Margaret Benston's Feminist Science Critique

A Review and Tribute

by Peggy Tripp-Knowles

Margaret Benston souligne les préoccupations fondamentales et persistantes dans « Feminism and the Critique of the Scientific Method » paru en 1982, soit les limites de la rationalité scientifique, les rôles sexuels associés aux sciences et les tendances anti-humanistes des sciences. Ces questions sont soulevées à la lumière de critiques féministes plus récentes de même que sur la base de l'expérience personnelle d'une scientifique pratiquante.

Margaret Benston's ideas presented in her paper, "Feminism and the Critique of Scientific Method," continue to provide stimulation and direction to the discipline of feminist science in spite of the decade that has elapsed since its publication. It has been a decade charged with new insights on the diversity of feminist science goals: educational reforms for encouraging girls and women to study and remain in science, historical analyses highlighting women scientists' neglected contributions (see Alic), sociological investigations of recent and present-day status of women in science (see Rossiter), studies examining masculine biases in many scientific disciplines (see Bleier; Fausto-Sterling), and finally, philosophical arguments focusing on the gendered bias of the ideological foundation of science itself (see Harding, for example). Yet, Margaret Benston's critique remains prophetic. This article analyzes selected ideas chosen from Margaret Benston's paper in light of more recent feminist science critiques as well as highlighting one of her arguments by examining the influence of her comments on me, personally, as a practising scientist.

> I (Margaret Benston) will argue that the present view of scientific rationality, of science itself, when taken from its present practice, is an extremely limited one, with irrationalities and inconsistencies that feminists need to understand. (Benston, 48)

In Margaret Benston's ensuing review of critiques of this scientific "rationality" as the only accepted mode of present day knowledge, she laments the paucity of contributions focusing on gender as a category of analysis. She notes that it "has been left to feminists themselves to begin that task." And in the past decade that task has been well initiated. Feminist scholars continue to scrutinize the gendered foundation of this predominant way of knowing. As an example, alternative perspectives concerning modes of knowledge production have received substantial attention from feminists in recent years. (See Hubbard; Fee) Is this task still limited to the jurisdiction of feminist inquiry, as Margaret Benston noted in 1982? Unfortunately, the answer is almost exclusively, yes. Only rarely have reflective, critical analyses of science made their way into the mainstream of traditional scientific journal literature and even more rare in that arena are analyses with feminist content. It is heartening, however, to see an awareness of the existence of feminist critiques of science in the more popular scientific literature. (Levins and Lewontin, 231; Suzuki, 187-189; Gould, 3)

Margaret Benston examines sex roles associated with science and its practitioners by underscoring the obvious correspondence between masculine characteristics and the stereotype of scientists. Over the past decade this theme has been embraced by other feminist critics of science with particular emphasis on explanatory determination. For example, Evelyn Fox Keller explores gender differences in the early childhood socialization process by focusing on developing sexual identity and the separation process from the caregiver who is traditionally a woman. (1982) Implications include the incorporation of personality traits such as "separateness" into the masculine psyche and from there, into the ideology of science.

Another colourful examination of sex roles and associated masculine personality traits has been provided by Sharon Traweek who analyzed high energy physicists from an anthropological perspective. Her conclusion includes a list of masculine characteristics similar to that provided by Margaret Benston, with the observation that "the traits required for gaining entry into this exclusive community—aggressive individualism, haughty self-confidence, and a sharp competitive edge—are traits typically defined as masculine in our community." (42)

However, Margaret Benston's purpose in her examination of personality and psychological traits associated with sex roles and science was not an attempt to pursue explanations or analyze a subculture. Rather, she was concerned with the humanist tradition that she felt was associated with feminism in particular and the sex role socialization process in general. "The spread of present science as the dominant world view has been part of an anti-humanist tendency." (Benston, 52) It is this theme that I

would like to underscore as significant.

Since 1982, feminist science literature has reiterated this theme under a diversity of guises. For example, Evelyn Fox Keller and Jane Roland Martin focus on the distinctive vision of two women scientists, Barbara McClintock and Anna Brito, with respect to their "different style of doing science." (Keller, 1983; Martin) One of the characteristics shared by both of these accomplished scientists was the development of personal bonds with their organisms of study. Thus they combined their cognitive and affective faculties in the pursuit of solutions for their scientific dilemmas.

The total constellation of characteristics of this different style are suggested by both feminist science critics as potential models for redirecting science into a human endeavour from its present status as a masculine enterprise. Further, Jane Roland Martin concludes with the proposal that such a redefined science would necessarily incorporate an ethical dimension. I interpret Margaret Benston's vision of what science can be as inclusive of this same ethical dimension.

