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After Mr. Nowhere: What Kind of Proper Self for a Scientist?

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Abstract

The conventional proper scientific self has an ethical obligation to strive to see everywhere in the universe from no particular location in that universe: he is to produce the view from nowhere. What different conceptions of the proper scientific self are created by the distinctive assumptions and research practices of social justice movements, such as feminism, anti-racism, and post-colonialism? Three such new ideals are: the multiple and conflicted knowing self; the researcher strategically located inside her research world; and the community that knows.

Keywords: objectivity, scientific selfs, social justice movements

My project here is a small one: to identify new kinds of "proper scientific selfs" that have emerged in social justice movements since the decline in belief in both the actuality and desirability of "the view from nowhere."

This "view from nowhere" is the long-recommended stance for those engaged in scientific research and in the philosophy of science, reflecting the belief that maximizing the objectivity of research requires maximizing its freedom from social values and interests. The model researcher is to strive to see everything in the world from no particular place in it. For this "Mr. Nowhere," pure or basic research can achieve such objectivity in ways that mission-directed research cannot.

Yet for at least five decades, this stance has been contested by social justice movements. We can now see that it is a delusion to imagine that scientific research could be value-free, and a cognitive as well as ethical mistake to think it desirable. Objectivity can be maintained without requiring value-neutrality. Indeed, "strong objectivity," as I have referred to it, requires direction by social justice values and interests: it can be value- (and interest-) rich (Harding 2004; 2008; 2015a). As historian Robert Proctor (1991) pointed out several decades ago, it is a mistake to

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[1]Editors note: From time to time *Feminist Philosophy Quarterly* publishes invited papers. This paper was invited to celebrate this first issue of *Feminist Philosophy Quarterly*. A different version of this essay, entitled "After Mr. Nowhere: New Proper Scientific Selfs," is appearing in *Objectivity and Diversity: Another Logic of Scientific Research*.

presume that the empirical reliability of research is inevitably damaged when it is directed by social values and interests. After all, we can note that guns don't miss their mark just because they were designed by people with nationalist and militarist values and interests. Pharmaceutical products don't fail to work just because the sponsors and/or scientists were motivated by the hope of financial riches. Of course some social values and interests do indeed decrease the reliability of research, and not all research motivated by social justice concerns maximizes objectivity. But the point here is that not all social values and interests have the bad effects attributed to them. Why should research produced by militarists and greedy corporations somehow qualify as maximally objective while that produced by those who seek social justice does not?[2]

The next section reads standpoint methodology through the lens of Lorraine Daston's and Peter Galison's (2007) account of how shifts in the methods of securing objectivity have produced shifts in conceptions of the proper scientific self. They argue that methodological shifts create moral shifts in the status of the scientist and his/her life work. Sections Two, Three, and Four identify three distinctive kinds of proper scientific selfs that have become visible in recent social justice research. These are the multiple and conflicted self, the strategic researcher, and the researcher who is simultaneously an individual and a community or collective.

1. Methods of "Right Sight" Produce Proper Scientific Selfs

Daston and Galison have shown how the concept of objectivity has had a distinctive history, shifting as scientists developed new technologies of observation—technologies of "right sight," as they put the point. They historicize what had been presumed to be a universal standard for good science. At one point, they focus on the relation of objectivity to subjectivity, which draws attention to otherwise unanalyzed ethical dimensions of scientific practice, of right sight, and of the classical modern proper scientific self.

What is the nature of objectivity? First, and foremost, objectivity is the suppression of some aspect of the self, the countering of subjectivity. Objectivity and subjectivity define each other, like left and right or up and

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[2] Philosophers will be aware that Ian Hacking (2015) has provided compelling arguments for abandoning appeals to objectivity on the grounds that the term is primarily used as an "elevator word" to boost the status of claims regardless of how value-free they are. As I have argued elsewhere (2015b), nevertheless the term has not worn out its usefulness and can be refocused to preserve its promise of fairness to the empirical evidence and to the severest critics of research results, as outlined below. "Strong objectivity" is real objectivity.

down. One cannot be understood, even conceived, without the other. If objectivity was summoned into existence to negate subjectivity, then the emergence of objectivity must tally with the emergence of a certain kind of willful self, one perceived as endangering scientific knowledge. The history of objectivity becomes, *ipso facto,* part of the history of the self. Or, more precisely, of the scientific self. (Daston and Galison 2007, 36-37)

Daston and Galison's account links shifts in the standards for objectivity to changes in scientists' preferred ways of observing natural phenomena—to shifts in research technologies or methodologies.

