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**Critical Thinking as an Everyday Practice:
A Discussion with Sandra Harding about the History of *InterActions*,
Interdisciplinary Scholarship, and Her New Book**

Introduction

Sandra Harding is a feminist philosopher of science who specializes in epistemology, postcolonial theory, and research methodology. In 1996, she came to the University of California Los Angeles (UCLA) to direct the Center for the Study of Women and teach in the Graduate School of Education and Information Studies (GSE&IS). With appointments in the departments of Education and Gender Studies, Professor Harding frequently teaches courses in postcolonial science and technology studies, and feminist theory and social research. Most well known for her work in the development of feminist standpoint theory, Dr. Harding's scholarship has influenced the fields of science and technology studies, postcolonial studies, information science, education, gender studies, and philosophy.

Sandra Harding is also a public intellectual. She has consulted with several international organizations, including the United Nations Commission on Science and Technology for Development, the United Nations Development Fund for Women, and the Pan-American Health Organization regarding women's issues and science in postcolonial contexts.

On January 9, 2013, *InterActions* (IA) editors sat down with Professor Harding for an interview to discuss the history of *InterActions* under her guidance, the significance of interdisciplinary and critical scholarship, and the content of her new book, *Objectivity and Diversity*. Dr. Harding's influence continues to be an indelible part of IA's directives and publishing orientation. The editors wanted to ask her about the progression of the journal and her perspectives on the main foci of its mission: interdisciplinarity, critical perspectives, social justice, and the development of early career scholars. The subsequent interview reveals how Dr. Harding's work has embodied these commitments comprising *InterActions*' mission. The editors strived to provide IA readers with Professor Harding's insight on the importance of critical inquiry in scholarship, or as she says, "as an everyday practice."

About the Interviewers

Amelia Acker [AA] is a doctoral candidate in the Department of Information Studies at UCLA and the Information Studies Editor of *InterActions*. In her research, she studies mobile social technologies, personal digital archives,

and infrastructure. Her first encounter with Dr. Harding's work was in 2003 in an undergraduate gender and science class where she read excerpts from "The Science Question in Feminism." Amelia remembers as an undergraduate this hallmark work as critical but accessible and easy to read and understand. At the time, she thought that critical scholarship was by definition not easily readable. Since then, Amelia has been inspired by the success of Dr. Harding's work and it has guided her own inquiry into scientific and technological systems.

Melissa Goodnight [MG] is a doctoral student in the Department of Education at UCLA and the Education Editor for *InterActions*. Like so many graduate students before her, she has greatly benefited from Professor Harding's scholarship and mentorship. Melissa's research focuses on issues of social justice in education in the United States and India; she is specifically interested in how schooling can be implemented, evaluated, and reformed to better reflect the needs and interests of students from underserved communities. Melissa credits Professor Harding's courses on postcolonial science studies and feminist social research for substantially strengthening her own reflectivity and theorizing. Dr. Harding's perspectives on how to approach progressive research from the lives of marginalized communities have been especially influential. Melissa is grateful for the opportunity to grow as an academic under Professor Harding's guidance and as a result of her unfailingly insightful work.

The editors' combined interests proved to supply an ample list of questions that Professor Harding answered with transparency, wit, and kindness. Excerpts from the interview are reproduced below.

The History and Mission of *InterActions*

AA: Sandra, the current board of InterActions has spent time looking at the internal and operational documents of InterActions. One thing we do not have a lot of information about is the history of how the journal started. We know that it started in 2004, we know the names of the editors, the first editorial board, but we would enjoy hearing your recollections about the beginnings of the journal as one of the original faculty advisors for InterActions and the longest-serving advisor to the journal. What were the initial motivations of the journal? How has it evolved over the last couple of years? What can we look forward to in the next couple of years?

SH: First of all, InterActions was developed by Tara Watford and Noah De Lissovoy. I had nothing to do with the development of it. (Chuckles.) They had both been students of mine and came to me with the proposal for the journal. So,

this was all entirely their idea. There was a certain amount of mentoring that I did around the start-up, but my policy was to stay out of the content of the journal completely. All the editorial decisions that were made were theirs. It is a *student-run journal* and I have had to convince faculty what that means. (Laughs.) It means you keep your little fingers out of it.

