

The Postcolonial
Science and Technology
Studies Reader

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INTRODUCTION

Beyond Postcolonial Theory:

Two Undertheorized Perspectives on Science and Technology

Orientalism depends for its strategy on this flexible positional superiority, which puts the Westerner in a whole series of possible relationships with the Orient without ever losing him the relative upper hand. And why should it have been otherwise, especially during the period of extraordinary European ascendancy from the late Renaissance to the present? . . . There emerged a complex Orient suitable for study in the Academy, for display in the museum, for reconstruction in the colonial office, for theoretical illustration in anthropological, biological, linguistic, racial, and historical theses about mankind and the universe, for instances of economic and sociological theories of development, revolution, cultural personality, national or religious character.—EDWARD SAID, *Orientalism*

Resistance to the critique of Eurocentrism is always extreme, for we are here entering the realm of the taboo. The calling into question of the Eurocentric dimension of the dominant ideology is more difficult to accept even than a critical challenge to its economic dimension. For the critique of Eurocentrism directly calls into question the position of the comfortable classes of this world.

—SAMIR AMIN, *Eurocentrism*

Historically it was activists and intellectuals in or from the colonies and newly decolonized nations that most effectively articulated the opposition to colonialism, imperialism, and eurocentrism; these critiques were allied to those developed in the west. What is so striking in retrospect is the sheer energy, volume, and heroic commitment of the intellectual as well as political opposition to colonialism, and that productively continued into the postcolonial period. Postcolonial studies has developed that work to give it a disciplinary focus, and foregrounds its significance. For the first time, in a move that was the very reverse to that which Said describes in *Orientalism* (1978), the power of western academic institutions has been deployed against the west. For the first time, in the western academy, postcolonial subjects become subjects rather than the objects of knowledge. For the first time, tricontinental knowledge, cultural and political practices have asserted and achieved more or less equal institutional status with any other.—ROBERT J. YOUNG, *Postcolonialism*

ACCORDING TO WESTERN policymakers after World War II, the world peace that so many desired required greater investment in scientific and technical research.¹ World peace could not occur without democratic

social relations, and this in turn required economic prosperity for all societies. Poverty drove desperate peoples to support irrational beliefs of the sort that had led to World War II. It was only Western scientific rationality and technical expertise that could boost economic prosperity for poor societies, thereby attracting people to rational forms of political participation. Consequently, it was the duty of Western societies to increase their scientific and technical research and to disseminate the results to poor societies. The newly established United Nations, joined by many Western countries, moved quickly to set up agencies to deliver economic development to poor societies around the globe. The green revolution in agriculture was just one of the results of such research projects.

This way of looking at science and social progress is grounded in modernization theory, which is itself rooted in the Enlightenment belief in the beneficial powers of scientific rationality. The West's sciences and technologies were supposed to be the jewels in the crown of modernity. To achieve social progress, value-neutral scientific rationality and technical expertise must replace traditional religious beliefs, myths, and superstitions about nature and social relations. To be sure, valuable aspects of this legacy endure. Some have said that we need much more rationality and modernity to engage in realistic and democratic ways with global challenges today (Harding 2008).

Yet the way this view is articulated in the preceding two paragraphs obscures perhaps as much as it reveals about science and society in history. Indeed, at the very moment that leaders of U.S. scientific institutions were proclaiming the autonomy of science from society as a reason to support increased funding for scientific and technical research, both the United States and its allies as well as the Soviet Union were vigorously directing research toward projects intended to win superiority in the Cold War arms race. Would this arms race bring world peace? Many believed it would. At any rate, at the time it seemed preferable to another "hot war," this time with nuclear weapons.

Moreover, the U.S. Congress noticed that it had been permitted no oversight over the huge expenditure of taxpayer funds in the Manhattan Project, which had created the atomic bomb. Nor would Congress get to have such oversight in how the newly established National Science Foundation would be distributing federal funds. As one historian notes, the "autonomy of science" rhetoric from leaders of the scientific community was specifically intended to forestall government "meddling" in the agendas and practices of the scientific community. Science was already a "little democracy," proclaimed spokesmen for the scientific community, so it needed no government oversight of the sort taxpayers usually expected (Hollinger 1996). Most of the time, this is widely regarded as a sensible

precaution to protect research from the shifting winds of political whim. However, skeptics could well wonder if all this research directly sponsored and directed by government interests, in addition to corporate interests, should still be regarded as economically, politically, socially, and culturally value neutral.

Soon the "unaligned nations," as they were named by the Cold War participants, transformed themselves into the Third World. Many Third World intellectuals began strategizing about what should be the science and technology policies of their own newly independent countries, since these countries were no longer under formal Western rule. As part of this project, they analyzed the contributions that Western sciences had provided to colonialism and that colonialism, in turn, had provided to Western sciences. These new histories began to appear as early as 1959. In that year an influential essay by Frantz Fanon was published, which demonstrated that under colonialism, just as under Nazi rule, doctors were complicit with "state-sanctioned barbarism" (Fanon 2002). Philip Curtin's analysis of how Western medical achievements made it possible for Europeans to colonize the interior of Africa appeared two years later. One of his examples was the development of quinine for use against malaria (Curtin 1961). More counterhistories to the standard Western accounts of the history of science followed, alongside analyses by anthropologists and biologists of the strengths of traditional health, agriculture, and environmental practices. These produced additional reasons to question central assumptions of modernization theory and its Enlightenment-grounded philosophy of science.²

Now, five decades later, a good-sized literature has further developed a postcolonial framework for thinking about sciences and technologies.³ It has produced startling insights about how sciences function in the everyday push and pull of local and global political, economic, social, and cultural relations. These intellectuals have argued from the beginning that modern Western sciences have been "epistemologically underdeveloped"; they lacked the resources necessary to recognize their own locations in social relations and history. It is the agendas of this work, including the policy debates, that lie behind most of the essays in this collection.⁴

It remains puzzling that the issues raised in this literature are only now beginning to attract the attention of broader audiences in the West. One can find relatively little engagement with these postcolonial science and technology writings in university curricula or in relevant research fields such as the sciences themselves or the philosophy and social studies of science. (Histories of non-Western sciences and the anthropology of medicine provide important exceptions here.) The postcolonial writings

most likely seem to be over the horizon and out of view of other kinds of lively discussions of science and technology issues in our universities and research fields. However, in the last few years, promising signs of more robust encounters with issues raised in the postcolonial writings have begun to appear. A few journals in the field of science and technology studies have published special issues devoted to such topics.⁵ The third edition of a prominent science and technology studies handbook included a provocative review article (Anderson and Adams 2007). A leading journal in postcolonial studies published its first issue devoted to the topic (Seth 2009a). Yet in 2009 one of the authors of that review article could still say that “most STS scholars have not seen the point of postcolonial theory. . . . and most postcolonial theorists . . . have flocked instead to the analysis of literary texts” (Anderson 2009, 390).