Their focus is on the history of atlases of natural phenomena, such as those that classify plant and animal species. These atlases provided the equivalent of the Internet for scientists of the seventeenth- through mid-twentieth centuries, permitting scientists separated by time and space to carry their atlas into their fieldwork, comparing the orchid in front of them in the Peruvian jungle, for example, to those already classified in the atlas. Was the one in front of them a new species or just an example or variation of an existing species? Thus they permitted scientists to work together to classify natural phenomena and thereby to organize our ways of thinking about the world around us.

Especially significant in this history is the invention of photography and other mechanical recording devices in the mid-nineteenth century. These changed the notion of a "proper scientific self," Daston and Galison argue. In this shift to "mechanical objectivity," the very language of desirable research as "objective" came to replace its earlier characterization as "true to nature."[3]

My argument is that a particular methodological strategy developed by the social justice movements has produced a new and increasingly widely recognized way to attain maximally reliable observations of nature and social relations. The social justice movements have produced a new logic or technology of good research. They recommend starting off research from the daily lives of economically and politically vulnerable groups, rather than from questions arising from the dominant conceptual frameworks, for example, of research disciplines or of the dominant national or international institutions and agencies that such research disciplines so often serve.

This is, of course, the methodological strategy recommended by standpoint theory. In other words, standpoint theory produces a new methodology of right sight that enables us to see aspects of natural and social phenomena that would be difficult or perhaps even impossible for people not in those socially and politically

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[3] Think of the beautiful framed lithographs of plants that often decorate hotel walls.

vulnerable groups to get into focus. If one is not homeless, or not sexually assaulted, or not gay, not an African American male in the prison system, or not blind, it is all too easy to fail to grasp what the world looks like—how it works—in these people's daily lives. People in oppressed groups can come to understand regularities of natural and social relations that the rest of us do not.

Standpoint methodology and its standards for "strong objectivity" are no doubt familiar to many readers, so only a brief summary will be provided here. The origins of standpoint theory are conventionally traced to the Marxian "standpoint of the proletariat," which was to provide the maximally objective account of just what were the actual political and economic relations of societies structured by capitalist forms of the production of goods. Marx and Engels developed the standpoint of the proletariat through reflection on the inability of both the new industrial workers and social theorists of the day to actually understand how a capitalist economic system inevitably worked to accumulate riches in the lives of the owners of industries and misery in the lives of their workers. The proletarian standpoint was intended to explain the new kinds of social relations which further immiserated the already economically and politically vulnerable groups while vastly enriching those who could command the resources of land and its raw materials as well as the labor necessary to become the new urban and industrial entrepreneurs.

These new social relations were not fully visible in that era if one started off thinking about society and its ways of producing knowledge from the conceptual world and daily experiences of the factory owners and their elite allies in all of the other dominant social institutions of the day. Their privileged daily lives obscured from them the actual economic and political mechanisms that produced their increased wealth. Their daily experiences led them to think that they were, by nature and through their own supposedly hard work, entitled to their economic and political benefits. Only by starting off thought from the standpoint of the proletariat could one detect how the new capitalist political economy continually shifted resources of labor and land rights from the already poor to the already wealthy and the new bourgeoisie, and then skimmed off a large portion of the value of laborers' efforts for the capitalists.

In the 1970's, feminists in several social science disciplines drew on and transformed this framework and its subsequent development by György Lukács, Theodor Adorno and, Max Horkheimer. The feminists argued that the socially sanctioned relations between men and women were something like those between bosses and workers. Conscious or unconscious commitments of both men and women to male-supremacist economic, political, and social relations produced a

"political economy" of gender relations that shaped dominant social institutions (including the family), their cultures, practices, and philosophies.[4]

Note, however, that this is only the conventional, official history of standpoint theory and its origins in Marx's form of the Enlightenment legacy. In fact this critical research methodology has a larger, unofficial history. Every time a new group steps on the stage of history, so to speak, it says something like "from the perspective of our lives, the world looks different." This is true, for example, of African Americans from Frederick Douglass and Sojourner Truth to the U.S. Civil Rights movement, of poor people's movements, of the gay, lesbian, and queer movements, and of the disability movement. This has also been the cry of those in postcolonial and anti-imperial social movements around the globe. Thus, standpoint approaches to research appear to follow an organic "logic of scientific inquiry" that arises under distinctive kinds of social transformations; this is so regardless of whether it is so named.[5] Recently, the "Occupy" and "Arab Spring" uprisings have made similar claims and used similar methodologies to gain the kinds of knowledge of how nature and social relations actually work in their particular social environments, and to design research that can produce the kinds of knowledge that these groups need and want.