After the set-up, I always saw my job as trouble-shooting and that was pretty much all it was. If they wanted some more money from the Dean for the first couple of years, we would consult about the best way to pose the issue. If there were staff problems, which occurred very rarely, but they did occur, the *InterActions* faculty advisors tried to help work them out. It was maybe twice a year that anything would come up. Then, we would consult heavily—for instance, when they were recruiting and hiring new editors or when they were making the annual report. I would say that the mentoring was mostly about how to operate a journal and how to interact with the Institution (UCLA).

Also, as far as mentoring, Tara had worked for me for a year. When I co-edited *Signs: Journal of Women in Culture and Society*, we always had two fulltime graduate student assistants, who changed every year, as well as five unpaid graduate student internship positions. We were training up women's studies graduate students, or whosoever wanted to do it, in how to be in this giant operation for an academic journal. Consequently, Tara, as one of *Signs'* fulltime graduate assistants, knew how a big journal worked and it was intensive. *Signs* was managing about four hundred submissions a year and published about 7% of them. It was a *huge* flow of manuscripts back and forth. My editorship of *Signs* ended in 2005 and for the first year of *InterActions*, I was still co-editing that journal.

Building upon that experience, Tara and I borrowed the whole apparatus of *Signs* for *InterActions*—everything: all the processes and all the form letters—with small adjustments, but not many. We copied what *Signs* did. As a University of Chicago Press journal established in 1976, *Signs'* publishing processes had been through constant vetting. Graduate students working at *Signs* produced a procedures manual like the *InterActions* graduate students produced here, which detailed how to carry out the operations of the journal and what the routines were. There was a lot of consulting at the journal's beginning that I and Chris Borgman (the other initial faculty advisor) did about those processes. This advising was mostly within the first two years, I would say.

One task for *InterActions* was figuring out how to review manuscripts and teaching the graduate students how to review. Meanwhile for *Signs*, I had

developed with Kate Norberg, who is in the History Department at UCLA and who co-edited *Signs* with me, a standard discussion called “How to get your dissertation chapter published.” We had this discussion with graduate students and in various other contexts every year. The discussion was a teaching tool for how to review an article and how to get your own article reviewed by a journal, working from the premise that you pretend you are the editor of a journal. The objective was to figure out how to turn your dissertation chapter into an article so it would get sent out for review by the journal to which you submitted it. Basically, so it would get past Kate and me, the editors. Because, at *Signs*, we were only sending out for peer review maybe 25% of the manuscripts we got in. We had to make hard decisions right at the beginning and we were reading across a lot of disciplines. So, this already hints at the multidisciplinary focus of the work.

The start of *InterActions* was very exciting. The journal started out with two GSRs [graduate student research positions] and the IA editors made the case for another half-time editorship. For some years at the beginning, there was summer support because they were training in new people for the journal. The student editors hadn’t had the experience that recent IA editors and peer reviewers had; they weren’t coming off the *InterActions* student advisory board at that point. There was a student advisory board, but there was not yet enough experience participating in it to favor those people. Instead, the exiting IA editors selected the people with the best editing background or writing skills and the strongest commitment to the mission of the journal to lead *InterActions*. By year three or four, the editors were coming from the student advisory board because they were just ahead of everybody else at that point. They had been the book review editor or they were familiar with all of the journal’s processes.

AA: You mention how the journal promotes interdisciplinary perspectives. Would you tell us about the crossover between education and information? How and why did this happen? As an Information Studies graduate student, InterActions is one of the few places where I get to interact with education students. As you know, sometimes in GSE&IS, we are separated. How did the crossover happen, from the beginning?

SH: InterActions is one of the best places it happens for both the faculty and the students. I think that I am unique in education in that I am in science studies, which so much of your department, Information Studies is and none of my department, Education is. I independently know Chris Borgman and Jean-François Blanchette and other folks. When I go to the Four S meeting—Society for the Social Studies of Science—I am hanging out with my department, which is

Information Studies. (We all laugh.) There is nobody from Education there, but of course, there are people from other departments on UCLA's campus.

