Ellen Swallow Richards: "Humanistic Oekologist," "Applied Sociologist," and the Founding of Sociology

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Best known as the first woman graduate from MIT, and the founder of Home Economics, Ellen Swallow Richards was a Progressive Era reformer who applied social science research techniques to problems of concern to early sociologists. As a mentor to many women who joined the "Cultural" and "Pragmatic" feminists of Hull House, her secular theories of "Oekology" and "Euthenics" challenged many of the models of social change prevalent in the Cambridge and Chicago academic communities. Her most radical contribution as a feminist was her assertion that women's unpaid labor in the home played a vital economic role in maintaining capitalism and was the ultimate source of their second-class citizenship. She shared a belief in democracy and education as a feminist "Pragmatist," and laid the groundwork for the contemporary "Ecofeminist" movement. Although she was a biochemist by training, she engaged several generations of women in the application of scientific methods to the solution of contemporary social problems. As a political organizer, much of her legacy is reflected in the accomplishments of the reform organizations she was instrumental in founding.

Biography and Links to Early Sociology

Introduction

At first glance, Ellen Swallow Richards might seem to be an unlikely scholar to include in a discussion of early contributors to the field of sociology. Yet, her writing, teaching, and civic leadership planted many of the social reform roots that shaped the development of sociology as a discipline. She translated her intellectual and scientific beliefs into a lifelong political agenda that laid the foundation for several social movements: dietetics, home economics, public health, ecology, land grant education, early childhood education, consumerism, and conservation (Bevier 1911; Bevier and Usher 1912; Clinton and Lunardi 2000). She helped in setting the agenda for key Progressive Reform Era organizations, and laid the groundwork for the creation of several new professions (American Association of University Women 1999; Brumberg and Tomes 1982; Glazer and Slater 1987; Glazer 1993; Stage 1997). A century after she helped establish their mission and political agendas, many of these groups remain active. She is

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best remembered as one of the founders of Home Economics, originally known as the Lake Placid Group (LPG),[1] and the American Association of University Women (AAUW),[2] formerly the Association of Collegiate Alumnae (ACA). Richards was influential in extending new chapters of these groups across the country and coordinating their efforts around shared political issues (Crocco and Davis 1999; Wood 1912). The American Association of University Women (ACA), for instance, conducted one of the first nationwide surveys on the status of educated women's health.[3] Their research findings challenged prevailing theories that higher learning could damage reproductive capacities (AAUW Archives, *Publications of the (ACA),* Series II, 27 October 1890; Rosenberg 1982, 1988). The earliest women graduates and professionals turned to organizations like (ACA) or the Women's Education Association (WEA) for mutual support.[4] Richards formed powerful women's associations, and administered some of the earliest Social Science surveys on the conditions of poverty in nineteenth century urban centers (East 1982; Levine 1995). This paper continues a revival of interest in Ellen Swallow Richards and the movements she galvanized into action (Brumberg and Tomes 1982; Ferris and Browne 1988; Fitzpatrick 1990; Hayden 1992; Nerad 1987; Shapiro 2001; Stage and Vincenti 1997).

Education and Professional Development

Born in 1842, Richards was the first woman graduate of MIT, and a nationally recognized sanitary chemist. Her parents, both trained as teachers, educated her in the home and subsequently enrolled her in a private academy, where she showed early promise in mathematics and began a lifelong custom of keeping detailed nature journals and observations on her surroundings. She went on to enter Vassar as a twenty-six-year-old special student, majoring in chemistry. In 1870, after failing to find a position as a commercial chemist, she sought admission at the recently founded Massachusetts Institute of Technology. The MIT faculty tabled the question of admitting women, but decided to allow Richards to continue her studies there without a charge.[5]

Richards began her academic training at a time when universities were still defining themselves (Bernard and Bernard 1943; Flexner 1968; Hinkle 1980; Newcomer 1959; Rudolph 1962; Woody 1974). Higher education had yet to confront the technological imperatives of World War I. Richards shared the Progressive Era's hopes for the benefits of industrialization, and was committed to extending science education to the general population as a preventative to ecological disaster. By the 1850s, many of the leaders of the Progressive Reform generation realized that to accomplish the promise of industrialization, new forms of university training were required.[6] The Massachusetts Institute of Technology was chartered in 1865 as an innovative institution where students could focus on technological applications.[7] MIT's mission was mandated to maintain a separation of the more theoretical and "pure" sciences from those that were more applied, though they inevitably overlapped in practice. Richards was one of the first cohorts of college students who sought to apply social theory to daily living. From the earliest stages of her career, her approach to research was predicated on the need for repeated testing and gathering of empirical data for the refinement of working hypotheses.

Richards soon broadened her concerns to include the living conditions and needs of those laboring in both the home and the workplace. While open instruction in life science theory at MIT was discouraged, Richards' course offerings moved toward an

interdisciplinary blend of the applied life sciences and phenomena often thought to be in the exclusive purview of sociology and psychology. As a research assistant at MIT, she administered one of the first wide-scale scientific tests of a state's water supplies, and tied environmental pollution back to child development in the urban slums. In 1873, she received an additional Bachelor of Science degree in chemistry from MIT. At the age of thirty-one, Ellen Swallow Richards was also awarded a Master's degree from Vassar based on her MIT thesis on the rare element, Vanadium. She continued to want a doctorate, but, as with so many other women of her generation, there were few professional avenues for further training or employment (Gordon 1990). Although MIT allowed her to continue her studies at the graduate level, they have not, to this day, granted her a graduate degree. In the autumn of 1910, less than a year before her death, Richards received the Smith College honorary degree of Doctor of Science along with Florence R. Sabin of Johns Hopkins.[8]

First Generation Woman Scholar

To appreciate the creativity, originality, and boldness of Richards' contributions to the social sciences and sociology, it is important to recognize the relative social isolation in which she was working. The Civil War had only recently come to an end, and the surge in women's university attendance had yet to begin. She was one of the earliest women graduates in higher education, especially in the area of the "hard" sciences (Solomon 1985). She represents a very small cohort of female graduates who completed Bachelors or Masters degrees before the rapid increase at the turn of the century.[9] Because she did not come from an elite background, she supported herself through school, and, consequently, was considerably older than most other students both at Vassar and at MIT. At every stage of her educational training, she was a bit of an anomaly. In contrast to the female sociologist enclave at the University of Chicago and Hull House (Sklar 1985), Richards was essentially a "loner" throughout her professional development. Apart from the supervision of several male mentors, she had little intellectual or social companionship until she met her husband, an MIT professor many years her senior (who originally voted against her admission [MIT Archives, window display]). Most of Richards' correspondence disappeared or was destroyed some years ago. Consequently, we have little information on how she may have felt about being such a groundbreaker.[10] We do have anecdotal evidence from her early years at Vassar and MIT, which suggest that she chose to work quietly in the background and recognized that she was often regarded as a social pariah (Hunt 1958). This may have contributed to her later reluctance to fully embrace feminism, and her belief in herself as a "self-made" woman. As Richards struggled to provide credibility for her models of social change and technology, she was forced to work on her own, without the benefit of close colleagues, mentors, or graduate apprentices. Richards' professional ambitions were hampered throughout her lifetime because of her age, generation, and lack of a collegial support system. Her emotional and intellectual landscape was in stark relief to that of Jane Addams and the Hull House community. She was denied the credentials that would have provided more visibility and status for her theories and research findings. Yet it is clear from her success as a social reformer, public health educator, and popularizer of science, that she was well known and respected beyond the confines of the late nineteenth century academic communities of Boston and Cambridge.

Richards as Mentor to Early Women Sociologists

Lengermann and Niebrugge-Brantley remind us that the history of sociology is inevitably socially constructed. They link the systematic neglect of women scholars to "the discipline's power arrangements...reflecting an ongoing conflict between exclusionary and inclusionary values and practices" (1998: 2). They argue that the early women scholars of the Chicago School of Sociology, were not "invisible" during their lifetimes. Instead, their unique perspectives on theory and research have been actively written out, claimed by others, underestimated, or erased from the historical records of the discipline. During their lifetime, Richards and the Hull House reformers were excluded from academic sociology on the grounds that they were insufficiently "theoretical" in their approach (Deegan 1988). Although it is less grounded in a gender-based prestige system today, debates continue about the relative prestige and status of "applied" versus "theoretical" sociology (Weinstein 2000).

Until the recent restoration and acknowledgement of women's contributions to the founding of the social science, their female mentors (often barred from the halls of the academy) were often lost within the web of the more established male professorial lineages (Boyers 2000). With most universities either closed to women or not offering classes in the sciences, the graduates of the MIT Women's Science Annex (founded by Richards) helped to provide the training and credentials necessary for subsequent cohorts of female applicants to take sociology classes in the emerging public co-educational institutions (Apple 1997; Baldridge 1911). Most of her Annex students also went on to carry out seminal social research on the conditions of the urban poor.

Because Richards was so clearly self-identified and professionally recognized as a physical scientist, it would be inappropriate to strain to meet the criteria for her classification as a sociologist or inclusion in the Chicago Women's School of Sociology (cf. Deegan 1988: 9-13, 316-32; Rynbrandt 1999:140-143; Rynbrandt and Deegan 2001).[11] Richards' agenda presumed a focus on the lives and work of women, a critical concern with the practice of social inequality and commitment to its amelioration (Lengermann and Niebrugge 1996, 1998). At a minimum, Richards can be viewed as a *presence* in the historical development of American sociology.[12] Most of the Hull House community represented the "second generation" of women college graduates and Richards their "first generation" academic instructor. Richards was at a more mature stage in her professional development. Many of her students went on to join the influential Chicago Women's School of Sociology based at Hull-House (Richardson 2000).

Professional Ties to Early Sociology

As a first generation woman scholar, Richards formulated her theories of oekology and euthenics at a time when American social science was just emerging in the 1870s (Faris 1967; Ritzer 1996). In her immediate academic community of Cambridge, she did not share an academic milieu with many of those we have come to associate with the founding of sociology. Her reference group in sociology was probably closer intellectually and historically to British sociologist Harriet Martineau (1802-1876) than to the turn of the century religious founders at the University of Chicago. While European sociology had deep roots in the Progressive Reform Era, academic attention was concentrated on "Founding Fathers" like Auguste Comte or Emile Durkheim. Richards does not refer to their work, and we do not know if she was unaware of it or simply disagreed

with their views. There is evidence that she was quite aware of the controversies over women's rights in Europe. Through her travels, she was familiar with the sentiments of nineteenth century European feminist intellectuals and incorporated their arguments in her own political analysis. She would not, of course, have found reference to the early *critics* in the "classical" sociological canon. Waves of historians, philosophers and sociologists have recently reconstructed the arguments of our European feminist critics and founders, and reintroduced them to social science intellectual history (Landes 1988; McDonald 1993; Moses 1984; Ross 1991; Smith 1990, 1998). They challenge the presumption that the "Founding Father's" views on women's status went undebated at the time they were first presented.

Richards' own theories on women, social change, and technology were formulated in relative intellectual isolation. Even though Richards had relatively limited contact with "self-identified" sociologists in her immediate New England setting, she appreciated the value of alliances with them. Despite the harshness of travel, she was in demand as a speaker and consultant, visiting most regions of the country and the world, from Mexico to San Francisco (Gardiner, Maine Historical Society, Robert Hallowell Richards Personal Correspondence Collection). She chaired meetings of home economist groups across the country (Cornell University Archives, History of the School of Human Ecology Collection). She attended international conventions regularly throughout Europe and maintained professional ties with international colleagues through correspondence and publishing in their journals. Traveling with her geologist husband, she studied soil samples and educational systems from Japan to Jamaica, Russia, and Alaska. While staffing demonstration exhibits at the 1898 Chicago World's Fair, she strengthened her ties to the newly forming Chicago departments of sociology, philosophy, and education and invited many of their faculty to make presentations of their work at meetings of the Lake Placid Group (Hunt 1958).

