SCIENCE WRITING AND SOCIAL ROLES IN HISTORICAL CONTEXTS

THESIS

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by

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ABSTRACT

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by

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This work employs a rhetorical textual analysis of Victorian women's periodicals to determine where modern ideas about social roles for women originated, how they have historically been communicated to women through the popular medium of the periodical press, and how those social roles have shaped the reception and definition of instructive and scientific material today within the context of technical communication studies.

CHAPTER I

INTRODUCTION

The definition of technical communication (and whether it should be defined at all) is a point of contention among those in the technical and professional communication scholarly community. Some argue that concrete definitions limit the extension of thought in the relatively new scholarly study of technical communication, and others say a definition is vital, even for just explaining exactly what it is technical communicators do. Jo Allen's article "The Case Against Defining Technical Writing" provides the example of a cookbook's being disqualified from a Society of Technical Communicators' technical publications competition when other instructive manuals were included. The fundamental difference between a car repair manual or computer users' guide and an equally instructive cookbook seems to be the audience for which it is written and, more importantly, what social role that audience is expected to fulfill. A cookbook may be perceived as serving a feminine, domestic function, which in this case excludes it from consideration as an example of technical communication, while an instructive manual on hardware installation or car repair serves a more traditionally masculine function and therefore is seen as an acceptable or legitimate form of technical communication Because social role theory asserts that socially constructed roles are significantly based on gender expectations and that one learns how to perform in social roles by observation and

participation, it is important to turn our gaze to the past in order to understand where contemporary attitudes about social roles and subject matter originated, how those attitudes have been replicated over time, and how that replication of social role beliefs affects the reception of modern instructive material. Despite the radical changes brought about by the women's movements of the late nineteenth- and mid twentieth-century, current debates about gender bias and feminism in technical communication show that historically-based beliefs about social roles still heavily influence what subject matter is considered to be within the male or female sphere. In current technical communication, social roles seem to be tied most closely to subject matter targeted toward an implied audience, much as periodical literature was directed toward an implied audience and provided the subject matter relevant to the readers' perceived social role.

To perform a historical analysis of the subject-matter gender bias that has resulted in the critical exploration of feminist issues in current technical communication scholarship, I turn to nineteenth-century periodical literature for women. While the many periodical titles for female readers that appeared during the nineteenth century focused on very different facets of the female social role, a social-role analysis of the non-fiction content in the periodicals reveals both tacit and explicit instruction in the work of being a woman in Victorian Britain during a time when technology and science were changing and evolving at an extraordinarily rapid rate and the effects of the Industrial Revolution were possibly most deeply felt. Margaret Beetham and Kay Boardman propose this idea in their anthology, *Victorian Women's Magazines*:

Magazines for women not only addressed women as consumers but also as readers, as in search of entertainment or in need of instruction in various

social roles. From the start magazines which defined their readership as 'women' also took on, more or less, overtly, the task of defining what it meant to be a 'woman', or what it meant to be a particular kind of woman; a mother, a London lady with time and money, a working woman, a 'New Woman', or some other specifically female identity. (Beetham et al. 1)

Periodical publications commoditized the feminine ideal, and their readers both created and replicated it by purchasing the magazines in large numbers and enacting the roles they saw in their pages. When viewed from a social-role perspective, periodical literature for women reads as an instruction manual detailing every step a reader should take in fulfilling the idealized female role; and, especially when a woman's home is situated as her workplace, periodicals become the guides by which women lived their lives and performed the ideological work of being "woman." Poetry and fiction are the vehicles of tacit instruction in taste, morality, and other feminine ideology, while non-fiction content, especially when it involves principles of natural science, explicitly instructs in the work a woman is to perform in order to fulfill the idealized role the publication and society have constructed for her. Scientific content in women's periodicals, when viewed through the lens of social-role theory, provides valuable insight into how a woman is supposed to apply scientific knowledge in her everyday life.

Periodical publications for women have not previously been examined as artifacts of technical communication, though doing so extends the definition of technical communication studies in a valuable way that emphasizes why gender and feminism studies in the field are vital. Mary Lay asserts, "scholarship on gender difference offers a rich theoretical and research base with which to study professional communication," and

"too little research reflects scholarship on gender identity and communication style" ("The Value of Gender Studies" 58-59). Although Lay refers to the modern workplace, it is important to consider how the idea of the workplace has changed over time, especially for middle-class women, who did not hold professional position in large numbers until the end of the nineteenth-century and especially during and after the first World War; for the middle-class nineteenth-century woman, her workplace was most likely to be her home or the home of someone else, in which she was employed as a domestic servant or governess, occupations that were performed in homes of women who had the financial means to delegate their domestic work to paid employees. In either case, much nineteenth-century periodical literature for women assumes a woman's work primarily involved performing the duties required in a home workplace. In understanding how scientific and technical information has historically been disseminated to gender and minority groups, modern practitioners and scholars can avoid sexist, racist, class-based, and other socially insensitive and uninformed assumptions that limit the agency of a group of people to what is assumed about them.

This work explores the origins of subject-matter gender bias in current scientific and technical communication by examining the question of how scientific information was communicated through popular historical periodical publications read primarily by women in the nineteenth century. While previous scholarship examines science in general-interest Victorian periodical publications, science in women's periodicals has been neglected, possibly due to the incorrect assumption that science was not a topic found in publications for women when, in fact, much of the ideological and practical instruction found in these magazines was scientific in nature. Possibly because women

were the primary audience of these periodical publications, they have been overlooked as being vehicles of scientific or technical information and have not been examined as artifacts of technical communication. For the same reason, the cookbook in Jo Allen's article was denied its classification as an artifact of technical communication—the language of science is not recognizable when it is encoded in a way that is meant to fulfill a feminine social role, which Katherine Durack also observes: "technologies that pertain specifically to women's biological functions and social roles have been essentially ignored by historians of technology." This "omission by categorization" leads to the incorrect assumption that because women are not extensively represented in the records of technological history they did not have a role in creating that history; for example, the baby bottle, a technology which revolutionized a female biological process, is not referenced in any of the indices to the standard histories of technology ("Gender, Technology, and the History of Technical Communication" 249). The sex-typing of jobs today, the perceived correlation between work and technology, and the devaluation of work performed in the home are quiet echoes of Victorian ideas about women and work that point to the replication of social roles over time and have led to the discrediting women's work "simply because it is women who do it" (Durack, "Gender, Technology, and the History of Technical Communication" 255). An increased interest in feminist issues in technical communication seems to correlate with more research analyzing historical technical communication artifacts from the nineteenth century and before¹;

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¹ See Gail Lippincott's "Experimenting at Home: Writing for the Nineteenth-Century Domestic Workplace," *TCQ* 6 (1997) and "Rhetorical Chemistry: Negotiating Gendered Audiences in Nineteenth-Century Nutrition Studies," *JBTC* 17 (2003); Elizabeth Tebeaux's "The Emergence of the Feminine Voice, 1526-1640: The Earliest Published Books by English Renaissance Women" *JAC* 15 (1995); Durack's "Authority and Audience-Centered Writing Strategies: Sexism in 19th-Century Sewing Machine Manuals" *TCQ* 45 (1998), and others by these authors, many of which were published in the early nineties

after the 1989 publication of Mary Lay's award winning article credited with bringing gender studies to technical communication, "Interpersonal Conflict in Collaborative Writing: What We Can Learn from Gender Studies," Isabelle Thompson identified 40 articles dealing with gender and feminist issues published in five technical communications journals in the next eight years (157). Additionally, by 1997, three of the five journals had female editors (Thompson 154). Women's increased involvement in the field of technical communication has led to increased interest in the ways women have contributed to, consumed, and created technical and scientific knowledge.

Periodical publications are audience-focused commodities and valuable cultural artifacts that reveal the attitudes and biases of the culture that creates and consumes them. Examining nineteenth-century women's periodicals and other historical instructive documents for gendered audiences provides valuable insight into the historical origins of subject matter gender bias that is identified and addressed in technical communication studies today. Applying social-role theory to science writing for women reveals that historical gender bias and connects it to current observations about feminist and gender issues, creating awareness in researchers and practitioners and providing an avenue for the exploration of the legitimacy question.

CHAPTER II

LITERATURE REVIEW

Technical Communication Scholarship

Mary Lay's award-winning 1989 article, "Interpersonal Conflict in Collaborative Writing: What We Can Learn From Gender Studies" has been credited with introducing women's studies to the field of technical communication (Thompson, "Women and Feminism" 154). Since that time, numerous articles on the role of women in the creation and consumption of topics in technical communication have appeared in the multiple journals published for the field. Noticing this occurrence, Isabelle Thomson performed a qualitative analysis of articles about women's issues between 1989 (the year Lay's article appeared) and 1997 to assess scholarly interest in women's studies and feminist theory within the field, and found that the five technical communication journals published 40 articles dealing with women and gender issues in that time period. Additionally, three of the five major technical communication journals were edited by women, an occurrence that possibly both reflects and is reinforced by an emphasis on women and feminism in the journals (Thompson, "Women and Feminism" 155). Thompson updates her study in 2000 and 2006, finding 21 articles on women and feminism between 1997 and 2006 (Thompson, "An Update" 184). Many of the articles Thompson identifies as addressing women's issues interestingly also take a historical perspective, which has informed and

shaped my study. For example, Gail Lippincott focuses writing for the workplace historically and positions the home as the woman's workplace in her article, "Experimenting at Home: Writing for the Nineteenth-Century Workplace." In her article she examines texts written by Ellen Swallow Richards, a nineteenth-century American scientist, for a variety of audiences, noting the rhetorical strategies Richards employs when writing about similar topics for audiences of different gender. Lippincott also examines Richards' rhetorical shifting in "Rhetorical Chemistry: Negotiating Gendered Audiences in Nineteenth-Century Nutrition Studies," which examines two documents about the New England Kitchen, a scientific and social research experiment launched in Boston in 1890 (Lippincott, "Rhetorical Chemistry" 11). Both articles are valuable to this study because they reveal rhetorical strategies that historically are used when writing about domestic applications of science.

Katherine Durack also takes a historical approach that illustrates the close historic tie between women and domesticity in "Authority and Audience-Centered Writing Strategies: Sexism in 19th-Century Sewing Machine Manuals." In the article she analyzes sewing machine manuals for sexist language and by doing so is able to uncover the writer's assumptions about his audience. Her article shows the importance of nongendered writing, even when an implied audience is traditionally assumed to be of one gender. The absence of women in the creation of and as an implied audience for technical information is the topic of her article "Gender, Technology, and the History of Technical Communication," which considers why women have been absent from the history of technical communication and posits that women and women's issues are often omitted by categorization; that is, overlooked because they have to do with women, a finding which

has prompted my own investigation into science writing in women's periodicals. Durack provides the compelling example of a baby bottle, a technology that revolutionized a basic biological process for mothers and babies, being absent from indices to standard histories of technology (Durack, "Gender, Technology, and the History of Technical Communication" 253).

Also importantly addressed in technical communication are perceived gender differences and the way technical communication accommodates (or ignores) those differences both in historical and modern contexts. Linda LaDuc and Amanda Goldrick-Jones examine questions of ethical and civic responsibilities and how these issues intersect with gender studies and outline areas for future research that include more feminist thought. In "Sexual Dynamics of the Profession: Articulating the Ecriture Masculine of Science in Technology," Beverly A. Saur similarly calls for a higher level of gender awareness, especially in industry-accepted language, by showing the language of sexual metaphor common in science and technology that frequently underlie ideas of domination and penetration (male and female sockets, male and female couplings, virgin timber, etc). Since many of these metaphors have been used for long periods of time, their metaphoric meaning is ignored, but Sauer demonstrates how a feminist perspective can help technical communicators "understand the pragmatic consequences of unarticulated sexual codes in scientific and technical discourse" (Sauer 309). This concept is valuable in my evaluation of periodical publications for women, as casting the light of feminist thought onto these historical publications reveals language and content that evidences sexist or gender-biased thought. Mary Lay's "The Value of Gender Studies to Professional Communication Research" builds on this idea, recognizing that

gender is a determinant of communication style and that gender and professional communication scholarship should be merged. Another of Lay's valuable contributions to technical communication gender studies includes "Feminist Theory and the Redefinition of Technical Communication," in which she explores the possible ways in which feminist theory can be applied to technical communication, particularly newer interests in ethnographic studies of workplace communication and collaborative writing.

Victorian Periodicals Scholarship

In scholarship on periodicals literature, the presence of science in general-interest nineteenth-century periodicals has been evaluated before now, but very few researchers have examined science and how it appeared in the periodicals specifically produced for women. Scholarship that specifically focuses on women's periodicals most often addresses emerging feminism and the professionalized role of the woman as writer and editor rather than scientific content. While science writing in women's periodicals has not been entirely neglected, there does seem to be a significant opportunity for new research on the subject. This section examines the scholarship on nineteenth-century women's periodicals, paying close attention to writing that is based on providing scientific knowledge rather than providing domestic instruction. Most of the scholarship that acknowledges science in women's periodicals focuses on medical and botanical science and how these branches of science are presented to a female readership. Also acknowledged is an observable shift in the focus of women's magazines from an interest in educating the female mind to bettering her for domestic work during the nineteenth century. By observing the knowledge that is currently available about science writing in

women's periodicals, I hope to identify where it is lacking in order to constructively build upon it.

The "Woman Question" was a problematic one in nineteenth-century Britain and can be seen by examining periodicals oriented toward women readers. In her article "Redundancy and Emigration: The 'Woman Question' in Mid-Victorian Britain," Nan Dreher addresses the "separate sphere" idea of the nineteenth century that relegated men to the public sphere and women to the private, or "home," sphere (4). While Dreher's article focuses on the question of redundant women (who were older and unmarried), the "Woman Question" basically asks what to do with women. In the periodicals this question guided editorial decisions about what type of content was appropriate for "the fairer sex," and created a separate sphere within periodical publications that was appropriately feminine. Separate spheres ideology overarches my analysis, which shows that scientific language was appropriated to the female sphere through the encoding of ideals.

Jeffrey Auerbach attempts to explain the "woman question" and the "separate sphere" concept as they relate to the periodicals by situating women readers as consumers and women's periodical publications as commodities. One of the most popular, he says, was *The Englishwoman's Domestic Magazine*, which ran between 1852 and 1877 and achieved a circulation of 50,000 per month. The popularity of this magazine indicates that women were interested in the content it provided. The magazine was geared toward thrift and contained information designed to "promote industry, usefulness, and domestic management, and was crammed with weekly notes on cooking, fashion, dress patterns, gardening, pets, and hygiene (Auerbach 122). The identification of middle-class women

as consumers made their interests vitally important in what was published in the periodicals, and editors responded to readers' requests for specific content (Auerbach 134).

Sally Shuttleworth's article "Tickling Babies: Gender, Authority, and 'Baby Science'" is illustrative of the type of writing on medical or biological science that is found in women's periodicals of the nineteenth-century. "Baby Science," or medical science pertaining to the care of children, was commonly featured in women's magazines and by the 1890s had become "not only an acceptable area in science, but a 'hot topic' for periodical discussion" (Shuttleworth 212). The focus of "baby science," however, was not simply science for the sake of knowledge. It intended to help women (specifically mothers) fulfill the mother aspect of their domestic role, instructing them how to care for their children. Though "baby science" is indeed medical science, the rhetoric of the women's periodicals shapes it into a decidedly domestic discourse rather than a scientific one. Nancy Theriot also examines medical discourse as it applies to women, but examines the victimization model of medical discourse, in which women are told how to be good patients rather than informed about their health. In her study she assumes that women patients were not victims of medical science, "but instead were able to use it to their advantage in their domestic power struggles" by developing "feminine" maladies such as hysteria and exhaustion (Theriot 2). This in itself is telling of a woman's relation to medical science: rather than using medical discourse for knowledge, women used it to bolster their domestic power.

Anne Shteir's "Green-Stocking or Blue? Science in Three Women's Magazines, 1800-50" examines science writing in the *Lady's Magazine*, *Lady's Monthly Museum*,

and Ladies' Companion at Home and Abroad. Of the three magazines, the Lady's Magazine was the most progressive for the first decade of the nineteenth-century, offering essays on natural history that taught readers about birds, insects, frogs, and plants. By 1822, however, the magazine had ceased offering such scientific lessons. The magazine's change in content can be seen in its offering of a Romantic study of botany rather than a taxonomic or physiological one (Shteir 7). The Lady's Monthly Museum also advocated botany as an appropriate study for women, and advocated women's involvement in science, but also "positioned it in relation to gendered roles for women within family life." The Lady's Monthly Museum, like the Lady's Magazine, also lost its scientific focus as the decade progressed (Shteir 8). Science writing in the Ladies' Companion at Home and Abroad included articles on diet and the nature of food, nutrition, geography, and the ever-popular subject of botany. Shteir notes that Jane Loudon, editor of the *Ladies' Companion* reported that readers had written to request that the scientific articles be longer, a request that seems to demonstrate that the female reading public was not satisfied with the domestic focus of science provided in their magazines. Examples of domestically-focused science include recipes for lip salve and camphor balls for the hands. Overall, the threshold for female knowledge about science in these magazines was very low, and continued to decline into the late nineteenth century, with the magazines becoming less and less concerned with improving the mind and more obsessed with domestic issues of home, family, and fashion (Shattock 95). Since botany was assumed to be within the female sphere, in my analysis I pay more attention to science writing about other subjects to develop a clearer idea about what editors assumed a woman should or should not be reading. Barbara Onslow and others

argue that women's periodicals essentially created their own control mechanisms (for forming and regulating the morals of the 'weaker sex'), and were equally likely to be edited by men as by women, a view that is evidenced by the language of science as instruction (Onslow 136-137).