For the feminist researchers, the standards of research disciplines were a main target of their criticisms from the beginning.[6] The disciplines recommended forms of scientific rationality, objectivity, and good method that in fact produced systematically sexist and androcentric results of research, the feminist researchers argued. The "conceptual practices of power," as sociologist Dorothy Smith (1991) put the point, were guided by assumptions of male supremacy, as well as of class,

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[4]Sociologist Dorothy Smith (1991; 2004) was the earliest to make this move, and she has published most extensively on this topic through the decades. Nancy Hartsock (1983) independently decisively framed such issues for political philosophy. Researchers in other fields, sometimes independently and sometimes influenced by Smith or Hartsock, developed parallel accounts aligned with issues in their particular disciplines (see, e.g., Harding 2004).

[5] So the logical positivists were wrong to think they had identified *the* logic of scientific inquiry. We can now see that they proposed *a particular kind* of "rational reconstruction" of research processes that was compelling to them and their readers at their particular time and place in history, as a number of historians of philosophy have been pointing out (*cf.* especially Reisch 2005. See also Harding 2015, Chapter 5).

[6] Other important initial targets were the standards of powerful social institutions, such as the legal system, health and medical systems, social welfare and education systems, and international development agendas.

and ethnic/race supremacy, and they were served up to public policy by research disciplines such as sociology and, we can add, philosophies of natural and social sciences, among others.

The remedy for this was to conduct research in a different way. In the 1970's feminists pointed out how already new work in the social sciences and biology/medicine was starting off research projects from the daily lives of women, rather than from the issues and conceptual frameworks thought important in social science, biology, and medical research disciplines. Feminist researchers asked, "What were the questions and problems that women perceived in their daily lives?" Moreover, this kind of research was not intended just to produce a more accurate ethnography of women's lives, though it did do that. Rather, it was to be a starting point for projects to "study up," that is, to describe and explain how the dominant institutions, their cultures and practices, actually worked. It intended to make visible the sexist, racist, and class assumptions of "good research" processes, which—because such assumptions were seamlessly interwoven with those of their larger social worlds— were frequently not visible to conventional researchers.

"Weak objectivity" was ensured when all the individuals or groups legitimated to repeat scientists' original observations shared the discriminatory values and interests of the original researchers. Male supremacy, white supremacy, heteronormativity, ableism, Eurocentrism, and class biases were not idiosyncratic properties of individuals that could be identified by having other legitimated scientists repeat the original observations. Rather they were culture-wide assumptions shared by virtually every researcher as well as the surrounding communities. Only by starting off research from outside those dominant conceptual frameworks could the frameworks themselves be brought into focus and "strong objectivity" maximized.

Of course no one can ever get completely "outside" the prevailing ways of thinking. Such an assumption was a key characteristic of the offending "view from nowhere." But it took only a small degree of freedom from the dominant frameworks, achieved in this practical way, to begin to reveal the "political unconscious" of what passed for good research (Jameson 1981). After all, those dominant conceptual frameworks were neither designed nor maintained by economically and politically vulnerable groups.

The actual social location of the offending (supposedly value-/interest-free) research, and the kinds of research practices that had produced it, became visible through such strategies. It was not a real Mr. Nowhere who had produced the dominant research. Researchers could not in fact do the "God trick," as Donna Haraway (1991) famously put the point. Rather it was the dominant groups in particular socially and historically local communities, who turned out—often unintentionally, to be sure—to be hidden behind the mask of Mr. Nowhere.

But is "strong objectivity" real objectivity? Isn't it relativist? Extensive discussions of these issues have occurred elsewhere for several decades.[7] Here one can just point out that strong objectivity preserves the core of the older notion of value-free objectivity. One must be fair to the empirical evidence, and fair to one's severest critics. Of course what constitutes empirical evidence and severe critics will always be contested, but that was always the case for the older notion of objectivity as well.

Yes, what counts as good empirical evidence and severe critics will always be sociologically and historically relative to one's time and place. But "facts of the matter" are not epistemologically relative in the sense that there are no reliable standards for evaluating the adequacy of knowledge claims. Such standards do exist in each research discipline. It is not the case that each person is his own historian, as historian Peter Novick (1988) worried in his award-winning book.

So this was one problem that the progressive social movements encountered in trying to understand how their lives came to be immiserated in the ways that they were: the conventional assumptions and practices of the research disciplines lacked cognitive resources to enable them to identify the values and interests that shaped research designed by dominant groups.

Another problem was that the conventional rule was to eliminate *all* values and interests from shaping research processes. But the feminists, anti-racists, advocates for poor people, and post-colonials were clearly using their own ethical and political values and interests to shape the research producing these very criticisms of "the view from nowhere." Evidently not all values and interests had the bad effects so feared by the positivists. So, as noted in the opening section, the social justice research produced new scientific and philosophic questions: which social values and interests could advance the growth of knowledge, and which were likely to block it?