We could probably identify many causes of this history of disinterest in the West in postcolonial issues about science and technology. This is so even though these issues are about us in the West and our sciences and technologies and not just about distant others who are “out there” in the Third World. Western self-interest, Eurocentrism, racism, and a fascination with globalization theory have been mentioned as possible causes. Perhaps another cause worth considering is the preoccupation with Cold War agendas. From the end of World War II until the fall of the Soviet Union in 1989, such preoccupations made it difficult for Westerners to become interested in thinking about the tension between, on the one hand, assumptions that the value neutrality of modern sciences was both desirable and possible and, on the other hand, the clearly political and economic missions to which so much scientific research was dedicated.⁶ Sympathetic attention to the science and technology concerns of these First World and Third World intellectuals would have seemed not only unrealistic but, more importantly, deeply unpatriotic. The Cold War was not a good time to articulate for Western ears skepticism about the empirical and theoretical adequacy or the political desirability of modern Western sciences and technologies. Perhaps today, two decades after the end of such relations between the First and Second Worlds, we are ready to move beyond a Cold War mentality.

To be sure, the antimilitarist and radical science movements that emerged in the United States and Europe during the Vietnam War did attract widespread attention, especially among the young in the 1960s. And ecology movements began to raise troubling questions about how Western sciences and technologies were affecting the environment. By the early 1970s, feminist movements were questioning the sexist biases of some of the most widely disseminated scientific theories, such as so-

ciobiology, biological and medical theories about reproduction, and the assumptions about the environment that were the target of ecofeminists. Yet the message that most scientists, engineers, the educated public, and even university researchers and scholars took away from these claims and analyses was about the uses and abuses of scientific research. According to this view, these kinds of criticisms should focus on the politics in society, not on scientific and technical research itself. Such research could itself still be defended as value-free and committed to supposedly pure science and its basic research.

In the next section, I pave the way for many of the essays in this collection by briefly describing this science-focused kind of postcolonial theory, or “postcolonial science theory,” as I refer to it. The third section takes up another challenge for those who would create more reliable sciences that have the resources to advance democratic social relations in today’s world. That challenge is the continuing persistence of damaging gender stereotypes that guide science policies and practices around the globe, including those of many advocates of postcolonial science theory. These gender criticisms, too, first emerged during the Cold War.⁷ The third section looks at both the important assumptions that postcolonial and gender science and technology studies share, and the conflicting assumptions that prevent them from making good use of each other’s most valuable insights. Now to the two main focuses of postcolonial science theory.

A Postcolonial Theory for Science and Technology Studies

As noted earlier, two issues were the focus of especially provocative questions from the beginnings of postcolonial science theory a half century ago. One was a historical question: what roles had Western sciences and technologies played in colonial histories, and what role had colonialism played in the histories of Western sciences and technologies? The other asked what the focus and character of science and technology policy should be in the newly independent Third World states. Attention to the second question had to focus also on aligning the policies and practices of the international and national aid agencies with the interests and desires of the poor people of the world rather than with only the interests and desires of the formerly colonial powers that now were the major funders of these programs. Many Western activists and researchers joined their Third World colleagues in working on this issue. As we shall see, the history and policy questions were linked. Their conjunction enables us to

grasp the importance of thinking in terms of multiple modernities with their multiple sciences. Yet this recognition deeply challenges conventional Western epistemologies and philosophies of science, which have deep commitments to the existence of only one modernity and one real science.

History

Third World theorists found especially problematic the exceptionalist and triumphalist assumptions of the conventional Western views of science and technology in history. Exceptionalism assumes that the West alone is capable of accurate understandings of the regularities of nature and social relations and their underlying causal tendencies. There is one world, and it has a single internal order. One and only one science is capable of understanding that order. And one and only one society is capable of producing that science: our Western society! This was the logic of the exceptionalist view. It has reigned in philosophy of science as the unity-of-science thesis.⁸ Triumphalism assumes that the history of Western scientific and technological work consists only of a parade of admirable discoveries and inventions. Any harmful events or processes in which scientific or technical achievements are accused of playing a role—such as Hiroshima, environmental destruction, global warming, militarism, or colonialism itself—were said to be caused by the ignorance and bad politics of political leaders and the public that they court. That is, such events or processes cannot be attributed to any features of modern Western sciences and technologies themselves. Those who make these assumptions find it unintelligible to claim that other societies can and have produced competent sciences or that it is reasonable to think that certain attributes of modern sciences themselves have made contributions to natural and social disasters.

Of course, ignorance and bad politics have all too often left their marks on history. But critics of exceptionalism and triumphalism think that ignorance and bad politics cannot be the end of the story. They have argued that a consequence of such assumptions is that Western sciences and technologies have seemed legitimately to escape the kind of postcolonial analyses and criticisms that have been so insightful about other Western institutions and practices. The postcolonial writings that became familiar in Western universities in the 1980s had little effect on such attitudes about sciences and technologies. This is so even though Edward Said, members of the Indian Subaltern Studies group, and other early postcolonial theorists clearly pointed to the role of Western sciences, tech-

nologies, and their philosophies in colonial projects.⁹ This work also did not address the Cold War politics that had helped to put the very nature of modern Western sciences outside the range of reasonable criticism in university classrooms as well as by media in the West.

To be sure, a few scholars in the early days of the new social histories of science did use a postcolonial lens to produce counterhistories of Western sciences and technologies and their interactions with colonized societies.¹⁰ However, as the field of social studies of science and technology began to develop during the Cold War, its historians, sociologists, and ethnographers tended to focus on how scientific facts were socially constructed in laboratories, and on how knowledge travels from one place to another. As Warwick Anderson points out, this interest in how knowledge travels aligns with globalization theory, not postcolonial theory. It makes issues about the past and present of colonial relations no longer relevant or even comprehensible.¹¹ Consequently issues about relations between sciences and technologies, on the one hand, and colonialism, imperialism, and their recent residues and resurrections, on the other hand, have until recently remained largely unaddressed in science and technology studies, as well as in academic postcolonial studies.¹²

History and Policy

By the mid-1980s, UNESCO and other international agencies, as well as regional institutes in the Third World, were sponsoring large multinational conferences on the issues raised by postcolonial science theorists, mostly but not entirely from the Third World. From the perspective of North American science and technology theory writings, it is hard to get a sense of the huge number of scholars, policymakers, and activists who participated in such projects, the rich institutional networks and resources that supported them, or the thoughtful and provocative character of their concerns. In the United States at least, the occasional appearance of activists in these debates, such as Vandana Shiva or Ashis Nandy, could not convey the extensive global networks and institutional supports for this kind of postcolonial science theory.