One of the reasons for the decline in scientific content in women's magazines was a growing fear that an "educated woman would throw aside home and family for a career" (Sheffield 15). *Punch*, a popular magazine for a mixed-sex audience, promulgated the idea that women were intellectually and physically inferior to men, and assumed that their educational needs were constrained by their limited intellects: "women's weaker bodies could not take the strain of vigorous intellectual activity" (Sheffield 17). *Punch*, too, presented science to women with a domestic focus, and though it wasn't a magazine specifically for women, it reflected the widespread belief that women had the most to gain by using science for domestic duties rather than for increasing their knowledge.

Possibly the most comprehensive resource for information about women's magazines in the nineteenth century (as well as before an after) is Cynthia L. White's book, *Women's Magazines 1693-1968*. While she does not focus specifically on science writing for women, she does address science as it appears in a variety of women's magazines. White notices a desire to educate women, not for their own sake, but so that they can be good companions to their husbands, and I would add, good mothers to their children. This education of women, though, does not seem to come through science writing, but through stimulating, topical literature. Like Shteir and Onslow, White notices that as the century progressed, women's magazines "were no longer required to contribute to the intellectual improvement and advancement of women." Instead, they

served the purpose of entertaining, reflecting the restricted lives and interests of Victorian women (White 39). The accession of Queen Victoria led to a "new ideal of Womanhood" in which Queen Victoria exemplified the role of the virtuous wife and mother and became the model for women to follow (White 42). Women's magazines reflected this shift in ideology by moving away from publishing scientific writing for women to focusing on the domestic sphere, which took new precedence in the lives of women.

Between 1850 and 1914 the separation of true science and women's magazines persisted, with domestic information being the most featured subject in women's magazines. The extent of the separation was compounded by the advent of special reading rooms for women at public libraries. The magazines provided in these reading rooms, placed there by librarians who were often male, provide a special insight into the creation of the "female reader." Chris Baggs records approximately 350 different newspaper and periodical titles at 26 public libraries in England. These reading rooms provided a variety of publications for women, and not all were specifically targeted to a female readership. Conspicuously and consistently absent from the ladies' reading rooms, though, are the "heavyweight review journals and the more serious literary, social, and cultural magazines" (Baggs 290). In this case it is not just the magazines that are provided for women that determines what subject matter is assumed appropriate for a woman reader; it is implied through exclusion that "serious" magazines are not appropriate for women. The reading rooms separated women from men in a physical way and also restricted their access to publications deemed not appropriate for a lady's eyes.

There are also mentions of botany in the scholarship that addresses science in the periodicals. Botany was, in England, "an area of natural knowledge that was widely

promoted for, practiced by, and identified with women" (Shteir 18). Because of this fact, botany was a popular subject in the woman's periodical. The scientific elements of botany seemed to have been stripped away, though, and replaced with literary elements, replacing plant taxonomy with "emblems and mythology." Ann Shteir's comparative analysis of botanical science as it appeared in both men's and women's magazines of the nineteenth-century shows that "women's magazines gave elementary education in systemic botany and guided readers over the threshold into introductory knowledge but provided no access to more complex botanical material." Conversely, men's magazines "indicate a higher intellectual threshold, more advanced or technical botany, and a climate for debate among those seeking new directions in the field" (Shteir 18). This split illustrates that science writing in periodicals meant for men presented scientific information for the sake of gaining knowledge, while science writing for women was limited to basic knowledge and diluted by the inclusion of more "feminine" application of literature to botanical science. Truly scientific botany was carefully replaced with "Botany for Ladies," which replaced Latinized names with common ones, so as not to frighten the "fairer sex," from a study "most congenial to their natures" (Shteir 18). Botany in the nineteenth-century was not only a science, but also a subject of "polite culture" among the subscribers of women's magazines (Shteir 32).

The lack of research on science (other than botany) writing in women's nineteenth-century periodicals presents an opportunity for researchers to look more closely about what the writing of science and instruction for women evidenced about the social roles set out for them. What has and has not been examined in gender studies on technical communication and women's periodicals research guides this study, which sets

out to bridge the gaps between technical communication and women's periodicals research when the common language is that of science.

CHAPTER III

METHODS

The method of analysis I use in this study is a rhetorical textual analysis of the scientific language found in Victorian women's periodicals. I use the lens of Social Role theory inspired by Isabelle Thompson's article, "Sex Differences in Technical Communication: A Perspective from Social Role Theory," published in *The Journal of* Writing and Technical Communication in 2004, to discover the rhetorical strategies used to instruct women in their social roles as they were constructed by society. The article evaluates scholarship on workplace and classroom communication and describes social role theory, which Thompson uses to explain the different communications and behaviors noticed in men and women in professional settings. Thompson's article focuses on scholarship surrounding behavior in the twentieth-century workplace, but her proposal of using social role theory as a framework for the analysis of workplace communication and behavior is applicable to the nineteenth-century woman's primary workplace—the home. Social-role theory emphasizes that social behaviors that differ between the sexes are embedded in social roles—in gender roles as well as the many other roles pertaining to work and family life. Structural explanations of social roles emphasize that members of social groups experience common situational constraints because they tend to have the same or similar social positions within organizations or other structures such as families.

The historical occupancy of roles is based on many factors; one particularly applicable to my study of the social roles of nineteenth-century women is the ability to decode nonverbal cues. Eagly asserts that females' superior ability to decode non-verbal cues is the result of women having historically occupied nurturing roles, which require a high level of nonverbal sensitivity (9). In addition, the communal qualities historically valued in women are important for good domestic performance, especially childrearing, and the agentic qualities valued in men are important for good performance of behaviors enacted in the specific roles more often occupied in men than in women. In psychological circles, where social role theory was developed, childbearing is seen as central to activities that foster communal qualities (most often found in women), and the activities that foster agentic qualities in men are very often connected with paid employment (an activity in which women did not participate in large numbers until WWI in both Britain and America) (Eagly 20). However, because nineteenth-century women were not paid for their work does not mean they did not perform work. The concept of "work" for the nineteenth-century woman was tightly integrated with the family structure, and the home was her workplace. Social roles, Eagly asserts, prescibe appropriate male and female qualities and, when derived from the division of labor (in which women are assigned more domestic duties than men, a finding present in societies all over the world), these qualities help prepare teenagers and children to prepare to perform in the role they are most likely to occupy when they grow up. Because of this replication, roles tend to maintain the existing division of labor between the sexes (Eagly 21).

The perceived social roles of men and women also differ in hierarchies of status and authority: with specific roles occupied by men tending to be higher than those of

women. For example, because the domestic role is lower than the breadwinner role, in families husbands generally have an overall power advantage in routine decision making and conflict resolution. The inequality of hierarchical status in the workplace mirrors that found in homes in which the woman works primarily in the home rather than outside the home for pay, as male employees as a group are more advantaged, having jobs of higher status that confer power and offer possibilities for advancement and rising income (Eagly 23). The differences between the agentic roles men traditionally occupy and the communal roles women traditionally occupy seem to shape and define what is considered the "work" or "workplace" for each.

Communalism and agency are also connected to helping behavior, which women in their social roles are expected to exhibit by caring for the personal and emotional needs of others and facilitating the progress of others toward their goals. The demand for women to serve others in these ways is especially strong in the family, Eagly says, while the male gender role calls for different kind of helping that can be called heroic, such as saving others from harm (helping behavior that involves risk) (44-46). The female helping role is carried over into occupational roles of the workplace, where women are more likely to be employed as secretaries (who help their bosses), nurses (who help doctors), social workers (who help the poor and oppressed), and teachers (who help children). In contrast, "helping" occupational roles in which men are well-represented include firefighters, law enforcement officers, and soldiers (Eagly 50). While helping roles for women exhibit elements of subservience to the people they help (most often men), helping roles normally ascribed to men exhibit elements of authority rather than subservience.

Though Eagly's theory focuses on twentieth-century behavioral contexts, the principles of her social-role theory can be seen enacted textually within the pages of nineteenth-century periodical publications for women. In her seminal work on gender roles during the Victorian era, Mary Poovey also asserts that, with regard to gendered social roles "whatever their differences, I suggest, almost all of the participants in the mid-nineteenth-century battles for social authority assumed and reinforced [the] binary model of difference articulated upon sex" (6). Women were held up as maternal "Angels of the House," unfit to vote or work but having great power within the domestic sphere of the home. Here, too, labor was divided along the lines of sex, and the Victorian domestic ideal was created and influenced heavily by what type of work a woman was to do (Poovey 9).

Periodical publications for women emerged as a way to instruct women in the ways they could fulfill this relatively new idealized social role. Women's periodicals provided both practical and ideological instruction in the work of being "woman," work which was much different from what it had been before the domestic role began to emerge in the eighteenth century, before which women were seen as willful, sexualized beings rather than moral, domestic ones (10). The emerging social role of the woman during the nineteenth century created a niche market for literature that instructed in this new social role, and the periodical press sought to fill that niche. By commoditizing the fulfillment of the socially ideal woman's role, the periodical press made that ideal accessible to any woman who could pay for the publication (and many publications were priced accessibly enough that even lower- income and working women could afford them). Many periodical titles claimed high numbers of readers, both through

subscriptions and pass-along readers, which proved that ideological instruction was a commodity women were willing to pay for. The advertisements for dresses, corsets, hairpieces, and ointments within the pages of the periodicals offered women entry into the world of commodities, which were represented as essential to the work of being feminine in both behavior and appearance (Beetham, *A Magazine of Her Own?* 8)

The specific textual markers I look for in my rhetorical analysis of scientific content in these periodicals are terms and concepts that fall under the umbrella definition of science. I use a general definition of science to allow examination of the way the concepts and language of science are used in texts written for a female reading audience. The markers include

- Botanical terms and concepts, including general and specific scientific language relating to taxonomy and nomenclature
- Biological terms and concepts having to do with bodily functions, disease
 prevention and treatment, sanitation, preparations for health and beauty and their
 effects on the body
- Chemical terms and concepts, including cooking ingredients, cleaning preparations, preparations for health and beauty, medical treatments
- Natural science terms and concepts, including information about animals, weather, and environment
- Social or popular science, including psychology, sociology, physiognomy, or
 other disciplines that may have been popularly considered scientific in the
 nineteenth-century though they may have later been proven unscientific

By examining how science is written for a female audience, I hope to interpret for what purpose it is provided and how readers are meant to apply it in performing their socially constructed roles. Using Eagly's social role theory to analyze writing with scientific elements in periodical publications for women works to identify the socially constructed roles these magazines revealed within their pages and the methods they used to instruct women in the fulfillment of those roles. To examine the domestic role, I analyze The Englishwoman's Domestic Magazine, the best-selling magazine of its genre; to examine instruction in the Victorian woman's educative role, I turn to Eliza Cook's Journal, a popular reform publication; and to examine the idea of feminine beauty and health, I examine Woman and the rhetorical strategies it uses to sell ideals of health and beauty and the corresponding products which it promoted to help women achieve the ideal. In all of these artifacts I pay close attention to scientific content and language, which are often used as an instructive tool when it appears in women's publications, to make connections between historical instructive material for the woman's workplace and the social role differences Eagly identifies in her social role theory.

CHAPTER IV

INTERSECTIONS OF SCIENCE AND DOMESTICITY IN THE ENGLISHWOMAN'S DOMESTIC MAGAZINE, 1852-1864

In the May 1859 issue of *The Englishwoman's Domestic Magazine* appears a preface, or announcement, to the popular magazine's readership:

"With this volume (the Eighth) is completed the First Series of *The Englishwoman's Domestic Magazine*. For eight times twelve months we have gladly laboured to produce for our readers a goodly variety of useful and interesting matter, with the purpose of adding to their knowledge, pleasing their imagination, and invigorating all their mental powers." (1)

The preface continues, describing the specific changes to be made in the forthcoming new series of the magazine. Of the new content, one addition will be a series of papers on the botanical science called "Wayside Weeds and Forest Flowers" in which the "structures, properties, and systematic classification of the commonest plants belonging to the Flora of England, will be described in familiar language." The editor justifies this inclusion of botanical science by positing, "Botany is so peculiarly a feminine pursuit," a statement that begins to reveal the attitudes surrounding science and women in the nineteenth century. This statement by the editor of the *Englishwoman's Domestic Magazine* is representative of the scientific content found in many women's periodicals

directed toward the middle-class reader and is illustrative of the conflict between scientific knowledge and the socially-constructed feminine domestic ideal (Shuttleworth et al., "Women, Science and Culture" 62). A compromise to this conflict can be seen in the first series of the magazine, which was introduced in 1852; scientific information is provided, but is focused rhetorically on the domestic in order to help a woman fulfill her role as caretaker of her home and family. Rather than being science for the sake of knowledge and education, it is science for domestic application and instruction. In this chapter I examine the first and second series of *The Englishwoman's Domestic Magazine* for instances of scientific information in order to determine for what purpose it was provided and what it reveals about the social role of the Victorian woman. Determining what purpose this information serves, it can illuminate more clearly how language and information are (and have historically been) shaped and affected by gender-centric social roles.

The Englishwoman's Domestic Magazine (hereafter EDM) was the best-selling woman's magazine of the early 1850s and is considered the most successful of its genre. The magazine was an inexpensive monthly founded and edited by Samuel Beeton and contained serialized fiction, poetry, regular columns on domestic economy, and essays on the care of children, pets, and home (Shuttleworth et al., "Women, Science and Culture," 62). Its popularity is evidenced by its peak circulation of about 60,000 per month, though through pass-along readership the magazine probably reached many more readers (Palmegiano 4). The EDM was the first to combine aspects of the expensive women's monthly and inexpensive family weekly to produce a new genre ("Introduction," http://www.sciper.org/browse/ED desc.html>), recognizing the day-to-day work

involved in personifying the idealized domestic angel, and in doing so situated itself as the all-knowing mediator between the average middle-class woman and a happy home. Sam's young wife, Isabella, joined him in the editorial office after their marriage in 1856, though the magazine was already a success before she added her female editorial touch. Later, Isabella would go on to compile and edit Mrs. Beeton's Book of Household Management from the recipes and household hints contributors sent into the EDM. The book's phenomenal success made the young Mrs. Beeton the British equivalent of the iconic (though fictional) American Betty Crocker, her name becoming synonymous with methodical and efficient domestic management. Mrs. Beeton is credited with standardizing the format of recipes in which ingredients and amounts are listed before the mixing and cooking instructions in order to efficiently create meals (Hughes 202). The success of both the EDM and Mrs. Beeton's Book of Household Management proves beyond speculation that domestic instruction was a commodity women were willing to buy. I argue that women so enthusiastically purchased these publications because they clearly and authoritatively defined a woman's social role and gave her instructions on how she was to perform it. Especially when the home is situated as the middle-class woman's workplace, the EDM reads as a manual, guide, or "how to" in efficiency, economy, and productivity. The editor states his purpose in his address to the new magazine's readership:

If there is one thing of which an Englishman has just reason to be proud, it is of the moral and domestic character of his countrywomen...THE ENGLISHWOMAN'S DOMESTIC MAGAZINE will doubtless be an encouraging friend to those of our countrywomen already initiated in the

secret of "making home happy;" and to the uninitiated, who, sometimes through carelessness, but oftener from want of a guiding monitor, have failed in this great particular, we shall offer hints and advice by which they may overcome any difficulty, and acquire the art of rendering their efforts successful and their homes attractive. (*EDM* I 1852: 1)

The minutiae of domestic management, Beeton states, directly affect the happiness of the home, each seemingly insignificant action "tending to swell the amount of happiness *if performed*, of misery *if neglected*," a declaration that seems to place utmost importance on domestic work done well (*EDM* I 1852: 1). In addition to instruction in these important domestic matters, the magazine's readers are provided with poetry, fiction, and general information to "brighten the intellect" (though much of this "educational" information is indeed domestic instruction, as I will demonstrate). The general goal of the magazine from its inception is to instruct its readers in the art and science of homemaking, to educate her mind, and to cultivate her heart, though instructive rhetoric often bleeds into educational content.