Rich discussions in the many decades of each of the social justice movements have contributed tentative answers. Hints to such answers will appear below in the descriptions of new kinds of proper scientific selves. And more such discussions are constantly occurring, stimulated, as noted earlier, by the recent "Arab Spring" and "Occupy" social movements.

Our project here will now be to identify several kinds of new proper scientific selves that such new research methodologies have produced. The next three sections focus on the emergence of the multiple and conflicted knowing self, the strategic

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[7] See, for example, the essays in Harding (2004). Key issues in these discussions are summarized in Chapter 2 of Harding (2015).

researcher, and on the knower who is simultaneously an individual and a collective, or community.

2. Multiple and Conflicted Subjectivities

Philosopher Ann Ferguson (1996) and literary theorist Lourdes Torres (1991) identify how valuable concepts of multiple and conflicted selves have emerged from feminist and anti-racist concerns. Ferguson is concerned to identify a concept of the self that shows how oppressed individuals can resist oppressive practices of well-institutionalized structural forms of racism, sexism and other such oppressive social relations. At the same time, this must be a concept of the self such that the perpetrators can be held responsible for their oppressive practices; they are not to be conceptualized as helpless tools of a deterministic social order.

Dominant institutions are often represented as so well-organized, so far-reaching, and so powerful that the individuals in them who deliver their policies and practices to members of oppressed groups can seem to be not responsible for the oppressive consequences of their behaviors. Administrators of the World Bank, the welfare system, or the military can seem to be just following orders. Trying to resist these mere "tools" of the institution, or holding them responsible for oppressive behaviors, can seem futile and even inappropriate. With such concerns in mind, Ferguson argues that the self must be conceptualized as a disunified, on-going, social process, not as a coherent, static, completely internal entity.

For Ferguson, agents of knowledge and of social action are always firmly located in complex and often conflictual structural social relations, and yet are never determined by them. The targets of oppression, no less than the perpetrators, must be conceptualized as capable of choosing to associate with others, and to deliberate and organize, in order to engage in resisting oppression and to transform the offending social structures, such as racist and sexist legal or educational systems. Ferguson points out the targets of oppression can create and/or join oppositional networks, coalitions, and communities in daily interactions and critical reflection. Indeed, for Ferguson, those of us who would contribute to eliminating oppressive and exploitative social relations have a moral obligation to seek out and participate in such oppositional social groups. Such groups enable individuals to transform their conflicted selves into effective agents of progressive knowledge and action.

Torres, the literary critic, points out that the influential Latina autobiographies that began to emerge in the 1980's differ significantly from the familiar "great man" autobiographies (1991). She looks at three such autobiographies by Cherie Moraga (1983), Gloria Anzaldua (1987), and the daughter-mother authorship of Aurora Levins Morales and Rosario Morales (1986). Each person's self is multiple and often conflicted as members of multiple oppressed groups that sometimes compete for their loyalties. They are U.S. citizens and also Latina. They may be lesbian and yet

loving of their homophobic families. They are feminists, and yet often need to work with their still-sexist brothers and fathers in struggles against racism. The unitary, coherent self so often depicted in autobiographies of scientists is not the self of these Latinas.

These authors stress the importance of acknowledging the contradictions such selfs entail; they must learn how to transform such contradictory positions into sources of knowledge and power. Torres identifies linguistic strategies that are used to give voice to multiple cultural legacies in these works. The authors mix linguistic codes in different ways, writing in English, but sometimes in Spanish and/or Spanglish. Sometimes they translate for English-only speakers, sometimes not. These works articulate the *mestiza* consciousness that has developed a tolerance for contradictions and ambiguities, a plural positionality, and shifting and multiple identities.[8] Indeed, feminist and anti-racist work more generally has been full of metaphors of a split consciousness, from W. E. B. DuBois' (1986) "double vision," to bell hooks' (1983) *Feminist Theory from Margin to Center*, and Patricia Hill Collins' (1991) "the outsider within." As bell hooks (1990) argues, one must learn to *choose* "the margin as a space of radical openness." Bi-lingual students from immigrant families often report powerful and disturbing senses of divided loyalties to their familial home cultures and to the cosmopolitan U.S. university culture in which they find themselves and into which we professors are supposed to train them.[9] Learning to see this kind of difference and displacement as a source of creativity and power requires support groups, and exposure to social movements and their thinkers who articulate the positive aspects of such potentially transformative positions.