My background has always been interdisciplinary. I have always had a joint appointment in a social science department. I was a joint appointment to Sociology at the University of Delaware for 17 years. I taught only at the graduate level—philosophy of social science, feminist theory, and postcolonial theory—and I was on doctoral and masters committees. At UCLA, the School of Education is comprised of social scientists, except for Doug Kellner, Mike Rose, and me. I am very comfortable working with social scientists and I always have. Further, women's and gender studies is interdisciplinary. Therefore, my appointments have always been to interdisciplinary departments. My own work is also on natural sciences. I am a philosopher of science and I come from the Humanities—I was an English major as an undergraduate.

When I arrived at UCLA, the two departments, Education and Information Studies, had combined only a few years earlier. I think *InterActions* has served a fabulous function in this regard. It allows students and some faculty to get more involved with each other and to come to understand what each other does. There is still at department meetings, every once in awhile, the question: "How can we bond better?" It is very hard to; people have their own disciplinary focuses. Education and Information Studies have very different missions. *InterActions* makes the last Dean (Dean Aimée Dorr) and the department chairs (Education Chair, Megan Franke and Information Studies Chair, Gregory Leazer) very happy because it is one of the few places that they can point to that supports ongoing relations between the departments. I don't know how much the actual subject matters get inter-related.

MG: The mission and identity of the journal, InterActions, emphasizes dual areas of interdisciplinary research and critical approaches. I was wondering if you could speak to the importance of critical approaches.

SH: Critical approaches were definitely the mission of the first two editors. That is what they wanted to pursue with the journal because they loved it themselves. They were doing critical race theory, both of them, and critical education theory, and they wanted to give this school a space for these ideas. Social justice is in the mission statement of the Graduate School of Education and Information Studies (GSE&IS) at UCLA. GSE&IS has one of the top ranked education departments in the country because of this very powerful critical theory, critical practice, and social justice focus. Tara and Noah wanted to give a distinctive identity to their

school through the journal's work, which is why critical approaches and social justice are an explicit part of the vision and aims of *InterActions*.

Pursuing Critical Scholarship: Advice to Early Career Scholars

AA: That leads to another set of questions. I am very proud that we publish scholarship that incorporates critical methods in InterActions. I am also realizing that doing critical work as a young scholar necessitates a certain amount of risk. Could you speak a little bit about the importance of critical scholarship and critical methods? What is at stake when we decide to take on this mantle? In your experience, how has that changed over time? What's your advice about using critical theory?

SH: I do know that is an issue. You know critical theory is one way of talking about it, and that language has a distinctive post-Marxist history. I use the term "critical" in my classes in a much looser way. It's related to social justice projects in general, which actually have a good, old—if you are talking political theory—*liberal* history. Social contract theory is—for example, the Constitution of the United States—committed to social justice in a variety of ways. Equality and voting are examples. I talk a lot in my classes about how to do progressive research that is accountable to the people that students want to feel accountable to—particular ethnic, gender, race, class or other communities. There are exercises that we do toward the end of the class. We have a discussion about the importance of universities in this context—how important they are in today's society, where so many public venues for political discussion have been dumbed down. Who would think that we would look at the Nixon era as a time when the public discussions were much more progressive than they were in the last elections! Yet, universities remain one of the places where you are encouraged to think in different ways than how you have learned to think, to read literatures that you might not otherwise read, and to try to develop projects that advance pro-democratic social movements.

So, pick your battles. You don't have to fight every battle. Pick the ones that you really care about. Identify who your allies are. Which social movements or which ongoing existing projects could your work benefit? I teach about, for example, citizen science movements, which already exist. There are lots of them all over—they're all over LA, they're all over everywhere whether they're breast cancer survivors or, they are South Central residents resisting a nuclear electric plant being put in their neighborhood. There is all this activism that's out there.