One can get a quick grasp of the nature and range of these inquiries and debates by examining the proceedings of three international conferences that were published from the mid-1980s to the mid-1990s. Here I can only briefly describe them. *The Revenge of Athena: Science, Exploitation, and the Third World*, edited by Ziauddin Sardar, published twenty-one of the many dozens of conference presentations given in November 1986 at a seminar titled “The Crisis in Modern Science” sponsored by the

Consumer Association of Penang, Malaysia. The book is divided into three parts: "What's Wrong with Science?," "Science and Third World Domination," and "Third World Possibilities." Contributors to the collection include figures—now well known in the field—such as Vandana Shiva, Claude Alvares, Susantha Goonatilake, Seyyed Hossein Nasr, and Jerome Ravetz, as well as Sardar himself. In this volume as in the other two, many of the contributors are themselves scientists, engineers, or mathematicians. The conference's "Declaration on Science and Technology," subsequently republished as *The Crisis in Modern Science: A Third World Perspective*, by the Third World Network,¹³ provides an extensive agenda for redirecting Third World science and technology projects to Third World needs and desires. As the authors argue, "Only when science and technology evolve from the ethos and cultural milieu of Third World societies will they become meaningful for our needs and requirements, and express our true creativity and genius. Third World science and technology can evolve only through a reliance on indigenous categories, idioms and traditions in all spheres of thought and action" (Third World Network 1993, 487).

A second example is the proceedings of an international colloquium titled "Science and Empires—a Comparative History of Scientific Exchanges: European Expansion and Scientific Development in Asian, African, American, and Oceanian Countries," which was held in 1990 in the UNESCO building in Paris. The colloquium was organized by the REHSEIS (Research on Epistemology and History of Exact Sciences and Scientific Institutions) group of the French National Center for Scientific Research (CNRS). The proceedings were published as *Science and Empires*, edited by Patrick Petitjean, Catherine Jami, and Anne Marie Moulin. The thirty-five essays are organized into two parts, "Problems about the Integration of Classical and Modern Science" and "European Scientific Expansion and Political Strategies." A number of First World scholars contribute papers, including the three editors, as well as Nancy Leys Stepan, Lewis Pyenson, and Michael A. Osborne.

Finally, another set of proceedings contains papers presented at a conference sponsored by ORSTOM, the French science institute for research outside France, and UNESCO. The conference took place in Paris in 1994. Its theme was "Twentieth Century Sciences: Beyond the Metropolis." It featured presentations by a large number (perhaps more than half) of the approximately two thousand participants from the Third World and Europe: researchers and scholars, scientists and engineers, policymakers and activists.¹⁴ Seven volumes, edited by Roland Waast, of about 150 of the many conference papers were subsequently published. They address a wide range of topics. For example, volume 6, *Sciences in the South:*

Current Issues, has book parts titled "Sciences on the Periphery: Assessments," "Privatisation and Globalization," and "The Western Character of Science."

A World of Sciences

The postcolonial science and technology perspectives provided by the essays in this collection provide distinctive arguments for recognizing the nature and value of "a world of sciences"—that is, multiple scientific and technological traditions, each relatively well adapted to regional needs and interests, though never perfectly so. They are joined in this project by work in modernity studies and by minority tendencies in Western science and technology studies itself, as indicated earlier.¹⁵ Here the central argument is that modernization is not identical to Westernization, contrary to Western exceptionalist and triumphalist assumptions. Rather, most peoples around the world now live in societies that have separated from hunter-gatherer economic and political relations and from the feudal political economies from which the modern West slowly emerged. Moreover, the global reach of Western modernity's corporations, environmental destruction, and arms industries, not to mention its contributions to the production of pandemics, financial disasters, immigration, and refugees, permeates even societies that have received few or no benefits from Western modernity. Today every society lives in global modernity, even if only in the darkest corners of its most hideous effects. To be sure, dissemination from the West and from other societies also plays significant roles in creating all societies today, but so too do processes internal to each society, as was the case in the West. Moreover, the recipient society always changes what it borrows so that the new ideas, processes, or goods fit into the existing social order with minimum disruption.

Thus modernity is not only disseminated from the West to other societies. It is also produced independently within each and every society. Whether arriving from outside or inside a society—or, more likely, through negotiations between inside and outside—it must be "sutured" into existing economic, political, cultural, psychic, and material worlds. Thus modernity will always take on distinctive local features in its multiple regional appearances. Its epistemologies will be to some extent local.¹⁶ And it always tends to appropriate and reshape to its own ends the social hierarchies that it finds. Feminist and postcolonial projects will always have to be multiple and distinctively local if they are to serve those escaping male-supremacist and Western-supremacist histories.

A number of the authors here think in terms of a world of sciences, each serving the economic, political, cultural, and psychic needs of its

peoples. And all these sciences are in many kinds of interactions with each other: conflicts, negotiations, coalitions, appropriations, integrations of parts of one with the other, disseminations, and more.¹⁷ The urge to integrate or assimilate other knowledge systems completely into modern Western sciences, leaving just one global knowledge system, should vigorously be resisted. This would continue the tragic destruction and suppression of fruitful cultural diversity in knowledge systems that has characterized Western colonialism and imperialism. Fortunately such tendencies toward a monological knowledge system are widely resisted at least in practice these days, as many of the essays will demonstrate. Developing epistemologies adequate to a world of sciences is at this point an uncompleted project.

Such theories of knowledge must confront the reality that the contrast between modernity and tradition that has been so important to modernization theorists is neither as clear nor as useful as modernization theorists imagined. In the postcolonial literatures, one can see the contrast blurred, undermined, or “worked”—manipulated and destabilized—in historical practices of Third World societies and in the West. For example, the modernization theorists argued that the policies they recommended would replace supposedly backward traditions with modern beliefs and practices. Yet modernization, whether in the hands of the neoliberal World Bank or of post-Marxian dependencia theory, simply appropriated and subjugated to its own ends traditional households, women’s work, and traditional family relations in its nation-building practices (Catherine Scott). Essays on the importance of so-called indigenous knowledge to indigenous societies and to ours, as well as the complexity and sophistication of indigenous knowledge, undermine modernity’s intellectual and pragmatic devaluation of such knowledge systems. The essays here about South Pacific navigation (Goodenough) and Cree hunting practices (Colin Scott) provide good examples of such knowledge systems. Today advocates for traditional knowledge systems defend them by using modern electronic technologies (Warren) and legal contracts (Brush, Hayden). Some do insist on the importance of further integrating such systems into modern Western sciences (Goonatilake), and others advocate integrating selected elements of Western sciences and technologies into them (Hoppers, Sardar). Readers can identify additional ways in which both supposedly traditional and supposedly modern societies work the boundaries between the two categories.