Those American sociologists she cited and/or consulted in her later writings were often born several decades after she first began formulating her own theories. Her book on euthenics quotes liberally from W. I. Thomas. Although she was a biochemist, she presented papers on social problems at meetings at which sociologists were in attendance, and sought to form coalitions with them in lobbying for social change. Richards' colleagues at Hull House and the University of Chicago often collaborated with her on research projects for the Department of Agriculture (University of Chicago, Bentley Archives, Jane Addams and Marion Talbot Collections). She hypothesized links between the dietary deficiencies of the poor and retardation in children's intellectual development (American Association of University Women Archives, *Minutes and Publications of the ACA*, Microfilm Collection, reel #5, II). Her Philadelphia and Chicago studies, "Food Consumption and Dietary Habits of Families Living in Thickly Congested Districts," were presented at the meetings of the American Association for the Advancement of Science (AAAS) and disseminated through technical Department of Agriculture bulletins. She characteristically accompanied her public statistical reports with detailed proposals for reform (MIT Archives, Ellen Swallow Richards Collection, Original Publications). Although she first formally introduced her proposal for a "science" of oekology in 1892, she had been referring to it in her own public writing several decades prior to the publication of *Origin of Species.*[13]

Evidence suggests that while she was aware of the stirrings of sociology in Europe and the United States, she had yet to encounter a distinctive sociological canon—either as a resource or barrier to her own creative efforts. She developed her ideas at a time when

disciplinary boundaries were less clearly defined and the narrow specialization of fields had yet to constrict avenues of inquiry. As historian Max H. Frisch has observed: "Most American philosophers have been amateurs; that is they have been something else in the first place and philosophers in the second place" (cited in Seigfried 1996: 43). Consequently, the theoretical vocabulary and analyses we find in Richards' writings do not resonate precisely with the ideas that began to crystallize and differentiate the distinct discipline of sociology from the other fledgling social sciences. There is no doubt, however, that she had strong ideas to offer on how *she* would design university courses in these fields (Richards, "Practical Suggestions for Applied Economics and Sociology in the College Curriculum," University of Michigan Archives, *Minutes and Publications of the (ACA),* Microfilm series III, 10 (January, 1905: 20-34). As was customary, Richards chaired and prepared the minutes of the Lake Placid Conferences on Home Economics (St. Louis, Nov. 5, 1904). The Lake Placid Group's members, (male and female) engaged in lively discussions about the creation of university level courses and degrees in domestic science.

They examined syllabi from course offerings around the country that might be used as models for their new curriculum. Scrutinizing reports on the social sciences, Richards evaluated their viability critically. "Sociology is yet on sufferance in many institutions, or is so combined with economics as not to be clearly differentiated. It is found in four women's colleges, three coeducational colleges and five state universities." Her chief complaint about history was that "few courses treat of life later than the Middle Ages...[there is] too great a stress on local rather than world movements." Surveying economics, she concluded, "we fare little better" with the exception of those that address "economic statistics, prices, wages, family budgets, financial statistics...history of labor...race elements in American industry...relation of household industries to other economic problems"(*Lake Placid Proceedings*, volume 1, 1904: 80-81). Always a firm believer in the application of scientific research to immediate social problems, she concludes her comments noting that it might not hurt "a Greek scholar to be ignorant of the simplest laws of...social betterment, but for a mayor...a member of the school committee, to be so ignorant is scandalous if they are college bred." In the sections that follow, we trace Richards' development as a scholar seeking academic credibility for her theories of oekology and euthenics and the links many of her concepts have to early sociology. Lacking a Ph.D. or a full-time university appointment, she was inevitably disadvantaged in getting a fair hearing for her ideas (Bix 2000). While Richards maintained her ties to both the life science and social science communities, her views never achieved full acceptance in either setting. Her interdisciplinary and secular models of humanity's relationship to the universe were met with skepticism in her immediate academic communities of Cambridge and Boston.

Richards' Contributions as a Theorist of Social Change and Technology

Despite her primary ties to the "hard" sciences, Richards contributed to the development of sociology through her theories of social change and application of systematic social research techniques to social problems. In his review of the models which have captured the imagination of sociology since its inception, Weinstein identifies evolutionary "theory" as one well known example in which the role of "unintended outcomes" and the role of "intent" in sociocultural transformation is often underestimated (2000: 6). Richards' views on the subject were grounded in biological models. Increasingly, she

incorporated ideas and concepts from the social sciences and gradually distanced herself from the static biological theories, still prominent during this period. She expanded on Ernst Haeckle's (1834) original definition of ecology by arguing that every physical event in nature also interacted with human social events in a complex system of relationships. While she saw "organic" change as slow, she warned of the potentially catastrophic dangers of human technology. Her views are distinctive in that she sought to focus public attention on the ramifications of social change in spheres of the universe that extended far beyond those conceived of by most other thinkers of the period:

> Not through chance, but through increase of scientific knowledge; not through compulsion, but through democratic idealism consciously working through common interests, will be brought about the creation of right conditions, the control of the environment. (Richards 1977: vii)

Richards is not referring here to a "taming" of nature by man, so much as urging for an understanding of the importance of maintaining a harmonious balance among the broader systems of life: "To the student of biological evolution, the individual is as a mere a pinpoint on the chart of community advance..." (Richards 1977: 80). This perspective grew out of her close familiarity with biological models and her determination in finding applications to contemporary social problems. She felt industrialization could become a positive evolutionary force, provided that social evils could be monitored and remedied by an educated citizenry.

Her hypotheses concerning the role of human factors ultimately led to her disparagement by colleagues in the biochemical societies of which she was one of the earliest female members. In 1892, at the age of fifty, she was the keynote speaker at a professional meeting, where she took the opportunity to christen her new science of oekology in front of a prestigious group of Boston industrialists and their wives:

> For this knowledge of right living, we have sought a new name...As theology is the science of religious life, and biology the science of [physical] life...so let Oekology be henceforth the science of [our] normal lives...the worthiest of all the applied sciences, which teaches the principles on which to found a healthy...and happy life." (Archives of The Boston Public Library, *The Boston Globe*, November 30, 1892)

Her theories were ultimately discounted in the life sciences. By 1893, a prestigious British medical journal expropriated the definition of ecology. They rejected Richards' more humanistic view of earth's life systems, still envisioning man as the "master" of his universe. Along with the eugenicists, the British journal editors believed the human species to be more profoundly influenced by heredity than the environment. They pronounced the "Science of Ecology" as restricted to the "morphology and physiology of animal plant life," to the exclusion of the human species (Clarke 1958: 154).

Published posthumously, Richards' 1911 book on euthenics represents her last major statement and rebuttal of the popular views of her many social Darwinist critics. After each of her returns from Europe, she stiffened her own resistance to eugenics. Insisting on an examination of social factors, she challenged eugenic theories of "faulty breeding" to explain the social conditions of the poor (Hofstadter 1955; Weigley 1974). She described euthenics as a social compact between the individual and the state in which citizens worked together cooperatively to achieve mutually democratic and healthful lifestyles:

> Right living conditions comprise pure food and a safe water supply, a clean and disease free atmosphere in which to live and work, proper shelter and adjustment of work, rest, and amusements. (Richards 1977: x)

She threw all of her prestige and influence in opposition to eugenics, threatening to resign from ACA unless they substituted her term, euthenics, as the title of one of their committees: "This is clearly understood in England, and I do not care to touch that side. I feel, with Mr. H. G. Wells, that we know too little as yet, and the environment must come first" (AAUW Archives, *Publications of the (ACA),* Microfilm Series IV (1), January, 1911:16).

Working in a relatively hostile intellectual landscape, Richards' theories held little credibility in the context of prevailing paradigms. Her secular explanations of the forces underlying human nature and societal change represented a challenge to prominent theories in the sciences and social sciences alike (Shepard and McKinley 1969). While Richards was moving closer to incorporating social dynamics into her own theories on technology and evolutionary change, neither Harvard nor MIT openly embraced the social sciences in their staffing or curriculum (Nichols 1992). Harvard particularly remained suspicious of the "new sciences" and the move toward a secularization of the meaning of life and man's essential nature (Fuhrman 1980; Nichols 1992). At the time that other distinguished universities, such as Chicago, Yale, Columbia, Brown, and Wisconsin, were forming departments of sociology, the elite universities, like Cambridge, remained wary. In bold contrast, Richards' theories of oekology and euthenics offered a defiantly secular explanation of the universe that removed man from the purposive center of life, and by-passed God as an explanatory factor. Her models directly challenged the social Darwinists of the period, along with the religious administrators at Harvard and many of the founders of sociology at the University of Chicago (Faris 1967). She preferred scientific research and reason to tradition and religion as guides for shaping social reform. She promulgated an accessible, applied discipline, designed to help the social reform movements of the day, including sanitation, consumerism, public health, and education. Richards' concerns anticipated the renewed interest today in global ecology, consumer rights, and the current resurgence of interest in applied sociology. In 1968, The International Institute for Euthenics belatedly credited Ellen Richards for the intellectual and political groundwork she prepared for the twentieth century movements for conservation and "ecofeminism" (Clarke 1973: 252). More than a century after her bold speeches in Boston, her interdisciplinary theories of social change and technology are also receiving reconsiderations by several traditions in feminist thought, particularly feminist pragmatism and ecofeminism (Deegan and Rynbrandt 2000; Deegan 1988; Seigfried 1996; Tong 1998).

Richards as Social Activist and Progressive Era Reformer

Applied Social Science Research and "Muckraking"

Richards is not remembered for her "radical" efforts to reorder the economic system, but much of her career was dedicated to unmasking the hidden dominant interests of entrepreneurs and profiteers. She earns the label of "muckraker" because of her early concerns over the potential damage the Rockefeller oil industry was already wreaking on the environment. Worker safety was commonly sacrificed to profit, and conditions in manufacturing plants were dangerously volatile environments for the men, women, and children crammed into the small workspaces. Explosions were commonplace in textile

mills and the expanding petrochemical industries.[14] Denied the right to patent inventions in her name, Richards designed and marketed industrial designs to reduce workplace hazards (MIT Archives, Richards Published Papers Collection).[15] Richards was never shy about challenging the establishment:

> Many really humane people are overawed by the authority of, the pompous and powerful assertions of 'successful' men of affairs; and they often sleep while such men are forming secret conspiracies against national health and morality with the aid of legal talent hired to kill. Only when the social mind and conscience is educated and the entire community becomes intelligent and alert can legislation be secured which places all competitors on a level where humanity is possible. (Richards 1977: 161)

While few paid much attention to Richards' instruction to young women in food science and sanitation chemistry, her lectures at the MIT Annex called for social reform. Even when Richards was teaching basic biology and chemistry to young women, she included fieldwork to factories that led her students to ask questions about the responsibilities of government and industry to workers. She challenged real estate agents, industrialists, and city planners to secure better working conditions in factories. Confronting factory owners and government officials with scientific data, she led campaigns for worker safety, detailing the marginal losses to profits of the remedies she prescribed. Her courses required her students to critically examine the mutual impact of man on the natural landscape, and the costs of industrial technologies on the laborer. As a scientist, she was committed to gathering empirical evidence on the viability of her ideas rather than leaving them abstract and untested. As a reformer, she felt obliged to publish her results and educate the lay public to the dangers of the workplace and the sources of their problems. She testified publicly to the devastation new industrial equipment could bring to human enterprise if left unregulated (Massachusetts Historical Society Archives, Edward Atkinson Private Correspondence Collection). She warned that technology could be distorting the fragile balance of an "ecological" system in which man was not the center of the universe.