I advise graduate students to learn to really listen to their critics, which is hard to do. I continually find it hard to do—either I am so angry or I think they’re so ignorant—but I have to figure out why my critics are in that position. Why are perfectly rational, well-intentioned people holding that position? I have to figure out why they’re there and try to block in my writing their negative reaction ahead of time—I try to keep them feeling comfortable, that “this is okay.” It’s okay to *think*. You don’t have to do everything that you think about. Thank goodness! (Laughing). My students like that part. I do some pieces of professional training in class that enable graduate students to focus in on particular research and writing strategies that are guided by critical perspectives. We get into the nitty-gritty of how to construct your own dissertation project. I give a lot of attention to how to do a literature review using a very good paper that came out in an education journal. It’s called “Scholars Before Researchers.”¹ I ask students by week 3 or 4 to make their weekly class reports in a literature review format. They are to address the questions: What are the strengths and limitations of this work? What are the debates, arguments, battles or internal tensions in this material? And, the thousand dollar question, which would provide a dissertation topic if you could really answer it: What would be a “progressive problem shift” in this area? Given the tensions and debates their work is involved in, what’s a better question to ask than the one the authors are asking? And justify it; provide evidence that it is so.

I try to make critical thinking in this broad sense an everyday practice. It is not something that you have to think, “Oh dear, I am scared, I am doing critical thinking.” It is something that you are *supposed* to be doing, that is what you are *paying* to learn to do. We, faculty, are paid to teach you to do it. You don’t have to do it if you don’t want to, but we can help you figure out how your work can have an effect on the world. Protecting one’s self from risk is all about integrating your work into existing discussions in the field. Which side are you on? And, as a start, I use standpoint theory and all these things that have been developed in the anti-authoritarian social movements, as I am calling them these days, to start thinking about research from the lives of the most marginalized groups.

People think I am very brave. I am not foolish most of the time though. I do very mainstream work in a lot of ways. It’s not mainstream philosophy but it’s mainstream feminist philosophy. It’s mainstream postcolonial studies, science

¹ Boote, D. & Beile, P. (2005). Scholars before researchers: On the centrality of the dissertation literature review in research preparation. *Educational Researcher* 34(6), 3-15.

and technology studies. There's a wonderful anthropologist/historian in UCLA's History department, Sharon Traweek. We knew each other, arrived at UCLA at about the same time, and we frequently went to each other's events. She said to me one day: "Sandra, do you know what you do? You plant yourself on the borders of some institution, and you refuse to go away." You know, that is what I do.

MG: As one of your students, I appreciated hearing you explain how to use one's social location as a resource for progressive or radical projects. Since you talked about tackling critical research already, I was hoping you could speak to the reflectivity needed in doing this work. What if one's identity differs from the communities that one feels accountable to?

SH: Women's studies is all about location, location, location. We always have to think about how our analysis is positioned, and so does anti-racist work. That is an old issue in anthropology. It is very old in the social sciences and philosophy of social sciences. How do you position yourself in your work? A terrific book about positioning, which I use in my course, is Diane Wolf's *Feminist Dilemmas in Fieldwork*.² The book's chapters are about how fieldwork research projects went wrong, which was invariably because of how the social scientists positioned themselves. They made mistakes in how they positioned themselves and the research that prevented them from getting certain kinds of understandings from the people they were working with (that they would have valued). It also made them think about the assumptions they had made that led to the faulty positioning.

MG: Regardless of what a researcher's social location is, if she or he is striving through critical scholarship for greater social justice in relation to a group, what kind of reflectivity does that researcher need? How is that impacted by whether that researcher sees herself or himself as belonging to that group in all identity matters or not?

SH: I think that identity research and politics is both a gift and a horror. I say in my writings that, of course, people who have suffered from racism or sexism are going to understand subtle ways in which those phenomena work that somebody who hasn't experienced that never could. On the other hand, feminists write for non-feminists to read. Anti-racists never thought that blacks were the main problem. They thought that whites were! So they *want* us to work with them. But, we are not *them*, and that needs to be perfectly clear. Then, we have to

² Wolf, D. (Ed.) (1996). *Feminist dilemmas in fieldwork*. Boulder, CO: Westview Press.

define what we can do and what we can't do, and what those social relations are going to be about. There's insufficient histories of these traitorous identities: white anti-apartheid activists in South Africa; the long history of whites against slavery in the U.S.; and so on. Men, have been involved in feminist movements from the beginning—whether we're talking about John Stuart Mill, and Marx and Engels in their eras, or we're talking about the guys, who when the Take Back the Night marches were happening, said that they would do childcare so that women could march.³ Clearly, it's crucial for people who come from the privileged groups to engage with and get involved with critical understandings of their own privilege. You can sit in the library and read about it, but it really helps to interact with people around it.