Relatedly, feminist work of the 1970's and after often noted the "hyphenated identity" issue. From mainstream perspectives, it seemed that liberal-feminist, socialist-feminist, Catholic- or Jewish-feminist each named a kind of contradiction in terms. Prevailing institutions thought of feminist revisions in dominant theories as an "outside," and usually as an incomprehensible and disturbing force, that should be resisted by the "inside," well-established, proper, authoritative, (parental) disciplinary or social movement thought. Thus a woman-scientist, woman-

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[8] The work of Audre Lorde (1984), Maria Lugones (1987), and the contributors to Cherie Moraga and Gloria Anzaldua's (1983) *This Bridge Called My Back: Writings by Radical Women of Color* provide additional influential examples where this kind of self is identified.

[9] One such challenge for teachers, for example, is working with students for whom their cultures' high respect for elders leaves them morally and psychically uncomfortable putting forth their own ideas in class discussions, producing critical analyses of text materials or, in graduate seminars, addressing professors (who will be their colleagues in a few years) by their first names.

philosopher, woman-priest or woman-president marked deviations from norms—oddities that threatened the centrality, legitimacy and privilege of the norm. However, feminists pointed out that the great creativity of feminist work came precisely from its origin in thinking out of such contradictions—in thinking out of the hyphens, so to speak.

Sociologist Dorothy Smith (2004) captured this insight in noting that the puzzled consciousness of women graduate students confronting classical sociological theory's pronouncements on natural or normal gender roles was one fruitful starting point for a standpoint of women. A "fault line" opened up in the consciousness of these students who couldn't recognize themselves and their life experiences in the social analyses of Max Weber, Émile Durkheim, Georg Simmel, Karl Marx and the other "greats" in their theory courses. Thus the successes of standpoint methodology and its "strong objectivity" projects depend upon making productive use of just such socially embedded, multiple and contradictory subjects for the production of the kinds of knowledge that oppressed groups need and want.

In these proposals for better ways of thinking about proper scientific subjects of research, one can begin to see how knowers are not fundamentally autonomous, self-creating, culture-free individuals. In a variety of ways these accounts draw attention to researchers' inevitable and necessary co-production through interactions with networks, communities or social movements in the production of knowledge. Such multiple and conflicted subjectivities offer possibilities for progressive transformation that are less available to the unified, perfectly coherent, and autonomous subjects to which we have all been supposed to aspire.[10] Progressive social transformations require that our selves be recognized by us as dynamic, containing forces from the past and also new liberatory possibilities for the future, and thus capable of responding to changing circumstances, and that we take responsibility for whatever social relations our activities turn out to advance. Thus multiplicity and conflict enable us to recognize our selves in response to different kinds of claims on our responsibilities and rights in different social contexts.[11]

Finally, an influential way of talking about what can appear as multiple and conflicted selves appears in the discussions of intersectionality. This concept was itself developed at the intersection of critical legal studies and critical race theory. Kimberle Crenshaw (1989) intended to intervene in legal thinking which could not conceptualize the importance of addressing the needs of Black women, and by

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[10] Should any actually exist in anyone! This notion of the unified coherent self is also aligned with consensus political theory rather than conflict theory.

[11] See social psychologist Sandra Jochelovitch's (2007) rich argument for a conception of the knowing self that draws from many of the sources used in this article's analysis.

extension, the needs of any women of color. As Crenshaw argued, Black women were perceived as "too similar to Black men and white women to represent themselves and too different to represent Blacks or women as a whole" (Cho, Crenshaw, and McCall 2013, 790). Consequently their needs and interests were systematically ignored or distorted in legal contexts, as well as in white feminist and in anti-racist theory and politics.

Insisting on the recognition of intersectionality required that every individual and social group be recognized as existing at the intersection of whatever were the powerful structural elements of the social order. So Black women's opportunities, responsibilities, and limitations are shaped by forces of race, gender, and class, among others. So, too, are Black men's, white women's, white men's, and everyone else's (Cho, Crenshaw, and McCall 2013). Everyone's daily lives are conducted at the intersections of all of the powerful structural forces in their particular social environments.

I say "what can appear as multiple and conflicted selfs" since what appears to others as a multiple and conflicted identity may not be experienced that way by the subject. It is only the refusal to recognize the experience of, for example, Kimberle Crenshaw as that of a distinctively Black woman and of Supreme Court Chief Justice John Roberts as that of a distinctively white man, not of a universal human, that creates a legal system in which Black women cannot be heard by the white men who have designed such legal systems, nor, often, by white women or Black men either. To put the point another way, one can identify the hegemonic discourses and the structural features of a society that make Kimberle Crenshaw's identity multiple and conflicted to her and many others but leave John Roberts' identity singular and unconflicted to him and to everyone else.