The first series of the magazine contains essays, recipes, fiction, poetry, book reviews, patterns for sewing and crochet, black-and-white engravings of current fashions, and columns of non-fiction instructional or educational content with such titles as, "Things Worth Knowing," "The Toilette," "The Sick Room and Nursery," "Management of Household Pets," "The Fruit and Flower Garden," and "The Practical Dress Instructor." As Sally Shuttleworth suggests, a tension appears between the notions of femininity represented in fictional content and those represented in non-fiction: the magazine's fiction pieces present femininity in correlation with leisure, while the non-

fiction content in the magazine clearly shows that domestic femininity is inextricably bound to work (Shuttleworth et al., "Women, Science and Culture" 62). The type of work that is entrusted to and expected of the woman is the subject of this chapter. Scientific content in almost every instance in the first series is presented in a way meant to instruct the woman in her socially-constructed role, in which domestic work in the home is her employment and, as a result, a sphere within which she has great influence and power. The historical focus of the social-role perspective suggested by Isabelle Thompson reveals that the EDM set out to instruct and educate the Victorian woman in her work at home, a goal which increased a woman's power in her home but also in some ways limited her to it. However, because of the historical definition of social roles evidenced by the use of scientific language in periodical titles like the *EDM*, some subject matter, especially that related to work traditionally performed in the home such as cooking and childcare, has retained a definite gender bias, which has led to questions surrounding the definition of technical communication and how that term is applied to both recent and historical artifacts. Non-fiction content in historical periodical publications, especially when it is scientific or instructive (as much non-fiction content is), reveals what a woman is supposed to "do" to perform her social role and adds another possibility to consider when discussing the definition of technical communication. The ephemeral and everchanging nature of social roles prevents them from being seen in totality, but important facets of a woman's historical social role can be identified by looking closely at the way science and instruction is written for her over time. The non-fictional content in the EDM reveals the roles a woman was socially expected to fill in the 1850s and 60s, and since she bought the magazine in record numbers, she apparently agreed.

The First Series (1852-1859)

The first volume of the *EDM* opens with the essay, "Female Education." The writer states:

In advocating the extension of female education to all classes of society, we must not be understood as recommending that kind of education which prevails almost universally among higher circles. Showy accomplishments may win a husband, but can do little towards making him a happy one...it must be the aim of a sound system of education to cultivate those sterling qualities which will make a good wife, instead of imparting a superficial polish which only gives the *appearance* of one. (*EDM* I 1852: 2)

Subjects for female education listed in the essay can be categorized as either knowledgeable, for expanding the mind, or practical, for becoming a good wife and mother. The essay's author declares that spelling, reading, writing, and arithmetic are to be the basis of a female education, as well as (but to a lesser degree) geography and history, with spelling the most important. The author also "does not know of anything more fatal to sentimental appreciation, or more calculated to make a woman ridiculous, than glaring defects in orthography" (*EDM* I 1852: 2). These subjects, as important as they are to increasing a woman's knowledge, do not serve the practical purpose of domestic instruction, and it is to domestic duties "that the utilitarian part of a female education should be chiefly directed." Knowledge of cookery, cleaning and washing, caring for children, and economical modes of household management are listed as the skills a woman should strive to acquire, so "that her home, however high or humble, shall never be deficient" in the qualities of cleanliness and neatness. While science is not

explicitly listed as a subject a woman should study in her education, many of the domestic skills a woman is most strongly encouraged to develop are indeed scientific in nature: cookery, cleaning, and washing all rely on specific chemical reactions; caring for children requires biological knowledge of causes of sickness and remedies to restore health; and effective domestic management, as mentioned by the essay, would require such skills as the economic use of heat within the household and the cooking and preserving of seasonal fruits, vegetables, and meats. These instructions can be seen as a precursor to the idea of "domestic science" as a distinct discipline; while the Oxford English Dictionary does find the term "domestic science" in use until 1889, these skills can certainly be seen as the foundation on which the discipline was built. As a close reading of the non-fiction content of the *EDM* demonstrates, scientific knowledge, though not explicitly stated, forms the foundation of the domestic knowledge that is most important for a woman to acquire. In almost every instance, science is focused as domestic knowledge in order to instruct and educate the woman reader in her social role.

Most prominently, the first series of the *EDM* presents the woman as the caretaker of the living things in her household, specifically plants, children, and animals. She is responsible for their nourishment, happiness, and cleanliness; when they are ill, she is to nurse them; when they are well, she is to keep them that way; and above all, there is a method to performing these tasks that can be found within the pages of *The Englishwoman's Domestic Magazine*. "The Flower and Fruit Garden" series is the first of the instructive content to appear in the first issue (May 1852) of the magazine, and begins with a lesson on seasonal flowers (fig. 4.1). The Latin name (*Galanthus nivalis*, or commonly Snowdrop) of the flower of the month is given, which is not unusual, as

botanical science was a popular interest and pastime of women (Shteir 18), but the informational lesson about the Snowdrop leads into instructions for planting best done in May. The tone of the instruction is direct and does not invite questioning by the reader, which seemingly establishes an authoritative role for the sender of the information (the editor of the magazine), and a subservient role for the receiver of the information (the reader). It is through his tone that the editor establishes his authority, as he does not provide reasoning behind his directives. The month of May

is considered the best month in the year for sowing biennials such as Purple Rockets, Hollyhocks, Wallflowers, Canterbury Bells, Rose Campion, Scabions &c. Mignionette and China Astors should be sown the 1st week of the month; sow Balsam and other tender annuals for a late blow. (*EDM* I 1852: 29)

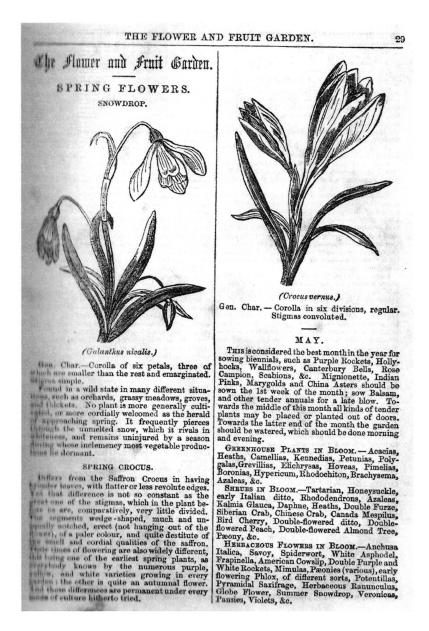


Figure 4.1. Illustration accompanying "The Fruit and Flower Garden," Englishwoman's Domestic Magazine, May 1852

There is no mention of soil conditions, precipitation levels conducive to growing certain types of plants, or from what source the editor acquired this information himself—it is simply presented as what should be done, without answering the question of "why?" Several possible reasons might account for the absence of explanation: one, that there simply is no room in the column (while it takes up an entire page, it is accompanied by

two illustrations of flowers which take up over half of that space); two, that the information was possibly supplied by a contributor who did provide the details which seem to be lacking; three, that the information is observational knowledge and the editor has no scientific basis for it; and four, that the writer assumed that the female reader is able to glean from the column what she is to do, and therefore needs no additional information to perform her task of planting flowers that will thrive in May. These instructions, when read alongside the tenet of social-role theory that women are shaped from childhood to be more subservient to authority than men, it seems likely that the editor (a man) saw his audience (women) as subservient and less likely to question his authority or instruction, making further explanation unnecessary (Eagly 24). Margaret Beetham has explained this idealized readership (created by the editorial decisions on content) thus: "cultural tensions and contradictions about women and beliefs about femininity were enacted in the pages of periodicals, from early examples in the eighteenth-century into Victorian domestic magazines and the new journalism of later times" (Shteir 17). These editorial decisions on scientific content construct an idealized female reader that is not entirely accurate, a disconnect which can be seen later in the "Englishwoman's Conversazione," a correspondence column appearing in the new series in which the magazine's editors answer queries by actual readers. However, in the next month's installment of "The Flower and Fruit Garden" (June), in addition to the short instructions to "Sow biennials and perennials for next year, if omitted last month. Prick out seedlings.," there are instructions on "How to Exclude Worms from Flowerpots":

> First, put about an inch layer of broken glass in the bottom of the pot, and over that place a perforated piece of zinc plate which just fits the circle of

the pot. The worms have a great antipathy to zinc, on account of its galvanic influence, while the broken glass supports the thin slate and permits the ingress and egress of water. (*EDM* I 1852: 61)

As this advice appears to provide an uncharacteristically scientific answer to the question of why the reader is to use zinc to rid her flowerpots of worms, I hypothesize that the editor included it for a reason other than to inform and educate readers: galvanism is a popular scientific concept the Victorian woman reader might have recognized from literature, as electric shock, or galvanism, is the method by which the monster is brought to life in Mary Shelley's Frankenstein. If this is true, the scientific aspect of the explanation is legitimized and made appropriate for the woman reader by its tie to literature and popular knowledge and may well have been left off otherwise. Of this first volume of the EDM, June's "Fruit and Flower Garden" is the only other installment of the series which offers a truly scientific explanation for why the reader is to do what she is told. The series is carried over into the second volume of the magazine, which by now boasts a readership of 25,000 (EDM II 1853: iii), with more of the same instructive language. The June 1853 installment advises which seasonal flowers best harmonize with the colors of others to make a pretty garden, and July through March 1854 (the series is not retained in the third volume) heavily favor instruction over explanation. Though relatively short-lived, the series situates the care and cultivation of flowering plants firmly within the woman's realm of responsibility and provides the instruction she needs to complete the task, though she gains little knowledge from her endeavor.

"The Sick Room and Nursery" series also begins in the first volume and instructs woman readers on health-related topics. Many of the topics are related to the care of

children, and if they are not specifically for the nursing of a child, there is often an alternate method given for that purpose. In the first installment is the administration of castor oil, which advises

If good, the oil is thick, which renders it more difficult to swallow. For this reason it should always be warmed at the fire, which will render it as thin as olive oil. The spoon with which it is administered should have the rim touched with lemon juice, the acid causing the oil to glide off easily. This method is by far the best for children, as it is desirable the oil should be administered in a pure state. For adults an excellent plan is mixing the oil with warm milk, taking care to stir the mixture until the two are properly blended. (*EDM* I 1852: 30)

In June's installment, three of the four "Sick Room and Nursery" tips are for children specifically; one, for the treatment of "hooping-cough," recommends administering ipecacuanha (ipecac, used to induce vomiting) to encourage the cough and leeches applied to the sides of the throat in the case that the child can't breathe; the recommendation to breastfeed infants unless the mother isn't well, in which case a calf's teat should be tied around the neck of a bottle and a mixture of raw egg yolk, milk, and water fed through it; and the somewhat alarming "How to Prevent Children's Clothes Catching Fire," which recommends rinsing the clothes in alum-water. Similar to "The Fruit and Flower Garden," this series instructs without explaining the scientific basis for why these methods work and rarely discusses the causes of the afflictions they address. An exception to this tendency appears in the October installment (which seems unusually concerned with digestive issues), in which the editor advises on "The Importance of

Chewing Food Well: "The more [food] is broken down, well pounded, and mixed with the saliva, which instantly issues from six glands or vessels in the interior of the mouth, during eating, the less work there will be to do in the next process—digesting" (*EDM* I 1852: 182). The editors also provide a list of foods and the time it takes to digest those foods; for example, boiled rice takes one hour, cold bread and milk two hours, and potatoes take three hours and thirty minutes to digest. The biological function of salivation is explained in slightly more detail than is characteristic of the series. This installment also indirectly addresses the length of time appropriate for breastfeeding mothers to nurse their children, under the guise of providing information about a nursing infant's digestion of breast milk:

The moment a mother's milk enters the stomach of her babe, the milk begins to coagulate, and the gastric juice collects or extracts the nourishing substance from it, the water or whey being absorbed by the capillary vessels. In after-years, the result would be very different in the same individual. (*EDM* I 1852: 183)

The "after-years" are vague, not specifying a recommended age for weaning, but the last tip in October's installment seems to recommend that the onset of dentition is the point at which solid food should be given and nursing to cease: "During infancy, the best food is what nature provides, milk; as it contains every element needful for and best suited to the nourishment and growth of the body. No food should be given requiring mastication till infants have teeth" (*EDM* I 1852: 183). In these examples, scientific explanation is provided as a way to seemingly convince the mother that while nursing a child is beneficial to the child's health in infancy, it is not beneficial in the "after-years" and

should cease when the child is able to chew solid food. This seemingly educational information is tinged with the implicit instruction on when to wean a child, the appropriate age for which was probably informed more by social norms and ideas of propriety than biological science. "The Sick Room and Nursery" also addresses the common maladies of nosebleed, eye inflammation, digestion, treatment for burns, rheumatism, corns, sprains and bruises, chilblains, whooping cough, and toothache; interestingly, one remedy recommended for toothache relies on the galvanic influence of zinc, and is accompanied by an explanation of how the treatment works, just as it is explained why zinc is effective in keeping worms out of flower pots:

Take a piece of sheet zinc, about the size of a sixpence, and a piece of silver, say a shilling; place them together and hold the defective tooth between them or contiguous to them; in a few minutes the pain will be gone as if by magic. The zinc and silver, acting as a galvanic battery, will produce on the nerves of the tooth sufficient electricity to establish a current, and consequently relieve the pain. (317)

That the efficacy of this particular treatment is explained in detail when other toothache treatments are not seems to indicate that galvanism is a topic with which readers are assumed to be familiar. "The Sick Room and Nursery" series concludes at the end of the fourth volume in April 1857 and is replaced by two separate series addressing many of the same issues. "The Nursery" occupies one column of one page in volumes five and six, and "The Doctor" provides medical advice throughout the fifth volume. While the nursery advice in volumes five and six is similar to the information provided in "The Sick Room and Nursery" in volumes one through four, "The Doctor" establishes authority

over the medical advice it doles out both in title and in format. This new medical advice series groups maladies by topic (for instance, "Bites and Stings" of various animals and insects appear in the first installment in April 1856). The tone of this series is more authoritative and structured than in "The Sick Room and Nursery," in which submissions from contributors are included and acknowledged, perhaps because the medical information is no longer grouped with information about the care of children and numbered bullets are used to separate information by category. "The Doctor" series is followed by the appearance of "Surgeon's Advice to Mothers," once again emphasizing the care of children as a woman's responsibility. In this series, medical information is presented in narrative form, and biological processes of the infant body are discussed at length in fairly scientific terms. The first installment focuses on the baby's lungs and digestive system. The introduction to the first installment and the series states its purpose:

so that the youthful mother may know something more of her infant than the material beauty that lies in her lap, and, and by gaining some insight into the animal mechanism of the matchless "piece of work" that God has intrusted [sic] to her love and guardianship, she may better understand its ailments, and minister to its wants. (*EDM* VII 1858: 90)

Respiration is explained as it relates to baby's first breath after birth and includes the skin as an important organ in the respiratory system. The article shies away from the highly prescriptive language present in "The Sick Room and Nursery," presenting itself as informational rather than instructive, though near the end it does recommend a hot bath for the relief of respiratory problems: "The hot bath, by causing a larger amount of blood to rush suddenly to the skin, has the effect of relieving the lungs of their excess of blood,"

which the article posits causes lung obstruction and difficulty breathing. "The Stomach – Digestion" is purely informational, explaining how the infant digests and receives nutrition from milk. The article gives no direct instruction on the feeding of infants, but implicitly advocates breastfeeding on the assumption of the article that the reading mother is nursing her baby herself rather than providing it some other form of nourishment, and praising breast milk (and the biological processes by which the baby derives nutrition) as "sublime and wonderful" (*EDM* VII 1858: 92).

Volume six of the EDM (April 1857-March 1858) it is the only volume of the first series of the magazine which does not contain a dedicated column focused on caring for children. Two short articles appearing on page 63 address healthful room temperatures for infants and how to clothe a child when means are limited. The latter recommends specific quantities of clothing for a baby, emphasizing that "When means are limited, cheap materials and plenty of them, should rather be considered than fine materials and a limited quantity, as cleanliness is of paramount importance and cannot be maintained without a daily change of everything" (EDM VI 1857: 63). Despite this anomalous volume in which the care of children occupies relatively little space, both instruction and knowledge related to the care of children figure prominently in the content of the first series of the EDM, indicating that a significant part of a woman's societal role at this time was caring for children inside the home. Volumes one and two of the first series of the EDM similarly include an instructive series, "The Management of Household Pets," which instructs in the care of small animals such as birds, goldfish, rabbits, chickens, guinea pigs, and dogs, but the series is abandoned in the third volume, seeming to indicate a lack of interest either by readers or by the editors themselves.

Few columns endured through the entire first series of the EDM as the editors continually modified its format in response to the interests of its ever-burgeoning readership. According to the preface to the second volume, the magazine's editors' aims are directed "as much to the useful as to the agreeable, as much to the elevation as to the amusement of English Mothers, English Wives, and English Daughters," and corollary with that aim "new features of interest will be introduced into the Magazine, while those which have proved most acceptable will be retained" (EDM II 1853: iv). The "most acceptable," longest-running columns were the aforementioned series about the care of children, as well as the cookery columns "Receipts for Cookery," "Cookery, Pickling, and Preserving," and the personal hygiene column "The Toilette." These series, which occupy a substantial amount of space in the magazine, indicate that overseeing both the nourishment and personal hygiene of her family were the woman reader's responsibility in addition to the care of children. "Receipts for Cookery" and "Cookery, Pickling, and Preserving" alternately appear in the EDM's first series and instruct the reader on meal preparation and on foods that are in season for the month in which the issue appears. There is often a recipe for the preparation of meat, a lesson and diagram for how to carve it (fig. 4.2), and additional recipes or instructions for preserving fruits and vegetables.