She also did more than "preach" healthful cooking and "dietetics" to middle class housewives. Under her leadership, the Association of Collegiate Alumnae (ACA) made sanitation the topic of their meetings and invited fledgling graduates of domestic science programs to provide instruction on how to make their home environments safer. Working with women's groups across the nation, Richards demonstrated the political value of collecting empirical information on social conditions (Clemens 1993). With the permission of the State Board of Health, Lunacy and Charity, Richards directed the first scientific study of a state's staple grocery supply, a report that led to the passage of some of this nation's earliest pure food laws in 1882 and 1884 (Schlesinger Library, Culinary History Collection). Even more challenging than concocting nutritious, but tasty food, she sought to educate the public to the potential dangers of invisible microorganisms (Brumberg and Tomes 1982). Regardless of social class, enormous populations were ravaged with epidemics of cholera, smallpox, typhoid, tuberculosis, pneumonia, and scarlet fever. Many have interpreted Richards' safety admonitions as middle class proselytizing to immigrant women and children (Mankiller 1998; Martusewicz 1988). There is good evidence that the educational messages of the early home economists played an important role in the public health movement (Duffy 1992; Tomes 1998). Even as Jane Addams was calling for peace, Richards published an editorial chastening the government for sanitary hygiene ignorance in the Spanish American War. She used a technique she'd found promising in her efforts to persuade industrial-

ists of the benefits of worker safety. She literally calculated and compared costs in soldiers' lives due to battle injuries compared to deaths related to hygiene [e.g., medical treatment, food, water, and waste treatment in camps] (Smith College, Sophia Smith Archives, Boston Women's Medical College Collection).

Professional Marginalization

Richards' belief in the value of applying scientific theory, especially to concerns in the domestic sphere, never received serious consideration by her academic Cambridge colleagues—male or female. Whatever name she applied to it as a field of study—"sanitary science," "oekology," "euthenics," "domestic science," or "home economics"—she rarely received the endorsement of those she respected the most. Those who adopted her curricula were often female administrators in the primary and secondary school systems and, to a lesser extent, male Land Grant university administrators who came to see sex-segregated curricula as a solution to female "overcrowding at the turn of the century."[16] The costs to Richards' academic credibility for her activism were also significant. The more committed she became to solving immediate social ills, the more she encountered hostility and opposition by male colleagues in her discipline. Her proposals to use scientific methods to study the "taken-for-granted arena of daily domestic life" were commonly ridiculed and labeled as "unscientific." The closer she came to studying questions she felt were authentic to her own experience, the further she was distanced from the privileges of academia. The more engaged she became in political advocacy, the harsher the backlash she endured in her personal and professional life (Hunt 1958; Rossiter 1988). When she embarked on a nationally visible campaign to improve safety in the public schools (Kaufman 1994), she was accused by colleagues of having deserted science, and was ostracized from several professional associations, ultimately losing her position as Director of the MIT Women's Science Annex.[17]

In addition to the discrimination women like Richards experienced because of their sex and chosen field, they were also being confronted with a tidal change of professionalization in both the Sciences and in the Social Sciences. Richards' interdisciplinary views were marginalized, even as her disciplines of chemistry and biology became increasingly specialized. Her efforts at establishing legitimacy for her work as an individual and the causes she supported took place at a time when "experts" were replacing "amateurs" and the bars for admission into the newly defined "professions" were being raised even higher. In his analysis of the rise and fall of the American Social Science Association, Haskell (1977) describes a pattern that he refers to as a "crisis of authority." In interpreting her responsibilities as a science educator, Richards sought to democratize, demystify, and empower the general public by increasing their understanding of technology. She was fighting an incoming tide of specialization and fragmentation that was to continue through to the next century. Many male applied sociologists became increasingly marginalized during this same period in sociology's development. The barriers keeping females excluded from the field, however, continued to remain more firmly in place than ever (Faris 1967; Rucker 1969; Rudolph 1962). Women still encountered a mixture of wonderment and hostility when daring to knock at the front door entrance to the academy. Even when a few women got their "feet in the door" of professional associations, male members commonly used intimidating tactics to exclude them from their deliberations.[18] Richards' efforts to grapple with and reshape the disciplinary boundaries in which she was immersed provided inspiration to

others who later followed. This is not to imply that Richards' students necessarily shared all of her views, which evidence suggests they did not. Richards' dominant personality was daunting to many of her female colleagues, students, and followers.[19] We are currently undertaking a closer examination of the shifts in the nature of the debates by her followers during the decade after her death in 1911. We are concentrating on those groups she was most instrumental in founding, i.e., the American Association of University Women and The American Home Economics Association.

Ties to a Liberal Political Tradition

Richards' justifications for gender equity suggest an awareness of British, European, and American feminist social thought and discourse on "the woman question." Writing several generations after Mary Wollstonecraft's eighteenth century treatises, Richards can be squarely located in a "liberal" feminist tradition that urged women to achieve equality by becoming autonomous decision makers through education and economic independence (Tong 1998). Richards sought institutional change by campaigning for co-education. She also placed great responsibility on individual young women to challenge the traditional female role expectations of the period and acquire the more "masculine" and "scientifically-oriented" skills and attitudes that she felt would bring professional success in non-traditional careers. Richards also echoed John Stuart Mill in the philosophical rationales she provided for equalizing opportunity by sex. Her arguments for women's rights were based on the following general tenets: Confidence in the human capacity for rationality, belief that men and women were equally capable of critical thinking, and a conviction of women's (ultimate) entitlement as public citizens. She also provocatively ascribed equal value to women's labor relative to men's, in *both* the domestic and industrial sectors. We will expand on this further in our characterization of Richards as a part of the "materialist" feminist tradition. Apart from the basic matter of human rights, her views were premised on her socially provocative belief in women's capacity to learn science.

She was prepared to demand gender-free fairness and justice once she felt women had obtained the necessary level of accomplishment and motivation. Her views on women's civic responsibilities were consistent with the Declaration of Sentiments and Resolutions passed at the first women's rights convention in Seneca Falls, New York in July 1848 (DuBois, 1999; Women's History Museum, Seneca Falls Historical Society, Papers on the Women's Rights Convention of 1848).

> Woman has too long rested satisfied in the circumscribed limits which corrupt customs and a perverted application of the Scriptures have marked out for her,... it is time she should move in the enlarged sphere which her great Creator has assigned her. (Stanton 1898: 1971: 150)

Although Richards' expressed a lifelong ambivalence toward women's readiness for suffrage, she felt it was critical for women and girls to increase their civic participation. She dedicated her life's work to their "preparation" for an informed and educated citizenship. She lent support to suffrage associations in her later years, but argued that most women would not be ready to exercise judgment in a wise and informed way without open access to education at all levels. She worried that opportunities were expanding for women more rapidly than they were equipped to take advantage of them (Sophia Smith Archives, Ellen Swallow Richards Correspondence Collection). As an educator, she commonly insisted that her women students achieve *higher* standards of

excellence than their male peers. Because of her concerns that young women's "social" rather than intellectual "motivation" might compromise their performance at the University level, she recommended against their admission to MIT until they had completed a more demanding course of scientific prerequisites than was required of most male applicants (MIT Archives, Ellen Swallow Richards' Personal Papers Collection).

Despite these reservations, Richards' explicit and intended life's mission was the expansion of women's capacity for critical thinking and their preparation for roles beyond the home (Kaufman and Richardson 1982; Richardson 2000). She placed less emphasis on women's performance of traditional roles, so much as on a redefinition of their emerging contributions to an industrializing economy. Her advocacy on behalf of the environment, public health, and consumer education also translated into new professional outlets for women outside of the home. She connected her settlement house research in dietetics and cost-efficient cooking to opportunities for women in the management of facilities at the institutional level—including hospitals, jails, asylums, and experiments in communal cooking.

White, Middle-Class, Liberal Biases

Although Richards did not come from the "upper class" originally, she traveled among elite intellectual circles. To appreciate the complexity of Richards' views as a "feminist," it is necessary to place her in the privileged socio-historical context she enjoyed as a married woman. The heated political debates taking place on women's status during the Progressive Reform Era certainly included women from many social and ethnic backgrounds. While their arguments were commonly deemed unworthy of serious scholarly consideration in early academic sociology, they certainly galvanized public attention. Clearly, women in different socioeconomic and ethnic groups were differentially impacted by capitalism. [20] Emerging technologies were placing structural strains on gender roles in most families, but to varying degrees. In our focus on Richards' contributions, we are dealing primarily with the agendas established by white, middle-class, female liberals, for whom "sheer survival" was rarely at stake. This is not to devalue their contributions or to suggest that many other groups—minority, industrial, or religious—were not active and effective during this same period. Capitalist industrialization was transforming the content and meaning of gender roles and "productive work" in all social strata. Women sought representation in a range of diverse constituencies due to their multiple sources of oppression by race and class.

Richards did not overtly or solely attribute women's unequal status to a patriarchal culture or capitalistic organization of the social structure. Rather than advocating their complete overthrow or elimination, she presumes their inevitability, but in a less oppressive fashion. This view was predicated on her faith in the power of civic education and a scientifically informed and benevolent government. She optimistically believed in the potential of a democratic state and an informed citizenry with the capacity to keep forces for exploitation "under restraint." While she critiqued the division of labor in marriage and the family, she never formally attributed women's lower status to one particular socioeconomic factor. Instead, she identified an interdependent set of oppressive factors. Her ideas never achieved the comprehensive vision of the "Matrix of Privilege and Oppression," characterizing the work of respected feminist sociologists Anna Julia Cooper and Ida Wells (Lengermann and Niebrugge-Brantley 1998: 173-176). She did, however, identify specific social and institutional barriers to equality that would

require significant, often radical, change if equity and justice were to be achieved. Faced with the cultural realities of the times, she attempted to use women's exposure to the sciences through the home economics curriculum as an entry-level wedge to professional careers (Glazer and Slater 1987). This approach used a two-part strategy to help women gain access to nontraditional careers in the public sphere. Science education helped young women to acquire the credentials necessary for entry into advanced institutions of learning. College degrees provided the "official" prerequisites for graduate training and entry into the many newly emerging professions. Resistance to Richards' liberal political agenda remained firmly grounded in objections based on deeply embedded cultural norms for gender appropriate behavior (Fitzpatrick 1990).

Many of Richards' critics, then and now, include other women. In contrast to the traditions in "cultural" feminism, Richards' often stands accused of the "valorization" of self-control, reason, and unquestioning "positivism," all qualities commonly ascribed to a "masculine world view." Her efforts at "democratizing" the sciences have also been condemned as a form of patronizing middle class efforts at controlling values in a rapidly changing society. In this view, Richards stands accused of lending support to the "bourgeoisie" in its efforts to ensure its own "hegemonic survival" (Martucewitz 1988; Mankiller 1998). Always more pragmatic than utopian, this sensible biochemist and bargainer was professionally torn between keeping her ideas grounded in scientific feasibility, or letting her imagination soar into a more idealistic but equitable future. Oekology and euthenics represented her best effort at achieving an integration of these competing ideals. Debates continue with regard to the extent to which Richards may have envisioned a major economic reorganization of gender roles, or was elitist with regard to women and minorities. Richards' analysis of racial and ethnic issues is best represented in her agenda for popularizing science in the schools (discussed under her views as a pragmatist). Nonetheless, her conception of the social significance of oekology and euthenics as scientific expertise applied to everyday life (not just the domestic sphere) translated into a theoretical model which ascribed an enhanced power, prestige, and value to women's traditional roles in the family and reassessed their worth in the maintenance of society.

Challenges to the Division of Labor in the Family

Based on the views of later generations of home economists, many have assumed that Richards' vision for women was narrowly limited to the domestic sphere (Ehrenreich and English 1978; Friedan 1963). At first glance, in her writings and speeches, Richards' appears to accept women as inevitably ensconced in the domestic sphere. She differed, however, in her conception of women's nature and justifications for their involvement in public affairs. Although she often appears to have supported many of the reforms associated with the traditions of the "Cult of Domesticity," the "Ideology of Separate Spheres," or cultural feminism, there are important political distinctions among these movements (Boyers 2000; Cowan 1983; Deegan 1997; Shapiro 2001; Strasser 1982).

Because Harriet Beecher is sometimes thought to be one of the founding mothers of home economics, her views are often presumed to be similar to Richards.[21] In contrast to the Hull House cultural feminists, who strongly endorsed women's participation in civic affairs, Beecher supported an "Ideology of Separate Spheres" in which the home was viewed as a haven of purity and a sanctuary of virtue. Men were expected to deal with the public arena and women, *by nature*, patriotism, and civilized morality, were destined to be the guardians of the home.

