Hepburn, 32.

29. Adorno, “The Schema of Mass Culture,” argues that such fusions are the inevitable result of mass culture consumption: “The work of art becomes its own material and forms the technique of reproduction and presentation, actually a technique for the distribution of a real object. Radio broadcasts for children which intentionally play off image and reality against one another for the sake of advertising commodities and in the next moment have a Wild West hero proclaiming the virtues of some breakfast cereal, betraying the domination of image over the programme in the process, are as characteristic as the identification of film stars with their roles which is promoted by the advertising media” (64). Hepburn’s mother was at one time president of the Connecticut Woman’s Suffrage Association and later worked with Planned Parenthood; see Bergan, Katharine Hepburn, 15.

30. “Christopher Strong.”

31. “Biography for Katharine Hepburn.”

32. For example, see Bergan, Katharine Hepburn, 31.


34. Bergan, Katharine Hepburn, 25.

35. Ibid., 23.

36. Ibid.


38. Based on a novel by Gilbert Frankau, the film was called by one contemporary reviewer “a drawing room tragedy” (excerpt from film review in Time, quoted in Dickens, The Films of Katherine Hepburn, 44).


40. Dalle Vache, Diva, discusses “the airplane fad” among Italian feminists and film stars (121ff.).

41. Martin Scorsese’s 2004 film The Aviator represents Howard Hughes teaching
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Hepburn to fly.

42. “A Short History of the National Institutes of Health.”
43. I thank Dirk Vanderbeke for mentioning Grant’s paleontologist to me.
44. See Levine, “Scientific Success”: “Marriage has also been shown to have an adverse impact on the careers of female scientists. Data from the National Science Foundation show that female, doctoral-level scientists, and engineers are less likely to be married than are their male counterparts (66 percent versus 83 percent). Among those married, however, women are more likely to confront problems accommodating a two-career marriage—one reason being that they are twice as likely as men to have a spouse who works full-time.”
45. This section is based on Colatrella, “From Desk Set to The Net.”
46. In Sleepless in Seattle, the intertext of the 1957 film An Affair to Remember serves as an example of a romance gone awry because of circumstances beyond the lovers’ control.
47. Wajcman, Feminism Confronts Technology, 158.
48. “Key-presser” is a term used for a computer programmer in Rasmussen and Håpnes, “Excluding Women from Technologies of the Future?”
49. This section is adapted from Colatrella, “Feminist Narratives of Science and Technology.”
51. See Deery, “The Biopolitics of Cyberspace.”
54. Isaac Asimov’s computer scientist in I, Robot, Susan Calvin, might have been a model for the filmmakers. To Roberts, “The Woman Scientist in Star Trek, Voyager,” Calvin appears based on Rosalind Franklin (278–79).
55. This theme and the episodic construction resemble similar features in the popular movie Thelma and Louise (Dir. Ridley Scott, 1991), written by Callie Khouri.
58. Margolis and Fisher, Unlocking the Clubhouse; McIlwee and Robinson, Women in Engineering.
60. Miller, Versions of Pygmalion, 1.

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5. For example, see Rosser, *Re-Engineering Female Friendly Science*.
7. Jones, Howe, and Rua, “Gender Differences in Students’ Experiences, Interests, and Attitudes toward Science and Scientists.”
8. See Hyde et al., “Diversity: Gender Similarities Characterize Math Performance” (120–24), for a consideration of how girls’ achievements are rationalized as the product of hard work.
20. Whitelegg et al., *(In)visible Witnesses*, 15 and 20.
25. The *Spy Kids* films directed by Robert Rodriguez focus on similar themes: *Spy Kids* (2001); *Spy Kids 2: Island of Lost Dreams* (2002); and *Spy Kids 3-D: Game Over* (2003).
26. See Sedgwick’s *Means and Ends*, As the teacher quoted in the first section, “What Is education?,” outlines, girls should be educated to build on their natural talents: “You are born with certain faculties. Whatever tends to develop and improve these is education. Whatever trains your mental powers, your affections, manners, and habits, is education. Your education is not limited to any period of your life, but is going on as long as you live . . .” (9). An advice manual, *Means and Ends, or Self-Training* establishes a continuing narrative thread about Mary Bond by stringing together examples of how Mary applies the didactic lessons concerning education, social relations, and domestic management. Exemplifying how one young girl enacts principles promulgated by Sedgwick, Mary, like other fictional characters, serves as a representative role model for adolescents reading the work.
27. Ebert, “*Ice Princess*,” 311–12.
28. “Handy Manny, the New Latin Cartoon Hero.”
29. “Lisa the Simpson.”
30. “Girls Just Want to Have Sums.”
31. “Funeral for a Fiend.”
32. “Please Homer Don’t Hammer ’em.”
33. See Holden, “They Have a Tantrum, Then Save the World”: “Each girl has a distinct
personality (and color). The redheaded Blossom (with the voice of Catherine Cavadini), the
trio’s levelheaded leader, and the only one whose ears perk up instead of down, is fluent in
Chinese. The blond Bubbles (Tara Strong), who likes to draw, is a twittery sweet-natured aes-
thete, and the green-hued Buttercup (E. G. Daily), whose voice is several pitches lower than
those of her sisters, is a combative warrior.”

34. “The Powerpuff Girls.”
35. “Characters,” Zoey 101. I thank Lena Denton for discussing this show and iCarly
with me.
36. “Quinnvention Corner.”
37. Other science shows directed toward children include Beakman’s World (1993–98);
Bill Nye, the Science Guy (1993–2002); and Newton’s Apple (1983–98). See Long et al., and
Steinke and Long, “A Lab of Her Own,” for a discussion of stereotypes in television pro-
grams.
38. Extraordinary Women Engineers Project, Final Report. Also see Extraordinary
39. Design Squad.
41. See Beach, “Research Roundup,” for a consideration of students’ responses.
42. For example, Linda Simensky, director of children’s programming at PBS, says that
she “commissioned the Jim Henson Company to create one. I really wanted daily science
that you encounter every day in life. And something that models asking questions.” See Blair,
“Move Over MacGyver.”