I think the first thing to do is go immerse oneself in the other people's worlds. In the scholarly sense, it is very easy to do. I don't mean go live in their houses. For years, I have gone to postcolonial conferences. There were very few postcolonial science conferences until recently. I went to all the ones I could. Everywhere I went, people were passing me these purple mimeograph papers they had written, you know in Argentina, Turkey or elsewhere. There was huge intellectual ferment that was totally invisible here. I discovered a whole literature that is pretty unknown in the science community here. The reader that I just put out, *The Postcolonial Science and Technology Studies Reader*, uses a different postcolonial literature than most scholars in postcolonial studies because it is the science and technology policy literature coming out of these conferences, rather than the postcolonial cultural studies literature.⁴

In 1989, the Pan-American Health Organization (PAHO) invited me to consult in Central America to the health ministries in those countries. The health ministries were trying to organize better health delivery to villagers living up in the mountains. As a PAHO director in Washington, who interviewed me said, "The health ministries treat women as 'uteruses with feet.'" They don't treat the whole health of the women or the community. I was down there for two and a half

³ Take Back the Night (TBTN) or Reclaim the Night marches began in the United States and abroad in the mid-1970s as part of a larger social movement focused on ending violence against women. During its nearly forty years in existence, Take Back the Night has encompassed marches and activism spanning the globe from Belgium to India to Australia. TBTN activities continue to be particularly prolific on United States university campuses and in urban areas.

⁴ Harding, S. (Ed.) (2011). *The Postcolonial science and technology studies reader*. Durham: Duke University Press.

weeks—first, for a week at the University of Costa Rica, where I was supposed to be doing a graduate seminar on feminist philosophy of science and epistemology. My host, who was in the philosophy department, thought that maybe there would be eight or ten people. Two weeks before, I sent papers to be translated—I am not Spanish speaking. The week before I arrived, she said, “Well, I think it is going to be a little larger. I think there are going to be about twenty.” When I got down there, there were over four hundred people the first day. I taught three hours for five days (Monday, Tuesday, Wednesday, Thursday, and Friday). One day, it was pouring rain and attendance got down to three hundred. Meanwhile, the Ford Foundation had funded twelve people coming into the course from other Central American countries. There was this huge hunger for thinking about issues related to women, science, and knowledge. Then, my hosts from Costa Rica took me around to women’s projects—women’s construction projects, women’s legal projects, and women’s health and environment projects. I kept noticing that feminist philosophy of science was very distant from all of this. Here were several issues about scientific knowledge in everyday life. We in the U.S. were all talking about physics and chemistry. I really had to think of how to actually link together our science and technology concerns in the North with those in the South.

That was 1989. That experience led me to a very different literature than I would have ever thought of using: the women, gender and Third World development literature. Scientific rationality and technical expertise were supposed to be transferred from the West to “the rest” in Third World development projects since the end of World War II and the founding of the U.N. Once I got into the women and development literature, I saw there was this massive struggle to get women’s issues centered in the World Bank, in the International Monetary Fund, and other regional agencies. And, the feminists were winning. They were starting to get women’s issues centered. Caroline Moser worked at the World Bank and got a set of feminist criteria to go into every grant application.⁵ Applications had to satisfy criteria about serving women’s lives. It’s a very exciting literature. The gender and development literature led me over into postcolonial science studies. This is about how I slowly figured out how to position myself. I moved from working in

⁵ Caroline Moser is the former Lead Specialist on Social Development, Latin America and Caribbean Region for the World Bank and describes herself as an “urban social anthropologist and social policy specialist with more than forty years’ experience in academic research, teaching and training” (See her personal website: <http://www.carolinemoser.co.uk/>.) Dr. Moser is currently an Emeritus Professor at the University of Manchester, where she was Director of the Global Urban Research Centre.

Western feminist philosophy of science, which was already courageous. We were out there on the bulwarks and they were shooting at us (laughing) from every angle. But I had all my scholarly buddies. And, I had some very powerful male protectors who liked our work from the beginning. They volunteered to write tenure letters for us—unasked. They saw what we were doing and they saw how good it was. So, figure out who your allies are. Ultimately, all of this affected what I write about and how I think of who my audience is.