In research the intersectionality directive has two focuses. One is on the people and processes studied. How are the opportunities for and burdens upon Black women created not only by race relations, but also by class and gender relations (among others)? How are white women's, white men's, and Black men's *different* opportunities and burdens created by those very same multiple and intersecting structural social relations?

A second relevance of intersectionality theory is to the position of the researcher, for example in science, philosophy, or science studies. (Here it seems that intersectionality should also be considered under the new self of the strategic researcher, identified in the next section.) How does her location in multiple, intersecting structural social relations have effects on what research she can and does choose to do and on how it is done? And what benefits and costs does such an intersectional position deliver to the research's stakeholders? How are our research opportunities, priorities, and resources, as well as our limitations and blind spots—

our systematic ignorances—shaped by the intersected race, gender, class, etc. positions we occupy?

This is a question about us as individuals, but also as knowledge workers in particular kinds of institutions, located at particular social/historical times and places. Thus attention in our analyses to issues of intersectionality improves the quality of our research. It works against irresponsible universalizing tendencies in our thinking and practice. And it can induce a welcome dose of modesty about the ability of our work to provide the "one true account," that perfectly reflects reality, at any particular moment.

There are always other locations in structural social relations from which the phenomena and issues on which we focus may well reasonably look different. Thus attention to intersectionality requires careful positioning of "the scientific self" and its research project in existing social relations—a kind of new proper scientific self to which we turn next.

3. The Strategic Researcher: Positionality

How should such researchers position progressive research projects in prevailing social relations now that we can no longer legitimately claim, at least in principle, to be able to see everywhere in the world from no particular social location in it: i.e., to produce "the view from nowhere"?

Perhaps the earliest articulated home in the last half of the twentieth century for positioning research projects in progressive social relations is Participatory Action Research (PAR) in the social sciences. This emerged initially as part of efforts in the 1970's to conduct research that was *for* poor people, not just about them. Its inspiration lay in the work of Paulo Freire (1970), liberation theology, and New Left politics. Yet it can also claim a significant history in the natural sciences dating back at least to various "people's science" projects of the 1960's and Viet Nam war era.[12]

PAR proposed a model of research that rejected fundamental assumptions of the positivist natural science model that had become dominant in the social sciences. It also differentiated itself from ethnographic research of the day that kept its eyes focused firmly on the internal symbolic and material relations of unfamiliar cultures, which were most often in the Global South or among the poor and/or minorities in the Global North.

In neither the positivist nor ethnographic case was there a focus on the macro social forces that shaped the material and symbolic social relations responsible for producing the conditions under which their informants and subjects lived. Nor did either focus on the individual, disciplinary, or other institutionalized projects shaping

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[12] For the social sciences see Park (1993a and 1993b). For recent natural science work that also references this history, see Backstrand (2003) and Hess (2011).

the work of the positivist or ethnographic researchers themselves. The researcher's assumptions and practices were not interrogated in the same ways as were the assumptions and practices of their objects of study. This was the context in which the most progressive PAR rejected the hierarchical relation between observer and observed that was assumed by both models.

In one of the more ambitious statements of PAR goals, the new PAR research was to combine education, research, and activism to enable economically, politically, or socially vulnerable communities to learn how to determine the kind of information they needed, what the required research would be, and to conduct the community relations necessary so that they could transform their own lives (Park 1993). [13]

PAR includes a range of such attempts to redistribute control of research processes to be more accountable to vulnerable communities with stakes in the research. In a 2009 speech to the American Archaeology Association, philosopher of archeology Alison Wylie identifies a continuum of PAR practices in the case of archeological research. These start with the minimalist consultation with the "descendant communities" (today's indigenous peoples) and obtaining the informed consent that the World Archeological Congress First Code of Conduct had begun requiring in 1989/91.

A more robust participation creates reciprocity arrangements in which the researchers give back resources of value to the descendant community, such as research training, historical research, and advocacy for relevant potential governmental and non-governmental resources on behalf of the community's needs. The most ambitious form of PAR requires deep transformations in how researchers think about their work.

> Consultation and reciprocity turn into collaborative practice when descendant communities get directly involved in the intellectual work of archeology. It is a matter of according control to collaborative partners in areas traditionally reserved exclusively to disciplinary authority: setting the research agenda and shaping both the process and the products of archaeological inquiry. (Wylie 2009, 5; 2015)

In this ambitious form of PAR, researchers assist a particular community in formulating a problem, researchable by members of the community with the assistance initially of the trained researchers, that will enable the community to

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[13] See Wolf (1996) for sophisticated reflections on the limitations of attempts in feminist research to realign knowledge and power relations in fieldwork.

become active agents in improving the conditions of their lives as they experience them. This is neither a quick nor an easy task.[14]

For collaborative research, the interests of researchers must be *balanced* with the interests of the relevant communities. Yet, the very idea of redistributing intellectual control over the agenda and processes of research can be incomprehensible and terrifying to conventional researchers—as Wylie reports archeologists responded when such collaborations were first proposed.