> To man is appointed the outdoor labor—to till the earth, toil in the foundries, ...conduct civil, municipal, and state affairs, and all the heavy work...(Beecher: 1869: 1998: 19).
>
> When the family is instituted by marriage, it is man who is the head and chief magistrate by the force of his physical power...when differences arise, the husband has the deciding control, and the wife is to obey...*however much his superior.* (emphasis added, Beecher 1869:1998:203)

Richards' beliefs on the role of men in the domestic sphere and the quality of scientific education needed for women's preparation for citizenship also appear to have been distorted by many of her followers over the years. Traditionalist advocates like Beecher envisioned a highly functional series of courses in domestic education designed to exclusively fit women for their "natural duties" (Flexner 1968). Richards, on the other hand, insisted that society, as a whole, would benefit from the *equal* involvement of *both* sexes in traditionally defined women's work. With the rise of the Land Grant movement, Richards advocated completely shared access to university courses through coeducation. She strongly supported coed classes throughout the entire curriculum, including home economics. Although she acknowledged the power of tradition, particularly in the home setting, she resisted the trend for home economics classes to be filled only by women. She felt courses in sanitary science could be taken as ancillary electives to the requirements for a major in other fields of study. Her original curricula in domestic education included coverage of all of the basic "hard" sciences, at the most challenging technical and theoretical levels.

In questioning a gendered division of labor, Richards saw a need for training in the scientific underpinnings of emerging home technologies. She insisted that all family members—male and female, children and adults alike—needed to study the proper workings of the newly invented home conveniences employing water, gas, and electricity, and a variety of chemicals, consumer products, and store-purchased foodstuffs. Her assertions questioned the normative boundaries prescribed for the middle class household of the time. Instead, she encouraged both sexes to know, understand, and shape the direction of technology in *both* the public and domestic arenas. Beyond matters of "efficiency," her concerns centered on safety and public health issues. She asserted that the work of maintaining a home and caring for dependents was so valuable to society that *both men and women* should study domestic sciences together, and share equally in managing these responsibilities in the home. Despite her efforts at upgrading the social value of women's domestic labor, Richards bristled indignantly whenever her professional work was categorically included with the more "unscientific" and "traditional" efforts of "ordinary housewives" (Smith College, Sophia Smith Archives, Richards' Personal Papers Collection). Ironically, Richards' views on the potential of home economics for professional career development are most often interpreted instead as a deterministic assignment of women to an exclusive responsibility for housework!

> Under the scrutiny of persistent study and discussion, domesticity expanded into an objective body of knowledge that had to be actively pursued; it was no longer to be treated as a God-given expertise...The most popular way to refer to this approach was to call it "scientific"... rational, objective and methodical—traits that gave the term a definite air of maleness... The woman who worked hardest to appropriate male thinking into the feminine domain was Ellen Richards, one of the founders of Domestic Science both as a reform movement and as a worldview, and perhaps its "best-loved leader." (Shapiro 2001: 35)

Her subversively radical arguments about the necessity of gender equality in the care of home and family have yet to be implemented, even normatively, in most postindustrial societies today.[22]

Links to Other Philosophical and Political Traditions

Progressive Era Forms of Feminism

Richards was most visible as feminist advocate after the end of the Civil War period. Prior to that, most feminist activists concentrated on supporting the war effort and the abolitionist cause, deferring hopes for an amendment for universal suffrage (Pujol 1992). Many different branches of sociology, feminism, utopian materialism, pragmatism, and ecofeminism have emerged in the century since Ellen Swallow Richards developed her theories of oekology and euthenics. We have not presumed to designate her as the founder of a particular school of thought. Our aim is to analyze her political agenda within her immediate social-historical context. She grounded her social science views in her experience as a woman in a male-created world. As with so many other academic feminists, she struggled to balance loyalty to the values of her discipline to those of the women's movement. Richards changed and developed her arguments and strategies for social change as she traveled and exchanged views with her many colleagues and followers. Consequently, we have attempted to focus our discussion on those of her theories that appear to be most consistent and representative of the views she held throughout her lifetime. During the Progressive Reform Era, most educated women were actively engaged in debates over "the woman question" and held strong opinions on the subject, even if they did not share them as openly in public as did Richards and other feminist advocates of the period (Beuchler 1990).

Our review of ideologies found in the broadly defined "woman" movement is necessarily selective. The following sections discuss those elements of Richards' policy research and theory that addressed the social problems of concern to the schools of feminist thought most prevalent at that time. It is also not our intent to provide a comprehensive analysis of Richards' ideological perspective as a feminist.[23] Our goal here is to reintroduce Richards as a participant in the discussions of the period, and as a contributor to the historical debates on the role of the family in industrialization, gender roles, and women's status in the economy and education. The themes we have selected for comparison are her models of social evolution and analysis of the gendered division of labor in the economy, both in the home and in the workplace. She shares many views in common with the early feminist sociologist critics of the "classical sociological canon" (Kournary, Sterba, and Tong 1992; Whelehan 1995). She rejected the concept of value-free research, for instance, insisting that theory be grounded in applications useful to women's lives. She encouraged women to see the connections between the lessons of science and their daily domestic responsibilities. Not surprisingly, as a first generation scholar formally trained in biochemistry rather than in social science, many of her ideas are also quite distinctive from those of her younger female contemporaries, especially at Hull House.

"Feminist Sociology" and "Cultural" Feminism

Drawing on Lengermann and Niebrugge-Brantley's (1998) use of the term "Feminist Sociologist," we summarize here Richards' chief assumptions and political strategies for improving women's status. Deegan argues that almost all women sociologists trained before 1915 were cultural feminists, steeped in the belief that women's values held more promise for the world than men's (1990). As a scientist, Richards viewed

many of the intuitive or "natural" virtues extolled in women as potentially harmful character traits, impeding women's progress toward mature citizenship. Deeply suspicious of ethical or professional double standards, she felt they harmed women's potential for competing in the public sphere. She held few illusions about women having the advantage of an elevated moral or prudential makeup because of their maternal instincts. Richards contested society's assumptions about the assignment of the female sex to the primary roles of childrearing or as having innate knowledge of the information necessary for management of the home, emphatically resisting efforts to define women's boundaries by their reproductive capacities. Richards devalued arguments advancing female moral superiority or their "god-given destiny" to remain in the home. She defiantly refused to accept privilege on the grounds of cultural, moral, or ethical superiority attributable to sex (University of Chicago, Bentley Archives, Talbot Correspondence Collection). Richards also differed markedly in her grounds for women taking a leadership role in civic reform. In this regard, she was closer to Caroline Bartlett Crane who, while "woman-oriented," did not rely on arguments of women's distinctive or superior virtues to justify their social entitlement (Rynbrandt 1999, 2000). [As a noted Unitarian minister, Crane was more inclined to view herself as on a mission, a "minister to municipalities," rather than as a "Cultural" feminist or as the secular social reformer Richards presented herself as (Rynbrandt and Deegan, in press, 2001: 16]).

Richards predates early feminist sociologists Charlotte Perkins Gilman, Anna Julia Cooper, and Marianne Weber, among others, in making women's work as caregivers and homemakers visible in its exchange value to capitalist production. Subsequent "socialist" feminists and "materialist" feminists echoed many of Richards' views in their challenges to the prevailing social construction of women's work. Richards made her life's work the redefinition of the meaning and economic value of women's labor in the domestic sphere. She presents a trenchant analysis of Capitalism's devastation of the environment and women's traditional roles in the economy. The sections that follow will provide additional illustrations of Richards' social critique.

Utopian Experimentation and "Material" Feminism

Richards established her settlement house, the New England Kitchen, against the backdrop of the Progressive Reform Era's interest in anarchism, socialism, cooperative housekeeping, and urban design. In her detailed history of the architecture of home design, Hayden (1992) links material feminist writings to the influential socialist and utopian theorists who challenged technology, the division of labor, and its impact on the use of space in both the factory and the family. America's material feminists were clearly aware of, and influenced by, the political agendas of their European counterparts, especially the French socialist feminists busily challenging sociology's "Founding Fathers" (Pederson 2001). She characterizes material feminists as the first feminists in the United States to identify the economic exploitation of women's domestic labor by men as the basic cause of women's inequality. [24] The reform proposals advocated by social thinkers, like Charlotte Perkins Gilman and Ellen Richards, were tied to their belief that women could only be equal when domestic responsibilities were socialized (Gordon and McArthur 1988). Much of Richards' advice to women dealt with her experimental visions of domestic spatial architecture, and the introduction of new technologies to relieve the burdens on individual homemakers and their families (MIT Archives, Richards' Original Publications Collection). Along with the more utopian

materialist feminists, she could imagine many alternative social arrangements for carrying out the domestic functions traditionally assigned to women. [25] She could also see women's new skills as "mediators" of technology translated from the family into public service and careers in the public sector. She argued that domestic skills could be counted as useful to occupations commanding wages outside the home: teaching, home economics, and consulting to local, state, and federal government health agencies. The list was beyond most of her male colleagues' imaginations.

There were many variations on these arguments, but materialist feminist views represented radical efforts to gain economic recognition for women's traditional labor. They challenged three basic sociological assumptions about the consequences of industrial capitalism. They questioned first the idealized view that transactions in the domestic arena were quite apart from the political economy, and second the assumption that domestic labor did not have exchange value in the public sector. Richards argued instead that their true worth was unacknowledged and undervalued in the impact they had on daily life and commerce in the "public" sphere. Finally, despite their insistence on the responsibilities of men in the home, women like Richards sought to retain control over the definition, meaning, standards, and criteria for evaluation in the domestic sphere.

Although she never supported a "Wages for Housework" movement, as did some of the more utopian and communally-oriented feminist leaders, Richards demanded an acknowledgement of the direct link between women's unpaid labor in the home and the capitalist economy. Consistent with her strategy of attempting to assign monetary value to socioculturally "invisible" values, she used many forms of empirical data to "tote up" women's contributions to society. Her assertion that women's traditional labor in the home represented "calculable value" signified a challenge to prevailing social science paradigms (Blumberg 1991).

Richards' equations of women's "worth" represent a challenge to prevailing sociological models—then and now. Her analysis is only beginning to receive the serious sociological and economic consideration it deserves. Sharing the concerns of early sociologist Thorstein Veblen (1834), but not his solutions, she recognized women's loss of traditional functions. She questioned the permanence of the purported "domestic void" left by industrialization and the growth of the market economy. Long before Talcott Parsons, she appreciated the changes taking place in the nature of the "family's" functions but was less "gendered" in ascribing the new scripts in the division of labor. In contrast to the "structural-functional" tradition in sociology, her solutions to this "crisis" was to re-conceptualize their premises about the economic value of women's traditional roles. She advocated long-term changes in "modern" family structure, but foresaw a move toward an increase in male responsibilities in the home and dramatically accelerated participation by women in the market economy. In contrast to cultural feminists and functionalists, Richards de-emphasized women's *expressive* leadership roles. She felt the entire family should be educated to serve as keepers of the home as a "safe haven" from consumer exploitation, germs, and the dangers of modern household appliances. Her focus was on women's role as the "team leader" against the assaults of industrialization, rather than as the main source of purity and emotional replenishment for their provider husbands. She emphasized women's new responsibilities as *instrumental mediators* of new technologies and "watchdogs" of family consumption and safety.

Recognizing the difficulties in affecting rapid change in a capitalist economy, she urged women to retain control over any redefinitions in their roles in the family. She strongly encouraged them to be aware of the "additional value" and "influence" they

generated with their new forms of productivity. She specifically attempted to help them make the political links between their contributions as *both* employees and homemakers. In essence, she raised their "consciousness" of their "earned" rights in addition to their "natural" rights to improved status and recognition in the institutions of the broader society. She advocated their development and application of expert "scientifically researched" knowledge in the domestic sphere of the home as well as outside of it (Burggraff 1977; Collins and Gimenez 1990; Lopate 1978; Richardson 1982). The early home economists understood that scientific standards in the domestic sphere would be necessary if women were to receive personal and public rewards for their domestic investments and economic accomplishments. They knew it was important to be able to measure and assess women's gains (and losses) in applying new skills at home and in the labor force. In her now classic analysis of the housewife role, Oakley wrote, "Housewives belong to no trade unions; they have no professional associations to define criteria of performance...no single organization exists to defend their interest..." (1976: 8). By bringing science to bear on their efforts, women could, Richards felt, increase the value of their private investments; the social worth of the domestic sphere could be publicly valued (Kaufman and Richardson 1982).