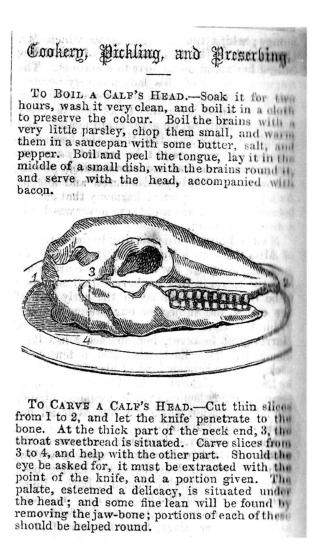


Figure 4.2. Instructions for carving a boiled calf's head from *The Englishwoman's Domestic Magazine* December 1853

Instruction dominates, with no explanation behind the process of preserving and pickling.

The information provided by "The Toilette" is administered similarly; for example, a treatment for warts appears thus:

These are got rid of in various ways. Some tie a thread around their base, but a better plan is to have a piece of thick paper, with a hole cut in it, the size of the wart; this is put over the wart, and then every morning a drop or two of the strongest ascetic should be dropped through the hole upon the

wart. If this do not succeed, dropping oil of vitriol (sulphuric acid) in the same way will answer. (*EDM* I 1852: 193)

Most of the tips given in "The Toilette" are for preparations used on the skin, hair, and teeth, and the effects of some need no explanation; for example, a preparation for "carnation lip salve" lists olive oil as an ingredient, which is a known moisturizer.

However, the effect of acid on the skin is not explained though it seems as if the knowledge of the effects would be valuable, particularly if the acid would be used on a child. Exception to this rule appears in the June 1852 installment, in which the efficacy of a tooth powder preparation is explained:

In the constituents of a good tooth-powder, the first in importance should be charcoal—especially lime-tree charcoal. It possesses the property of destroying the disagreeable odour of carious teeth, and when left in the spaces between the teeth has a disinfecting action on the particles of food which collect there. (EDM I 1852: 59)

This scientific explanation is one of the rare departures from the magazine's almost purely instructive rhetoric, underscoring that women readers were seen as receivers rather than processors of information because of the social role they occupied.

The New Series (1860-1864)

The New Series of the *Englishwoman's Domestic Magazine* resembles its former series in little but name. The new format of the *EDM* is larger in size and now provides readers with fold-out patterns; hand-coloured steel-plate fashion engravings from Paris; short stories and serialized popular fiction; essays and book reviews; series on botany,

birds, and The Domestic History of England; and a correspondence column in which the editors "carry on a conversation with subscribers on any topic that they may broach, and to which it may be considered sufficiently interesting to devote a portion of our space" ("Preface" 8). Unlike its predecessor, the New Series does not devote a substantial amount of space to domestic matters, signaling a significant shift in the magazine's idealized audience. Through the addition of more fiction, poetry, and fashion, and the omission of the instructional columns which advised a woman in her work in the first series, the new series of the EDM seems to be written for a wealthier, more fashionable audience possessing more leisure time than readers' had before. This shift towards woman as a leisured subject leaves little room for scientific material ("Introduction," http://www.sciper.org/browse/ED desc.html>). Only in volumes one and two of the new series of the EDM does a column devoted to the work of domestic management appear. "Home Arrangements and Domestic Economy" occupies only one page of each issue from May 1860 to April 1861, listing "Bills of Fare for Dinners" in the month the issue appears, recipes (two or three, and interestingly list the ingredients before the "mode," unlike in the first series), "The Flower Garden," "The Orchard and Fruit Trees," and "The Kitchen Garden." Each topic is brief and instructive, as in the first series, with no explanation of why the woman reader is to perform these tasks in the prescribed way. Some scholars have asserted that new format of the EDM and its consequent shift in ideology was a result of the influence of other magazines oriented toward the middle-to upper-middle class woman (whose primary role was to care for her home and family): it was just two years before the magazine's first format change that The English Woman's Journal, the "mouthpiece of the early women's movement," appeared in 1858 (Dredge

133). The English Woman's Journal, edited by Bessie Raynor Parkes and Mary Hays, was more politically-oriented than many of the other women's journals of its time and increasingly influenced the content of more moderate publications such as the EDM (Auerbach 122). Others have attributed the shift to the financial success of the first series, the increased security and capitol of which allowed the Beetons to expand the magazine in order to compete with other women's periodicals, which were increasingly concerned with fashion ("Introduction," http://www.sciper.org/browse/ED desc.html>). I, however, have an additional theory about the omission of domestically instructive content that has little to do with the influence of other publications, save for one: the Beetons' own Book of Household Management. An advertisement in the October 1859 issue of the last volume in the first series of the EDM announces that the Book of Household *Management*, edited by Mrs. Isabella Beeton, was due to be published in parts beginning 1 November 1859, and an answer to a correspondent in the "The Englishwoman's Conversazione" for November 1861 states that the *Book of Household Management* has just been completed. It seems to be no coincidence that columns concerning domestic instruction are scant during the two years in which the Book of Household Management was being published in parts, for the Beetons would have been doubling their efforts between the magazine and book, possibly to the detriment of eventual book sales. Excerpts from the book appear upon its completion in the November, December, February, and April issues of volume four (1861-1862), with this introduction: "We believe the following recipes in cold meat, game, and fish cookery, from Mrs. Beeton's "Book of Household Management," will be very acceptable to our readers, more especially at this season, when cold dishes are for the most part unpalatable" (EDM N.S.

IV 1861: 47). Correspondents are also often referred to the book when requesting recipes, as in the January 1863 issue:

For ourselves, we take this opportunity of answering many letters we receive as to the advisability of printing in this Magazine recipes from time to time. The truth is, the two books by Mrs. Isabella Beeton—one called "The Englishwoman's Cookery," price 1 s.; and the other "The Book of Household Management," price 7s. 6d—contain most things needful to be known in the arrangement and conduct of a house from kitchen to attic. (*EDM* N.S. V 1862: 144)

These references to the *Book of Household Management* and the Beetons' many other publications (*Beeton's Penny Dictionary, The Englishwoman's Cookery Book*) uses the magazine to market other Beeton publications to the *EDM*'s large readership.

Correspondents' requests being answered in this fashion suggest that readers still wanted and actively requested the domestic information that would allow them to smoothly run their home, but that the "work" of running a home was something the Beetons were increasingly trying to separate from the pages of the *EDM*.

Loosening the bind between the woman and her domestic self in the new series allowed the magazine more opportunity and literal space to present new types of scientific knowledge. One notable addition to the second series in the magazine is the series "Beautiful Birds," which was introduced in the May 1861 issue, and which described different species of birds accompanied by a black-and-white engraving. The birds described in the series are the Hummingbird, Mockingbird, Parrot and Macaw, Flamingo, and the Bird of Paradise. It provides information about each bird's habitat,

eating and breeding habits, and behavior, but the birds are noted more enthusiastically for their physical beauty than for their interesting habits. A similar series, "Concerning Precious Stones," appears late in the sixth volume (March of 1863) and continues through the first two issues of volume eight (February 1864). A small amount of geological knowledge is included, as in this description of garnets:

Garnets are composed of silex, alumina, and a small portion of oxide of iron, from which they derive their beautiful colour. When there is an excess of it, their play and splendour are injured, and the color is a reddish-brown...The alkalised earths—such as lime, magnesia, and, still better, potash—seem to intervene as solvents; for alumina, completely dissolved acquires crystallisation of which, by itself, is not susceptible. (*EDM* N.S. VII 1863: 130)

The focus of "Concerning Precious Stones," though, is not their geological makeup—it is their beauty, rarity, high cost, and connection to wealthy people. Though the amount of scientific content is reduced in the second series, what exists (and what is lacking) is telling about the social role to which the new series of the magazine was catering. This implied reader spent little time on domestic work, possibly because she had servants (indeed, an essay appears in volume seven titled "Domestic Service," which facetiously begins "Oh! those dreadful servants!"), was an admirer of beautiful things like tropical birds and gemstones, and was a reader of poetry and fiction. This series of the magazine does not instruct a woman on what she is to do to perform in her feminine social role, because her role is no longer inextricably bound with the work of the home; instead, it

defines her social role by informing her of what her interests are (or should be) and whom she should admire.

Not all readers were satisfied with the format change, however, and wrote to the magazine frequently with their unanswered inquiries. Introduced in the new series, "The Englishwoman's Conversazione" was a correspondence column in which the editors answered queries and requests sent by readers. The column effectively illustrates the difference between the editor-created idealized reader and the magazine's actual readership, and it shows a divide in the scientific and instructional content women readers were receiving in the magazine as opposed to the content they wanted to receive. The first installment of the column answers a query from Millicent Turnbull thus: "'Wayside Weeds and Forest Flowers' will be commenced in our next number. The first part will be devoted to directions for collecting, examining, drying, and preserving wild-flowers" (EDM N.S. I 1860: 48). The column in question was promised in the preface to the new series, and this particular reader was quick to point out that it had not appeared. Readers often wrote to the editors requesting the type of information that was commonly found in the first series of the magazine, including preparations for the skin and the hair, recipes for tooth cleansers, instructions for dying the hair, and treatments for minor maladies. Readers were persistent in seeking this information, as can be seen in the case of Miss Ava Sinclair. In the July 1860 issue of the magazine, a Miss Ava Sinclair writes to learn of the composition of the cosmetics used in the time of Charles II, "which really had the power of calling the crimson stream of blood to the exterior fibres of the cheeks and producing on the cheeks a beautiful rosy colour, like the bloom of nature itself," and asks "if it is injurious to the skin," as she is "very anxious to make a trial of it herself" (144).

The next month's "Conversazione" attempts to answer Ava Sinclair's question with a recipe provided by a St. Swithen (presumably a druggist and reader of the magazine himself):

The marvellous cosmetic employed by the beauties of the court of King Charles was merely a tincture of benzoin, precipated by water which Miss Ava Sinclair can prepare for herself with the greatest facility. A small piece of gum benzoin must be boiled in spirits of wine until a rich tincture be the result, and fifteen drops of this tincture in a glass of water form a wondrous bloom-inducing liquid. (192)

However, this response to Miss Sinclair is not entirely clear, and in December the topic is addressed again, with the instructions that the "bloom-inducing liquid" is to be applied to the skin rather than imbibed. Though the "Conversazione" does not print the letters from the readers, it can be inferred from the editor's response that the nature of the query was whether the preparation should be drunk or applied to the skin, and this particular response is addressed to "Maggie P. and others," implying that more than one reader was unclear about how to make use of their homemade cosmetic (*EDM* N.S II 1860: 96). In his case the editor, again, did not supply the information the reader needed, to the detriment of clarity. Another response to Maggie P. in the January issue reads:

In an attempt to satisfy Maggie P—St. Swithen is a man of peace, who possesses a heart overflowing with philanthropy, and he is deeply grieved that his reply to Ava Sinclair should have been so obscurely worded as to leave any doubt in the mind of Maggie P as to the manner in which the preparation of gum-benzoin is to be applied. At the invitation of the editor,

the pacific St. Swithen will enter the lists, and as unskillful though he may be, he will do his utmost to finish off the Englishwomen whose complexions are so far from being what they should. If Maggie P have any great desire to imbibe the cosmetic, St. Swithen does not see any reason for supposing that it will have an injurious effect. (*EDM* N.S. II 1861:192)

Other popular requests for instruction in cosmetic matters are for recipes that would facilitate the removal of freckles and the softening and whitening of the skin of the hands and the removal of hair. These numerous requests open up the possibility that the woman reader's own focus was less on her family and more on herself than it had been in the past, though it cannot be determined whether she followed the magazine's lead or it followed hers. Requests for medical advice were common as well, though instead of advice the editors would often recommend the sufferer turn to the Beeton Medical Dictionary or a medical professional to treat their ailments. In the August installment of the "Conversazione" appeared a response to Helen from the editors: "We would rather not give our opinion on the subject on which you write, but physicians do say that red noses are among the injurious effects of tight-lacing. A word to the prudent is enough!" (EDM N.S. I 1860: 192). "Tight-lacing" refers to the practice of tightly lacing corsets, a highly controversial practice in the nineteenth-century, both in America and Britain (Steele 88). The controversial nature of tight-lacing may be why the editors would rather not give their opinion on the topic, though the reader's medical concerns are valid. There was certainly an opportunity for the editors to scientifically explain the corollary relationship between tight-lacing and red noses (if there was one) to further underscore their opposition to the practice, but no further explanation is offered. Interestingly, this

letter from Helen is the first letter on tight lacing that appears in *The Englishwoman's Domestic Magazine*; between 1867 and 1874 there were 150 letters on corsetry printed in the magazine, showing an increasing interest in the medical effects of tight lacing as a practice (Steele 88). When these answers to requests for specific information appear, the reason why tight-lacing causes a red nose or why a freckle-removing recipe or a depilatory treatment works is not provided, which is characteristic of the way the *EDM*'s editors provide instructive material. An odd exception appears in the November 1860 installment of "The Englishwoman's Conversazione." Reader Ida writes, "Can you tell me what to do to get rid of those little black spots, which, by the nose's side hundreds come?" The lady is writing simply about blackheads on the skin, but in this case the editor provides a lengthy response, as well as scientific drawings of the "parasite" said to be living in the pores:

Now we are given an engraving of *entozoon folliculoma*, a remarkable parasite found beneath the skin of man, and especially of men living in large towns. They are to be seen wherever fat glands are abundant, such as the forehead, the sides of the nose, and the lips, and the angles between the nose and the lips, not quite so large, to be sure, as the artist has drawn them, nor is the whole body exposed at one time, as in the drawing, but if that part of the face where the little black spot appears, be squeezed rather hard, the oily mater there accumulated will be forced out in globular form, and if this is laid on a glass slide and a small quantity of oil added to it, to cause the separation of the harder portions, the little animal in all probability will probably float out. After the addition of more oil, it can

then be taken away from the oily matter by means of a fine-pointed sable pencil brush, and transferred to a clean slide. When done it should be immersed in Canada balsam and covered over with thin glass, when it will be ready for inspection. (*EDM* N.S. II 1860: 48)

The inclusion of so much scientific information in response to a cosmetic query is uncharacteristic of the way these types of queries are usually answered by the editors of the *EDM*, especially in using the scientific name of the "parasite" (an illustration of which is included; see fig. 4.3) and describing a scientific preparation of a specimen slide. This content does not come directly from the magazine's editors, though—it is credited to a "The Manuals of the Microscope," a scientific series originally printed in *The Boy's Own Magazine*. This credit to *The Boy's Own Magazine* seems to legitimize the inclusion of this degree of scientific explanation in the woman's magazine.

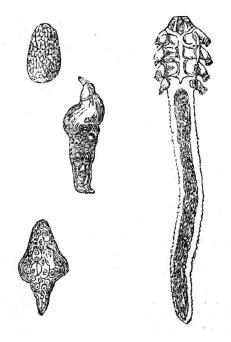


Figure 4.3. Illustration from November 1860's "Englishwoman's Conversazione," *The Englishwoman's Domestic Magazine*

Possibly in response to the many cosmetic queries answered in "The Englishwoman's Conversazione," in volume eight of the magazine "Perfumery and the Toilet, A History" is introduced as a twelve- part series. The series combines the history and cultural contexts of perfumery with scientific information about olfactory function, flower scent production, distillation, and even embalming, written by Eugene Rimmel, a French perfumer and businessman who manufactured and marketed some of the earliest commercial cosmetics. Eugene Rimmel's early efforts in advertising his product in theatre programs have led to a multi-million dollar cosmetic company, Rimmel London, whose print and television advertisements now feature edgy Londoner Kate Moss. Installments 11 and 12 of Rimmel's series appear in the last two volumes of the EDM before yet another format change takes place and present the more scientific processes of perfumery—distillation, expression, maceration, absorption, and enfluerge (a recently developed method of capturing the scent of flowers). Because this scientific information is obviously not meant to be instructional, the average woman would most likely not have the equipment in her home needed to produce perfume but, in educating her in the processes of perfumery, seems to also instruct the woman reader in her consumption of perfume and products for the toilette, advising her to

remember that if a woman's temper may be told from her handwriting, her good taste and breeding may as easily be ascertained by the perfume she uses. Whilst a *real lady* charms us with the delicate ethereal fragrance she sheds around her, aspiring vulgarity will as surely betray itself by a *mouchoir* redolent of common perfumes. (*EDM* N.S. IX 1864: 310)

This example clearly illustrates that education (both scientific and practical) within the pages of women's periodicals was often synonymous with instruction on how to fulfill woman's socially constructed role—here, the "real lady" and, in the first series of the *EDM*, the caretaker of home and family.

The remaking of the Victorian woman and the notion of femininity can be seen upon the pages of women's periodicals such as The Englishwoman's Domestic Magazine, which evidenced woman's social role in the type of science and instruction she was provided. From the format change of the EDM we see that the magazine that once successfully commoditized domestic instruction later set the woman as domestic manager aside in favor of a new woman, whom it instructed in a new, more leisured role. Such domestic subjects as recipes and the care of children are no longer the prominent features of the magazine, often being relegated to the correspondence columns at the back of the magazine (Beetham 75). It is in this shift that domesticity seems to be relegated by the magazine's editors to a secondary status, though reader requests in the new series still show a healthy appetite for such matters. By the conclusion of the new series of the EDM, practical domestic instruction in what a woman was to do to perform in her domestically-focused role was replaced by ideological instruction in what a woman was to be as a genteel woman of leisure, binding science to domesticity and casting them both into the penumbra of the woman's new, less domestic social role.