However, histories do exist of at least some researchers learning to balance their interests with the interests of other stakeholders in their research in such fields as health, medical, and environmental research, and in the Appropriate Technology Movement. Such an idea gets less terrifying as it is practiced. Collaborative research projects have been advancing in such fields as archaeology, environmental and health research (Colwell-Chanthaphonh and Ferguson 2008; Fortman 2008).

One can see both standpoint methodology and the citizen science projects described by Karin Backstrand (2003) and David Hess (2011) as committed, in different ways, to similar redistributions of authority in research projects. Neither is usually conceptualized as a form of PAR. I am suggesting that this commitment links them to PAR agendas.

Of course, PAR has not been politically or cognitively perfect. It can get co-opted by groups not actually committed to empowering oppressed people to take control of their own lives, as has been the case with all too many Northern NGOs working in development contexts in the Global South (Cooke and Kathari 2001).[15] Moreover, if understood only as commitments to retrieving suppressed cultural forms of knowledge and ways of life, as is sometimes the case, PAR does not in itself automatically lead to resisting sexist, racist, and other damaging features of traditional cultures. That is, it takes targeted attention to such controversial social relations as those shaped by gender, race, ethnicity and class to ensure a chance for fair treatment for such oppressed groups.

Nevertheless, PAR offers good directions for thinking about just who should be the subjects or agents that produce the sciences and philosophies of science that simultaneously advance the reliability of research and also provide the resources that politically vulnerable communities need in order to survive and flourish.

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[14] See Reardon (2005) for a harrowing account of a well-intentioned team of geneticists' inability to recover the legitimacy of a research project once a significant group of stakeholders in the research had not been consulted initially on whether the research even should be done.

[15] See also responses to Cooke and Kothari's arguments in Hickey and Mohan (2004).

4. Communities That Know

What are the kinds of social contexts necessary for producing the most reliable results of research that can simultaneously advance democratic social relations? This issue has arisen in earlier sections. The standard image of the lone genius that is used to inspire seventh graders and graduate students to aspire to become Nobel Prize winners became anachronistic some 70 years ago. Clearly, knowing is a fully social process; it is misleading to represent the knower as only a solitary, autonomous individual. Communities, collectives are also significant knowledge producers. There are at least two kinds of analyses that develop this insight in different ways.

Big Science. One begins from the analysis by one of the founders of the field of sociology of knowledge. Five decades ago, Derek De Solla Price (1963) pointed out that research such as the Manhattan Project required many scientists from many disciplinary specialties to coordinate their research in order to produce such facts as those that resulted in the atomic bomb. He argued that this quantitatively different scientific workforce introduced qualitatively different research processes. The new era initiated by the Manhattan Project came to be referred to as "big science."

Another way to think about this is in terms of craft versus factory models of manufacturing. The kind of "craft" production of facts suggested by the lone genius image still can be valuable in the early stages of developing a new research field. James Watson (1969) provides a report of such work that established the structure of genes in his *The Double Helix*.[16] But subsequently a "factory" model becomes necessary to move beyond the initial insight in order to provide usable facts. Many researchers with different sets of skills are needed to design research and collect data to which the original insight brought attention.

 Subsequent work in the field of science studies has identified a second kind of expansion of the "bigness" of scientific research. The establishment and management of many kinds of complex social relations are necessary to organize, produce and disseminate research. There are the relations with the funders and sponsors of the research. There are the relations with conference committees, journal editors, and book publishers who will assist in disseminating and thus helping to confirm or disconfirm the research results. There are the relations with mentors, students, competitors and critics at various stages of the research. Also numerous categories of subsidiary workers must be organized and worked with: lab

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[16] James Watson and his co-winner of the Nobel Prize, Francis Crick, were not quite as "lone" as Watson reports. The theft—or, at least, unethical appropriation—of Rosalind Franklin's photographs from a neighboring laboratory was what enabled them to imagine the design of DNA that they eventually provided (Hubbard 2003).

technicians, systems engineers, project managers, secretaries, equipment manufacturers, and suppliers of materials. Let's add this extension of participants in the production of scientific knowledge to Price's "big science" so we can begin to see "really big science."

