

**Contingencies of Science and Culture – Some Inspirations from Barbara
Herrnstein Smith**

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Dear organizers, colleagues, and Barbara, it is an honor to be here today. I hope I can do the occasion justice.

Barbara and I met approximately eight years ago. The connection was unlikely. I was a PhD student from a department of information and media studies at the University of Aarhus in Denmark, who had drifted into science and technology studies. My area of inquiry related to some new hospital technologies called electronic patient records. I did micro-sociological studies of their development. When I first contacted Barbara, I am convinced she must have been perplexed. That we nevertheless turned out to have – or, perhaps, rather developed - shared interests testifies to the strength of one of Barbara's central propositions: Both humanities and sciences regularly operate contingently, through chance encounters, institutional affiliations, and theoretical dispositions, rather than through rationally and logically planned meetings.

It is clear that there are large differences between my ethnographic studies of medical technologies and Barbara's work, which has engaged with wide-ranging topics, such as how poems end, contingencies of value in literature and philosophy, the dynamics of belief and resistance in scientific controversies, and the interrelations between science and religion. Despite this differences, profound similarities link our research trajectories. From her position within the humanities, Barbara has provided elegant analyses of what science is, what it does, and how it operates; science and technology studies speaks to similar issues. Barbara argues for the contingent and often surprising, intertwinement between humanistic research and natural science, and my empirical work

suggests similar lessons. Of course this suggestion of a symmetrical “sharing” of interests is imprecise. Indeed, it is not coincidental that I am speaking here today in honor of Barbara, rather than *vice versa*. For one central reason why I gradually became capable of making sense of the relations between culture, science and technology has been precisely because of Barbara’s work. What I should like to do today, therefore, is outline a few of her central contributions, not only to my own work but to the community of science and technology studies more generally.

Contingencies of Science

I first came across Barbara’s work in the form of references and quotations in Andrew Pickering’s book *The Mangle of Practice*. Pickering was trained as a physicist but had turned to sociological studies of physics. His early studies were decidedly social constructivist, but in the early 90s he had become increasingly inspired by Bruno Latour’s mode of nonhumanist analysis. Rather than assuming that social groups were relatively stable in terms, for example, of their ideologies, nonhumanist analyses stressed the ongoing transformation of social interests, both in response to other groups and to the material environment, including new technologies. In these analyses the relations between society and science were rendered increasingly dynamic. Among references to Gilles Deleuze and Bruno Latour in *The Mangle of Practice*, I encountered Barbara Herrnstein Smith. Her work was invoked to argue that while scientific aims were certainly socially shaped, as suggested by social constructivism, the qualities of the social could never be taken for granted. Pickering quoted from *Contingencies of Value*:

What we speak of as a subject’s “needs”, “interests”, and “purposes” are not only always changing, but they are also not altogether independent of or prior to the entities that satisfy or implement them; that is, entities also produce the needs and interests they satisfy and evoke the purposes they implement. Moreover, because our purposes are continuously transformed and redirected by the objects we produce in the very process of implementing them, and because of the very complex interrelations among human needs, technological production, and cultural practices,

there is a continuous process of mutual modification between our desires and our universe (cited in Pickering 1995, 54-55).

Needs, interests and purposes thus had to be understood as continuously modifiable dispositions, rather than, for example, static cognitive structures. In *Contingencies of Value* (1988) this argument was developed and deployed to great effect. For example, it suggested that there is no such thing as a “great work of art” freed from interpretive contexts. Rather, value is a relational and dynamic concept, and valuation processes are operational, influencing the ways artworks come to look and how they are received. Pickering’s adaptation of this analysis showed that the ubiquity of interpretation not only exists in relation to aesthetic judgment, but also holds for processes of scientific judgment. The proposition that scientific development was guided by malleable needs, interests and purposes put this mode of analysis on collision course with classical epistemology- a collision that would subsequently be analyzed by Barbara herself.

Culture Wars and Science Wars

While science and technology studies scholars had begun to appreciate Barbara’s work on processes of valuation, she has become increasingly interested in science, knowledge and, not least, in the controversies that scientific knowledge and the characterizations of it give rise to. When the science wars erupted, the cause of consternation for many philosophers and scientists was that they saw analyses that rendered notions such as truth, reality and rationality contingent as dangerously relativistic if not blatantly absurd.

These discussions were in some ways analogous to the earlier culture wars. As we know, the previous discussions related to the definition of culture and the question of how, where, and why it should be taught. In a certain sense the stakes of the science wars were higher, since they involved bringing the analytics of contingency and variability to bear on scientific rationality itself. In these latter debates, science and technology studies scholars, such as social constructivist David Bloor and actor-network theorist Bruno Latour, took over the unenviable position of scapegoats previously held by people such as Jacques Derrida, Michel Foucault and Stanley Fish.