By highlighting the need for a new level of scientific expertise for women in accomplishing their traditional roles, Richards was renegotiating, upgrading, and expanding the boundaries and worth of women's social value beyond those ascribed by the prevailing ideology and economy of patriarchal capitalism.

Tensions in Richards' Analysis of Women's Status

At the same time, she struggled to upgrade the public's perception of the value and worth of women's domestic labors, she insisted on using masculine criteria as the performance standards and the criteria for measuring women's value. Her contributions have also been characterized as "anti-feminist" because of her clear preference for the purportedly more "instrumental," scientific, traditionally masculine approach to problem solving and achievement. Taking the pragmatic path of "professionalizing" women's work, she infused Home Economics with goals that brought credibility to men in traditionally "masculine" areas of expertise.

In loyalty to feminism, Richards challenged the existing "rules of the game" by enhancing the value of women's contributions in their traditional arenas. In loyalty to her scientific discipline, her *methods* for evaluating women's worth were based on traditionally "masculine" standards. Her criteria for assessing women's potential "benefits" to society were grounded in the values of a capitalist economy. Richards was torn between two approaches to social reform. One avenue sought legitimacy, credibility, and respect in the "objective normal science tradition." The other, was grounded in social activism and raised questions more "authentic" to her personal life experiences. Richards dared to revision the meaning of the domestic sphere, while clinging to the scientific methods that she felt would generate the most "social scientific" solutions. With her global, ecological view, the problems she chose to struggle with were often beyond the imaginations of most of those around her. This intellectual and political tension may have impaired her ability to focus directly on the embedded political questions of Patriarchy, and the oppression of class and race in the larger economic system.

Richards' effort to restore economic value to women's labors in the domestic sphere represents a subversive critique of the prevailing gender stratification system. Hers is a

more radical analysis than she is customarily given credit for. We believe she is raising questions about the "real" social and economic value of caregiving and housework that continue to challenge present some of the most basic assumptions in "classical" economics, political science, and sociology through to the present time. [24] On this particular issue, Hayden argues that contemporary feminist historians have often overstated the factionalist splits among suffragists, socialist feminists, cultural feminists, and material feminists: "The overarching theme of the late nineteenth and early twenties century feminist movements was to overcome the split between domestic life and public life created by industrial Capitalism as it affected women's autonomy" (Hayden 1992: 4). We believe Richards' personal frustration with having her own professional ideas and theories stigmatized as "women's work" was a source of frustration throughout her lifetime. She was always reluctant to have her "work" equated with "mere women's work."[26]

"Feminist Pragmatism"

Feminist scholars have painstakingly reconstructed the network of shared interpersonal and intellectual influence of the reform minded women of the Chicago Pragmatist Reform Tradition, (Fitzpatrick 1990; Seigfried 1996). Deegan defines "feminist pragmatism" as an American theory that

> ...unites "Liberal" values and belief in a rational public with a cooperative, nurturing and liberating model of the self, the other, and the community. This model emerges from women's experience and culture, but is a learned and not a biological process. Feminist Pragmatism emphasizes education and democracy as significant mechanisms to improve society. (Deegan 2000: 4)

Deegan argues that the "critical pragmatism" of Jane Addams is important to understand because it "outlined the major topics of study for Chicago sociologists for several decades" (1990: 248). Richards was not a member of this group, but she had many ties to the early Chicago feminist pragmatists, especially through her students. [27] She also shared many of their views (University of Chicago, Bentley Archives, University Administration History Collection.) Her work as an educator and organizer also reveals many of the same themes that Deegan used to describe feminist pragmatism (1990) and Lengermann and Niebrugge characterized as the orientation of a "Feminist Sociologist" (1998: 293-294).

As a natural scientist, Richards was trained to view relationships and events as symbiotic in the Physical and Life Sciences. She played a key role in the democratizing of scientific curricula in the schools. She reached out to new audiences as a science educator and reformer (Kaufman 1994). Her devotion to democratizing science education for women of many social class groups demonstrates, in varying degrees, her gendered standpoint. Her focus on women's lives and work, exploration of domination and inequality among subgroups of women, and commitment to changing the world, as well as analyzing it further, qualify her as sharing much in common with the early *Chicago School of Feminist Sociology* (Lengermann and Niebrugge-Brantley 1998: 42).

In contrast to the slow development of sociology in Cambridge, critical pragmatism flourished in New England with professors Charles Pierce, James Royce, and William James (Mills 1964; Rorty 1991; Ryan 1995). Richards was certainly aware of the work of Vermonter John Dewey and incorporated many of his ideas into her own theories of education. However, even before John Dewey's profound contributions to the philoso-

phy of education, Richards was a powerful advocate for democratizing and applying science education to daily life. She was articulating her own beliefs on child development well before Dewey's arrival on the Chicago faculty, and W. I. Thomas's studies with Dewey and Mead (Rucker 1969: 135). By 1882, Ellen Richards had published her first textbook, *First Lessons in Minerals*, an introduction to environmental studies for public school children. In its design, it anticipated many of the psychologically-based strategies for educating young minds that came to be attributed to Dewey and the early critical pragmatists. Richards' models for learning were based on conceptions of the role of problems in thought and action. Children were challenged with simple experiments that linked their learning to applications to the familiar. She often referred to this technique in her speeches, as the "Natural Method" of teaching (Clarke 1976: 203; Richards 1977, Chapter VI: 91-115).[28] She began her work with adults by training elite women's club members in the use of systematic research techniques to attack the roots of social problems. Her "ecological" approach anticipated the efforts of Robert Ezra Park's pioneer work in human ecology and studies of the city after his arrival to the University of Chicago's Department of Sociology in 1914 (Rucker 1969: 135). In 1877, Richards wrote of the tradition she was instrumental in founding: "This early school of sanitarians endeavored to get behind fate, to the causes by a study of sickness. The modern *socionomist* is, by a study of the *mental conditions of communities*, endeavoring to get behind the causes of poverty and consequence of suffering, to the reasons..." (italics added, Richards 1877: 29). She went on to educate the lay public of all ages about the scientific principles related to public health and consumer awareness. She made special efforts to reach immigrant children through the schools and rural farmwomen through Cooperative Extension. Her ambitious exhibits and demonstrations of the work of the New England Kitchen settlement house at the Chicago World's Fair heightened the American population's understanding of empirical research methods. Her approach to studying the social problems of the day helped to foster a climate in which the fledgling field of sociology could flourish.

The organizations Richards was instrumental in founding also shared a faith in the public schools and philosophy of education that was neither the exclusive preserve of William James at Harvard, or of John Dewey at the University of Chicago. She compared the costs of public education to the dangers of a younger generation unprepared to critically examine the long term consequences of emerging technologies: "The school, if it is maintained as a progressive institution and a defense against predatory ideas, is the people's safeguard from being crushed by the irresistible car of progress..." (Richards 1977: 112). Richards and the home economists introduced a feminist translation of pragmatic philosophy into the educational programming of the schools. They anticipated Dewey's revolt against traditional educational techniques:

> Pragmatism also rejects the implied model of an essential separation of knowing from doing as a pernicious legacy of a class-based denigration of everyday needs and problem solving. Operational thinking challenges this very degradation of the physical and material as a lower type of value in contrast to the higher type of values found in disembodied ideals. (Seigfried 1996: 175)

As a teacher and lecturer, Richards always encouraged her audiences to apply new scientific theories and concepts to the simple but immediate details of their daily routines. Her philosophy of euthenics was rooted in her belief that a condition of "right living" could only be accomplished if it was accompanied by an understanding of the individual differences in students' life experiences and approaches to learning. Part of

the distinctive characteristic of practical activity is its uncertainty. Consequently, Richards stressed the importance of training teachers to respond to individual children's differences. The minutes of the *Lake Placid Group's* meetings reveal lively debates on the merits of school curricula in sanitation science for all grade levels through to university. As officers and meeting organizers, Ellen Richards and Marion Talbot were instrumental in injecting new ideas and theories into the discussions of this group.[29] The Domestic Arts Curriculum at the University of Chicago's Department of Pedagogy was reported on at the Lake Placid Conference by a junior instructor, Jenny H. Snow, in 1906 (*Proceedings of the Lake Placid Conference on Home Economics,* 1906, Vol. 8: 25). Dewey's ideas were hardly held up as the sole prototype by this remarkably diverse gathering of educators. To better further her causes, Richards sought alliances with a wide range of other groups, as needed to accomplish her ends. These coalitions included parents' associations, women's clubs, members of state legislatures, and professional associations (e.g., National Education Association and the American Sociological Society). Many had already begun their work in similar directions, including participation in the kindergarten and playground movement, school lunch programs, and elective education options (especially domestic and vocational science) in elementary and secondary schools. The techniques and methods Richards brought to science education subsequently empowered generations of women in their search for social justice and reform.

Far from the technocrat she is sometimes accused of being, Richards was committed to training citizens in critical thinking skills and demystifying the realm of science rather than forcing her own solutions on others. She believed that education was a continuous reconstruction of experience in the life of the individual, integrating reflection, and shared understandings of the regularities of social life and nature. She placed her hopes for social progress in civic education and reform of the public school systems. She repeatedly stressed the role of education in bringing about informed compliance and allegiance to the state. Richards shared most of the elements of the description that Siegfried applies to the views of Jane Addams:

> ...She is undeniably a Pragmatist, and Pragmatism, like Feminism, cannot be confined to any one discipline. She is an exemplary case of how Pragmatism, like Feminism, internally disrupts artificial and counterproductive disciplinary boundaries. (Seigfried 1996: 45)

As an innovative and humanistic biochemist, Richards rejected the static models of the "hard sciences." Her "science" of oekology encompassed a breadth and vision that went beyond the "human-centered" pragmatism that emerged from the early social sciences. Along with the high value Richards attached to learning the lessons of science through the tasks of daily living, she always stressed the organic nature of human experience, ethics, and the progressive acquisition of a community conscience. Her worldview included a "natural history" that predated the arrival of the human species and its forms of technology:

> And time presses! A whole generation has been lost because the machine ran wild without guidance, and all attempt at improvement was met with futile resistance. It is very difficult to present the socionomist's view in the home.... The old rules which related to material things hardly hold more closely that they would on the planet Mars...The fundamental moral principles...must be worked in on a new background. (Richards 1977: 76-77)

Richards shared with the Pragmatists a faith in the human rational capacity to understand scientific truths. Hers was not the narrow version of neopragmatism and social

Dawinism that accepted progress as inevitable. In general, her preference was to work first to motivate the individual and only secondarily to invoke regulations that subjected citizens to the authority of the state. In her advocacy for conservation and public health, she shared with sociologists and reformers a belief in a rational public capable of cooperation for the public good. With other feminists, however, she also "pragmatically" recognized that improvements in women's status would require the "organized assistance" of selectively applied political pressures, on the forces of Capitalism and Patriarchy.

Ecofeminism

Deegan describes an ecofeminist as someone committed to both feminism and ecology. This perspective is based on the assumption that global environmental degradation is directly linked to the historic oppression of women and children (Diamond and Orenstein 1999). In her analysis of the roots of the term "ecofeminism," Carolyn Merchant (1989, 1990, 1996) credits Ellen Swallow Richards with one of the first efforts to translate this philosophical tradition into a political action agenda. Richards' theory of oekology represents one of the earliest explorations of the links between nature and women, and between ecology and feminism. The word ecology derives from the Greek word "oikos," meaning house—or in its broader sense, the science of the "Earth's household"—which has historically been mediated by women (Plumwood 1993; Thompson 1989; Whehelen 1995). Richards' conception of the discipline of domestic science, as translated into home economics, has become conceptually impoverished over the past century. Both in and outside the field, it has often been narrowly understood as a science of housekeeping, predicted on the assumption that this is "appropriately" women's role.