I have mentioned women here and there. Yet it would be a mistake to think that *gender* refers only to women. What is gender? How have gender issues shaped sciences and technologies in colonial, imperial, and

postcolonial contexts? What resources can feminist (or gender) studies of science and technology provide for improving research and democratizing global social relations?¹⁸

Gender and Postcolonial Science and Technology Studies: Separate, Conjoined, or Coconstituted Paths?

No Women, So No Gender Issues?

The conquistadors, explorers, missionaries, merchants, indigenous rulers, scientists, historians, anthropologists and their informants, and theorists of modernity and development, as well as the leading scholars who contribute to postcolonial science and technology studies—these have been mostly men. Consequently some scholars seem to think there is little reason to raise gender issues in addressing topics in this field. Many assume that gender issues are relevant only if women are in sight, or perhaps even only if one is actually studying women. Yet the assumption that gender refers exclusively to women is false. It undermines the reliability as well as the legitimacy of accounts guided by it. In contrast, recent studies have found ways to ask how the very absence of women has influenced the selection of scientific problems, the methods of research and the regulatory ideals that guide them, what count as scientific communities, conceptions of natural processes, the interpretation of data, the results of research, and the dissemination of scientific applications and technologies, as well as at least some prevailing understandings of nature’s order. In societies organized by male-supremacist gender hierarchies, men, their ideas and practices, cannot be unique models of the human. They can only mark historically specific masculine examples of the human.

The field of feminist science and technology studies has been developing in the global North and South since the 1970s. Yet this work and postcolonial science and technology studies too often ignore each other. The assumption that gender and postcolonial paths are separate damages the reliability and progressive promise of each.¹⁹ Arguments for their “intersection” are preferable, and they have been useful in confronting the race and gender blindness of U.S. law (Crenshaw et al. 1995). However, this metaphor retains the false idea that somehow gender relations and colonial relations were at one time both functioning, and yet were separate from each other before they “intersected.” That assumption could be made only by people privileged by their position in gender and colonial hierarchies. For colonized women, differences in their lives from the conditions of men, as well as from the conditions of their colonial rulers, are

part of their everyday lived experiences. Here the argument will be that gender and colonial relations have coconstituted each other.

*Gender and Postcolonial Science and Technology Studies:
Weak and Strong Complementarity*

The agendas of feminist and postcolonial science and technology studies are similar in important respects and thus would seem to be complementary.²⁰ For example, both argue that the perspectives and interests of their particular constituencies are not well served by modern Western science and technology policies, practices, or philosophies. To be sure, modern Western policies, practices, and philosophies of science and technology have delivered some benefits to some women in the West. Yet these sciences and technologies were not designed to respond to any group of women's needs and desires in the West, let alone to the distinctive needs and desires of women in different classes, races, ethnicities, and cultural groups around the globe. They have been designed to respond primarily to the needs of states, militaries, and corporations, from the design and management of which women have systematically been excluded. Women (as well as most men) around the globe have borne disproportionate shares of the costs and received relatively fewer of the benefits of modern Western sciences and technologies.

Moreover, both offer alternatives that they claim are grounded in more realistic understandings of knowledge production processes, are more comprehensive, and can better serve the peoples for whom each speaks. Thus the agendas of each are always explicitly political as well as intellectual.

Additional reasons for each to be interested in the projects of the other can come from recognition that their constituencies are overlapping and their discourses are interlocked. More than half of the formerly colonized and those still under the control of neocolonialism and neoimperialism are women. Additionally, children and the elderly, disabled, and sick depend on women for their daily survival. To put the point the other way, a huge majority of the world's women and their dependents are among formerly colonized peoples and those now negatively impacted by residues and resurrections of colonialism and imperialism.

Furthermore, the dominant discourses that these social movements criticize, as well as the ones they themselves use, are deeply imbricated or locked into each other: colonialism, imperialism, and male supremacy have persistently represented gender in racial or colonial terms, and racial and colonial relations in gender terms (e.g., Stepan 1986). Women supposedly are not fully civilized, and non-Western men are supposedly

not as manly as are men of European descent. Nor are women and non-Western men regarded as capable of managing their own lives as well as are men of European descent, according to such views.

Gender and racial-colonial categories still coconstitute each other today (Catherine Scott). Thus, because of their overlapping constituencies and interlocking discourses, each of these science and technology movements would seem to have to depend on the successes of the other to achieve its own professed goals. In this sense, they are *strongly complementary*.

Yet these two science and technology movements often seem committed to conflicting assumptions about the relevant social relations, the relevant sciences, and questions of who can and should be agents of the kinds of radical social and scientific change for which each calls. (There are important exceptions to this charge, as we will see.) Under such circumstances, neither social movement can deliver the benefits it envisions to the majority of those to whom it has professed accountability. So what are the contributions that gender and postcolonial studies of science and technology can make to each other's projects? Before we turn to this issue, it is worthwhile to recollect just what gender is and is not. In feminist work, the term *gender* is used in ways that may not be obvious.

What Is Gender?