Objectivity and Diversity: Sandra Harding's New Book

MG: In transitioning from this broader topic of critical scholarship to your new book, I am thinking about professional risks and how some people see critical scholarship as not rigorous enough. In your work, you discuss objectivity and how approaches to research that are not considered "value-free"—such as those imbued with a commitment to social justice or to diversity—are misguidedly seen as not producing "knowledge." Can you say anything more about that and how these issues figure into your new book?

SH: I always try to justify what I do in intellectual terms. It advances the growth of knowledge to find out what the world looks like from the perspective of vulnerable groups. Critical research increases knowledge is the first point I make. It also serves a politics that science has always committed itself to. Science is supposed to be socially progressive. That is why it is at the base of Third World development policy, right? It is why the U.S. Congress gives money to the National Science Foundation, the National Institutes of Health, and so forth. It is considered social progress on a number of different scales, but certainly pro-democracy is one of them. You know, Galileo says, "Anybody can see through my telescope." You don't have to be the Cardinal to do it. I pull up these pieces from history to justify the linkage of progressive social values with advancing the growth of knowledge. This has always happened. The Civil Rights Movement produced new kinds of research that were necessary in order to understand the world we were living in.

The book I am working on is entitled *Objectivity and Diversity*. I've written a lot about objectivity in the past, but only in a chapter here and a chapter there. There is a very interesting recent article on feminist philosophy of science by Sarah Richardson at Harvard.⁶ She writes about how the initial feminist philosophy of science in the early 1970s was immediately picked up by feminists in other

⁶ Richardson, S. (2010). Feminist philosophy of science: History, contributions, and challenges. *Synthese* 177(3), 377-362.

disciplines because a) it was a justification for feminist research, b) it was a justification for feminist institutions such as Women's Studies programs, and c) it raised very serious questions about the standards for research and education. It is a kind of institutional history she does and I sat back and said, "Yeah, that's right! That's what was happening though I didn't quite see it that way."

There always have been mainstream people who can see that social justice research advances the growth of knowledge. That is always the first justification that I give for it. The book is intended not only as a text for graduate methods classes and upper-level undergraduate methods classes, but also as a contribution to the fields of science studies, feminist studies, and others. In *Objectivity and Diversity*, which is my sixth authored book, I present some hard cases to philosophy of science about the role of values. What is the role of values and interests in science? That's what objectivity is about: the role of values and interests in science. There is kind of a hyper-positive position, that nobody actually believes, that says values should have no role in science. That is what you are taught in some methods classes, but anyone who actually thinks about it for five minutes—for two seconds—knows that you actually pick topics for research because they are interesting to you because you value learning about such topics. It can't be that values and interests have no role.

How come these books keep coming out on objectivity? In my book, I first try to locate the continuing importance of these discussions on values and interests in science. They can never be settled. The standards—let me call them *hyper-positivist standards*, which were formulated in the 1950s—have slowly been attacked by all kinds of people and all kinds of groups. For the proceeding chapters, I have picked four hard cases to think about the role of values and interests in the sciences. One is indigenous knowledge, which is clearly, to Westerners, always embedded in other people's cultural values and has usually been dismissed. It's not real science. The next case is one extreme part of that: sciences that are embedded in religious and spiritual values. This is usually the worst case for Westerners. What I do in that chapter is take up current issues in the social sciences mostly about secularism. It turns out that Western secularism is distinctively Christian and Protestant and this is quite visible from the perspective of Jewish secularism and Muslim secularism. There are multiple secularisms. Secularisms are always constructed *within* religious traditions. What's objectivity in *that* context?