CHAPTER V

SCIENCE AND EDUCATION IN ELIZA COOK'S JOURNAL

While the *Englishwoman's Domestic Magazine* used science to instruct woman in a role that primarily involved caring for her home and family, *Eliza Cook's Journal* emphasizes a different role—that of educator. This role stresses the value and importance of the work involved in educating oneself rather than emphasizing the physical work of managing the home. In addition, the *Journal* presents moral education, often presented through the conduit of religion, through natural science instead, a rhetorical strategy which imparts authority and a sense of truth to subjective moral lessons. Throughout the publication science underscores the value of observational knowledge proven by science rather than speculative knowledge inherent in religion, especially when the reader is assumed to be a mother, because her primary social function (as evidenced by many of the articles in the *Journal*) in receiving education is to pass it on to her children.

Eliza Cook's Journal was a weekly miscellany founded and edited by the famed poet Eliza Cook in 1849. The commencement of the journal was announced by a prospectus (fig. 5.1) issued by the publisher, and the first issue appeared Saturday 5 May of that year and was published by John Owen Clarke, 3 Raquet Court, Fleet Street in London. The final issue appeared in December 1854 and the magazine reportedly achieved a weekly circulation of 50,000-60,000, a number higher than the circulation of

Charles Dickens's popular Household Words (Smith 51). Cook's first article in the first issue of the journal states her goal for the publication, which was to offer her readers a "combination of utility and amusement" within its pages. It sought to achieve this goal through poetry, fiction, and non-fiction columns by Cook and various contributors on the topics of education and employment for women, natural history, flowers, birds, and cooking. Education and instruction in domestic activities occupies proportionately little space in this publication, which favors educational non-fiction content, signifying a different type of relationship between the editor and reader than can be seen in *The* Englishwoman's Domestic Magazine; rather than being presented as passive receivers of information and instruction, readers of Eliza Cook's Journal are expected to process the educational information they receive and actively apply it to improve their lives and the lives of others. Empowering rhetoric on the topics of education and employment encourages women readers to act, giving them the agency to reform their lives and society through knowledge and education, recognizing the power in their maternal role, but not confining them to it (ECJI 31). The position of Eliza Cook's Journal with regard to woman's maternal role is that she will better fulfill her role by educating herself, as her children will receive a better education if she herself is educated:

The relationship in which the mother stands to her child is such, that it requires on her part all that intelligence can command, all that self-discipline can accomplish, to enable her to fulfil [sic] the important office to which she is invested by nature...the development of the unfolded germ of human existence, and the sentient principle, and, above all, the fitting of

the immortal part for the performance of its duties here, and for an eternal hereafter; this mighty work devolves upon the mother. (ECJI 31)

This position explains why the *Journal* includes much of the educational content it does, and provides the woman reader with the means to educate herself and better her children for the price of one penny a week. The *Journal's* low price allowed for the inclusion of working class as well as middle-class women among the ranks of its readers, and it addresses them directly in numerous articles. Like the *Englishwoman's Domestic Magazine*, the *Journal* seeks to instruct woman in her social role, and does so most evidently through the scientific content it provides to her. However, woman's social role as it is indicated by the *Journal*'s scientific content differs from that indicated in *The Englishwoman's Domestic Magazine* in that woman's work is not exclusively assumed to be performed in the home, and educational and instructive scientific content reflects that. As the ultimate purpose in educating woman readers is for them to pass their knowledge to their children, the emphasis is on education rather than explicit instruction.

On Saturday, May 5, 1849, will be Published, the First Number of

ELIZA COOK'S JOURNAL,

A Weekly Perindical,

PRICE THREE HALPPENCE,

CONTAINING

LITERARY MATTER OF INFORMATION AND AMUSEMENT.

The aim of this Journal will be to instruct and to please—to minister to the welfare of all—its Principles being the advancement of Social Happiness and Mental Intelligence. The Work will be dedicated to all classes, the Editor feeling convinced that the reading which is qualified to raise the toilers and "the many" in virtue and honourable dignity, cannot prove offensive to those who are worthy of their place in the "upper ranks."

The Journal will recognize the broad claims of Humanity. Education, Temperance, Economy, Public Health, and Recreation, will have hearty and cheerful advocacy. The Essays and Arguments will be adapted to general interests and improvements, tending to form a bracing atmosphere of Reason, rather than an etherized vapour of Excitement. Reviews of New Works will be given for the purpose of recommending honey rather than exercising a sting. Biographical Notes of the good and great of all ages—Occasional articles of practical import—as Emigration, Popular Physiology, Domestic Economy—The fireside Story, that seeks to "point a moral" in its familiar detail—and the voice of Song, breathing in homely love and sympathy, will form the varied features of the projected Journal; and our young friends will not be forgotten, for a page will frequently be given exclusively as their "own."

Earnest efforts will be made to render the Journal acceptable to all who possess the spirit of Progression and love of their kind. By such the work will be fairly tested, and so stand or fall.

The Editor trusts her Contributors to speak for themselves in the pages of the the JOURNAL, therefore does not deem it necessary to publish a long list of names and promises.

ELIZA COOK'S JOURNAL will be published every Saturday, and in Monthly Parts, stitched in a neat wrapper, by

J. O. CLARKE,

AT THE OFFICE OF THE JOURNAL, No. 3, RAQUET COURT

(NEARLY OPPOSITE ST. BRIDE'S CHURCH,)

Where all communications for the Proprietor, and Advertisements for the Monthly Parts, may be forwarded.

Figure 5.1. Prospectus announcing the commencement of Eliza Cook's Journal

Johanna M. Smith argues that the magazine's "double address" to women from both the middle and artisan classes intends to popularize science in order to further individual and social improvement (54). By extension, the *Journal* seems to attempt to popularize science by making it easily accessible to women from the middle and artisan classes and situating it as part of their daily lives, first by using the medium of the cheap

weekly publication as a vehicle and second, by incorporating science into fiction and instructive topics a woman would be familiar with, such as housekeeping and cookery. For example, one recurring series, "Chemistry for the Kitchen," links chemistry to cooking and uses scientific language and principles in its instruction in a traditionally domestic activity (*ECJ* I 148). *Eliza Cook's Journal* advocates education for women at every turn and provides scientific content to educate her so that she may educate her children, demonstrating that maternity is at the center of a woman's social role, though the work of domesticity might fall to the fringes if she is a reader from the lower or working classes.

The strong tie between a woman's education and her maternal role appears in an article published in the sixth issue (9 June 1849) of the *Journal*, titled "Industrial Schools for Young Women," which addresses the education of working-class women of women in general. The article laments,

Women are the worst educated part of the community. About half the grown women in England cannot write their names at marriage! This is proved by the Registrar-General's yearly return. Woman, the *educator*, is not educated! What can we expect of the children, when such is the intellectual condition of the mothers? (*ECJ* I 81)

The tragedy of woman's collective ignorance is not that her sex is degraded or oppressed by it, but that her children (future or present) will suffer because of it. This firmly situates education within the realm of woman's work at home, and through its pages *Eliza Cook's Journal* seeks to equip the woman reader with the knowledge-based tools she needs to educate herself and her children. The article titled "Woman" extends woman's educative

role even farther, showing her to be responsible for the moral education of her children as well as for cultivating their intellect, stating, "It appears to be the office of man's intellect to erect monuments of art; of woman's, to perfect those of God (108). "Monuments of art" in that description refer to works such as the melodies of Mozart or Handel, while "those of God" are children, who grow into the men who create those monuments. This language seems to exclude women from the realm of intellectual creation, but the article denies this:

What! shall we deny to woman all participation in the formation if these master works of art and science? No! indeed for the very foundations for these structures were laid by the noble precepts and refined feelings breathed into the minds of her infant children by Woman. (108)

In this example the educative role of the woman is so important that without it the great artistic works of the world would not exist, emphasizing to women readers the extreme importance of their role as the educators of children. The *Journal* established itself as a guide for women to fulfill this role, educating women readers so that they could, in turn, educate their children to achieve greatness.

To reinforce the woman reader's role as educator, the *Journal* itself assumed an educative role, imparting knowledge to women through scientific content they may not have encountered outside the pages of the periodical or by explaining the science behind everyday tasks such as preparing a meal. By applying scientific terminology and explanation to common duties, the *Journal* seemed to loosen the bind between the work typically performed by the woman in her home (cooking, cleaning) and traditional domesticity, as the instruction could as easily be used by a woman employed as a servant

or maid as by a woman in her own home. The "Chemistry for the Kitchen" series first appears in the 7 July 1849 issue of the *Journal*, introducing itself thus:

Perhaps there is no science to which the unworthy, and now almost exploded, remark of *cui bono* (what good) can be addressed with less show of justice than to chemistry. Whether we are aware of the fact or not, every act of our lives, waking or sleeping, in motion or at rest, feeding or fasting, is performed in accordance with chemical laws; and it is only in proportion as we adapt our actions to these laws, and endeavor to work with, and not against them, that our existence passes pleasantly and healthily. (148)

Accordingly, the chief difference between a good cook and a bad one is that "one operates in accordance with chemistry, and one in opposition to it." The article states that it does not set out to make chemists of cooks, but to provide them with information that will help them improve their processes (148). This series of articles uses the general address of "cooks," which could be mothers cooking for their own families or women employed in the homes of others. Whether a "cook" performed this work in her own home or someone else's, the instruction she is provided is meant for her in her particular workplace; the application of scientific language makes ambiguous the definition of what that workplace is (home or employment) and what function is performed there, creating a "double address" of the workplace. This ambiguity may have been intentionally used to blur the class or even gender lines between the readers of the *Journal*, or even to masculinize instruction in cooking so as not to exclude the occasional male readers. Gail Lippincott has examined the rhetorical shifting that has historically occurred when

writing on domestic subjects is produced for different audiences. She provides analysis of documents written by Ellen Swallow Richards, the first graduate of the Massachusetts

Institute of Technology, who wrote a report to the Massachusetts Board of Health in 1878 on the level of adulteration in food material sold in the state. In her report to the all-male Board of Health, Richards downplayed her gender and reinforced her authority as a chemical expert, a rhetorical move which allowed Richards to elevate the status of household work to that of scientific work in a laboratory (Lippincott 368). Similarly, "Chemistry in the Kitchen" applies scientific language and principles to the domestic subject of cookery as a way to loosen its bind both to women and the home. The second installment of the series addresses breadmaking:

Simple as the operation of making a loaf may be considered, little as our good country housewives may imagine it to do with chemistry, it is, in reality, a strictly chemical operation, during which, the decomposition of certain substances, and the formation of others, of a totally different character takes place; some of the solids of the flour being totally altered in their nature, spirituous vapours formed, and a gas generated in a very considerable quality. (275).

There is a tone of condescension toward the "good country housewife" that implies ignorance, though she may be the maker of the bread and the reader of the magazine. The condescension works to separate cookery from domesticity so that a non-domestic audience will not disregard the instruction and evidences the varied audience of the *Journal*, suggesting that readers are encouraged to be anything other than the "good country housewife" who knows nothing about the food she prepares. The third article,

titled "Animal and Vegetable Diet," also insinuates that a woman should be educated in the chemical principles behind food preparation:

The happiness and health of a household are far more affected by the way in which the mistress thereof dresses the family dinner, than by the manner in which she dresses herself; yet, most young women are perfectly competent to do the one, who, up to the day on which they assume the management of a household for themselves, have not given the slightest consideration to the other. How many are the couples, whom God has joined, but whom family dinners have put asunder! Let our female readers look to this! (*ECJ* II 39)

The tone of this passage is humorous, but the message is clear: the chemical reactions of cooking are important, and cooks (particularly women cooking for their families) should educate themselves on those processes. Other topics addressed in the "Chemistry in the Kitchen" series are on the chemical makeup of milk, salt, vinegar, and vegetables, and how each is to be prepared to retain the most nutrition. The scientific nature and language of the column loosens the bind between domesticity and cookery in a way that does not clearly demonstrate who the implied audience is, though it is obviously not just for the "country housewife."

In addition to the chemistry of cookery, readers of the *Journal* are provided with scientific information about birds, which, based on the *Journal's* positioning of woman as educator, was ostensibly knowledge she was meant to pass along to her children. The first appearance of this type of knowledge appears in the first volume under the title "Rooks and Rookeries." The article details the habits and habitats of the rook, a common bird of

the raven and crow family, which has a rather contentious (though false, as the author asserts) reputation among the people of England for being destructive to fields and trees. The author, M'Diarmid, defends the birds as intelligent, resourceful creatures that are "obliged to be on the wing earlier than any other bird" (ECJ I 39). In the context of the magazine's audience, the article is educational not only in the scientific sense, but in the social sense as well, as the rook becomes a natural metaphor for the working class woman reading the magazine and for the working class in general. In this context, the article subtly defends the working class by enumerating the valuable qualities of the common bird and debunking myths about its destructiveness or sloth, encouraging openmindedness in its middle-class readers and highlighting desirable character traits to instruct those readers who need the advice. The metaphor and its accompanying scientific and social knowledge would then be passed on to the woman reader's children as a replication of her own education, instilling in the children her interpretation of the message of the article. Similarly, "The Birds of the Moorland and Mountain" personifies birds as "free children of the wild," which makes the article's argument against hunting birds and other animals for sport all the more persuasive. In passionately arguing against "man [who] professes to love nature, and sets himself at war with all her children," the article incorporates ornithological information into a moral argument against hunting (ECJ V 36).² The scientific evidence of the birds' characteristics works to strengthen the article's argument by scientifically establishing that hunting for sport has a detrimental effect on the population of hunted animals. One example is the badger, "doomed to utter destruction by the indiscriminating butchers of the north," (the sportsman hunters)

² In a footnote to the unsigned article, the author cites *Game Birds and Wild Fowl: their Friends and Foes*, by A.E. Knox, MA, FLS. Author of *Ornithological Rambles In Sussex*. London: John Van Voorst.

because of the hunters' misconception that badgers preyed on the red grouse, a popular game bird. The article uses science to discredit this misconception:

He is no carnivorous feeder, but employs his long fangs and the immense muscular power of his jaws in wrenching up the tough roots of trees, and although he now and then dines off a batch of frogs, or picks the vertebrae of a snake, he almost invariably makes his meal of chestnuts, black berries, and beech-nuts; leaving the grouse at all events, to more sanguinary marauders. (*ECJ* V 37)

In this instance, science establishes empirical truth while also strengthening the moral argument against hunting for sport.

A geological series also appears, beginning in the second volume. "Geological Outlines" begins thus:

Geology is derived from two Greek words—Ge (the earth), and logos (a discourse or treatise)—and is the science which treats upon the original conformation, chemical, atmospherical, and mechanical changes, and other subjects connected with the crust of the globe we inhabit, so far as we have at present the means of judging scientific research, and the various theories founded thereon. (*ECJ* II 79)

Unlike in the "Chemistry for the Kitchen," there is no introduction to "Geological Outlines" stating the purpose of the series. The first installment provides information about the earth's crust, and subsequent installments address erosion, volcanic activity, and fossilization of animal and vegetable matter. The *Journal*, like other periodicals such as the *Englishwoman's Domestic Magazine* and *Punch*, seems to accept the woman as an

amateur geologist or botanist (botany being another branch of science particularly appropriate for women) (Shuttleworth et al., "Women, Science, and Culture: Science in the Nineteenth-Century Periodical" 60). It also seems especially possible, since there is no practical application of the natural science lessons found in the series, that the reader would use the series to educate her children on the knowledge she gained by reading it.

In addition to the many articles on natural science topics such as birds, geology, and plants, the *Journal* addresses many topics in health. An article titled "Health" in the first issue of the second volume of the magazine reminds readers that illness or an untimely death is not the result of "Providence," or fate, but the direct result of specific actions:

A beautiful young bride goes, night after night, to parties made in honour of her marriage. She has a slightly sore throat, perhaps, and the weather is inclement; but she must wear her neck and arms bare; for who ever saw a bride in a close evening dress? She is seized with inflammation of the lungs and dies before her bridal days are over. "What a Providence!" exclaims the world, "cut off in the midst of happiness and hope!" Alas! Did she not cut the thread of life herself? (*ECJ* II 15)

In another example, a country girl develops rheumatism after buying a new bonnet rather than a flannel garment, her impractical decision ostensibly leading directly to her condition. The article has an overall moralistic tone in its lessons on avoiding illness, citing intemperance in eating and drinking, indiscreet dressing, and tight-lacing as causing a "mass of diseases." The advice of the author to dress appropriately for the

weather and to eat and drink in moderation is practical advice, but it instruct readers in modest dress and behavior as much as it instructs them in keeping physically well.