Gender is not another word for women, as noted earlier. Rather, like class and race, it designates particular kinds of social relations, here between men and women as well as between men and between women. These relations are "made, not born," to borrow from Simone de Beauvoir's famous observation. Moreover, gender relations are manifested not only by individuals but also in the structures and systematic practices of institutions (e.g., job classifications, legal regulations). They also appear in our symbolic systems, our meanings, as when nations are represented as women (Liberty, Columbia, Marianne) or when regulative ideals of research, such as objectivity and rationality, are represented as requiring a distinctively masculine character. Furthermore, gender relations organize hierarchical institutional structures of economic, political, and social power. However, gender never functions alone; it always interacts with other powerful social relations, such as race and class. Whether one conceptualizes such interactions as intersections or as processes of co-constitution, gender relations are always historically dynamic. Finally, like race and class, *gender* is both a descriptive and an analytic term. It designates both something "out there" in social relations and also a kind of analytic framework invoked to explain diverse manifestations of such social relations.²¹

This field is by now four decades old. I will not review that history here except to name five focuses of ongoing concern in the North, as well as everywhere that Northern sciences have found a home in the South (though there are additional gender issues in the South, as we shall see). Such projects have been initiated by groups with different kinds of disciplinary, political, and institutional interests in scientific and technological research. One such question is where women in the social structures of modern sciences are (and have been), and why there have been so few of them in the arenas of the design and management of research. Another is how and why “sexist sciences” have provided empirical support for the claimed inferiority of women. A third asks how technologies and the applications of the results of scientific research have been used against women’s equality. Women’s health, reproductive, and environmental concerns were among the earliest such focuses here. Fourth, how do scientific and technical education—pedagogy and curricula—restrict girls’ and women’s (and boys’) development as scientists and engineers?²² Finally, what is problematic about the epistemologies, methodologies, and philosophies of science that produce and support such sexist and androcentric practices?²³

Such issues all remain important almost four decades after they were first posed—unfortunately. Some areas show significant progress—for example, in increasing access for women to scientific educations, publications, organizations, and lab and classroom jobs, and in establishing at least token presences of women in policy contexts. Moreover, significant changes in health and reproductive policies have occurred for women in already advantaged groups. As we will see, some feminist epistemological and methodological work has enabled new kinds of increasingly widespread debates about the relation of different human experiences to the production of knowledge. Yet women in Africa, Asia, and other places around the globe, as well as poor women in the West, have not much benefited from these kinds of progress.

However, neither postcolonial nor Northern feminist science and technology studies are likely to improve women’s conditions as long as their fundamental assumptions conflict. From the perspective of Northern labs, science curricula, and federal policy, it is all too easy to be unaware of how Northern sciences and technologies function globally. In none of such contexts can one easily focus on postcolonial or gendered social relations, indigenous knowledge or feminist research innovations, or the possibility that Northern residents, men or women, will probably not be the most valuable agents of democratic social change in science and tech-

nology worlds. What are these conflicting assumptions made by feminist and postcolonial science and technology studies?

Theoretical and Methodological Sites of Dissonance

First, what are the relevant social relations to be examined for these two kinds of science and technology studies? Postcolonial science and technology scholars who are men rarely see gender relations as relevant either to the situations they observe or to their own theoretical or empirical concerns. Similarly, far too few Western feminists have focused on postcolonial science and technology relations, as indicated earlier. The exceptions here are to be found primarily in the long history of criticisms of science and technology aspects of development policies and practices and in environmental studies, as several essays in this collection show.

More than three decades ago, historians pointed out that recognizing women to be fully human—as fully human as their brothers—undermines traditional theoretical and methodological assumptions about social relations. This recognition raises provocative questions. For example, how should we account for the fact that women’s conditions have tended to regress at precisely the moments marked in conventional histories as high points of human progress, such as the Renaissance, or the state formation resulting in Athenian democracy and, more than two millennia later, the United States? Even worse, it turns out that it was precisely because of the features identified as progressive that women’s lives regressed. This is because whatever is extolled as progressive tends to be symbolized as virile and manly in societies structured by gender hierarchy. For example, it was not an accident that in the Renaissance women lost rights and opportunities that they had earlier possessed. Moreover, in state formation, women have invariably lost legal and political rights they had possessed in earlier periods, including the democratic revolutions of eighteenth-century Europe and the independence movements of newly postcolonial states after World War II (Kelly-Gadol 1976; Pateman 1988; Catherine Scott). Apparently conventional theories of social change have failed to account for the transformations they intend to chart insofar as they ignore women’s role and fate in such processes. It has become clear that chronologies grounded only in what happens in men’s lives, whether about the North or the South, leave no conceptual space for significant changes in women’s lives or for examining the effects that the conditions of women’s and men’s lives have had on each other.

Yet postcolonial science and technology studies seem to assume that women and men benefit equally from men’s progress, and that gender relations are irrelevant to the most adequate theories of social change.

With important exceptions, the relevant social relations in the accounts of postcolonial science and technology studies are those of presumably gender-free imperialism, colonialism, nation building, and the local, apparently gender-free acquiescences or resistances to such processes. Occasional references to “women’s concerns” do not address gendered social structures or symbolic practices, let alone feminist epistemological, methodological, or philosophy of science issues. Consequently postcolonial theory cannot understand colonial, imperial, postcolonial, or today’s neocolonial and neoimperial processes as long as its assumptions obscure women’s realities and experiences, their standpoints on dominant social relations, and the gender relations that structure and give meaning to social institutions and the men’s and women’s lives lived within them. Important exceptions here that are focused on science and technology issues include the work of Anne Fausto-Sterling (1994, 2005), Donna Haraway (1989, 1991), and Vandana Shiva (1989).

It is encouraging to see that a few historians and ethnographers have begun to identify the gendered symbolic meanings and accompanying practices that have shaped Western sciences and technologies in colonial and imperial projects. For example, they have focused on scientists’ claims that the greatest scientific value should go to the discoveries and inventions produced through the manly heroism of scientific quests (Terrall); on the gender, class, and colonial structure of Jesuit scientific communities in their overseas missions (Harris 2005; Rhodes 2005); on the masculine chivalric values of the knowledge gathering by Spanish conquistadors as well as British and French colonialists (Canizares-Esguerra 2005); and on the application of gender stereotypes to colonial relations in typical British representations of fitness and disease in the colonies (Harrison 2005). This is an area ripe for further exploration.

In a parallel way, much Western feminist work only rarely sees the social relations of colonialism and imperialism as having anything to do with women’s or men’s experiences of Western scientific and technological work. These scholars seem to think that as long as they are focused only on Western women and gender relations, social relations of colonialism and imperialism are irrelevant to the sciences and technologies they observe. Such assumptions leave us all ignorant both of the history and practices of sciences and technologies around the globe and of women’s and men’s variable participation in, and experiences of, such histories and practices. Thus similar arguments about treating non-Westerners as fully human reveal the limitations of traditional Eurocentric methodology in Western feminist science and technology studies—one that is shared, for the most part, with the larger field of science studies. Each field ignores

powerful kinds of social relations that have shaped the content of sciences and technologies.