Margaret Benston's criticism of the anti-humanist tendency in the present scientific world view argues against the ubiquitous mechanistic perception of the material world and includes an emphasis on technology as originating from the tenets of capitalism. She was one of the first feminist scientists to discountenance the association between science and its interests in both industry and the military.

> ....the questions prominent on the scientific agenda from the very beginning have been those raised by industry, war, or ruling class needs for controlling other parts of society. (Benston, 53)

To date, this theme has been examined more thoroughly by feminist science critics, but it warrants a more systematic and detailed analysis.

Helen Longino's comment on the science/industrial association points to the influence of the outcomes of scientific research on societal norms as opposed to the more commonly considered causal relationship. Of the five examples that she analyses, one is taken from the discipline of industrial microbiology (the production and marketing of interferon) for the purpose of illustrating how the mode of announcing scientific findings as well as their potential commercial value can create a context that encourages a profit-seeking ethic over a truthseeking ethic.

Brian Easlea examines "the scientific/industrial appropriation of nature characteristic of Western society since the 18th and 19th centuries" and connects this goal not only to Francis Bacon and Rene Descartes' original vision of the scientific spirit, but also to the continuing masculine interest in domination and control.

My own personal experience as a scientist exemplifies such a confrontation with this "industrial agenda" that pervades scientific inquiry. As a forest geneticist I was setting up a research laboratory in Canada at about the same time that Margaret Benston was organizing her ideas for her 1982 paper (of which I was unfortunately unaware at the time). Trained in the United States in an evolutionary biological tradition, I had returned to my home country pleased with my new association with both forestry and biology academia. With grant application success, the process of building a research program focusing on a forest genetics isozyme laboratory proceeded slowly but surely. The major stumbling block in those early years was the financial difficulty of acquiring and retaining skilled technical expertise on a part-time basis, a constraint imposed by the grant amounts traditionally awarded by the basic research funding council. The breakthrough came with the initiation of supplementary funding packages associated with forestry research development which finally enabled me to fund skilled technical expertise. As a result of this funding level and relative stability, my career development took on the common mid-career trajectory with the incorporation of graduate students, undergrads, post-docs, collaborators, and the ever-increasing production of publications. What was somewhat less common was my research milieu which in my discipline focused on tree improvement and biotechnological developments for forest trees.

However, I was bolstered by my familiarity with feminist science discussions of the goals of scientific knowledge. Even though the pursuit of scientific knowledge has traditionally been devoted to goals of power and domination, another goal of knowledge for the sake of transcendence or union was the life blood of a minority of scientists, including many feminist scientists. I was not alone in my approach to scientific understanding even though my discipline was rife with domination and exploitation.

Unfortunately, this consolation was short-lived. As the economic situation worsened in the late 1980s, funding programs were revised and diminished. At the turn of the decade, a new replacement funding program for disciplines such as forestry was announced with great fanfare and excitement, the Industrial/University Collaboration Funding Program. In my case, the fanfare took on the sound of a death knell. Applying directly to industry (in my case national or multinational pulp and paper companies) for research funds was unreasonable. I was not interested in industrial agendas in tree improvement since the concept of improving trees strikes me as philosophically nonsensical. My disagreement with multinational industrial agendas also focuses on ever increasing human powerlessness in the face of the widening separation of political and economic democracy fostered by multinational economic control. It is this sentiment that I expect coincides with Margaret Benston's concerns about science's anti-humanist tendencies.

Thus my scientific research direction is in the midst of a shift. This conflict with industrial funding was among several contributing factors in my decision to close down my isozyme research program and establish new scientific pursuits which include smaller-scale biological research and feminist science critique. It is this latter interest that led me to acquaint myself more thoroughly with feminist science literature—hence my introduction to Margaret Benston through her publications. The result has been a profound appreciation of her ideas and work. It was with such a sense of relief that I read Margaret Benston's words about the problems of the scientific pursuit of industrial agendas which were written a full decade before I encountered the problem face to face. Her further concerns about the need to reclaim humanity in science struck a similar resounding chord of empathy.

I regret that I did not know Margaret

Benston personally. From the little that I know about her life, I am struck by her deep commitment, her willingness and ability to shift directions professionally, and her diversity of personal interests and pursuits. The ideas in her paper, however, remain an inspiration and a challenge; a challenge to work towards redirecting science away from its present focus as a masculine endeavour to one that is truly human.

> If feminist scholarship generally is about the answers to important questions, then this implies an attempt to find not just the answer, but the questions themselves. (Benston, 49)

Peggy Tripp-Knowles is a Professor in the School of Forestry and Department of Biology at Lakehead University. She specializes in forest genetics and feminist science and has just returned from a research associateship with the Five Colleges Women's Studies Research Center at Mount Holyoke College in Massachusetts.

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Maggie with Anne Roberts and Kathleen Gough Aberle (1986) Photo: Pat Davitt

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