Barbara, of course, was a participant in both debates (I have heard her refer to herself as a 'veteran of controversy'). In both cases, we might characterize her as a participant analyst. In the culture wars the emphasis was decidedly on 'participation'. This was invariably so, as the literature department at Duke University was an institutional centre of the controversy. Accordingly, Barbara assumed the role of an outspoken critic, addressing what she saw as regressive culture political moves. One is reminded, for example, of the opening gambit in her contribution to *The Politics of Liberal Education* edition, which focuses on Eric Hirsch's national cultural literacy project. Not meaning to "mince words" (1992: 75), Barbara argued that this project was "meaningless as stated", in any case "undesirable", pedagogically unattainable with the proposed methods, and even if attainable, actually detrimental to the stated objective of the project. And this was on page two of the article! She continued to characterize Hirsch's definition of culture as "shimmering" in its "ambiguity" (81) and arguing that his recommendations were "patently absurd". At the end of the piece she wryly noted that all of these problems would not necessarily prevent Hirsch's proposal from becoming national policy and establishing itself as the cultural equivalent of the star wars program (90)!

Now, in relation to the science wars, Barbara was positioned somewhat differently, in institutional as well as disciplinary and intellectual terms. The institutional and disciplinary difference related to the fact that science rather than culture was the topic of controversy. Since Barbara's work had not previously dealt directly with the natural sciences and their interpretation, it was also not the immediate target of science warriors. This provided for a different intellectual perspective as well, one in which the participant role was initially more tangential. This is possibly why Barbara was able to view the science wars debates as a kind of naturalistic experiment that could be used to expand upon and sharpen her previous analyses on contingencies and battles of value. The new focus was upon key scientific values, including truth and rationality, studied as intellectual and institutional controversies unfolding in real-time.

We might call these *second order* science and technology studies, since they dealt with the meta-controversies generated by frictions between different

principles, theories, concepts and methods used by a number of STS researchers and their philosopher and scientist critics. The results were published in *Belief and Resistance: Dynamics of Contemporary Intellectual Controversy* (1997). At the most general level, this work showed how concepts and ideas develop as a result of ongoing theoretical and methodological debates and confrontations between different intellectual domains and practices. Particularly *acute* confrontations offer particularly good opportunities for learning about such development: not only about the *indigenous stakes* of these debates but also about their *general dynamics*. And while continuous cognitive transformation is central to these dynamics, continuous resistance to transformation is equally important. Thus, the centrality of the notion of *cognitive self-stabilization* defined as “a tendency toward...often artful and rhetorically as well as cognitively effective—circularity” (2002: 206).

What is noteworthy in the picture thus painted is a double symmetry. The first symmetry is that both transformation and self-stabilization play important roles in the dynamics of intellectual life – they are co-implicated and often simultaneously operational. The second symmetry is that this is the case on both – or all – sides of these controversies. The contrast to humanistic anti-science arguments is thus stark. For contrary to such critical discourses, Barbara’s analysis does not unfavorably compare the naivety or shallowness of scientists’ discourse and self-understandings with the profundity of humanistic or social analysis. For better and worse all are in the *same* game. Accordingly, also, all local and global results of intellectual controversies are generated in a field in which transformation and circular self-affirmation operate reciprocally *across the board*. But, of course, to different effect.

If one low-key pragmatic way of measuring the qualities of a book is to consider its reception among the key communities to whose concerns it speaks, it is noteworthy that *Belief and Resistance* was largely greeted with respect. I am inclined to think this relates, precisely, to the symmetrical position just mentioned. Thus STS scholars such as Andrew Pickering, David Bloor and Bruno Latour, while bickering internally, all paused to praise *Belief and Resistance*. It was a ‘resounding success’ (Bloor, 1998: 656), a ‘major intervention’ (Pickering). Bruno Latour wrote that it offered a path ‘to the open seas on which it is possible

to travel much further than on the supposed solid ground of “firm foundations” (Latour).

And while analytical philosophers of science were not exactly enthralled with the analysis they were unable to dismiss it as entirely absurd or irrational (e.g. Koertge, 1999). Philosopher Noretta Koertge, for example, - herself author of the science wars edition *A House Built on Sand* (1998), found appealing the relatively untendentious tone of the book. She even went so far as to appreciate its “surface attractions” (1999: 513), which, unsurprisingly, she nevertheless saw as covering over “deep deficiencies” (1999: 509). We shall have occasion to consider the metaphors of surface and depth subsequently. Yet, as regards the content of the “deep deficiencies”, Koertge’s review is symptomatic. Her issue was with the debilitating relativism of Barbara’s analysis, which, she claimed, prevented it from providing adequate defenses against such horrors as creationism and Nazism.