A second site of dissonance is the question of what the relevant sciences are for these two kinds of studies. For Western feminists (like Western science studies more generally), these have been almost entirely modern Western ones.²⁴ Courageous and brilliant work has been accomplished here in addressing the gender dimensions even of the sciences thought least susceptible to social fingerprints, such as physics and chemistry (Keller 1984; Potter 2001; Traweek 1988). Yet the history of modern Western sciences and analyses of their practices today are almost never set in the context of the history of Western appropriation of significant achievements of other cultures’ sciences and technologies, or of Western destruction of them. Indigenous knowledge traditions, whether in the West or elsewhere, seem for the most part to be beyond the horizons of most of this work. Western feminist work, like much of the larger science studies movement in which it is embedded, is unaware of the counter-histories, the successes of indigenous knowledge, or the arguments for valuing multiple science traditions—a world of sciences. These kinds of studies call for radically rethinking conventional Western assumptions about scientific rationality and technical expertise. Consequently, the view of modern Western sciences and technologies from the standpoint of non-Western societies is also missing from Western feminist science and technology studies.²⁵

Indigenous traditions, critical perspectives on modern Western sciences, and the design of science and technology policies and practices that integrate the best of both worlds are central projects for postcolonial scholars. They have produced diverse evaluations of these different traditions and accounts of possible future relations between indigenous and modern Western scientific knowledge systems.²⁶ Yet there has been little focus on women’s domains of producing knowledge in these accounts of indigenous knowledge, and little awareness of the different kinds of experiences women have (different in different cultural contexts, but also different from men’s in such contexts) that have informed Western feminism’s innovative methodological and epistemological strategies. Nor have postcolonial science and technology scholars grasped the limitations of their own analyses and recommendations from the standpoint of women’s interests. They have not treated women, their needs, interests, and insights, as fully human, nor have they considered them as equally crucial to social progress as they consider their own. Often feminism is perceived by men in formerly colonized societies as a Western import. In these cases, resistance to feminism is perceived to be an important part of resistance

to Western imperialism. And this is so in spite of often vigorous and innovative feminist movements created locally by their female colleagues and compatriots. Evidently these otherwise brilliant intellectuals and activists take women to be more easily duped by the West than are men.²⁷

Finally, the feminist and postcolonial accounts disagree on questions of who can and should be the agents of progressive transformations of societies and their sciences. Neither movement seems to think it necessary to center members of the other group in the envisioned design and management of its projects. Only a few women, such as Donna Haraway and Vandana Shiva, appear in the citations of contemporary postcolonial science studies scholars, and these are mostly the same few who appear occasionally in the feminist work.²⁸ The standpoint of women only rarely makes an appearance in this postcolonial work. Similarly, the standpoint of poor people in the Third World is missing from many Northern feminist analyses. Moreover, non-Western peoples do not appear as the designers or leaders of radical political and intellectual transformation in most Western feminist work. Other voices are hardly ever heard or reported except occasionally as special interests. That is, the others are never represented as being at the forefront in conceptualizing or leading social action toward goals and strategies that will produce widespread benefits, including but not limited to those purportedly special-interest groups themselves.²⁹

Neither movement can deliver social progress to its professed constituencies without attending to the full range of issues addressed by both postcolonial and feminist science and technology studies. The existing separation of these two powerful conceptual frameworks must be ended.

The preceding section focused on one especially challenging contribution that postcolonial science theorists have made to global thinking about sciences and technologies. This is the conception of a world of sciences; that is, a world of multiple modern sciences, each with distinctive achievements, and each often in conflict with other scientific traditions. As noted earlier, Western science studies itself has recently produced a similar account focused entirely on modern Western sciences (Galison and Stump 1996; Kellert, Longino, and Waters 2006). Here we turn to just one of the compelling and yet provocative contributions to rethinking regulative ideals of scientific research made by feminist science studies.

Standpoint Methodology

This way of designing and conducting research projects has been theorized most extensively with respect to gender issues, though its logic is also usually invoked in postcolonial accounts, as it is in many other social

justice research projects (Harding 2004b). The concept of a methodological standpoint arose in Marxian writings about the importance of taking the "standpoint of the proletariat" to understand how capitalism actually worked, contrary to the bourgeoisie's continual justification of the necessity of exploiting manual laborers. So this geographical metaphor directs attention to a location, a site in social relations, from which a disadvantaged group learns to observe and speak *for* itself and to the advantaged group about how unjust and oppressive social relations affect their lives. By starting off thought from the daily lives of workers, one could explain the otherwise mysterious phenomenon of how wealth accumulated in the lives of the already advantaged while misery accumulated in the lives of the workers. One could do so without appealing to the typical biological, religious, social, or political justifications for such inequalities that were promoted by the ruling groups of the day (and still in our neoliberal days).

Of course there are many problems with using such Marxian theory today. Nevertheless the basic insight of this research methodology—its logic—has remained useful to many disadvantaged groups around the globe. In feminist hands, the standpoint strategy directed researchers to begin thinking about any and every project from the standpoint of women's lives instead of from the conceptual frameworks of research disciplines or of the social institutions that such disciplines serve. Women had been excluded from the design and management of these disciplines and institutions. Those frameworks had been designed to answer questions that were *for* the dominant social groups, not *for* women or other exploited groups. The dominant institutions sponsored, funded, and monitored research in the natural and social sciences; their policies were grounded in gender stereotypes. They promoted the "conceptual practices of power," in the words of Dorothy Smith (1990).

Standpoint projects "studied up" (as the Marxists put it). They began by thinking about the dominant institutions, their practices and cultures, from the standpoint of the women's lives affected by them. Their goal was not to produce ethnographies of women's worlds, valuable as those can be. Rather, they intended to explain the high-level institutional decisions and practices responsible for initiating and maintaining such situations. In this respect, they differed from the ethnographies that were frequently parts of such projects and with which they were often mistakenly conflated.³⁰ Standpoints are not to be conceptualized only as perspectives. Everyone has perspectives on the world, but standpoints are intellectual and political achievements in that a group has to work together to figure out how to arrive at them. They require critical, scientific study to see beneath the everyday social relations in which all have been forced to

live. They also require political struggles to gain access to the sites (the boardrooms, the command centers, the policy circles) where one could see how decisions have been made that directed and maintained sexist and androcentric social relations (Hartsock [1983] 2003).

