

Striking Likenesses to Difference

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The more adept the West has become at the making of copies, the more we have exalted uniqueness. It is within an exuberant world of copies that we arrive at our experience of originality (Hillel Schwartz, *The Culture of the Copy*, 1998: 212).

As STS researchers interested in a critical scholarship of innovation, one of our tasks is to explicate the practices through which things are identified by relevant actors not 'merely' as imitations (however ingenious) of the already existing, but as recognizably new. At the same time, postcolonial STS has demonstrated that far from a universal good, the valorization of newness is a local preoccupation identifying of actors invested in particular forms of technoscience, situated within specific regimes of contemporary capitalism. Even within these locales, moreover, it becomes evident that originals and copies are not different in kind so much as in time and place, and that just as translation invariably produces difference, novelty requires imitation or likenesses to familiar forms.

It is the proliferation of reproductive capacities, Hillel Schwartz argues, that forms the condition for a fetishism of innovation. The site for my own investigation of these relations is a technology research and development organization pseudonymed (by my friend and colleague Susan Newman) as Acme Blackbox Research Center (ABRC) (Newman 1998), an organization charged with making technology futures. ABRC literalizes Schwartz's analysis in its relations with its parent company Acme Blackbox Corporation (ABC), whose name is synonymous with the copy. At its founding in 1970 the research center represented an investment in innovation, albeit innovation

conceptualized somewhat prosaically by ABC market strategists as the ‘office of the future’. Deliberately placed far from ABC’s New England based corporate headquarters, the founding story goes, the research center was located on the West Coast of the United States, in the nascent Silicon Valley, and was charged with making difference.

In a topography mirroring earlier waves of colonial expansion, then, ABRC is imagined in 1970 as a kind of advanced settlement on the frontier of the emerging markets of cyberspace. But frontiers, Anna Tsing reminds us, “are not just discovered at the edge; they are projects in making geographic and temporal experience” (2005: 53). Such projects involve, among other things, disengaging landscapes from already existing forms of life so that they can be figured as an emptiness waiting to be filled – a process that has been well documented with respect to earlier settlements of the American West. Like its predecessors, the techno frontier of cyberspace is imagined to be indefinitely extensible, even more reflexively an effect of the activities of those who gain benefit from it than frontiers marked more obviously by landscapes and natural resources. And as Tsing observes, “[t]he activity of the frontier is to make human subjects as well as natural objects... It is a space of desire: it calls; it appears to create its own demands; once it is glimpsed, one cannot but explore and exploit it further” (ibid: 56-59).

At the same time, the frontier works to enact the limits of its responsibility, what Drucilla Barker in her essay ‘Dualisms, Discourse, and Development’ calls an ‘innocent knowledge’, ignorant of its own role in perpetuating inequalities that it purports to redress through technological progress (2000:178). This innocence demands that within settlements like ABRC observations such as Barker’s are inappropriate, not heard as matters of concern but as claims to some moral high ground, or as the gratuitous intrusion

of ideological prejudice. This othering of political discourse (outside of internal corporate politics, of course, a favorite and highly legitimate topic) is thus a contributing element in the parochialism of the centre.

Correspondingly, to make the ‘provincial’ self-insulation of the Center visible is to take up an established postcolonial strategy. In ‘The Half-Life of Empire in Outer Space,’ Peter Redfield considers the historical entanglements of (de)colonization, space exploration, and the cybernetic. Citing Dipesh Chakrabarty (2000) on the project of provincializing Europe, Redfield writes: "provincializing Europe can stand in for the spatial desire of postcolonial studies, whose repeated tendencies are to decentre and diffuse the place of the West within accounts of modernity. ... To provincialize Europe, the 'Europeanness' (or more generally the 'Westernness') of both science and technology would have to be located, grounded and reduced, such that the geography of the future would reveal less certain centres. To what extent is such a project possible?" (2002: 794)

In the spirit of this question, our current project¹ asks what insights we might gain by shifting questions of innovation, creativity and the new from their status as unexamined qualities, to constitutive moments in the reproduction of familiar modes of identification and action within particular locales and imaginaries. The universalization of novelty as a ‘good’ presupposes criteria by which places, persons, and things can be identified as points of origin. But while this qualification implies the existence of criteria applicable across times, events, and materialities, we’re interested in interrogating the category of the innovative according to a more performative metaphysics. The latter aims to characterize innovation’s enactment as a members’ category, as an identification

¹ see <http://www.sand14.com/relocatinginnovation/download/index.htm>

produced through multiple, particular, intersecting performances (Robbins in prep.). Innovation in this sense involves making differences that variously disrupt particular arrangements of interest or, though associated continuities, further fix them in place. At the same time relevant histories and futures are made as well. The new on this understanding is an outcome rather than a starting point of assessment; similarities and differences are not inherent in things, but an achievement of relevant discursive and material practices.