Moral and health advice is similarly combined in the article titled "Drinking!" which appears in the Saturday, 26 July 1850 issue. It identifies the national problem of drinking:

Whether it be attributable to our chilly northern skies and foggy atmosphere, or to the strong native appetite for stimulus which, from time immemorial, has characterized our race, certain it is that the people of Great Britain are a very drinking people, consuming enormous quantities of ardent spirits, wine, and liquour of various sorts. They seem to have a hot spark in their throats, which stands in need of perpetual cooling, or to be troubled with a thirst that is perennial, or almost unquenchable. (*ECJ* II 193)

The article (unsigned, but likely written by Eliza Cook herself, as it is the first article of the issue) goes on to list the many occasions at which Englishmen typically drink and calculates the national cost of the country's "enormous" consumption of alcohol to be the "truly formidable sum" of approximately sixty million pounds a year (compared to the eight million spent on the army and less than a million for the post office). For the expenditure, the people of England receive "only a prodigious quantity of poison, producing poverty, demoralization, and crime!" as well as a general decline in health. Most of the argument for temperance in this article is based on the moral and social reform it promises; health improvement and illness prevention is one of the arguments it

uses to reinforce its moral position, stating that physiologically, nothing is more important for sanitary well-being than temperance (*ECJ* II 194).

Also important to good health is the breathing of good air, which is addressed in two different articles in which adequate ventilation is a primary concern. "The Air We Breathe" seeks to educate the reader on the process of respiration and de-oxygenation of the air during the process, warning that

Hundreds of thousands of persons annually fall victims to the unseen poison that floats around them, poison that has been generated in their own lungs, and which the slightest knowledge of physiology would teach them ought to be immediately removed out of the way, just as if it were the virus of the cholera or the plague. (*ECJ* I 241)

The article explains the physiological process of respiration in an attempt to "make intelligible to readers the rationale of the function of respiration, and the important uses which 'the air we breathe' performs in the human economy." This mode and reasoning of explanation is much different than that seen in the *Englishwoman's Domestic Magazine*, where the scientific explanation was omitted, often to the detriment of clarity (as in the case of Eva Sinclair's cosmetic skin preparation). In this example, scientific education is clearly included to encourage prevention, and the article's author places a heavy importance on the reader's understanding of not only the effects of improper ventilation, but alsowhat causes those effects and how to prevent them. Scientific principles, in this case, are important to clarity and understanding.

A similar article appears in the second volume, entitled "Ventilation of Dwellings," in which the author summarizes the physiological effects of poor ventilation

on health and instructs in ways to ensure an apartment or dwelling is well ventilated. The author establishes authority by attributing the directions to a Dr. Reid, "who has devoted a great deal of his time and pains to the study of this subject," and emphasizes that inadequate ventilation is not a problem suffered only by the working or lower classes, but that "the housewives of working men must [also] take the matter in hand and adopt the requisite steps to secure the efficient ventilation and healthfulness of their dwellings" (ECJ II 222). Like the article, "Drinking!," this article moralizes as it instructs; following instructions for the proper ventilation of workshops, it admonishes, "It is surely the duty of employers to adopt all such reasonable and ample methods of promoting the health of and comfort of those in their employment." Educating a woman in basic principles of health such as alcohol consumption and ventilation is likely to encourage reform through her influence in her family and home, in turn affecting reform everywhere: the Journal recognizes this, stating

Family reform is the pivot on which every other reform turns. Novel principles have their birth in the family circle, it is the great seminary for power greatness, love, wealth, friendship, and their concomitant virtues, vices, and talents. The smallest beginnings have great endings, and the spirit of charity, instilled with tact in the bosom of a child, bursts forth enlarged in the actions of a man, and perhaps by sympathy may have ultimately a large share in the future policy of a nation.

The moral instruction provided alongside scientific or instructional information is powerful because it will be relayed to children, who will grow into men who have the agency to change legislation that governs such issues as alcohol sale and consumption

and safety procedures in the workplace, such as ventilation. The *Journal* educates the woman first, so she may educate her children and begin or replicate the process of reform. Many of the *Journal's* other articles on health focus on the health of children and young people; "The Occupation of and Health of Young Ladies" prescribes hard work rather than frivolous leisure activities for young ladies who will grow into women, as

the nervous suffering produced by frivolity is far greater than the physical suffering produced by hard work; and far more tears are shed, and low spirits, mental discontent, vapours, and bewailings are displayed, by those who do nothing, than by that large and hard-working class who feed, clothe, and lodge the entire population. (*ECJ* III 1)

Nervous disorders, attributed here to women of the middle class, who have more leisure time than their working-class counterparts, can be combated with "healthy, mental food" and health education that begins in childhood. Health education is of utmost importance, according to this article, as "health is the basis of all after-growth; the moral and intellectual alike are founded on the physical." The parents (mainly the mother) are responsible for teaching children these lessons. Likewise, the *Journal* educated mothers on preventing diseases more dangerous than nervousness or ennui. In the seventh volume appears an article titled "Neglect of Vaccination" which reminds mothers (and possibly educates some for the first time) that vaccination against small-pox prevents a disease that causes death. Again encouraging prevention through education, the article asks,

Although persons even in the humblest ranks of life can now have their children vaccinated without expense, and thus secure them from the horrors of small-pox, will it be believed that from one-third to one-half of

the children of the working classes are unprotected by vaccination? (*ECJ* VII 70)

The article seems to be primarily directed toward those mothers in the working class who are most likely to be unaware of the value of vaccinations and their ability to be had for no cost. It cites The Act of 3 and 4 Victoria, which enables church-wardens and overseers to provide cost-free vaccinations to the poor, but reprimands mothers of the working class for not taking advantage of the service, which they "should pronounce most cruel and unfeeling were it not our impression that it is the result of crass and stupid ignorance." By educating these working-class mothers on the necessity and availability of vaccinations for their children, the *Journal* gives them the agency to exert some control over their own health while working to improve the collective health of the nation through prevention and health reform.

At the same time the magazine works to educate the working class in the benefits and availability of vaccinations, it cautions the wealthier middle class on the negative effects of excessive and unnecessary drug use. An article on that topic, "Intemperance in Physic," appears in the fourth volume, and begins "The English have an appetite for physic, that amounts almost to a disease. They swallow more drugs than any other nation in Europe" (ECJ IV 134). The focus of England's drug problem is its negative effects on the nation's children. The article cites preparations made of opium and named "Quietness" or "Godfrey's Cordial" given to children in excess by their parents, "those abundant administers of medicine, who know exactly nothing at all, either of the action of medicine upon the living fibre, or the physiological organization of the human system."

Because of ignorance, the preparations made of laudanum and opium are administered in

frighteningly high doses. The pages of this and other periodical publications are very likely where women received their education on health and other scientific matters; because it is less likely that they would have read primary texts where medical and scientific information and discoveries were contained, the educative value of these articles is strong (Shuttleworth et al. "Women, Science, and Culture" 58). Through health education and increased awareness, these articles served to educate women, particularly mothers, in disease prevention and temperance as a way to improve overall national health and prevent such epidemic disease as small-pox, drug addiction, and alcoholism.

Popular and social science topics addressed in the *Journal* include palmistry, galvanism, electromagnetism, mesmerism, electrobiology, and sociology. An article in the third volume titled "Palmistry: The Hand Indicative of Character" describes how palmistry endeavors to show how "the character of a man may be inferred from the configuration of the hand" (ECJ III 305). Palmistry may have seemed an especially appropriate topic for women, because much of the work performed by women (embroidery, lacework, sewing) required a special dexterity of the fingers; indeed, an article appearing in the second volume of the Journal titled "The Education of the Fingers" says that half of a woman's education should be through her fingers (ECJ II 287). Much of the column explains the qualities evidenced by certain types of fingers and their physical attributes, asserting that those outward physical attributes are indicative of the inherent charcteristics of the person to which the fingers belong. While Palmistry may not be a true science, publication of the article in the Journal shows it to be a topic of popular interest with a seeming scientific basis similar to phrenology, which linked outer appearance (most often the shape of the head) to inner character, Information about

palmistry was really information about the discernment of character, both that of the readers themselves and of others.

Articles related to electricity appear throughout the pages of the *Journal*, indicating an interest in the topic. A technical explanation of galvanism appears alongside instructions for making an electric light operated by a galvanic battery. The article, titled "Cheap Galvanism," explains, "The circumstance which has prevented the much more extensive employment of galvanism, or galvanic activity, in the arts and sciences, has hitherto been the heavy expense attending to its use" (*ECJ* VII 301). The article not only makes a cheap method for creating electric light available to women readers, but through its thorough scientific explanation of the galvanic function and the chemical processes that create it also educates them in the popular science of electricity. Another article, titled "Galvanic Surgery," lauds the technology and its benefit to mankind:

One of those extraordinary applications of science to the benefit of mankind, with which, in this age of progress, we are becoming so familiar, has recently been made in the substitution of the galvanic battery for the knife of the operating surgeon; the application is so ingenius and remarkable, and holds out so good a prospect of future advantage, that without descending to details, which might be painful to our unprofessional readers, we will endeavor to lay before them the general principles of the application. (*ECJ* V 277)

The article goes on to describe the procedure, in which a thin wire is heated by a galvanic battery to perform delicate surgeries with less pain than with a heated knife (the method commonly used). One specific application is for pain relief in decayed teeth. The very

next page presents an article on "Electro-Magnetism as a Motive Power," which explains the power of electrified magnets, but speculates that, though it is powerful, it will not supersede steam because of its comparatively high cost:

Power or force is produced in both cases by oxidation; in the one case, by the oxidation of zinc, and in the other, by the oxidation of coal or coke. But it has been ascertained by the experiment of Despretz, that the oxidation of six pounds of zinc developes [sic] no more heat than the oxidation of one pound of coal, consequently coal produces six times the amount of force than zinc does. (*ECJ* V 278)

Although "galvanism as a motory power" (and galvanism in general) evidently sparks interest as a popular topic of articles in the *Journal*, aside from the article on galvanic surgery, galvanism seems to have little practical application in readers' lives. The *Journal*, though, presents it as a popular topic and provides readers with basic scientific knowledge of the process they might not find elsewhere and consequently educates readers in the science of electricity. Similarly educative, an article titled "Singular Electric Phenomena" appears in volume five and discusses electricity in the human body and "electrical houses" in New York, which were houses that caused unexplainable shocks to the people who entered them. Situating electricity as a fairly recent discovery, the article writes, "In former times, such houses would have been abandoned as haunted: people would have fled horror-struck from them, as in the possession of ghosts or demons. But science now comes forward, and explains the mystery" (*ECJ* V 139). The fascination with electricity evidenced by the many articles on the topic in *Eliza Cook's Journal* anticipates the intense interest in electricity seen in general interest periodicals of

the 1890s, in which electricity was presented as the principal generator of future societal progress (Gooday 239). The *Journal*'s interest in the topic also may have been ignited by the social progress electrical discovery and scientific thought represented, for the magazine itself took a progressive stance on the social role of women they encouraged and advocated through their promotion of employment and education.

Science in *Eliza Cook's Journal* is used to impart the social constructions of truth and authority on a multitude of topics and to differentiate between speculative and observational knowledge, the latter of which is supported and emphasized in the *Journal* when it comes to education for women readers and, ultimately, their children. By using the empowering rhetoric of science, technology, and work to shape the education of their female readers, the *Journal* ensures that its ideals will be replicated in a new generation. The magazine folded in 1854 when Eliza Cook became too ill to continue her editorial work, so it likely did not see the financial results of this ideological replication through subscriber numbers, but the late-century women's movement of the 1880s and 1890s is timed so that the children of the magazine's readers would have been the participants in that movement, which echoed the *Journal's* cause of education and employment for women.

CHAPTER VI

SCIENCE, BEAUTY, AND CONSUMER CULTURE IN WOMAN

A self-proclaimed publication for "all sorts and conditions of women," Woman used its pages to instruct women readers in their newly emphasized late-century role as consumers of commercial goods. Along with the expansion in number of popular magazines for women in the late nineteenth century came the increasing commoditization of femininity, or what it meant to be a woman. While women had been participating in the periodical press both as writers and subjects since the early nineteenth century, their role as consumer is most clearly emphasized later in the century through the profusion of advertisements printed in magazines for which they were the primary audience (Fraser et al. 173). In later-century periodical publications (unlike early- or mid-century titles), advertising is not relegated to a few pages before and after the actual content of the magazines (positioning that led to easy removal of advertisements in the process of binding; as a result, relatively few bound titles with advertisements survive). Instead, the ads are interspersed throughout and mixed with editorial material (Beetham et al. 87). The profusion of advertisements in *Woman* and other magazines like it (*Home Chat*, Home Notes, Home Sweet Home) shows the realization of the capitalistic financial benefits of commercial advertising for the periodical press, but also creates a clear picture of the consumer habits of the magazines' audience. How companies sold their products to women through the medium of women's magazines is the subject of this chapter. An examination of *Woman's* advertisements reveals that advertisers use scientific language as a strategy to sell products, and through rhetorical appeals to ethos, pathos, and logos attempt to define the meaning of the role a woman should fill as a consumer by outlining what products she should buy and why. These rhetorical appeals valuably function as a "meaning-making tool" in examining the general language of science written for women, particularly in advertisements which sell cultural ideals alongside tangible products (Koerber 60).

The inaugural issue of *Woman* appeared on 3 January 1890, and from its inception the magazine used its pages to sell products of special interest to women. The title page of the first issue presents the new magazine's masthead along with its slogan "FORWARD! BUT NOT TOO FAST," from which the magazine gained its reputation for being "advanced," though actual content reveals a conservative approach to journalism for women (Beetham et al. 87). The rest of the title page is committed to advertisements (six separate advertisements in all), a convention which was carried throughout *Woman*'s long run and which illustrates the importance of advertising to the success of the magazine. These advertisements reach through the periodical to implore women readers to buy goods and services that will make them better wives, mothers, and all-around women. In its opening number the magazine announced a wide-reaching welcome to readers of all social and economic persuasions:

Undaunted by the alarming proportions of the crowd of London journals through which we shall have to fight our way to public favour, we are encouraged to hope for a favourable reception by the belief that we are striking out a new line that of a thoroughly readable, well-printed, allround penny periodical for women. We shall appeal not only to the student
of fashion plates, and cosmetic recipes, the 'blue-stocking', the political
fanatic, the housewife, or the advocate of 'Women's Rights,' but to all
classes of women who want something more than the 'lady's' or 'society'
paper or cookery book, and something less than the ponderous daily
'leader' and parliamentary reports, or the academic weekly or monthly
review. Our raison d'être is neither politics, dress, the doings of the
'society' or reality or imagination, the ventilation of imaginary grievances
of the sex, the school of sickly sentimentality, nor the advertisement of
vice and the vicious, but simply to inform and entertain modern woman
not as she might be, but as we find her" ("An Apology" no. 1, p.1).

One common role these diverse imagined readers (the 'blue-stocking', the political fanatic, the housewife) shared (and is evidenced by the profusion of ads aimed toward them) was that of consumer; their initial purchase of the periodical involved them all in the consumer culture of the late nineteenth century, whether their purchasing power was great or small. Just as periodical titles depended on advertising revenue from commercial companies, those companies depended on their ability to persuade the average reader to buy the products advertised in the periodical. An interdependent, symbiotic relationship between magazines, advertisers, and readers centered on the buying power of readers and the ability of both the magazine and the advertiser to convince them to become (or remain) consumers of the product being sold.

By far, the highest number of ads in *Woman* sell health and beauty products. These ads do sell not only products that encourage, create, and restore health and beauty, but the very ideas of health and beauty themselves. Scientific language gives credence to the ideals of beauty and health sold within the pages of *Woman*, and they are often combined in ads for one product and shown as functions of each other (beautiful people are healthy, and healthy people are beautiful). For example, an ad for a medicine which claims to aid weight loss reads (fig. 6.1):

TO STOUT PEOPLE. Mr. Russel's aim is to ERADICATE, to CURE the disease, and that his treatment is the true one seems beyond all doubt. The medicine he prescribes DOES NOT LOWER, BUT BUILDS UP AND TONES THE SYSTEM." (Woman 3 January 1890, title page)

In this ad, stoutness is equated with a disease for which readers can purchase a medicinal cure that will make them thin and healthy. This is the first example of many ads in the magazine that use an overarching appeal to logos (health equals beauty, and so beautiful people must be healthy, and vice versa) to link outward beauty with inward health and use that idea to sell products promising an increase in both. This link between inward health and outward beauty may find its origin in physiognomy, a science popular between the 1860s and 1870s and seen most often demonstrated in the Victorian interest in phrenology (analyzing the contours of the skull for character traits) (Fahnestock 335-337).



Sunday Times says:—"Mr. Russell's aim is to ERADICATE, to CURE the disease, and that his treatment is the true one seems beyond all doubt. The medicine he procedure does not lower, B. T. auti do up and tones the system." Book (128 pages), with recipe and notes how to pleasantly and rapidly cure obesity (average reduction in first week is 3 lbs.), post free 8 stamps.

F. C. RUSSELL; Woburn House, Frore Street, Bedford Sq.,

Figure 6.1 Ad for Mr. Russell's obesity cure. Woman, 3 January 1890

A more explicit linking of outward beauty to inward health through the language of science is shown in an advertisement for the 18 January 1890 number of *Woman* (fig. 6.2). The ad for "lanolin fragrant toilet preparations" appears under the heading "HEALTH AND BEAUTY OF THE SKIN AND HAIR." The lanolin products being advertised are described as being antiseptic, natural, and both preventing wrinkles (beauty) and effectively treating burns (health). Soap made of lanolin is superior to ordinary soap in that

the excess of alkali in ordinary soap deprives the skin of its natural fat.