Standpoint theory produced stronger standards for good method in the natural as well as the social sciences. Similarly, it produced revisions of other regulative ideals of the sciences, including “strong objectivity” and “robust reflexivity,” and produced more rigorous and comprehensive standards for rationality (Haraway 1991; Harding 2004a, 2004b). Standpoint methodologies have by now explicitly been adopted across the social sciences, in some mixed social and natural sciences such as environmental and health studies, in several areas of biology, and in some technology studies. Moreover, the logic of such methodologies has an organic quality in that it seems to appear whenever a disadvantaged group tries to articulate the legitimacy of its own knowledge needs against the research practices that serve powerful groups. Thus the logic of standpoint epistemology and methodology is routinely evoked in postcolonial writings that start off from the lives of Third World peoples to think about Western assumptions, policies and practices, and indigenous knowledge systems; or about encounters with European voyagers, botanists, and physicians; or about modernization or development theory. In many of the essays in this collection, one can detect an appeal to a standpoint logic, whether or not it is explicitly articulated as such.

One can still ask, however, if standpoint methodology and epistemology are too Western to be fully useful elsewhere. Standpoint theory was initially formulated within the Marxian and Enlightenment philosophical and methodological traditions, even as it protests significant aspects of such legacies. Although it is positioned against both positivist regulatory ideals and practices in Western-origin natural and social sciences, positivism is not, to take just one case, one of the most problematic aspects of Indian society for women, as the philosopher Uma Narayan pointed out several decades ago. Moreover, standpoint theory’s appeal to the value of women’s experience can lose its critical edge in societies that conceptualize sex and gender differences as fundamentally complementary rather than hierarchical, and this is so regardless of whether such differences are in fact treated as hierarchical (Narayan 1989). There are other ways, with significant relations to standpoint theory, to articulate research methodologies that can distribute their benefits more effectively to the least advantaged groups.³¹

Yet standpoint theory remains a valuable strategy to articulate the logic of “a space of a different kind for polemics about the epistemological priority of the experience of various groups or collectivities,” as Fredric

Jameson put the point. “The presupposition is that, owing to its structural situation in the social order and to the specific forms of oppression and exploitation unique to that situation, each group lives in the world in a phenomenologically specific way that allows it to see, or better still, that makes it unavoidable for that group to see and know, features of the world that remain obscure, invisible, or merely occasional and secondary for other groups” (Jameson 2004).³² Standpoint approaches can recognize the positive scientific and political value of local knowledge without falling into claims either of its absolute, universal validity and applicability or of its legitimacy by only local standards. That is, standpoint approaches do not commit their users either to problematic older positivist regulative ideals or to a mere relativism of claims valid only in their local context. It is a symptom of the originality of this approach that so many readers can’t resist interpreting it only as either absolutist or relativist in a damaging way. Yet, it is only from the perspective of the absolutist’s exceptionalist position that these do appear to be the only choices.

Provocations and Illuminations

This introduction has explored two theoretical frameworks that can illuminate some of the most puzzling and provocative intellectual and political challenges of the day. Sciences (and technologies) and their societies coconstitute each other. Each provides resources for the development of the other—and this can occur whether such development is politically and intellectually progressive or regressive. This insight supports postcolonial and feminist arguments that sciences and technologies are never completely value-free. How should we think about the virtues of modern Western sciences and technologies in light of these challenging views of them? How should we think about the knowledge systems of other cultures? How should we think about many non-Western sciences and technologies that today function effectively for cognitively valuable and politically admirable projects in their own world and yet still do not address women’s needs where these differ from men’s? What about those that do and must function in a modern world but find themselves in some of the most deprived locations in that world?

By now it should be clear that there cannot be a single recipe for science and technology research projects that are desirable from feminist and postcolonial standpoints. We can at least agree that we should not support one that conforms to the traditional Western conception of progress and how to achieve it. Women and men in different eras and places experience differently the nature and effects of colonialism, imperialism, postcolonialism, neocolonialism, and the sciences and technologies that these

social relations create. Cultures have their own distinctive histories, legacies, resources, values, and interests, and it is the cultures themselves that must create discussions of how best to plot their own futures (with certain caveats about harming others and their own most vulnerable members, of course). Thus it would be arrogant and ineffective for any one culture to take it upon itself to determine what will be best for all, and especially for Western researchers and scholars to do so for non-Western societies. There already are and must be many different kinds of epistemological, scientific, and technological struggles over priorities, goals, and strategies.

Meanwhile our natural and social environments themselves constantly change. They continually produce unexpected phenomena such as retroviruses, ozone holes, and global warming, as well as deadly financial crises, hurricanes, fires, and mudslides. Our daily environments now seem crowded with risks to life and health that were not imagined even one generation ago (Beck 1992). Westerners have to learn how to live with not knowing how such relations between knowledge systems and with natural and social orders will turn out. The vitality of both nature and global tendencies toward democracy in all their local varieties depends on our learning to tolerate—even thrive—in the face of continually appearing uncertainties (Sarewitz). In this kind of world, postcolonial and feminist science and technology studies can help us locate innovative strategies for moving forward, not only by considering their illuminating but provocative challenges to conventional assumptions but also by exploring the alternatives that they are debating.

Notes

1. The language I use here of West and non-West is problematic. It echoes the discredited Orientalism that makes the West the center of geography, history, and critical analyses and is one of the founding targets of postcolonial criticism. It obscures the fact, addressed in many essays here, that the West consistently appropriated scientific and technological insights and achievements of other societies for its own projects, to this day almost always without acknowledgment. It occludes the difficulty of fitting into this binary the science and technologies of many societies around the world that have developed their own forms of modernity. See, e.g., Eisenstadt 2000; Mignolo 2000; Rofel 1999.

Moreover, all the available alternative contrasts are also problematic: First World–Third World (an artifact of the Cold War), “developed–underdeveloped” (who defines this difference?), and more. Furthermore, any such contrast inaccurately homogenizes the two groups and obscures the more complex social relations that exist between and among various global groupings in the past and today, reifying a preoccupation with differences that hides shared interests and

practices between peoples in very different social circumstances. Some authors prefer to discuss today’s global social relations in supposedly more politically neutral language such as “globalization” or “transnationalism.” Such terms can be useful in some contexts. They are not politically neutral, however, for they hide power relations that are the focus of this book’s contributors. In light of such difficulties with alternatives, I continue here to use primarily “West–non-West” and, where appropriate, shift to “First World–Third World” or “North–South” when those terms better indicate the relevant context.

2. See Seth 2009b for these and many more citations to the rich history of anticolonial counterhistories of science to the standard Western ones.

3. The term *postcolonial* is highly contested, even within the field of postcolonial studies. Who and what is, and should be, included or left out of its domain? Is it by now archaic—an artifact of the 1980s that is no longer useful? I do not take the space to review such issues here. My own view is that the term has by no means exhausted its progressive possibilities, though its limitations, addressed in a number of the essays here, are important to ponder. For just three of the many illuminating discussions about the usefulness and desirable domains of the concept of postcolonialism, see Goldberg and Quayson 2002; Loomba et al. 2005; and early issues of the journal *Postcolonial Studies*.