Here we have been concerned with yet a third extension of contributors to the production of scientific knowledge, namely those brought into the category of knowledge producers by standpoint methodology and its "strong objectivity" projects. We have argued for the inclusion of all of the "stakeholders," in the research—all of those whose lives will be affected by use of the results of such research. Here one should resist the temptation to simply "add and stir" these contributors into the collection of "proper scientific subjects" of research. We saw that the multiple and conflicted subjects of knowledge discussed earlier had to learn how to transform their consciousnesses so that their identities, which were initially experienced as a problem, could be turned into effective agents of progressive social change.

Political theorist Mark Brown (2009) rejects the idea that knowledge can advance through discussions between individuals, groups, and institutions with rigidly fixed identities. Like many other observers of social transformation, he thinks of "identity politics" as an example of this problem. He sees the demands of feminist, racial, and ethnic groups as all too often establishing such rigidly fixed identities that can never move past the stage of debilitating "politics of resentment" where everyone's "bottom line" is so fixed that no one can learn anything.[17] All parties cling to their positions as hurt victims, suspicious of the other, and no emancipatory movement is possible. To be sure, most of us have experienced this kind of hurtful interaction in some context or other.

Thus a "knowing community" must cherish its dynamism, as its representative institutions and the citizens that animate them engage in processes of critically debating, rethinking and revising scientific and technical agendas and their own roles in advancing them in public fora. This desired quality of "knowing communities" is another aspect of the kinds of "scientific selfs" called for by recent attempts to relink sciences and their philosophies to democratic social relations. Should we say that these processes create really, really big science?

Simultaneously Individual and Community Knowers. A second focus on communities that know has a different origin. In this case individual grassroots organizers have entered the world of national, regional, and international agencies

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[17] These critics of the social justice movements seem oblivious to the similar but politically much more powerful "rigid identities" of the powerful, such as many corporate, military, and state actors.

and organizations in order to negotiate with such organizations on behalf of the needs of the peoples to whom they are accountable. For example, on the TV news in 2013 one could see a representative of a low-lying Pacific Island country advocating that the United Nations move forward quickly to institute global environmental practices that could protect the Pacific Islanders from rising sea levels due to climate change. In moving between their own group and Western-type governance institutions and agencies, such people develop distinctive bodies of expertise not possessed by either their own groups or the governance institutions. They address the Western institutions in the voice of their own distinctive individual and institutional experiences, and also the voice of a community that knows how rising sea levels will affect them. Similarly, Native American grassroots organizers learn how to negotiate land rights, climate change amelioration, and other matters between their own people and their tribal councils and the county, state, regional, and national governmental institutions (Whyte 2013).

One might be tempted to think that there is no new kind of knower in these cases. The grassroots speaker at the United Nations is simply speaking on behalf of his community. To be sure this can be a reasonable way to conceptualize the situation. Yet it misses important features of at least some cases of such "proper scientific subjects" that do not easily fit into modern Western conceptions of persons as fundamentally individuals. From this Western perspective communities are simply collections of individuals and it is only the individuals to whom knowledge can properly be attributed.

This issue was famously brought into focus by Western reactions to the account that Rigoberta Menchu gave of the horrors she experienced when CIA-aided local warriors destroyed her Salvadoran village. She gave an interview to a French journalist in Paris that became her book, *I, Rigoberta Menchu* (1983), for which she received a Nobel Prize.

However, a United States journalist objected that her account was unreliable; she was falsifying facts. Some of the injuries that she had reported as done to her were in fact done to her uncle, her cousin, or to other villagers. She seemed mystified by such charges, and anthropologists and other journalists joined the fray, which lasted a good decade. By that time, the original journalist admitted that her account was fundamentally completely reliable if one accepted the fact that to her, whatever happened to her community thereby happened to her individually also.

As the anthropologists pointed out, the journalist assumed that Western individualism provided the only reasonable framework to use in evaluating the accuracy of first-person reports. Yet in non-modern societies, including those in the history of the West, persons are not fundamentally individuals. Rather, identities are fundamentally a function of their kinship groups.

So these are two different ways in which the proper subject of knowledge and history has been shifted from individuals to communities or collectivities, or shared between them. A focus on such communities that know emphasizes how the production of knowledge is always a deeply social project. It is never the outcome only of a lone individual's activities.

5. Conclusion

I have been arguing that the research projects of the social justice movements have insisted on a different standard for maximizing objectivity, one that they insist is a higher, more rigorous standard. In doing so, they have produced new kinds of proper scientific selfs. This phenomenon aligns well with historians' accounts of how shifts in research methodologies have tended to have just this effect: they create new forms of "right sight." They shift the moral status of the scientist and his work since the "rightness" of scientific observation is a matter of ethics as well as of epistemology. No wonder mainstream responses to social justice research have been so emotionally fraught. Much more is at issue than merely figuring out nature's order.

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