LANOLINE is not saponified but is absorbed by the skin from the water when washing, nourishing its health, and preserving the cleanness, softness, and elasticity of the complexion.

Additionally, the close of the ad states that the products are "supplied by all chemists and perfumers." Both places of acquisition seem to lend credibility to the ad's claims about the efficacy of the product, both as a medical treatment and beauty preparation: a consumer would trust a chemist to sell a health treatment and would similarly trust a perfumer to sell a beauty preparation. This appeal to ethos is widely used throughout the magazine's advertisements, from ads selling corsets to ads selling medication to be taken internally, and is also identified by Katherine Durack as a method used by sewing machine manufacturers in their manuals and their advertisements, for which the primary

market was women. Clearly, this type of appeal was not uncommon in ads selling to women ("Authority and Audience-Centered Writing Strategies" 187). Ethos is asserted in ways varying from language warning customers to avoid dangerous imitations, to notices of lawsuits won over rival advertisers in the use of a claim, and often the appeal incorporates scientific language to bolster its efficacy.

Alongside the lanoline ad in this issue (3 January 1890) of Woman appears an ad for FREEMAN'S CHLORODYNE, a drug claiming to be the best-known remedy for ailments varying in gravity from the common cold to deadly cholera (fig. 6.2) Chlorodyne was a compound of morphia, chloroform, Indian hemp, hydrocyanic acid, peppermint, and in some recipes, brandy or champagne (Guha 390). The wonder drug was marketed under different brand names, each one warning readers to be wary of imitators (other brands) in an attempt to convince consumers to purchase one product over its often very similar, if not indistinguishably different, counterpart. To incite readers to buy their particular product, Freeman's uses compelling medical claims which would appeal to women in their caretaking role; a cure-all drug would appeal to any mother who had nursed a sick child. Its appeal would not be only to mothers, though, as the Freeman's Chlorodyne may be taken by anyone at any time, according to the directions on the package. The catch-all target market of the Freeman's advertisement seems aptly placed in *Woman*, a magazine published "for all sorts and conditions of women" who may have all sorts and conditions of people to care for (children, aging parents, companions, young charges). The many chlorodyne and other ads for products which claim to cure practically any ailment, irrespective of its nature or cause, indicate the prevalence of quack medicine in print consumer culture at a time when neither

medical treatments nor advertisements selling them were regulated by any governing body. An unfortunate result of unregulated advertisements selling potions such as chlorodyne was the attribution of medical efficacy to highly addictive products through scientific language, testimonials (which may or may not have been legitimate), and appeals to fear. Users of opiates in the nineteenth century often began using them for legitimate medical reasons, but became addicted and continued using them in amounts that increasingly resulted in accidental overdose (Berridge 368).

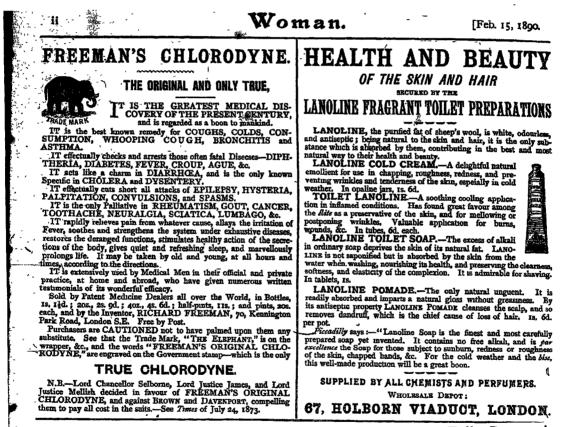


Figure 6.2. Ads for Freeman's Chlorodyne and Lanoline Fragrant Toilet Preparations *Woman*, 3 January 1890

Another example of quack medicine being widely advertised in periodicals (including *Woman*) is the Carbolic Smoke Ball, which claimed to "positively" cure influenza and other afflictions of the lungs and respiratory tract (*Woman*, 3 January 1890,

figs. 6.3 and 6.4). Reports of the influenza epidemic creeping across Russia and Europe was reported in the *Times* in late 1889, and by early 1890 it had reached England. The influenza epidemic of 1847-1848, in which 1,739 influenza deaths occurred in London would have still been in the memories of some, and so the appeal to fear which is easily recognizable in quack medicine advertisements may have been particularly effective. With what was either excellent timing or great foresight with regard to the impending influenza epidemic, Frederick Augustus Roe applied in late October 1889 to patent what he described as "An Improved Device for Facilitating the Distribution, Inhalation and Application of Medicated and Other Powder" and advertised his product as being so effective in preventing its user from catching influenza that he promised £100 to anyone who used the Carbolic Smoke Ball and caught influenza. This offer resulted in a lawsuit when a user did, in fact, contract influenza though she claimed to have used the device as recommended; however, Carbolic Smoke Ball Company refused to pay the promised amount. The case has been famously known as Carlill v. Carbolic Smoke Ball Company (Simpson 348-351). The ad, with its sensationally formatted opening line of "INFLUENZA! POSITIVELY CURED," can certainly be seen as an appeal to fear, particularly since reports of the disease were appearing elsewhere and it was seen as an impending threat.



INFLUENZA! POSITIVELY CURED AND PREVENTED.
The CARBOLIC SMOKE BALL will positively cure Influenza, Catarth, Asthma, Bronchitte, Hay

Fever, Neuralgia, Deafness, Hoarseness, Loss of Voice, Whooping Cough, Croup, Coughs, Colds, and all other ailments caused by colds. PRICE TEN SHILLINGS, Post Free CARBOLIC SMOKE BALL CO, 27, PRINCES STREET, HANOVER SQ., LONDON (3 Doors from Reggnt Street)

Figure 6.3. Ad for the Carbolic Smoke Ball. Woman, 3 January 1890



Figure 6.4. Ad for the Carbolic Smoke Ball. Woman, 1 January 1890

An advertisement for Dr. Ridge's Patent Cooked Food (3 January 1890) uses a similar rhetorical strategy to sell this product to the wide-ranging readers of *Woman* (fig. 6.5). The ad is sandwiched between the aforementioned ad that begins "TO STOUT PEOPLE." and an ad for the Carbolic Smoke Ball. The wholesome language of the Dr. Ridge's Patent Cooked Food ad focuses on the positive effects of the product rather than the danger in not using it, and it appears even more wholesome when sandwiched between ads for the ailments of obesity and influenza. Two different strategies are used on this page of ads; while all three ads use an emotional appeal to readers to persuade

them to purchase the products being sold, Dr. Ridge's ad uses language that appeals to potential female customers' emotions related to maternity or caretaking, while the other ads use medical and scientific language in an appeal to fear.



Figure 6.5. Ad for Dr. Ridge's Patent Cooked Food. Woman, 3 January 1890

Advertisements for Dr. Soule's Hop Bitters (15 February 1890) seek to diagnose readers' specific symptoms; by doing so, the ad creates an ailment which is in need of a cure. Lists of symptoms are diagnosed as ailments of "general debility," "Dyspepsia" (digestive problems), "kidney or urinary complaint," "liver complaint," and "nervousness," all of which Dr. Soule's Hop Bitters promises to cure. The ad demonstrates the seemingly logical link between bodily health and physical appearance by asking readers to "try what three bottles will do for your health and looks" and reaffirms its medical authority by repeating the brand name (Dr. Soule's) twelve times within the ad's copy, using circular reasoning to reinforce its appeal to ethos. As with Freeman's Chlorodyne and many other ads, there is a warning at the bottom of the page against imitators ensuring that readers know that Dr. Soule's Hop Bitters is the only hop bitters product that should be purchased. This appeal to ethos is used most frequently in

ads for products like Dr. Soule's Hop Bitters, whose restorative claims are simply unbelievable without the additional construction of some credibility on the part of the advertiser.

Appealing to the ideal of purity, Southall's "Sanitary Towels," a feminine hygiene product, provides both a textual and visual link between health and beauty (fig 6.6). A comparatively large ad which occupies a full quarter of the page, it prominently features a pretty nurse holding a pretty child. The nurse wears a pure white cap and apron, and the little child wears a pure white gown. Above the image are the words "health is beauty." The tangible product being sold in the ad is, of course, Southall's Sanitary Towels, but also being sold alongside them is an ideal of beauty which, in this ad, is visually presented as a healthy young woman with a child. This image may reveal who the idealized audience of the magazine is; while the magazine repeatedly situates itself as a magazine for all types of women, the images appearing in the ads within the magazine are homogenous images of women with white skin, pretty hair, and healthy bodies. This visual homogeneity in ads for all different types of products underscores that there was, in fact, a specific ideal of beauty embraced by the magazine, which they in turn attempted to pass on to their readers by advertising products that would help them attain that ideal.



Figure 6.6. Advertisement for Southall's Sanitary Towels. Woman, 1 March 1890

Also appealing to the idea of purity and its outward indication of inward health, "Bates' Sulphur Salt" promises to purify the blood and clear the skin (fig. 6.7). This ad's appeal to purity functions more to establish trust, however, as this product, "the most reliable blood purifying medicine," is meant to be imbibed by its purchaser in order to perform its blood purifying function. The product's safety is also emphasized in an attempt to convince mothers to buy it and use it on their children or elderly persons in their care: it "can be taken with perfect safety by the young as well as by the most aged.

Children like it. Splendid medicine." Although this is a medicine that could be taken by anyone, when advertised in *Woman* to a heavily, if not exclusively, female audience, it takes on an additional didactic role to inform readers about not only the product they can buy, but also how they should care for their families.

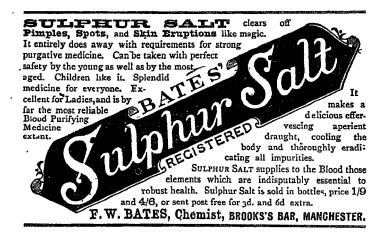


Figure 6.7. Ad for Bates' Sulphur Salt. Woman, 17 May 1890

Similarly, a full-page ad in the 28 August issue for Frazer's Sulphur Tablets uses the idea of purity to link health and beauty by invoking the purity of nature and its processes (fig. 6.8). Nature's purity is written into the ad copy, but is also visually represented by two flowers, the white lily and star of Bethlehem, "the floral emblems for purity." The flower illustration occupies three-quarters of the ad space, with the textual description of the product appearing in a column to the right of the image. Ad copy states, "A good complexion is an attraction every woman wishes to enjoy for herself," and "nature's own processes" must be followed in order to attain a good complexion. The argument of the ad is that since nature is pure and effective in ridding the blood (and complexion) of impurities, and since Frazer's Sulphur Tablets are created to aid nature in her processes, Frazer's Sulphur tablets must be pure and effective also, an argument

which seems to mimic the logic of the fallacy *post hoc ergo propter hoc* (after this, therefore because of this), though the argument is not based on chronology of events, but rather causation resulting from an implied association with a credible entity (nature). Through this logical appeal, Frazer's positions itself relative to nature and an accessible way to attain the ideal of purity physically represented as white, unmarked skin, not unlike the petals of a while lily or star of Bethlehem.



Figure 6.8. Frazer's Sulphur Tablets. Woman, 28 August 1890

Frazer's lavishly illustrated, full-page ad works to differentiate it from ads for similar products (such Bate's Sulphur Salt) that appear on pages cluttered with smaller ads, but also from another Frazer's ad which appears four months later on 4 December 1890. The December Frazer's ad looks more like part of *Woman's* editorial content than an advertisement; it is arranged in two columns of text with a large heading and smaller subheading, and it uses no illustrations. Rather than attempting to look like other advertisements, it is not immediately obvious that the ad is, in fact, an ad, and it entices readers to read what appears to be an article titled "How to Beautify the Skin and Enjoy Good Health." This version of the ad also promises that the product will "act as a germicide in the blood," and through purifying the blood will purify the complexion as well. Ads for ceylon tea, wine, soap, food, and a multitude of other products all use the appeal to purity to sell their product, associating a tangible product with an intangible ideal, to sell both to *Woman's* readers.

Scientific and medical association is also used to invoke trust in readers so that they will be inclined to buy the product being advertised. Advertisements often include the testimonials of people with titles, and the testimonials are used as a way to establish authority and credibility. Among the graphic-heavy ads in the magazine, some of the most visually (and textually) interesting are for corsets, which often use medical language and testimonials from doctors to sell what seems to be a beauty product. The 27 November 1890 ad for Invigorator corsets combines the influence of the idealized image with testimonials of "medical men" to sell a product that benefits both health and beauty (fig 6.9). Nine testimonials appear in the single ad for the Invigorator (which looks much more like a back brace than a traditional corset, with its criss-crossing back and under-

arm straps), and seven of the nine are attributed to doctors (the other two are attributed to Lady magazine and the Countess of Suffolk, which seems to lend credibility to the Invigorator as a fashionable garment as well as a medical necessity). The "medical men" offering their opinion on the Invigorator write that the most beneficial features of the corset are the support it offers and its ability to straighten the back, correct round shoulders, and stop stooping posture, which serves to persuade women with those qualities that they need to purchase a product to fix them. The Countess of Suffolk reminds women who are also mothers to purchase a quality corset for their daughters in her testimonial, in which she writes, "I think them such VERY GOOD stays, and those you sent for my daughter answered admirably." One great benefit of the Invigorator, remarks one testimonial, was that it caused no detriment to the wearer even when tightlaced, which may have been a controversial selling point since the tight-lacing debate of the late nineteenth-century was still in full swing (Steele 94). The Invigorator corset ad also provides an illustration of the type of body a woman who purchases the corset might expect to attain. The illustration presents a woman with a very slim waist and larger hips and bust who stands in front of a mirror with her arms raised to her head. Her back is straight (as the ad promises the corset will make it for any purchaser) and she looks confidently over her shoulder though she stands before the mirror and the readers of Woman in only her underwear. In the illustration the mirror reflects the woman in the ad, but her body is positioned to the side so that the mirror also reflects the reader and how she might look if she purchased an Invigorator corset. The ad serves to instruct in not only what a woman should buy for herself and for her daughters, but how they should literally mold their bodies to look. The industrial look of the Invigorator, as well as other

products (see fig. 6.10, Madame Rowley's Toilet Mask) meant to help women achieve the ideal of beauty set out before them, illustrate the work and (apparent discomfort) involved in being beautiful.



Figure 6.9. Ad for Invigorator Corsets. Woman, 27 November 1890

MADAME ROWLEY'S TOILET MASK

(OR FACE GLOVE)



Illustrated Treatise, with full particulars post free, three stamps.

The Toilet Mask Co.,

BERWICK HOUSE, 139, OXFORD ST., LONDON, W.

Figure 6.10. Ad for Madame Rowley's Toilet Mask. Woman, 12 August 1891

Testimonials appear in ads for every type of product, especially when using that product involves some type of risk (applying it to the skin or drinking or eating it). An ad for Horn's Liquid Hair Solvent on 12 August 1891 invokes the opinion of a "lady doctor" after having run regular ads in *Woman* for a year-and-a-half with no testimonials, and an 8 January 1891 ad for Sequah's Remedies (another cure-all said to alleviate many different ailments, including "those [which] Doctors have failed to relieve") seemingly appeals to an even higher power than medical practitioners to establish its authority by citing testimonials exclusively from ministers. Whether the testimonials are from "medical men," "lady doctors," or church ministers, the ads employ the same rhetorical

strategy—an appeal to ethos in an attempt to establish authority or credibility through scientific association with wellness or death—to establish trust in readers so that they will become consumers. As A.W.B. Simpson, a scholar of historical law and quack medicine, identifies, testimonials from clerics and doctors were widely used in quack medicine advertisements, because both professions combine respectability and status with a close association with death, combining appeals of ethos and pathos to create an effective scare tactic (353).

Many of the health and beauty treatments advertised in *Woman* are for women, but could also be effective on men and children (soaps and restorative hair treatments, for example). Some, however, are clearly meant for use by women only. Mr. C.B. Harness's "Electropathic Battery Belt" (advertised in the 3 June 1891 issue) is one such product. It promises to cure "hysteria" along with a long list of less gender-specific ailments, such as indigestion, constipation, and torpid liver, with "mild, continuous currents of electricity" (fig. 6.11). The claim "IT CURES HYSTERIA" is the largest and most prominent text on the page excepting the brand name and is surrounded by a text box for even more emphasis. The device, along with its textual description, looks frightening to a modern reader (and may have to contemporary readers of *Woman* as well), and advertisers seem to recognize this. The device is pictured adorned with a little bow, possibly in an attempt to soften its scary look, and much of the ad's text is used to establish the advertiser's credibility rather than to describe the product. The ad goes on to state,

This is not a rash statement, but an actual fact, which can be verified by referring to the book of Testimonials published at the ELECTROPATHIC & ZANDER INSTITUTE, by the proprieters, the Medical Battery

Company Limited. A copy of the testimonials will be sent free by post, with a descriptive pamphlet, to those who are unable to call at the Company's Establishment, which, by the way, is the largest Medico-Electric Institute in the world. (*Woman*, 3 June 1891, iii)

In fact, more than half of the ad copy works to establish credibility and refer to the many "unsolicited" testimonials the Medical Battery Company has received in response to consumers' purchases. Testimonials, whether legitimate or fraudulent, were important enough for companies like the Medical Battery Company to offer them, at their own expense, to anyone who requested them. The value was not in the actual testimonials, though, but the effect they produced in establishing the credibility of the advertiser. The underlying strategy in all of these ads is to position the product being sold as the only one consumers will need to achieve whatever ideal (purity, beauty, intelligence, maternity, etc.) is being sold alongside the actual product.