Symmetry aside, then, *Belief and Resistance* clearly generated a rather “unstable equilibrium” between admirers and skeptics.

Balance and Extremity

Scholars such as Pickering and Latour were unequivocal in their praise for *Belief and Resistance*. To other readers, however, Barbara’s meticulous symmetry was infuriating. Thus feminist critics have read symmetry as a way of refraining from taking positions, an attempt to recreate an untenable god’s eye view.

Epistemologists agree that deprived of a stable ground from which to speak we are lost in relativism. Yet it is perhaps testimony to the originality of Barbara’s analysis that her symmetry – or as she has referred to it - “even-handed intolerance” (2002: 202) is equally unsettling to left wing critics and philosophical traditionalists. Her descriptions of intellectual life as an evolving ecology deprives standard dualisms, such as the critical *versus* the neutrally objective, the progressive *versus* the conservative of much of their explanatory force. Thus we are in a realm of symmetry and evenhandedness. But since this realm in fact operates very different from the one that many – humanists as well as scientists – imagine us to inhabit, Barbara’s work is also seen as extreme. As in extremely relativist, for example.

Yet worrisome as extremism sounds it can also be seen as intellectually virtuous. In Barbara's own words conceptual extremity has nothing to do with uncontrolled excess or exhibitionist derring-do but, rather, of an effort at clear and precise formulation and a rigorous working-through of theoretical and practical implications (2002: 193).

A single example from the chapter "The Unquiet Judge" (1994) makes this point. The unquiet judge is the name Smith gives to the constructivist or relativist, so often accused of self-contradiction, political naivety or quietism. According to critical humanists, the task of the scholar entails speaking up against the powers that be, criticizing their misguided rationality and troubling the objectivism that forms the authoritarian basis of our existing social systems. Yet, Barbara's "rigorous working-through" of theoretical and practical implications has consistently prevented her from engaging in this mode of analysis. For, indeed, for the consistent constructivist, no social domain ever operates according to an authoritarian objectivity that must be resisted. Quite differently, and epistemologically more radically, the argument is rather that objective judgment *de facto* never occurs and that it is, in fact, an empirical impossibility. Humanist critics, for example of science and scientific objectivity, thus fight the wrong battle. They misidentify their target because they accept too readily the objectivist characteristics that certain scientists, politicians or journalists ascribe to science. No less problematic, however, is calls to redefine and *strengthen* objectivity by adding to its traditional characteristics situational features, as in Harding's strong objectivity and Haraway's situated knowledges. The problem in this case is two-fold: on the one hand the attribution to constructivism of the same "deep normative deficits" that philosophers such as Koertge ascribe to "relativism", on the other hand, the maintenance of constructivism as part of an unstable epistemology which is patched together with bits of objectivism, or oscillates between the two.

On the one hand, thus, balance – objectivists and constructivists, left and right, are in the same boat, since noncontingent grounds for action are deprived all, equally. On the other hand, extremity, since the path of contingency is

followed consistently to its endpoint. This endpoint is presumably just where Noretta Koertge would locate the “deep deficiencies” of Barbara’s approach. Yet, as her own work shows, there is not much to fear from letting go of objectivism, except perhaps loss of the authority of objectivist rhetoric itself.

Reality in Continuous Fluctuation

From a science and technology studies vantage point it is particularly interesting that one of the central inspirations and exemplars for Barbara’s constructivism in recent years has been the German proto-STS scholar, proto-relativist Ludwik Fleck. Fleck wrote his tract in ‘comparative epistemology’, *Genesis and Development of a Scientific Fact* in 1935. This slim book was later discovered by Thomas Kuhn and, through his deployment, it indirectly influenced much of the later history and sociology of science. What makes Fleck so important? For one thing he provided a sophisticated model of knowledge transmission according to which “communication never occurs without a transformation”. Indeed, communication always involves what he terms, “a stylized remodeling” (Fleck, 1979: 111) of the way in which a group of practitioners – a thought collective – thinks. Different thought collectives interact in reciprocally shaping and sustaining activities (Smith, 1999: 1091) and – for Fleck as for Barbara -- it is through such interactions that what we come to view as scientific facts emerge. Going further, Fleck proposes that truth itself can be characterized as an emergent and contingent phenomenon that arises from “a universally interconnected system of facts [in which is maintained] balance through continuous interaction” (Fleck, 1979: 102). Indeed, reality itself can thus be seen as a “network in continuous fluctuation” (Smith, 1999: 1092). “A rather striking metaphor”, as Barbara notes (1092).