Ethnographic moments of making the new, sameness/difference at ABRC

The year is 1980, the event a conversation over lunch in the subsidized ABRC cafeteria. A decade old now, ABRC sits on a hill above the Stanford Industrial Park, a signature northern California landscape of rolling grasslands and oak trees in the hills west of Palo Alto. The cafeteria looks out over the slightly smoggy horizon of the Valley, and I'm having a conversation over lunch with XYZ, then head of the research group in which I'm a student intern. The discussion, about a project in the group on so-called knowledge-based office systems, has its own tricky knowledge politics. As I mentioned earlier, Acme Blackbox Corporation competed in the late 1970s and early 80s to define the market imaginary named 'the office of the future', a projected site for capital expansion where a reduced but qualitatively higher grade of knowledge worker would achieve greater efficiency and productivity thanks to extensive investment in increasingly intelligent machines. ABRC was the company's advance party in the exploration of this still largely unknown territory. This particular project, championed by two members of the group with whom I was increasingly engaged, proposed an office system based in

current research on knowledge representation, an enterprise that at that point lay at the heart of the wider field of Artificial Intelligence. As Brachman and Levesque, two leading researchers in the field, described it in 1985:

The notion of the representation of knowledge ... has to do with writing down, in some language or communicative medium, descriptions or pictures that correspond in some salient way to the world or a state of the world. In Artificial Intelligence (AI), we are concerned with writing down descriptions of the world in such a way that an intelligent machine can come to new conclusions about its environment by formally manipulating these descriptions ... (Brachman & Levesque 1985, p. xiii)

My engagement with the project turned on the question of how agencies were conceptualised within the human-machine configurations that were imagined to result. But the ever present meta-imperative for all of us was that whatever we said or did must be something qualitatively 'new'. This was not a singular 'newness', moreover, but a newness multiple (Mol 2002), that had to operate across various contested conceptions of the future office and of the field of AI, and of the research center as a site that could effect their mutually transformative – and profitable – synthesis.

So my conversation with XYZ that day took the familiar form of a challenge on his part to answer the question with respect to the project: What's new? This question is implicitly a demand for making difference, between the figure of an already existing (and therefore in research terms *passé*) real, and its posited successor. In this case the already existing reals included, on one hand, office automation (widely believed to have reached its limits), and on the other mainstream AI (which could not simply be reproduced at ABRC, but had itself to be further advanced if not – even better – challenged and superseded in theory and/or method). The discussion was further complicated by the fact that its subtext was an invitation either to align myself with and defend the project, thereby making myself subject to XYZ's critical assessments of it, or to distance myself

from it and align myself as a critical observer with him. In this sense the conversation was as much, if not more, about my own qualification as a member of the research group, with my relation to the project as a test.

With office automation positioned as the old (though still very much alive in the economic logics of technology investment), my strategy at the time was to argue on behalf of a new based not in the automation of office work but in its respecification, where the latter would identify possibilities for information repositories more artfully aligned with actually existing practices. The project, on the other hand, imagined a kind of intelligent office advisor, a procedural expert system based on ingenious advances in the field of artificial intelligence. The potential threat to either of our figurations was their dismissal as banal variations on business as usual, superficial embellishments rather than radical transformations in either manual or automated forms of human activity. In intimating that the project under discussion might be vulnerable to such a charge, while making cryptic but suggestive allusions to a more radical vision that I should be able to share, XYZ instructed me in the micropolitics of the Center. At the same time, he set the terms for what would become one of my own challenges at ABRC; that is, finding ways of being and acting that resisted undesirable translations. The latter involved, among other things, not obscuring my own critical relations with colleagues and projects in ways that would make me an unwitting ally in enterprises in which I didn't believe, while avoiding interpellation into the Center's relentless metrologies of invidious ordering.

Fast-forward a decade and a half to the mid 1990s. XYZ is now the Director of ABRC, and the imperative of innovation has doubled back to take as its object the Center itself. In a move replicated across corporate America at the time, a series of events are staged at ABRC to launch a yearlong initiative in reflexive (re)invention. The exercise enrolls Center members in remaking themselves, collectively, into something new. This requires not only imagining possible futures, but establishing an existing real against which difference will be measured, and to which the exercise is a necessary – and, of course, urgent – response. In October of 1996, ABRC management issue an ‘open invitation’ to all ABRC employees to participate in setting a ‘new agenda’ for research. In this announcement a familiar formula for future making is invoked:

The notion of 'ABRC 2000' is not intended to suggest we are developing a plan targeted for the year 2000. What it does imply is the need to do three things: (1) to comprehend now what *the future* is becoming, (2) to achieve a platform for continually understanding how we can impact *the world* by what we choose to do at ABRC, and (3) and to launch a near term strategy for if, and how, we should be *different*. ... Senior Staff and I are convinced that everyone, no matter what job function you fill, can play an active role in helping us shape the future (my emphasis).