At the turn of the century, Richards had an ambitious political agenda that reflected a skeptical appreciation of science and technology and belief in progress through the civic education of women and children in all social class groups. As with the other philosophical traditions reviewed, the many branches of ecofeminism that have emerged during the twentieth century are complex, sometimes overlapping, and even now in the process of defining and differentiating themselves (Mellor 1977). Deegan proposes a definition of the term Ecofeminism as a "value system, a social movement, and a practice...[that] explores the links between androcentrism and environmental destruction" (2001: 7-10). One of the features shared by most contemporary schools of ecofeminist thought is the rejection of the subordination of the earth by humans:

> No matter the differences that exists between social-constructionist and nature...all Ecofeminists believe human beings are connected to one another and to the nonhuman world: animal, vegetal, and inert. Unfortunately, we do not always acknowledge our relations to and responsibilities for other people, let alone those we have to the nonhuman world.... (Tong 1998: 276)

It is presumptuous, historically, to attempt to classify Richards' views into a particular contemporary ecofeminist school of thought. However, we can be more certain of her allegiances to some traditions than others. We suspect she would join those contemporary ecofeminists who condemn "deep ecologists" for their "gendered blindspots" and for promulgating an "arrogant anthropomorphism" of the human species by attempting to dominate the nonhuman world of nature (Salleh 1997: 10-12). Richards makes it clear that it is a serious misconception to view nature from a "human-centered" perspec-

tive. She believed human social organization was inevitably located within a larger ecosystem. Those who simply viewed the earth's resources as assets for mankind's development were courting global disaster.

In her recent review of the overarching goals of contemporary ecofeminism, Tong stressed their efforts to "show the connections among all forms of human oppression" (1998: 246). Richards' believed that the degradation of nature was directly linked to the oppression of women but not because they were more "closely related to nature." This debate among feminists has a long tradition:

> The basic premise of Ecofeminism political analysis is that ecological crisis is the inevitable effect of a Eurocentric, capitalistic, patriarchal, culture built on the domination of nature, and domination of Woman 'as nature'. Or, to turn the subliminal Man/Woman=Nature equation around....It is the inevitable effect of a culture constructed on the domination of women, and domination of Nature 'as feminine'. Equality feminists from liberal and socialist traditions are wary...[precisely because] this loaded truism has been used over the centuries to keep women in their place...'No Difference between the Sexes' is the catchery of 'Equality' feminists.... (Salleh 1997: 12-13)

Throughout her life, Richards was an "equality" feminist who resisted attributing any superior moral "virtues" to women, or conceding any intellectual superiority or rational scientific capacities to men. She would be most likely to disassociate herself from the views of "cultural" ecofeminists who see women's biological, psychological, and social ties to reproduction as the root of their oppression. Richards emphatically rejected these types of arguments as subversive to the long-term progress for women's cause. Always reluctant to simplify a complex problem, Richards also did not attribute this exploitation to a unified "Culture of Patriarchy." She did not exonerate all males from blame, but targeted specific classes of men as adversaries, especially industrialists and leaders in the commercial sector. She resisted explanations that attempted to use single factor models of causation. In her Letters to Edward Atkinson, she frequently expressed her frustration at being perceived as a "popularizer" of science rather than a "true scientist" (Massachusetts Historical Society Archives, Atkinson Personal Correspondence Collection). She was impatient with audience members who wanted her to baldly promise direct cause and effect relationships. In addressing the public, she preferred to phrase her "prescriptions for good living" as "probability" statements (rather than positing a *direct* link between children's diets and intellectual development) [emphasis added]. She was relatively more definitive in her pronouncements on physical, chemical, and biological phenomena where she felt she had carried out her own empirical research, and could provide scientifically documented evidence. Despite her willingness to give direct advice, and proselytize to others, her underlying justifications were always couched in the qualifying terms of the academic.

Throughout her life, Richards appears to have experienced the most divided loyalties when trying to resolve tensions between the values of her discipline and feminism. Richards could not, and would not, relinquish her belief in the potential value of new technologies for the relief of oppression. In this, of all areas, she held hopes for the improvement of the standard of living for all social classes, and especially women. There is no doubt that she "privileged" the "scientific" approach over tradition, and defied any notions that it was the exclusive domain of men through entitlement. As a scholar of minerals and chemicals, she had a deep understanding and respect for the cumulative damage man's technology could bring over time. Nonetheless, she held hopes for the human capacities for cooperation and conservation, rather than attributing

the responsibilities to women's "natural insights" and values alone. She depicted nature as interwoven with the human organism, with intrinsic value in and of itself. While never utopian, her ideas went far beyond those of her commercially-oriented colleagues at MIT. Her approach to resolving the obvious tensions between the rapacious demands for profits and development of an appreciation for global preservation was to reframe the problem. In a dialectical fashion, she avoids this "double bind" by recontextualizing the problem to a higher level of integration. Richards' proposed "new sciences" of euthenics and oekology represented her best efforts at offering a new "synthesis."

Salleh comments that part of the difficulty today is the need for an equally bold and creative paradigm shift. She attributes the persistent tensions in the "Green movement," among deep ecologists, traditional feminists, and ecofeminists to their lobbying "for a piece of the same stale pile." She challenges them to dare to envision "appropriate technology and communal government." Salleh calls for equality feminists to celebrate the reality that "women's laboring activities are designed to protect life." She argues that "to valorize women's life-affirming orientation is not a reactionary turn 'back to nature.'" She insists, instead, that women's traditional work is "the most productive work of society. These tasks are only ignored, unpaid, and devalued when viewed through the oppressive priorities of Capitalism and Patriarchy" (Salleh 1977: 12-21). A century later, Salleh is here restating, in a more radical form, the sentiments of the founder of "humanistic oekology," Ellen Swallow Richards.

Perhaps the most important quality Richards has in common with today's ecofeminists is a commitment to social action over philosophizing (McIllvaine-Newsadd 2000). Her colleague and biographer, Ellen Hunt, wrote: "The facts of science were never to Mrs. Richards, nor to those of her students who caught her spirit, mere facts; they were above all, the possible vehicles of social service. She sent forth from her laboratory and classroom, 'missionaries to a suffering humanity'" (Hunt 1980: 47).

> To the student of biological evolution, the individual is as a mere a pinpoint on the chart of community advance, for surely society...as certainly as Nature gives the poor child its chance of a good life, so certainly do the circumstances of slum environment rob it forthwith of its birthright...none of this is inherited in the true sense; it is the victory of evil human devices in their endeavor to cheat Nature of her own. (Richards 1977: 80)

Richards organized and empowered women to challenge the technological priorities that were destroying their immediate environment. Repeatedly offering public testimony, she described the scientific interconnections between polluting factories, fouled soils, saline streams, lead choked air, and nutrition as a factor in children's development (Boston Public Library Archives, Microfilm Newspaper Collection). The battles on behalf of school lunch programs always stressed the importance of educating the public to the value of simple, organic, vegetarian-oriented diets accompanied by physical exercise in the fresh air. Working in alliances with many different reform groups, she demanded improvements in industrial health, water and air quality, transportation, and nutrition. These coalitions were all concerned with sustaining the requirements for a healthy earth, as well as healthy human life. Ellen Richards shared most, if not all, of the goals of the contemporary ecofeminist movement. Her means for achieving these ends, however, were centered foremost in her belief in the potential of civic education. She believed deeply in the promise and potential of a citizenry empowered by a critically informed appreciation of science and its technological applications.

Activism, Social Reform, and Applied Sociology

As a proselytizer, teacher, and critic of technology, Richards' influence extended beyond her publications and professional presentations (Beuchler 1990). Richards spent her life dispensing practical advice. Are "political" activities the same as "applied sociology?" The social issues she addressed ranged from when and where to spit and pick one's nose to how to sew healthful underwear, or design a sensible, efficient, and hygienic "water closet" for the home (Richards and Abel 1899; Gordon and McArthur 1988). Despite some middle-class values visibly intruding, much of her activism was based on research done by herself or others in the social scientific community. She advised philanthropists on why the building of parks was in their own best interest; how best to make profits from constructing new suburban communities; and why feeding children and workers nutritious hot lunches would enhance their profits over the long term. She understood the language and values of industrialists, and used this knowledge as a mean for achieving her own ends. Nonetheless, she also "blew the whistle" on industrialists with unsafe working conditions (Williamson 1934) and railed against industrial cultivation of enforced obsolescence: "nothing is used as if it were to be needed again" (cited in Clarke 1973: 209). She lambasted businessmen about the workings of the capitalist economy and the profits being made from women's undervalued labor as caregivers and housewives (Amsden 1980; Benner 1994). In this period of powerful economic trusts, she charged industrialists:

> In this age of money worship, if it hasn't been proved that a capitalist would shoot his grandmother for a dollar [there is evidence that he isn't] above poisoning the old woman's air, water, or food for far less than a dollar—on a per capita basis, of course. (cited in Clarke 1973: 211)

Her "solutions" were based on her science of euthenics. This model for action focused on several levels of change, starting with the individual. She continued her hopes for a rationally "enlightened" capitalist economy, tempered by active intervention of a democratic government. It was always predicated on the belief that an educated citizenry could come to appreciate the importance of harmonizing technology and its inventions with the preservation of the natural environment.

She remained squarely in the liberal tradition that was optimistic about women's capacity to rise above their historical condition. Her analysis of class was less carefully articulated than is customarily found in other areas of her concerns (Mankiller 1998). She spoke often on how women as a group were harmed by institutionalized sexism, highlighting the economic and health needs of domestics, employed mothers, widows, single women, and children exposed to the hazards of the mills (Frankel and Dye 1991). Yet, she rarely hesitated to criticize members of her own sex. She briskly condemned mothers for their ignorance of public health precautions and estimated the financial benefits of more proactive government intervention in the schools:

> But the State cannot risk its property too far. When mothers become so careless or ignorant that half their children fail to reach their first birthday, and of those that live to be three years old a majority are defrauded of their birthright of health, some agency must step in.... (Richards 1977: 74)

Employed women were her original "targets" in establishing the New England Kitchen (Richards and Abel 1899). Despite her persistence in encouraging ambition and self-

improvement, she helped many women to make connections between their personal concerns and their sources of oppression in the larger political structure. In this sense, she shared in a mission with contemporary applied sociologists.

Scientist, Social Scientist, or Sociologist?

Throughout her professional life, her approach to research was characteristic of the pragmatic models of social science research (Smith 1998). She attempted to generate (and disseminate) knowledge that had practical consequences, could be observed, and was persistently of value over time and across settings. Her systems for "Right Living" just might qualify as a sociological theory if we borrowed Ritzer's description of theories as "things" that "have a wide range of applications, deal with centrally important social issues, and have stood the test of time" (1996: 4, cited in Weinstein 2000). While sociological concepts had yet to become systematically unified into a coherent field at the time Richards began her writing, she referred to distinctive units of observation, levels of analysis, and key explanatory variables familiar to the social science vocabulary of today. Richards found it impossible to isolate the physical environment from the social responses of people to their surroundings. She actively used the term "*social* environment." Daring to question the prevailing paradigms in the life sciences and social science alike, she urged more dynamic and interdependent views of global humanity in its relationship with the natural environment. Her hopes for the betterment of the human condition and conservation of nature's ecological equilibrium led her to ask fundamental sociological and political questions about the environmental costs of capitalist technology.

In his efforts to differentiate between the applied and academic orientations in sociology today, Weinstein points to the persistent differences between academic sociologists who "employ the nomological model that focuses on the development of theory for its own sake," and those who are "applied sociologists [who] tend to embrace an essentially pragmatic philosophy of science in which the ultimate test of theory is the extent to which it can produce knowledge that 'works'" (Weinstein 2000: 1). Reflecting on the century old question of whether "sociological properties can be meaningfully differentiated from properties studied in other social science disciplines," Weinstein argues that social phenomena are best studied in an interdisciplinary perspective. He invokes Gunnar Myrdal's fierce belief that the driving force behind social study should be the faith that humanity and their institutions will use research to improve the quality of daily life. This hope could comfortably suit Ellen Swallow Richards as a mantra as well. Never intended as abstract theories, oekology and euthenics were primarily plans for coordinated political action directed at the improvement of the social and natural environments. She customarily described them as "preliminary" sciences, yet to be examined through systematic "discovery" and a "thorough relating [of] science and education to life" (Richards 1977: viii-ix). She always respected the provisional character of proof, deductive or inductive. She insisted on detailed observations by her students (and members of the Ladies Clubs) whenever they assisted her in conducting fieldwork. What is distinctively "sociological" about Richards are the problems she attempted to gather data on and "fit" her "solutions" to. Each chapter of her book on Euthenics was organized around groups of issues of concern in different sectors of the social structure: the social psychology of socialization, motivating a sense of civic responsibility, exploitation in the workplace, educational and religious systems, health care, women's rights, community polic-

ing, ecology and pollution in the national and global economy. As any good introductory sociology text writer would, she was quick to point out to her students that these various institutions and their associated social problems were inextricably linked.