Also a metaphor that strikes rather close to home in relation to contemporary science and technology studies, where networks have proliferated, noticeably in the form of Latourian actor-networks. The resonances are obvious. Yet, whereas actor-networks designate fluctuating connections between human and nonhuman actors and their different more or less durable material arrangements, Barbara’s Fleck-inspired networks refer to the modulating, continuously changing communicative patterns that shape how

divergent thought communities are capable of thinking and acting in relation to one another. And contrary to Latourian actor-network stories that often stress the possibilities of overcoming differences in communication through materiality – think of his title “how to do words with things” – Barbara continues to dwell on moments of destabilization and incommensurability; dynamics – of intellectual controversy, for example - in which communication acts on communication in continuous loops, modifying or reinforcing the conceptual apparatuses of involved thought collectives, but without the possibility of any final resolution. This is Barbara’s deeply “ecological”, immanent – and also distinctly non-heroic - - view of the transformation of thought and its collectives.

Surfacing From the Deep

“In an aside in the *Archaeology of Knowledge*”, Hayden White reminds us, “Foucault defines style as a “certain constant manner of utterance”” (White, 1987: 107). With this suggestion in mind I should like to end by considering a few aspects of Barbara’s style, its “certain constant manner of utterance”. First, this is a style of intellectual engagement recognizable by its careful execution. There are never any shortcuts in Barbara’s analyses. This ethics of specificity in writing follows from her constructivist disposition: since the devil is always in the details, every new argument encountered must be dealt with in its particularity. Her style, however, is also characterized by a certain tough mindedness. Barbara has never shied away from controversy, or from making her views clearly understood. She is not always inclined to ‘mince words’. Reviewing the (then) “new stylistics” Barbara wrote many years ago that:

When logic is slack, it matters little how rigorous method is; and, in the new stylistics as well as in much of the old, the rigor continues to be misplaced, all of it being invested in the cranking of the machine and none in its casements and connections (160)

The appeal of Barbara's style, however, is not only its clear exposition but also its dry sense of humor, as in the introduction to the aforementioned review, which began by commenting on the very term *new*:

It does not, I think, require an eye made especially sober by the light of too many setting suns to find in the word *new* a certain pathos. New clothes, new toys, bear beneath the stiff folds and bright surfaces images of the tattering and chipping to come. The newborn and the newlywed both figure forth in their very names the shadow of a temporality made the more poignant by their own ignorance of it (Smith, 1978: 157)

Having thus characterized the programs' self-ascribed aspiration to the new, she continued to show how it nevertheless continued to play "the melody of an old song" (161), replaying themes of old debates, and relying on assumptions the fragility of which invariably re-appeared under conceptual pressure, "like the frequently reglued crack in an old teacup".

Such biting characterization, I suggest is another of Barbara's stylistic trademarks. The reason it often works to such entertaining effect, however, cannot be separated from the broader purpose of argumentation. It is a sense of humor always put in the service of specific intellectual aims. This is why, I would identify Barbara's career-long theorizing of how concepts and their users function, how they develop and change, as yet another constant in her manner of utterance. The variations are multiple here, since she has worked on an extraordinary breadth of topics, but the guiding intellectual disposition – constructivist and interactionist – has remained central. Subject itself to continuous modification, no doubt "in response to varying conditions" with which the transformation of thought is always "reciprocally interlocked" (Smith, 1994: 163-4).

The final aspect of Barbara's style on which I should like to remark in a sense encompasses all previous ones. It is the vision that I take to inform her work -- a sense of intellectual curiosity and attentiveness to the music of chance of the world, and its endless variability. It shows in Barbara's restless movement from psychological laboratories to Shakespeare, Nietzsche and Derrida, *How*

Poem's End and cognitive theory, evolutionary psychology and religion, Fleck, Nietzsche and Latour.

As we know, Michel Foucault wanted “to free the history of thought from its subjection to transcendence...to cleanse it of all transcendental narcissism, [and free it] from [the] circle of the lost origin” (White, 1987: 203). Years later, Andrew Pickering (1997) concurred, arguing in a paper on “Time and a Theory of the Visible” that critical researchers ought to let go of their preferences for the hidden and concealed. For these scholars “surface attractions” continued to be preferable to the depths. In “Surfacing from the Deep”, however, Barbara came up with an even better mission statement:

One might very well come to the conclusion that only by surfacing from the deep can we discover the salutary pleasures of air and light, acquire a less subterranean and more sunlit view of the continents there are to explore, and have the hope of dry land at the end of our journeys (Smith, 1978: 201).

This, I think, is the route she has consistently followed throughout her career, to such brilliant effect. It has been an honor and a privilege to follow her on parts of the journey.

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