The third case is a chapter that looks at how that hyper-positivist position was formed in the first place. There is an interesting history that came out a few years ago, George Reisch's *How the Cold War Transformed Philosophy of Science: To*

the Icy Slopes of Logic.⁷ It starts with the Vienna Circle, which are these philosophers of physics and other scientists in Germany and Austria in the 1930s and early 1940s. They were mostly Jewish, almost all socialist, and were trying to organize scientific research against the looming threat of fascism and the Holocaust. They *wanted* politics to shape their work. They wanted to harmonize the sciences of their day to direct their work to solve the social problems that fascism was solving in other ways. Well, we know how that history went. They almost all left Europe and many of them came to the U.S. UCLA, in fact, was one of the places that they came. When they got here, they encountered McCarthyism and the Cold War. McCarthyism picked on *them* because they were socialists and Jews. With the Cold War, they were forced into this apolitical, which is really a political, position. Twice politics shaped their philosophy: first, the Holocaust shaped their philosophy of science and then, the threat of McCarthyism shaped it. My argument is that the Cold War was over 20 years ago. How come we haven't rethought in *that context* how it is that values and interests shape the philosophy of science?

Then the final one of these chapters is on feminist science—Third World feminism, Third World science, and technology critiques. It pulls out the feminist issues from all the earlier chapters. For example, women are always assigned a very different relationship to religion than their brothers. Women have used their religious positions to transform both their own social status and also their religions—it happened in the 16th century Protestant Reformation in Northern Europe; it's happening now with Islamic feminism. Indeed, in all religious spaces in the U.S., feminists have rewritten the Bible, and changed Jewish practices, and so on. This chapter delves into the feminist issues in some of those other chapters and revisits the question: What is objectivity in these contexts?

The final chapter is looking forward. Over in political philosophy, there is some attempt to start to think about what it means to democratize science. Usually, it's thought about in terms of greater participation. Groups that have been excluded should have some say in what kind of research gets done, and that's a terrific place to start. But, over in political theory, they are clear about the limits to participatory democracy. People who work double work shifts don't have time to go to political meetings. They don't have time to participate, whether they are poor male workers or women with a double shift. Also, there are other kinds of issues about creating public spaces for deliberative discourses about scientific decisions.

⁷ Reisch, G. (2005). *How the Cold War transformed philosophy of science: To the Icy slopes of logic*. Cambridge: Cambridge University Press.

MG: You instruct your graduate students to write about the controversies in their field, in their topic areas. Which controversy or controversies are you most interested in addressing in this book? And, what discussions do you hope to prompt?

SH: The automatic dismissal of religious commitments in any scientific context is one such issue. There is something deeply wrong with that. But, there is also something right about it. We need to rethink *that*. But, what it turns out we're rethinking is what multicultural liberal democracy means. What does *multicultural* liberal democracy mean? The discussion over in the social sciences—at the SSRC, the Social Science Research Council—is about the unexpected return of religion to the public sphere in the U.S. and other modern countries. U.S. democracy was created as multicultural with Catholics and Protestants. At that time, European immigrants were coming from the wars between Catholics and Protestants in Europe. Hence, the Constitution, the Bill of Rights and so forth, would be impartial to these religious practices. Of course, they didn't say anything about Native Americans' or African slaves' religion, or about Jews.

How come the increase in Muslims in Western Europe and in the US is creating such havoc? What is it about *that* religion that forces us to take a more critical look at our own? And a look at the value-neutral, Christian-Protestant (as it turns out) values? Because modern Western sciences have always been regarded as jewels in the crown of liberal democracy. They are implicated in the vast social changes that are occurring now in a shrinking world where we're trying to develop at the local level, the national level, and the international level multicultural democracies. None of us who do philosophy of science or science studies are trained in political philosophy; we have almost no knowledge of it. This is where it comes back to the interdisciplinary issue because I have always been teaching next to social scientists and social theorists. So, I am trying to provide some linkages from the issues that interest me in the sciences over to the issues that are of interest, in this case, to political philosophy at a global level as well as at a local level.

Those are a couple of the disputes. I am also trying to make a closer link between science studies and these kinds of issues.

AA: Sandra, we've covered a lot of ground this afternoon. Is there anything else that you would like to say to our readers or to us?

SH: I would just emphasize the issue about justifying socially progressive research in terms of its cognitive, intellectual contributions—how it advances the growth of knowledge.

It is an immense pleasure for me to get to teach in this school and get to work with brilliant young graduate students from the two departments—it keeps me on my toes. We are all very lucky to have each other around here. So, I enjoy teaching in these contexts very much.

AA: Well, thank you very much for this interview.

SH: You are both very welcome. It's my pleasure.