Identifying Gender "Fair" Indicators of Achievement

Measures of nineteenth-century women's social, political, and economic contributions have commonly been evaluated in relation to their formal accomplishments in education, the marketplace, or the governmental power structure. These indicators are inevitably flawed by their inability to taken into account the social barriers and responsibilities that were culturally implicit or left unrecognized in the "telling" of women's lives. Much of their labor and value to the economy, for instance, is not accurately reflected in wages alone. The common practice of taking in boarders or tailoring rarely were accounted for. Academic economists have found it difficult to "factor in" women's "value" in their labor force equations (Figart and Kahn 1997; Henderson 2001; Hewitson 1999; Kaufman and Richardson 1982). This has often led to the presumption that women had little if any influence until they received the vote in 1920, or when they started claiming an individual paycheck.

The intellectual histories of the social sciences offer a legacy that has neglected the contributions of many imaginative women scholars. Too often, the very "keepers" of the "Classical Canons" were systematically attempting to document a seamless progression in knowledge making. Their conclusions commonly culminated in a valorized appreciation for their own worldviews. When they even ventured to address the issue, they often resorted to undocumented personal opinions on women's "proper place" in the "natural" scheme of things (Ehrenreich and English 1979; Gamarnikow 1983; Pederson 2001). This control over the criteria and assessment process itself has posed a special challenge to feminist scholars as they have tried to re-open the discourse for reassessment (Kandal 1988; Smith 1998). [30] As has been carefully documented, women and their accomplishments have characteristically remained invisible and underrepresented in the established legacies of the social sciences (Scott 1999). Where women have been included and "compared" to men, "ceteris paribus" assumptions were commonly left intact. Presumptions of "gender equality" were quietly embedded in the evaluation, remaining as a "constant" in the gender equation. At the turn of the last century, women did not have access to the privileges that fostered a "linear" career trajectory. To fully appreciate the level of effort required of early women scholars, it is equally important to factor in the very different levels of demanding social responsibilities in their personal lives—childbirth and rearing, familial obligations to husbands and aging relatives, upkeep of a home. Elizabeth Cady Stanton gave birth to three children while barnstorming for suffrage around the country, and suffered the constant opposition to her causes by her husband and father (Stanton 1982). For all of Catherine Beecher's opposition to women in the public arena, she paradoxically remained single and professionally involved throughout her lifetime (Sklar 1976). Richards took care of ailing parents and a husband but never had children. Although she was opposed to the use of domestics, she trained MIT students to help her with her household chores.

This willingness on the part of many male colleagues to declare the "revolution over" and the "playing field level" between the sexes represents a denial of the lingering privileges of patriarchy. This represents a condition that many would argue continues in a less overt but odious form, through to the present day (Bix 2000; Hochschild 1997;

Long 1995; Whelehan 1996). In tracing the scholarly influence of women in the academy, feminist social scientists have made a concerted effort to avoid reliance on "inauthentic" yardsticks and indicators that underestimate the contributions of academic women who traveled outside of traditionally masculine career paths. Feminist researchers gather personal as well as professional detail in contextualizing the lives of those they are studying. [31] Reassembling the history of sociology, feminist scholars have gone to great lengths to document women's contributions to the disciplines. This has often required using imaginative evidence.[32] Nonetheless, we still commonly find ourselves assuming an argumentative stance, circumscribed by "politically incorrect" assumptions about the elimination of remaining barriers to women's academic mobility.[33] In these debates, we are often frustrated professionally at the inadequacy of existing indicators to capture the authentic life experiences of women instead of men.[34] Because there were so many profound differences in the normative scripts and behavioral options available to these early male and female scholars, we distort the meaning of "historicity" when we attempt to make direct analogies. In our efforts to make comparisons and universalize their life's experiences, we are in danger of smoothing over the critical differences in men and women's daily lives. As feminist pragmatists (among others) remind us, standpoints only appear neutral if they are also the norm. "It takes another perspective to recognize the bias of those whose privilege allows them to define bias as those interests one does not share or of which one does not approve" (Seigfried 1996: 269). The continuing challenge for the feminist biographer is to keep gender at the center of the analysis, even when the woman being analyzed is unaware of or inarticulate about the effects of gender on her life (Alpern 1992: 7).

Beyond the Search for Heroes

Richards was never the sole "founder" of an organization, but was instrumental in bringing influential groups of individuals together, aiding them to establish and implement an agenda, and generate the resources, publicity, and political connections for carrying out their mission (Martin 1987). As a charismatic leader, she was equipped to rally and organize ever-widening groups around the causes she championed. She consciously chose to put the well being of her own causes ahead of suffrage and abstinence (Giele 1995). She was firm about not being a "separatist" [the belief in preordained "separate spheres" for men and women] and made it a policy to involve men as members and benefactors in the domestic science crusade. As an activist, she was committed to organizing others, and her accomplishments might well be assessed in the context of the work she accomplished along *with* her organizational colleagues. The traditional search for "lost" scholars has continued to move away from those with the most extraordinary lives (Einwohner 2000). Closer attention is now being given to the opinions of "grass roots" members of organizations whose daily lives were less privileged in terms of time, resources, class, race, or marital status, and who found it difficult to participate in informal associations. (Camhi 1994; Clemens 1993). Innovative research techniques are developing for learning more about those whose voices have not emerged most readily in the first stage of historical reconstruction (Hoffman 1979; Scott 1992). Those who are initially most visible may not necessarily be the most representative of the sentiments of those who voices are yet to be heard.

Throughout her life, Richards insisted that neither man nor his technological inventions would survive if they were presumed to be the center of the universe. She studied the diets of children and the sewage systems of cites, and arrived at social structural

solutions to both problems. She was engaged in a secular, macrosocial, level of analysis before sociology was secure at Chicago, or had even begun at Harvard or MIT. Essentially a self-taught, amateur applied social scientist, she contributed to defining the field before it was partitioned into specialized subdisciplines and professions. We often try to imagine what Ellen Richards would think about the presumptuous others who have tried to "pin" her philosophies down to one school of thought or another, from the hindsight of a century. We are quite sure she'd prefer to take charge of rewriting her own evaluation of her contributions to history (Kourany, Sterba, and Tong 1992).

Despite her formal training as a chemist, Richards closes her book on euthenics with an invocation worthy of any applied sociologist. Reflecting on the documentary photos of Jacob Riis, she pleads for a sensitivity to the fact that her many calculations and urban statistics represent intolerable human tragedies that deserve our empathy as well as study. She reminds us of our humanitarian obligation and the necessity as social scientists, to address the human costs of oppression, regardless of their source:

> ...not by a decree of fate, [these] results [are evidence] of a positive wrong...much, perhaps most, of the progress has been dearly purchased at the cost of women....We call today for more faith in a way out of the slough of despond, more resolute endeavor to improve social and economic conditions. (Richards 1977: 160-162)

Richards was a booster, researcher, reformer, and practitioner at the time of Sociology's birthing. It remained for the next generation of women who followed, especially those from the Chicago Women's School of Sociology, to reclaim the professional birthright she'd labored so devotedly to gain for them.

Notes

1. Richards organized the first decade of the meetings of the Lake Placid Group (LPG) and headed it when it became the American Home Economics Association (AHEA) in 1908. This organization recently became the American Association of Family and Consumer Sciences.
2. Richards was a founding member of many women's groups, but was most active in the Association of Collegiate Alumnae (ACA) which today is known as the American Association of University Women (AAUW). Founded in 1881, (ACA) chapters were active in dozens of major cities including San Francisco, New York, Washington, D.C., Chicago, Ann Arbor, and Durham, North Carolina. Their political action committees challenged assertions of the dangers of education to women's health, documented discrimination against women in the Civil Service, demanded sanitary improvements, playgrounds, and nutritional lunches for children in the public schools, workers in factories, and prisons and asylums.
3. See Rosenberg (1982) for a more detailed discussion of the role of the (ACA) in challenging nineteenth-century medical authorities' views on the dangers of higher education for women's reproductive capacities.
4. Richards was also an officer in the Women's Education Association (WEA) and the Women's Industrial and Education Union (WIEU). Both were instrumental in funding the MIT Annex for training women in science.
5. Richards later discovered why she was admitted without a fee: "I thought it was because I was a poor girl with my way to make..., but I learned later it was because [they]... could say I was not a student, should any of the trustees or students make a fuss about my presence. Had I realized upon what basis I was taken, I would not have gone on (Clarke 1973: 24).
6. The Progressive Reform Era flourished most actively after the depressions of 1890 and World War I. The values of progress and science were linked with a broadly humanitarian commitment, based in varying degrees on religious or secular beliefs. Women's clubs filled the political landscape as muckrakers, lobbyists, activists, and school board members. The social backgrounds of ante-bellum reformers, e.g., Puritan, Quaker, and Evangelical traditions, argued against the privileges of business enterprise in support of the working class. Notions of a "universal God," and obligations to be one's "brother's keeper" underpinned

the movements for temperance, peace, women's suffrage, and abolition. Other segments included the settlement house movement, social gospel and Christian socialism, charities, relief, and philanthropy. Richards identified more in spirit with the secular efforts of the "expose" tradition, closer to the conflict perspective in its commitment to probe political corruption, big business, child labor, fake advertising, and impure food (Hinkle 1980: 33-38). During this same period, Harvard's "Boston Brahmin administrators resisted legislative efforts to expand their mission to include applied science, economics or engineering and saw it reassigned to MIT. Even with the infusion of funds for graduate research programs with a more "utilitarian" focus, the Eastern Universities delayed in joining in on this trend until the arrival of later generations of its faculty and administration (Nichols 1992).

7. Even as Richards was raising political questions in the traditional scientific curriculum, a national movement was developing to reconsider the role of higher education in servicing the needs of an industrializing nation. Educational innovation was also taking place with the passage of the sweeping Morrill Federal Land Grant Acts of 1862, and 1890. The new influx of federal funds for Land Grant scientific research began to challenge the comfortable complacency of the elites who clung to their classical humanistic curricula. They also dramatically expanded the opportunities open for women to continue their studies in the newly emerging profession of teachers of domestic science (Fuhrman 1980: 39). With the development and expansion of the American Home Economics Association in 1908, domestic science courses were offered in all grade levels, from New England to California. University level offerings in sanitary science often developed into entire Programs in many state universities with the passage of the second Morrill Land Grant Act of 1890. Sometimes, domestic science courses were scattered in different departments, including sociology, as was the case in the early years of the University of Chicago. (Hinkle 1980: 41-53).
8. This study launched her lifelong recognition as an advocate against industrial pollution. In 1878, the American Association for the Advancement of Science (AAAS), elevated her status from that of "Member" to "Fellow," a designation customarily given to scientists who performed above the Ph.D. level (Clarke 1973: 54). Her honorary doctorate citation from Smith read:

   > By investigations into the explosive properties of oils and in the analysis of water and by expert knowledge relating to air, foods, water, sanitations and the cost of food and shelter as set forth in numerous publications and addresses, she has contributed to the protection in the community of the serviceable arts of safe, healthful and economic living (Sophia Smith Archives).

