

テクノ / バイオ・ ポリティクス : 科学・ 医療・ 技術 のいま

**Kaoru Tachi, ed., Tekuno/baio poritikkusu: kagaku iryo
gijyutsu no ima [Techno/Bio Politics: Contemporary
Science, Medicine and Technology]**

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Maiko Watanabe

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The collection, *Techno/Bio Politics: Contemporary science, medicine and technology* (2008), provides valuable case studies on issues of science and technology from a gender perspective. The collection is the fruitful result of the research project, “Biomedicine and Gender in the Post Genomic Era,” conducted between 2003 and 2008 by a team of 16 Japanese, Korean, and Taiwanese female researchers in the fields of history and sociology. As Azumi Tsuge, the primary investigator, states in Chap. 13, the project has two aims. One is to inform those who presume that science is a value-free activity that is neutral to political, economic, and cultural conditions that science actually has sociopolitical and cultural challenges. The other is to broaden the scope of the research field, “science, technology, medicine and gender,” which she and other researchers have been working on. The results exhibited in this collection not only fulfill the two original aims of the project but also contribute to science studies, as the frontier of a feminist critique of science in Asia.

The studies presented in the collection are grounded in a strand of thought called “feminist standpoint theory” that constitutes a theoretical and practical framework for a feminist critique of science. According to Harding (2004), feminist standpoint theory emerged in the 1970s and 1980s “as a feminist critical theory about relations between the production of knowledge and practices of power” (p.1). It shares an interest with the philosophy of science and science studies that have been questioning the neutrality of truth claimed by science by indicating the intervention of power structures in the production of scientific knowledge. Borrowing the term of James Robert Brown (2001), feminist standpoint theory is part of widespread

M. Watanabe (✉)

Department of Public Policy Human Genome Centre, Institute of Medical Science,
University of Tokyo, Tokyo, Japan
e-mail: wtnb@ims.u-tokyo.ac.jp

discussions on “Who Rules in Science?” Among the scholarship involved in this discussion, that of feminist standpoint theory is the most critical. As Patricia Hill Collins (2004) states, “feminist standpoint theory” is “an interpretive framework dedicated to explicating how knowledge remains central to maintaining and changing unjust systems of power” (p. 247). It values “the collective experience of women” as “folk thought” or “folk knowledge,” critically demonstrating the ignorance of science towards the knowledge of the minority. *Techno/Bio Politics* explores the collected experiences of women that have often been ignored in the name of science.

The intention of a feminist critique of science is made especially clear in the first chapter by Londa Schiebinger. She explores, from a historical perspective, folk knowledge of an abortion pill in the West Indies and its “discovery” by European females in the late seventeenth to the early eighteenth centuries. According to Naoko Yuga, who comments on Schiebinger in her own chapter in the book, Schiebinger’s aim in observing “folk knowledge” in the colonial period is to develop *agnotology*, which is the study of knowledge that is eliminated in a certain cultural context (p.43). Schiebinger discusses the function of gender in the development, obtainment, and mediation of folk knowledge, based on her three basic research interests: (1) how women participate in the practice of science, (2) how the cultural and institutional aspects of science limit the participation of women in science, and (3) how scientific knowledge is constructed within a gender framework (p.15). These research interests indicate that, although termed differently, the intention of agnotology, as pursued by Schiebinger, overlaps with that of feminist standpoint theory in valuing the knowledge of oppressed groups, questioning, “Could women (in various diverse collectivities) become subjects of knowledge?” (Harding 2004: 4). And this question is underlined in the discussions in the following papers.

In Chap. 2, Miwa Yokoyama demonstrates the objectification of the female body by European males in the era of scientific Enlightenment in Japan; while in Chap. 4, Kaoru Tachi and Naoko Oyama examine the politics of knowledge played over the concept of gender in the contemporary field of an internet search engine. Nicole Dewandre (Chap. 5) and Oyama (Chap. 6) introduce recent government efforts to make women subjects of knowledge in Europe and Asia. The discussion on transformation in the production of technology by Naoko Takahashi (Chap. 3) supplements our understanding of why making women subjects of science is so important by showing how the external conditions of science and technology can transform the image of the female body.