This call from management for participation and collective responsibility for ABRC’s future was positioned as a democratizing move; and it was. But what were the subtexts that haunted this exercise? To begin with new management agendas presuppose an *absence*. So, for example, the recurring question:

How do we develop the research agenda/mission/vision for ABRC?

assumes a lack of vision that requires an intervention to redress. This in turn works to silence those who feel that they have already, and repeatedly, answered that question,

albeit (evidently) without effect. In this respect the ‘fallacy of the empty vessel’, a familiar colonial legacy, comes home to roost (see Suchman and Jordan 1989).

Conclusion(s)

In his call for a ‘recombinant’ anthropology of science and technology, Michael Fischer (2007: 539) encourages attention to the “reflexive social institutions” through which the technosciences operate. By reflexive I take him to mean that sites of technoscience are constituted in and through the same practices that produce their objects. In the case of Acme Black Box Research Center, the labours of Center staff included the ongoing (re)production of an organization that adjudicated the value of those labours and their products. At the same time, this was far from a mechanical form of reproduction. As recent ethnographies of technoscientific practice have made clear, the generation of novelty, including not least its identification as new, occurs within a crucible of complex and shifting sociomaterial and political arrangements. While Fischer implies that institutional reflexivity is a recent, or even yet to be realized, desideratum for technoscientifically-infused cultural orders, I am more inclined to treat it as built in to the very possibility of organization, recognizing that reflexivity can operate in the reproduction of historically entrenched social arrangements as much as in the interest of innovation and emancipatory ends. In this sense organizations can be no more or less reflexive, only differently, and with greater and lesser commitments to values of multiplicity, equalities of distribution, social justice and the like.

To understand the ‘new’ as a figuration opens a methodological strategy; in Castaneda’s words "To use figuration as a descriptive tool is to unpack the domains of

practice and significance that are built into each figure ... Understood as figures, furthermore, particular categories of existence can also be considered in terms of their uses – what they 'body forth' in turn. Figuration is thus understood ... to incorporate a double force: constitutive effect and generative circulation" (2002: 3). I have suggested here that one constitutive effect of the figure of the new within technoscience research and development is to create an always available template for invidious comparison – a template that is itself continuously reproduced in the everyday practices of the organization. At the same time, competitive economies of the new, as Callon and others have observed (1998), do not inhere in their objects but rather arise in dynamic qualifications along lines of similitude and difference.

In their introduction to the volume *Histories of the Future* (2005), Daniel Rosenberg and Susan Harding observe that “More and more, our sense of the future is conditioned by a knowledge of, and even a nostalgia for, futures that we have already lost” (3). Leaving aside their “more and more” – a reiteration of the premise of increase that they argue characterizes modernist future imaginings – I’m interested in exploring the relevance of what they name “the progressive chronotype” (4), and the place of the past in future making. By the place of the past I mean not simply the premise that history and memory inflect future imaginings, but more literally how future making requires the simultaneous making of relevant histories as a practice intimately enfolded into acts of invention.

In a consistent vein, Warwick Anderson and Vincanne Adams characterize postcolonial STS as an approach that “challenges us to understand 'global' technoscience as a series of local economic accomplishments, each of them confused and contested.”

They continue:

We need multi-sited histories of science which study the bounding of sites of knowledge production, the creation of value within such boundaries, the relations with other local social circumstances, and the traffic of objects and careers between these sites, and in and out of them ... If we are especially fortunate, these histories will creatively complicate conventional distinctions between center and periphery, modern and traditional, dominant and subordinate, civilized and primitive, global and local (2007: 736).

To pursue these histories requires that we theorise originals and copies as other than the two terms of an opposition. Michael Taussig suggests (1993) that copying is a way of exploring difference, and within STS writings on 'experimental systems' (Rheinberger 1999, Fischer 2007) elaborate an understanding of knowledge production as a result of differential reproduction. This opens a rich vein for retheorizing technological innovation as well: If copying is a way of exploring difference, what ways of knowing are available within a regime that demands the erasure of resemblance and continuity in claims for novelty? What forms of life are possible for subjects and objects when the value of the new relies on the associated production of the obsolete, with respect not only to artifacts but also to the sites and circumstances of their invention?

In his critical reconstruction of tropes of innovation and invention, Andrew Barry argues that a view of technologies not as isolated objects but as relations challenges the equation of inventiveness with the development of novel artefacts. Barry proposes that we might instead take inventiveness as an index of the degree to which an object or practice is associated with opening up possibilities (2001: 211-12). While I can only gesture to it here, I would suggest that iteration comprises a model for invention consistent with this view. Referencing a process wherein each project is informed by what has been learned from its predecessors, iteration is less preoccupied with the new

than with the recurring question: Given what we know now, what should we do next?

This question identifies a direction for the 'merging' of innovation, loosening the grip of unquestioned assumptions regarding the virtues of the new, and making room for more generative and sustainable forms of future making.

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