Figure 6.11. Ad for Electropathic Battery Belt. Woman, 3 June 1891

Advertisers occasionally received a little help outside of their ad space purchased from the magazine in selling their products. *Woman* ran a weekly correspondence column in which it answered queries from readers, and it often prescribed a particular product to readers as an answer to their query. This mode of indirect advertising would have been valuable to the advertiser, as *Woman's* response did not just reach the reader who wrote the query, but also every reader of the magazine who paused to read the correspondence column. In the "Answers to Correspondents" column for 22 March 1890, a response to "Smike" appears thus:

"Wool fat" is a greasy yellow substance derived from the wool of sheep by steeping the clippings in hot alcohol. Lanoline is one of the best preparations of it that you can use: it is prepared by Messrs. Burroughs, Wellcome & Co, Snow Hill buildings, E.C. Besides its excellent medicinal qualities, it differs from ordinary fat in not leaving a sticky layer on the skin. (14)

It is to be noted that this is not the brand of lanolin that is advertised in *Woman* in the same issue, indicating that the magazine did not seem to feel a strong sense of loyalty to its advertisers beyond taking their money and printing their ad, or that they simply used their own editorial judgment in these recommendations and were not bound by their relationship to the advertisers. Similarly, the 3 May issue recommends Hudson's soap when Ivorine and Pears are the magazine's most frequent soap advertisers, and one answer in the 3 May 1890 column recommends Sozodent as an effective dentifrice while the 26 June issue recommends Salvine as being "eminently satisfactory." While this can be seen as a lack of loyalty to its advertisers and major sources of revenue on the part of the magazine, it may also be a result of the editors' own participation in consumer culture and their response to the proliferation of advertisements in *Woman* and other magazines. As advertisers competed for consumer dollars, consumers were responding to the strategies employed by the advertisers, and some of those strategies (and products) proved more effective than others.

Analysis of the rhetorical strategies used in Victorian advertising for women indicates not only what women were buying, but why they felt compelled to buy it. Ads in *Woman* show that advertisers relied on strong appeals to emotion (namely fear and emotions associated with caretaking), often articulated through the language of science to invoke trust, to sell their products to women. These strategies indicate a strong emphasis

on a caretaking role, but also help illuminate ideals of beauty for the Victorian woman readers of *Woman*.

CHAPTER VII

CONCLUSION

Clearly, periodical literature from the Victorian period is rife with instructive and scientific language (both elements frequently found in accepted modes of technical communication) related to both ideological and practical work. The instruction offered in the periodicals examined here, whether tacit or explicit, reveals what type of socially defined work a Victorian woman was to do in her daily life. More valuably, instruction in what she was expected to do reveals what she was expected to be as a woman of her era, and from this we can identify how modern social roles have been affected by the work in which women have historically been situated as the primary practitioners. From the social roles identified in The Englishwoman's Domestic Magazine it is not difficult to see from where the idea of nursing and caretaking as a primarily female occupation developed; Eliza Cook's Journal clearly situates women as educators, an idea that is evidenced by the modern prevalence of female teachers; and Woman places women in a consumer role that has grown steadily alongside new advertising technologies and products meant to help women to attain socially created ideals. As a result, some informational texts that relate to these roles retain a gender bias even today (as evidenced by Jo Allen's article in which the authenticity of a cookbook as an artifact of technical communication is argued). My goal is not to argue for the inclusion of Victorian periodicals in the

definition of technical communication, but to open another avenue of inquiry in the feminism and gender studies line of questioning Isabelle Thompson identified in her qualitative analyses of articles written on those topics. Analysis of historical instructive documents written for gendered audiences, even when they are not obvious artifacts of technical communication, makes it possible to understand where the bias which causes the legitimacy question arises. Historical analysis reveals and allows us to recognize that there is a question of legitimacy in the first place, and that question of legitimacy may be related to the audience for which a document is created. Beyond gender, this audience identity can include race, sexual or political orientation, physical or mental ability, religious persuasion, and many other qualities about which certain agencies and abilities (or lack thereof) are assumed or implied. Identifying these assumptions is important because beliefs about social roles are created by the collective ideology of a culture, and those beliefs are enacted and replicated through popular media (such as periodical publications). In this study I used science writing in Victorian women's periodicals to show how social role ideology has been replicated over time, but it is likely that valuable information about social-role ideology could be found by analyzing any type of popular media.

In the *Englishwoman's Domestic Magazine*, a woman's domestic role is emphasized in which caring for children, plants, animals, and the other living things in her home is her primary (and most important) occupation. While the magazine presents itself as a guide in helping women become the best wives and mothers they can be, the scientific information they provide for the purpose of instruction takes a form which prevents an application of the instruction beyond the home. Statements from the

magazine's editors shape their goal in providing domestic instruction as one which ennobles women in their domestic work, but their ennobling goals also act as a control mechanism, by providing scientific information through instruction but without rationale or explanation. Instruction without rationale is the equivalent of practice without theory, and as such works to prevent the application of instructions to any place and purpose which is not the home.

Eliza Cook's Journal works in a similar way to construct woman's role as educator. The magazine did not (and could not because of its audience's working-class makeup) emphasize middle-class ideals of domesticity. Instead, it emphasized education for women and provided scientific content which seems to have an educative purpose, but defined the purpose of a woman's education as being so that she could educate her children. This emphasis on education in *Eliza Cook's Journal*, which had a working-class audience, differs greatly from the Englishwoman's Domestic Magazine, which had a middle-class audience, and it centers on the social roles the readers of each magazine were expected to fill. If women were meant to pass their knowledge and education along to their children, the same emphasis on education would not be found in a magazine with a readership that might have had the means to employ a governess to educate and care for her children rather than doing it herself, or who could send them away to a school to be educated by someone else, an omission which provides valuable insight into how a woman of a certain class was meant to spend her time. These dichotomous emphases on education seems to point to the possibility that higher-class (and higher income) women probably had a less active role in the education of their children because they employed someone to perform that role for them. Though the purpose of education for women may

be based in class as well as gender, education is clearly situated by *Eliza Cook's Journal* as within the female realm of responsibility.

Woman, with its profusion of advertisements, evidences the realization of women's power and influence in commercial culture. Victorian advertising for women corresponds to the increased professionalization of jobs for women (and increased spending power), but advertisers also seemed to realize that if a woman herself did not have purchasing power, she had the ability to influence the breadwinner of her household: her husband. Just as science is encoded in the language of domesticity in the Englishwoman's Domestic Magazine, and is provided to be passed on to a woman's children in Eliza Cook's Journal, so it has an alternate purpose in Woman—to sell products through rhetorical appeals intended to persuade women to buy. These rhetorical appeals are strengthened by a product's pairing with an ideal—often beauty or health which becomes attainable through the purchase of the product. The conflation of beauty and health reveals the influence of physiognomy on female consumers, as products which offer increased health also promise increased beauty (and vice versa). Appeals to ethos seem especially valued by advertisers, for they offer books of testimonials to would-be customers at their own cost. These testimonials are often attributed to ministers and doctors, who have a close association with both wellness and death, in an additional appeal to fear. Whether the testimonials are real or fraudulent, the effect is the same on consumers, who must choose between the options presented by the decision to buy or not to buy (be well or be ill; be ugly or be beautiful; be happy or not). In each magazine I have examined, scientific language is often bound with a socially constructed ideal domesticity, the purpose of education, beauty and health—which is much clearer from a

modern perspective than it could have been to Victorian women readers whose social roles were being written for them across the pages of periodical publications. Examining those publications allows modern readers to see how those roles have been replicated over time.

Scientific content in each of the magazines I have examined has a purpose other than to increase knowledge, and in each case that purpose is to instruct women readers in how they are to best fulfill their socially constructed role. Re-examining what instructive material and scientific language says about the audience for which it is written, as well as how it is received by outside groups, can allow assessment of assumptions about social roles even when they emerge from deep historical contexts. Modern social roles do not exclusively depend on their history, and as roles were remade during the nineteenth century (for women specifically), they are and will be continually remade for participants in all social groups in the midst of the ongoing social progress that advances science and technology and changes the way social groups participate in those advances. For example, women's increased involvement in the field of technical communication in the past 20 years has led to increased interest in the ways women have historically contributed to, consumed, and created technical and scientific knowledge and has helped to shape the definition of technical communication and, by extension, the more general ideas of "technology," "science," and "work" encapsulated by the artifacts that document their evolution. As a result, the definition of technical communication may never be contained by a single definition, instead remaining in constant flux; for at the same time researchers are uncovering historical artifacts that widen and change the ideas and definitions of the discipline, new technologies are emerging that challenge and contest

those historical discoveries and the definitions they support. The solution to this seems to be to realize the instability of any definition which does not allow for the inevitable changes that will occur in science and technology, and to look back to our nineteenth-century predecessors while thinking forward with minds open to change, for some day our most modern innovations will be analyzed by a historical gaze from the technological and scientific perspective of social progress.

WORKS CITED

- Allen, Jo. "The Case Against Defining Technical Writing." *JBTC* 4 (1990): 68-77.
- Auerbach, Jeffrey. "What They Read: Mid-Nineteenth Century English Women's Magazines and the Emergence of a Consumer Culture." *VPR* 30 (1997): 121-140.
- Baggs, Chris. "In the Separate Reading Room for Ladies Are Provided Those Publications Specially Interesting to Them': Ladies' Reading Rooms and British Public Libraries 1850-1914." VPR 38 (2005): 280-306.
- Beetham, Margaret. A Magazine of her Own? Domesticity and Desire in the Woman's Magazine, 1800-1914. London: Routledge, 1996.
- Beetham, Margaret and Kay Boardman (Eds). Victorian *Women's Magazines: An Anthology*. Manchester, England: Manchester UP, 2001.Dredge, Sarah. "Opportunism and Accommodation: The English Woman's Journal and the British Mid-Nineteenth-Century Women's Movement." *Women's Studies: An Interdisciplinary Journal* 34 (2005) 133-57.
- Berridge, Virginia. "Working-class Opium Eating in the Nineteenth Century: Establishing the Facts." *British Journal of Addiction* 73 (1978): 363-374.
- Dreher, Nan. "Redundancy and Emigration: The 'Woman Question' in Mid-Victorian Britain." *VPR* 26 (1993): 3-7.
- Durack, Katherine. "Gender, Technology, and the History of Technical Communication." *Technical Communication Quarterly* 6 (1997): 249-261.
- ---. "Authority and Audience-Centered Writing Strategies: Sexism in 19th-Century Sewing Machine Manuals." *Technical Communication* 45 (1998): 180-197.
- Eagly, Alice. Sex Differences in Social Behavior: A Social-Role Interpretation. Hillsdale, NJ: Erlbaum, 1987.
- Eliza Cook's Journal. Eliza Cook (ed). 1849-1854.
- Englishwoman's Domestic Magazine. Samuel and Isabella Beeton (eds). FS 1852-1860.
- Englishwoman's Domestic Magazine. Samuel and Isabella Beeton (eds). NS 1860-1864.

- Fahnestock, Jeanne. "The Heroine of Irregular Features: Physiognomy and Conventions of Heroine Description." *Victorian Studies: A Journal of the Humanities, Arts and Sciences* 24 (1981): 325-35
- Fraser, Hilary, Stephanie Green, and Judith Johnston. *Gender and the Victorian Periodical*. Cambridge: Cambridge UP, 2003.
- Gooday, Graeme. "Profit and Prophecy: Electricity in the Late-Victorian Periodical." Science in the Nineteenth-Century Periodical: Reading the Magazine of Nature. Eds. Gowan Dawson, Richard Noakes, and Jonathan R. Topham. Cambridge, England: Cambridge UP, 2004. 238-54.
- Guha, Sumit. "Nutrition, Sanitation, Hygiene, and the Likelihood of Death: The British Army in India c. 1870-1920." *Population Studies* 47 (1993): 385-401.
- Hughes, Kathryn. *The Short Life and Long Times of Mrs. Beeton.* New York: Alfred A. Knopf, 2006.
- Koerber, Amy. "Toward a Feminist Rhetoric of Technology." JBTC 14 (2000): 58-73.
- LaDuc, Linda and Amanda Goldrick-Jones. "The Critical Eye, the Gendered Lens, and 'Situated' Insights--Feminist Contributions to Professional Communication." *TCQ* 3 (1994): 245-256.
- Lay, Mary M. "Feminist Theory and the Redefinition of Technical Communication." *JBTC* 5 (1991) 348-70.
- ---. "The Value of Gender Studies to Professional Communication Research." *JBTC* 8 (1994): 58-90.
- Lippincott, Gail. "Experimenting at Home: Writing for the Nineteenth-Century Domestic Workplace." *TCQ* 6 (1997): 365-380.
- ---. "Rhetorical Chemistry: Negotiating Gendered Audiences in Nineteenth-Century Nutrition Studies." *JBTC* 17 (2003): 11-49.
- Introduction to Englishwoman's Domestic Magazine [1st], in Science in the Nineteenth-Century Periodical: An Electronic Index, v. 1.0, hriOnline http://www.sciper.org [accessed 10 July 2007].
- Onslow, Barbara. "Sensationalising Science: Braddon's Marketing of Science in Belgravia." *VPR* 35 (2002): 160-77.
- Palmegiano, EM. "Women and British Periodicals: 1832-1867." Victorian Periodicals Newsletter 9 (1976): 3-36.

- Poovey, Mary. *Uneven Developments: The Ideological Work of Gender in Mid-Victorian England*. Chicago: U of Chicago P, 1988Sauer, Beverly A. "Sexual Dynamics of the Profession: Articulating the "Ecriture Masculine" of Science and Technology." *TCQ* 3 (1994): 309-323.
- Shattock, Joanne (ed). *The Victorian Periodical Press: Samplings and Soundings*. Leicester; Toronto: Leicester UP; U of Toronto P, 1982.
- Sheffield, Suzanne Le-May. "The 'Empty-Headed Beauty' and the 'Sweet Girl Graduate': Women's Science Education in Punch, 1860-90." *Culture and Science in the Nineteenth-Century Media*. Eds. Louise Henson, Geoffrey Cantor, Gowan Dawson, Richard Noakes, Sally Shuttleworth, and Jonathan R. Topham. Aldershot, England: Ashgate; 2004. 15-28.
- Shteir, Ann. "Green-Stocking or Blue? Science in Three Women's Magazines, 1800-50." Culture and Science in the Nineteenth-Century Media. Eds. Louise Henson, Geoffrey Cantor, Gowan Dawson, Richard Noakes, Sally Shuttleworth, and Jonathan R. Topham. Aldershot, England: Ashgate; 2004. 3-13.
- Shuttleworth, Sally, Gavin Dawson, and Richard Noakes. "Women, Science and Culture: Science in the Nineteenth-Century Periodical." *Women: A Cultural Review* 12 (2001): 57-70.
- Shuttleworth, Sally. "Tickling Babies: Gender, Authority, and 'Baby Science'." *Science in the Nineteenth-Century Periodical: Reading the Magazine of Nature*. Eds. Gowan Dawson, Richard Noakes, and Jonathan R. Topham. Cambridge, England: Cambridge UP, 2004. 199-215.
- Simpson, A. W. B. "Quackery and Contract Law: The Case of the Carbolic Smoke Ball." *The Journal of Legal Studies* 14 (1985). 345-389.
- Smith, Johanna. "Textual Encounters in Eliza Cook's Journal: Class, Gender, and Sexuality." *Encounters in the Victorian Press: Editors, Authors, Readers*. Eds. Laurel Brake and Julie F. Codell. Basingstoke, England: Palgrave Macmillan, 2005. 50-65.
- Steele, Valerie. The Corset: A Cultural History. New Haven and London, Yale UP, 2001.
- Theriot, Nancy. "Women's Voices in Nineteenth-Century Medical Discourse: A Step toward Deconstructing Science" Signs 19 (1993) 1-31.
- Thompson, Isabelle. "Women and Feminism in Technical Communication: A Qualitative Content Analysis of Journal Articles Published in 1989 through 1997." *JBTC* 13 (1999): 154-78 Apr 1999.
- ---. "Sex Differences in Technical Communication: A Perspective from Social Role Theory."

 Journal of Technical Writing and Communication 34 (2004): 217-32.

Thompson, Isabelle and Elizabeth Overman Smith. Women and Feminism in Technical Communication—An Update." *Journal of Technical Writing & Communication* 36 (2006): 183-199.

Woman. E.A. Bennet (ed). 1890-1912.

White, Cynthia L. Women's Magazines 1693-1968. London: Michael Joseph Ltd., 1970.

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