9. Women's surge in admissions occurred a decade or more after Richards completed her studies at MIT. During the period of 1870–1900, there was a proportionate increase in females enrolled in institutions of higher learning, a rise considerably more rapid than for men —multiplying from eleven to eighty-five thousand, and rising from 21 percent to at least 35 percent of the university students enrolled at that time (Solomon 1985: 58). As Richards and the Lake Placid Group members had anticipated, this newly created university specialization in domestic science gave many women their first foothold in the academic community, both as students and teachers.
10. Most of Richards' personal correspondence "disappeared" or has never been located since her biography by colleague Carolyn Hunt around 1918. All of the papers on which the research was based, have been lost, or as Brown comments, "all searches so far have not produced them..." (Brown 1958: viii). Neither of her main biographies contain actual citations to original sources. Subsequent work has had to rely heavily on Richards' public speeches and minutes of the organizations she led, especially the American Association of University Women and the Lake Placid meetings in home economics. Ironically, Richards chaired and wrote-up the minutes for most of the meetings in which she was in attendance!
11. The Chicago Women's School of Sociology is the term originally used by Lengermann and Niebrugge-Brantley (1996, 1998) and Deegan (1978, 1981, 1988) in reference to "a network of women who worked collaboratively to produce a body of sociology linking social theory, sociological research, and social," who worked primarily out of the University of Chicago and Hull House during the time period of 1889 through 1920. As they go on to point out, recognizing these women "as a school of thought and a network for action and reform" grows out of a distinguished body of feminist research that has only recently received the professional visibility it is due (Lengermann and Niebrugge-Brantley 1996: 229). For earlier research in this area, see (Fish 1981; Fitzpatrick 1990; Gordon 1994; Muncy 1991; Rosenberg 1982; Sklar 1995).
12. Richards had touched many women sociologists directly or indirectly during their professional development. Social reformers Edith and Grace Abbot, and administrator Marion Talbot, went on to become instructors and researchers in academic settings like the University of Chicago during the early stages of coeducation Most educated women remained limited in their social science career options, and sought

employment through the broadly based Settlement house and domestic science movements. (Richardson 2000; Stage and Vincenti 1997).

13. At the time of Richards' death in 1911, the "second wave" and most highly recognized female contributors to sociology were just reaching their prime, including Jane Addams, Charlotte Perkins Gilman, Florence Kelley, and Beatrice Potter Webb. Richards was a generation or more older than the most familiar male founders and/or their major publications, including Emile Durkheim, George Herbert Mead, Robert E. Park, Georg Simmel, W. I. Thomas, and Max Weber. Spencer provided his most detailed moral and political ideas in his two-volume *The Principles of Ethics* (1897), five years after Richards introduced her theories of oekology. Both emphasized that "social phenomena were a consequences of the nature of individual men" and that just as macro-level change is derived from individuals, so is the moral law of society" (Ritzer). Richards, however, did not believe in a single social moral view in line with a divine plan or "unfitness to the conditions of existence." She did, however, share Spencer's libertarian opinion that there should be a highly delimited role for the state in its balance with individual rights.
14. Richards was known internationally for her work with Edward Atkinson in developing the "Aladdin Oven," a technology aimed at allowing commercial cooking for groups and safer cooking in individual homes. She entertained a range of scholars, industrialists, politicians, philosophers, and philanthropists in the weekly salons she held in her Boston area home.
15. Richards worked as a commercial industrial chemist in a competitive, technocratic community of inventors, patent-seekers, business entrepreneurs, and stock investors. For more than a decade, Richards consulted with Manufacturers Mutual Insurance Company, inventing an "Evaporation Test for Volatile Oils," and subsequently lobbied for guidelines for cleaner air and a reduction in spontaneous combustion. One of her MIT students was the well-known inventor, Arthur D. Little.
16. The American Association of University Women and the Lake Placid Group gained great influence in shaping and accrediting the content of much of women's education. Ironically, these two groups shared very different views on the design of the curriculum, despite Richards efforts in trying to reconcile them. She was snubbed for her efforts to expand home economics to the more prestigious Eastern Universities. Both her professional colleagues in the Ivy League and her friends in the Association of Collegiate Alumnae resisted any endorsement of the movement that they viewed as a crass vocationalism, and a serious lowering of academic standards. She was often more influential over the male administrators who sought recognition for their Land Grant institutions. Part of their willingness was grounded in the growing backlash against the increasing numbers of female enrollees at the turn of the century, often outnumbering males in some institutions. The introduction of schools of home economics allowed for siphoning women off into sex-typed programs—not a move that Richards felt comfortable with (Nerad 1987; Rossiter 1997; Shapiro 2001).
17. Richards was initially triumphant when she learned that her Women's Annex Laboratory would be consolidated with the men's classes at MIT. Then she was stunned to learn she'd been so "successful" that she could be "dismissed" and replaced by one of her male students as the Director (Sophia Smith Archives). In 1896, she wrote: "All the enterprises in which I am involved seem...to be in an uncertain conditions. There have been many perplexing things during the summer" (Clarke 1973: 163).
18. Professional associations customarily conducted their business meetings during their evening banquets, known as "Smokers." At this time, the few women members attending the main conference, did not dare to defy social convention by appearing where men were consuming alcohol and smoking cigars. While a few defied etiquette, claiming that they had grown up with brothers who engaged in such practices, most excused themselves unless specifically invited (Rossiter 1982: 90-95). Henry James probably captures the tensions most academic males felt when dealing with these "daringly well-educated women with strong appetites for change." He wrote, saying: "She would reform the solar system if she could get hold of it" (cited in Shapiro 2001: 45).
19. One of her biographers commented: "There can be do doubt that she loved power, and had a pleasurable interest in all its manifestations, except those involving cruelty"(Hunt 1958: 183). Another critiqued her as Chair of the Lake Placid Conferences. "She would consistently ignore views expressed that differed from her own except to direct attention elsewhere...Why was [Marion] Talbot unusually quiet in the discussions... she was granted full status in the Department of Sociology [at the University of Chicago]...Why did Caroline Hunt express herself so ambiguously...at the Conference but take a different view and clearer position in her Independent writing? Why did Alice Chowan who questioned [Richards'] direction...never attend after the Sixth meeting?" (Brown 1985: 418-419). Citing Habermas, she concludes, "Structural violence of blocking communication has its consequences on the quality of thought and action that emerge from a group," warning that leaders who "deceive themselves generate an illusionary power which when institutionalized...[can also] be used against them" (Brown: 420).

20. In the last few decades, innovative scholars have studied the underrepresented views of working class women. There is a large body of literature on women's role on the Progressive Reform Era labor movement (Amott and Matthaei 1996; Gorneman and Norton 1987; Hansen and Philipson 1990). Extensive biographies of leaders and groups focused on working class issues are available, including Mary McLeod Bethune, Elizabeth Gurley Flynn, Emma Goldman, Rose Hawthorne Lathrop, Lottie Moon, Agnes Smedley, and Sarah Winnemucca (Clinton and Lunardini 2000). One of the most memorable of leaders "Mother" Jones set the tone for this tradition with her, "You don't need a vote to raise Hell" speech: "...Don't be ladylike! God almighty made women, and the Rockefeller gang of thieves made the ladies" (Brownlee and Brownlee 1976: 242).
21. For a comparison with Beecher, Charlotte Perkins Gilman, Harriet Beecher Stowe and others whose views are sometimes grouped with "domestic" feminists, see: Deegan 1997; O'Neil 1971; Palmer 1989; Rugoff 1981; Thompson 1989; Vincenti 1989.
22. Contemporary critics of what is commonly referred to as the "triple shift," include: Blau and Ehrenberg 1997; Blau, Ferber, and Winkler 1998; Bruggraf 1997; Crittendon 2001; Figart and Kahn 1997; Hartman 1975; Hochschild 1997; Negrev 1993; Waring 1999.
23. For a more detailed comparison with the members of the Chicago Women's School of Sociology, see the *Michigan Sociological Review*, (Volume 14, Fall 2000: 73–114). We have intentionally avoided describing the history of the two organizations she was instrumental in founding AAUW and home economics.
24. Utopian writers laid the political groundwork for Richards' subsequent efforts in the New England Kitchen. Feminist activists in the movement included: Victoria Woodhull, Emma Ewing, Alice Peloubet Norton of the School of Cookery at Chatauqua, New York Housekeeping society (Hayden 1992: 81).
25. Another fascinating Boston area advocate, Mesulinna Pierce, set up a laundry collective with several other Harvard wives and their husbands. (The men bolted when they were asked to contribute labor as well as their financial backing). Mesulinna was married and soon divorced from the well-known Harvard pragmatist, James Pierce, who started a "men's supper club" on the same night as his wife's meetings.
26. An exchange of letters with the Chicago World's Fair organizers captures Richards' ambivalence at having her work judged "only" against other women:

    > From the start I have declined every appointment on the women's branch... I do not wish to be identified with the spirit of the times [Sexual Separatism" and the "Cult of Domesticity"]. The time is now some years past when it seemed to me wise to work that way. Women have now more rights and duties that they are fitted to perform. They need to measure themselves with men on the same terms and in the same work in order to learn their own needs...(Richards, cited in Clarke 1973: 156-157).

27. Two of Richards graduates from the MIT Annex were closely involved with the chief originators of critical pragmatism. Noted feminist and educator, Lucy Sprague, one of the first students admitted to Radcliffe College was one of James' first students (Seigfried 1996: 29). Alice Freeman Palmer went on to graduate from the University of Michigan (while John Dewey was still there). Alice Palmer subsequently accepted a deanship at the University of Chicago that would require only a twelve-week-per-year commitment and allowed her to continue her research with her mentor, Ellen Richards (Clinton and Lundardini 200: 195; University of Chicago Archives, University History Collection).
28. Most home economists of the period believed in the importance of self-discovery and were committed to guiding students toward making connections between natural details as part of an organic whole. They resisted dualistic or dichotomous thinking that forced disciplines, ideals, and roles into mutually exclusive categories. They were committed to guiding students toward making connections between natural details as part of an organic whole. As they continue their efforts to reconstruct their own past, historians of Home Economics are also coming to appreciate how politically ambitious and radically feminist many of the goals of the founders of domestic science were Thompson 1989; Stage and Vincenti 1997; Vincenti 1977a, 1989).
29. Chaired by Ellen Richards, the third annual (LPG) meeting contained nearly a full week of reports on educational programs taking place in Toronto, London, Wales, and across the United States. Every meeting provided for the development of extensive bibliographies and resource materials on newly emerging philosophies and programs.
30. Many have discussed the difficulties of establishing "fair" criteria for making comparisons between male and female scholars (Lengermann and Niebrugge-Brantley 1998: 254-255; Rynbrandt and Deegan 2001: 5). Even with this scholarly effort, we are often on the defensive professionally (Franklin 2001)
31. This biographical tradition includes far too many scholars to cite here, but we include reference, among many others, to Norton and Alexander 1996; McDonald 1994; Rossiter 1997; Scott 1992, 1999; Sklar 1995; Smith 1998; Sydie 1987.

32. Indicators used to document women's place in the early development of Social Science have included, formal admission to departments (even when often denied the right to a degree), classes taken (even if not always listed on transcripts), thesis topics, names of key advisors, professional meetings attended, publications in refereed journals, professorial appointments. (See, for example, Deegan 1988: 9-13, 316-326; Rynbrandt 1999: 140-143).
33. Academic women of most generations, for instance, should not be presumed to be members of the same university or professional association *subcultures* as their male colleagues. Feminist networks affiliated with professional organizations, like Sociologists for Women in Society (SWS), the Association for Women in Psychology (AWP), and many others, continue to provide support, encouragement, and mentoring [cf, President Myra Marx Feree's comments in the December 20001 issue of the *SWS Network News.*] Although the analogous, male-dominated "smokers" at professional meetings cannot be found directly on the official program, most feminist scholars would be capable of providing a contemporary social ethnography for those who doubt they continue, in modified form, through to the present day.
34. There is an active literature, especially among feminist historians, that discusses these methodological issues and the scholarly and political implications of ignoring them (Feree and Martin 1995; Garminikow 1983; Gordon 1994; Kerber, Kessler-Harris, and Sklar 1955; Richardson and Wirtenberg 1983).

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Eastern Michigan University, Ypsilanti, Michigan, Archive Collection of the Minutes of the Lake Placid Conference on Home Economics, Annual Meetings 1-10, 1989-1908.
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