Discussions in the second part of the collection clarify even further the importance of making women subjects of science in the context of contemporary reproductive technology. Reproduction, which has been the target of medical control in modern nationalism, is now facing more aggressive medical interventions in the name of science. A technoscientific product as simple as a chair can be the beginning of such intervention. Kyoko Mimura, Minori Kokado, Chiungfang Chang, Hyonsoo Hong, Kaori Muto, and Azumi Tsuge (Chap. 11) explore how the pelvic examination chair, essential technology in contemporary medical care in obstetrics and gynecology, is produced. Their study reveals that, in the process of production, the assumed somatic sense of women is based on a classic understanding of women as weak and vulnerable. The chair is used to examine the female body, both for her

health and to take materials from her. Biomedical science today uses reproduction to gain materials for experiments, using methods developed to enhance the reproductive ability of the female body. French (Kokado, Chap. 9), Taiwanese (Chang, Colum), Korean (Hong, Chap. 10), and Japanese (Miho Ogino, Chap. 7 and Yukari Sennami, Chap. 8) cases are presented. Who uses the results of biomedical science is another issue that requires examination from a gender perspective. In Chap. 12, Muto discusses gender bias in the restrictions set by academic society on the prenatal paternal test provided directly to consumers. Her results are based on research she conducted with providers of the test and show how the concept of gender is embedded in technoscience from production to the market.

In general, while the studies in the collection critically demonstrate what Harraway (2004) calls “situated knowledges,” they have made a special contribution to one of the most challenging areas for a feminist critique of science, that of capitalism and patriarchal domination. Rose (2004) states that issues of women and science are “integral not only to a system of capitalism but also to one of patriarchal domination; yet to try to discuss science under both these systems of domination is peculiarly difficult” (p. 68). One of the significant contributions the studies in the collection make to the field of science studies is that they provide cases that explore capitalism and the patriarchal domination of science from a gender perspective. The chapters by Schiebinger, Takahashi, Ogino, Chang, and Hong, for example, can be understood as demonstrations of how patriarchal domination includes issues of women and science. Cases that exhibit the domination of capitalism can be found in the study of Tachi and Oyama on knowledge creation in a search engine service, and that of Mimura et al. on the production of the pelvic examination chair. These papers demonstrate from a gender perspective how capitalism and patriarchal domination actually oppress the minority in the name of science.

Nevertheless, it should be realized that the actual voices of women in the experience of technoscience are rarely introduced in the collection. Thus, questions remain. How do women in the field of science actually experience difficulties in pursuing a career as a scientist, for instance? Their difficulties may be caused not only by a social system that can be amended by governmental input, but the cultural establishment of a male dominated field may also be a strong factor that makes women hesitate to continue their career. The voices of women in science would have provided an insight into the cultural factors behind male dominance in the field. For a woman who is socially expected to be an organizer of private family life as a supporter of a man, the expectation in the field of science to devote oneself to the pursuit of “truth” may not go along with the social responsibilities she needs to fulfill. Or, perhaps it is the culture of housekeeping that women share in contemporary society that makes women hesitate to be less than perfect housewives by pursuing their public career. The reality has not yet been unveiled.

There may also be more to do to hear the voices of women involved in reproductive technology. How are women of reproductive age experiencing the transformation of reproductive policy? The implications of government policy on assisted reproduction for women in making actual reproductive choices are still unclear. As Hong reveals in Chap. 10, how a woman actually experiences “the autonomous decision” needs critical examination, for autonomous decisions are

often molded to the desired shape of the dominant values in existing power structures. At the same time, it is still possible to question if the autonomous decisions of women are always the passive consequence of social conditions. Technoscience in the field of reproduction has the possibility to make women the subjects of science. The decision to give or not to give materials from her body affects the development of science. The will of women to terminate pregnancies may make the prenatal paternal testing business, often criticized by male professionals, develop with a more humane intention. Technoscience in contemporary society might have given power to women, and these studies give insights in to how women are actually using this power.

The contribution made by this collection to the field of science studies is significant in that it shows how the domination of one group in science can cause practical problems for the counter group. As Harding (2004) argues, “feminist issues could not be pigeon-holed and ignored as only women’s issues but instead had to be seen as valuably informing theoretical, methodological, and political thought in general” (pp. 2). I commend this collection to any scholar of science studies.

References

- Brown, J. R. (2001). *Who rules in science?: An opinionated guide to the wars*. Cambridge: Harvard University Press.
- Collins, P. H. (2004). Learning from the outsider within: The sociological significance of black feminist thought. In S. Harding (Ed.), *The feminist standpoint theory reader: Intellectual and political controversies* (pp. 103–126). London: Routledge.
- Harding, S. (2004). Introduction: Standpoint theory as a site of political, philosophic, and scientific debate. In S. Harding (Ed.), *The feminist standpoint theory reader: Intellectual and political controversies* (pp. 1–16). London: Routledge.
- Harraway, D. (2004). Situated knowledges: The science question in feminism and the privilege of partial perspective. In S. Harding (Ed.), *The feminist standpoint theory reader: Intellectual and political controversies* (pp. 81–102). London: Routledge.
- Rose, H. (2004). Hand, brain, and heart: A feminist epistemology for the natural sciences. In S. Harding (Ed.), *The feminist standpoint theory reader: Intellectual and political controversies* (pp. 67–80). London: Routledge.