4. For fuller discussions of these histories, see Seth 2009b; Anderson 2009; Anderson and Adams 2007.

5. Anderson 2002; McNeil 2005; Schiebinger 1989.

6. Discussions with Gail Kligman helped me see the importance of the Cold War in masking for Westerners the work of Third World science and technology intellectuals.

7. This may suggest some reasons in addition to sexism for the hysterical demonization the feminist theorists frequently encountered. However, one could argue that the manliness of the militaries certainly was at issue in the Cold War, as it is in every war. Readers “of a certain age” will remember how the newspapers’ front pages regularly featured charts depicting two piles of missiles. Representing the West’s arms capabilities would be a large pile of big, white missiles; representing the Soviet capabilities would be a small pile of little black ones. The apparent innocence of bygone eras can be startling.

8. The unity-of-science thesis persists today in spite of such philosophers’ criticisms, e.g., Dupre 1993; Galison and Stump 1996.

9. Ashcroft, Griffiths, and Tiffin 1989, 1995; Williams and Chrisman 1994.

10. See, e.g., Adas 1989; Blaut 1993; Brockway 1979; Headrick 1981; McClellan 1992.

11. Anderson 2009. An exception to this judgment is the work of Helen Watson-Verran and David Turnbull (1995).

12. As noted earlier, historians of science and medical anthropologists have long examined the knowledge systems of other cultures, though much of this work does not deserve to be called postcolonial. The postcolonial work in these fields has tended to be written for, and to remain primarily the concern of, specialists.

13. Excerpted in Harding 1993.
14. I could identify only a dozen presenters from North America.
15. See, e.g., Eisenstadt 2000; Maffie 2009; Galison and Stump 1996.
16. Several contributors to this collection discuss “polycentric” or “polyvocal” epistemologies. For just a few of the many new explorations of distinctive non-Western modernities, see also Mignolo 2000; Ong and Nonini 1997; Shih, forthcoming; Lionnet and Shih 2005; Rofel 1999; Chakrabarty 2000; Eisenstadt 2000; Harding 2008; Prakash 1999.
17. See, e.g., many of the chapters in parts II and IV of this collection.
18. There is no uncontroversial term to refer to this kind of research. *Feminist* is too radical a term for many Westerners who, assisted by persistent media demonization of women’s movements, associate the term only with the most ambitious and theatrical parts of the Western women’s movements of the 1970s. On the other hand, *feminist* is a conservative term for many people in the United States and around the world who associate it with bourgeois women’s rights movements that have had little concern for the lot of poor women, African American women, and other women of color. However, so-called gender studies can seem to lack any awareness of inequalities between men and women, or even between men or between women. I shall alternate between these two inadequate terms, hoping to offend only half of the readers at any given time.
19. This is not to deny either that gender relations vary immensely from one culture to another, as do colonial relations, or that in some colonial contexts gender may not always be the most important variable on which to focus.
20. An early form of the rest of this section appears in Harding 2009.
21. Two comments. First, the insistence on separating the social gender differences so firmly from the biological relations of sex differences may well be on shaky ground. This is not because biological reductionism was right (it wasn’t) but because the binary of gender versus sex is a form of the culture-versus-nature binary that has come under severe criticism in several branches of biology (Fausto-Sterling 1994; Keller 1984). Moreover, the culture-versus-nature binary is no longer legitimate in science studies where cultures and their concepts of nature are seen as coconstituting each other. Nor do other cultures’ knowledge systems tend to find it appropriate. The solution is to be found in inventing a new kind of biology that does not depend on such a severe separation between the social and the natural, but this we do not yet have. Second, it is also worth thinking about the effects of transgender and transsexuality theories and practices on ways of analyzing gender differences (Valentine 2007).
22. These studies can appear to focus only on women, but they have always been concerned with how economic, political, and social gender inequality unfairly limited women’s interactions with sciences and technologies while overadvantaging men’s interactions, and with how women resisted such discrimination. It is not so much that men are perceived to be the problem for women. Rather, the social institutions that exclusively men have designed and managed do not serve women’s interests and desires well.

23. Examples of this relatively early work include Boston Women’s Health Collective 1970; Fausto-Sterling 1994; Haraway 1989; Harding 1986, 1991; Harding and Hintikka [1983] 2003; Hubbard, Henfin, and Fried 1982; Keller 1984; Longino 1990; Merchant 1980; Rossiter 1982–95; Schiebinger 1989, 1993; Tobach and Rosoff 1978–84; Wajcman 1991. The medical establishment’s disparaging and often erroneous opinions about women’s bodies were the object of much early gender and science work. For recent reviews of these issues, see Harding 2008, chap. 4; and Subramaniam 2009.
24. See, e.g., the otherwise excellent, widely used reader for gender and science studies courses, Wyer et al. 2001.
25. My argument is not that the feminist theorists themselves are unaware of these matters but that the theoretical and methodological frameworks that they deploy obscure or marginalize such issues.
26. See, e.g., Denzin, Lincoln, and Smith 2008; Goonatilake 1984; Hess 1995; Hoppers 2002; Nader 1996; Third World Network 1993; Turnbull 2000; Watson-Verran and Turnbull 1995.
27. I am being a bit disingenuous here. Men in every society have resisted giving up their gender privileges. They usually mask their interests in male supremacy with arguments about the trivial or dangerous nature of any challenges to their control over women’s lives. This is so even when they have good reasons to resist continued Western intrusions in their societies. Arriving at the best strategies for overcoming inequalities at least requires a lot of public dialogue between all the relevant stakeholders.
28. Many more appear in the larger field of postcolonial studies. Moreover, many additional significant postcolonial feminist science and technology scholars are working in the West and around the world. See those included in this collection, and the many citations throughout this book.
29. Poor people and grassroots activists from around the globe tend to have what they understandably see as more urgent projects than to write essays or books to be published in the West. But there are many other ways for their voices to be heard in the West, as many of the essays here demonstrate.
30. But see D. Smith 2005 for a critical institutional ethnography.
31. See, e.g., Anzaldúa 1981; and Walter Mignolo’s articulation of the “colonial difference” (2000).
32. For a highly visible polemic about a standpoint claim, see the discussion of the U.S. Supreme Court (at that time) candidate Sonia Sotomayor’s statement in a speech some years earlier that she hoped a wise Latina would make better decisions in some cases than a wise white man (*Los Angeles Times* 2009a, 2009b, 2009c).

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