



Why Has Critique Run out of Steam? From Matters of Fact to Matters of Concern

Author(s): Bruno Latour

Source: *Critical Inquiry*, Vol. 30, No. 2 (Winter 2004), pp. 225-248

Published by: [The University of Chicago Press](#)

Stable URL: <http://www.jstor.org/stable/10.1086/421123>

Accessed: 08/01/2014 06:30

Your use of the JSTOR archive indicates your acceptance of the Terms & Conditions of Use, available at <http://www.jstor.org/page/info/about/policies/terms.jsp>

JSTOR is a not-for-profit service that helps scholars, researchers, and students discover, use, and build upon a wide range of content in a trusted digital archive. We use information technology and tools to increase productivity and facilitate new forms of scholarship. For more information about JSTOR, please contact support@jstor.org.



The University of Chicago Press is collaborating with JSTOR to digitize, preserve and extend access to *Critical Inquiry*.

<http://www.jstor.org>

Why Has Critique Run out of Steam? From Matters of Fact to Matters of Concern

Bruno Latour

Wars. So many wars. Wars outside and wars inside. Cultural wars, science wars, and wars against terrorism. Wars against poverty and wars against the poor. Wars against ignorance and wars out of ignorance. My question is simple: Should we be at war, too, we, the scholars, the intellectuals? Is it really our duty to add fresh ruins to fields of ruins? Is it really the task of the humanities to add deconstruction to destruction? More iconoclasm to iconoclasm? What has become of the critical spirit? Has it run out of steam?

Quite simply, my worry is that it might not be aiming at the right target. To remain in the metaphorical atmosphere of the time, military experts constantly revise their strategic doctrines, their contingency plans, the size, direction, and technology of their projectiles, their smart bombs, their missiles; I wonder why we, we alone, would be saved from those sorts of revisions. It does not seem to me that we have been as quick, in academia, to prepare ourselves for new threats, new dangers, new tasks, new targets. Are we not like those mechanical toys that endlessly make the same gesture when everything else has changed around them? Would it not be rather terrible if we were still training young kids—yes, young recruits, young cadets—for wars that are no longer possible, fighting enemies long gone, conquering territories that no longer exist, leaving them ill-equipped in the face of threats we had not anticipated, for which we are so thoroughly unprepared? Generals have always been accused of being on the ready one war late—especially French generals, especially these days. Would it be so surprising,

For Graham Harman. This text was written for the Stanford presidential lecture held at the humanities center, 7 Apr. 2003. I warmly thank Harvard history of science doctoral students for many ideas exchanged on those topics during this semester.

Critical Inquiry 30 (Winter 2004)

© 2004 by The University of Chicago. 0093-1896/04/3002-0020\$10.00. All rights reserved.

after all, if intellectuals were also one war late, one critique late—especially French intellectuals, especially now? It has been a long time, after all, since intellectuals were in the vanguard. Indeed, it has been a long time since the very notion of the avant-garde—the proletariat, the artistic—passed away, pushed aside by other forces, moved to the rear guard, or maybe lumped with the baggage train.¹ We are still able to go through the motions of a critical avant-garde, but is not the spirit gone?

In these most depressing of times, these are some of the issues I want to press, not to depress the reader but to press ahead, to redirect our meager capacities as fast as possible. To prove my point, I have, not exactly facts, but rather tiny cues, nagging doubts, disturbing telltale signs. What has become of critique, I wonder, when an editorial in the *New York Times* contains the following quote?

Most scientists believe that [global] warming is caused largely by man-made pollutants that require strict regulation. Mr. Luntz [a Republican strategist] seems to acknowledge as much when he says that “the scientific debate is closing against us.” His advice, however, is to emphasize that the evidence is not complete.

“Should the public come to believe that the scientific issues are settled,” he writes, “their views about global warming will change accordingly. Therefore, you need to continue to make the *lack of scientific certainty* a primary issue.”²

Fancy that? An artificially maintained scientific controversy to favor a “brownlash,” as Paul and Anne Ehrlich would say.³

1. On what happened to the avant-garde and critique generally, see *Iconoclasm: Beyond the Image Wars in Science, Religion, and Art*, ed. Bruno Latour and Peter Weibel (Cambridge, Mass., 2002). This article is very much an exploration of what could happen beyond the image wars.

2. “Environmental Word Games,” *New York Times*, 15 Mar. 2003, p. A16. Luntz seems to have been very successful; I read later in an editorial in the *Wall Street Journal*:

There is a better way [than passing a law that restricts business], which is to keep fighting on the merits. There is no scientific consensus that greenhouse gases cause the world’s modest global warming trend, much less whether that warming will do more harm than good, or whether we can even do anything about it.

Once Republicans concede that greenhouse gases must be controlled, it will only be a matter of time before they end up endorsing more economically damaging regulation. They could always stand on principle and attempt to educate the public instead. [“A Republican Kyoto,” *Wall Street Journal*, 8 Apr. 2003, p. A14.]

And the same publication complains about the “pathological relation” of the “Arab street” with truth!

3. Paul R. and Anne H. Ehrlich, *Betrayal of Science and Reason: How Anti-Environmental Rhetoric Threatens Our Future* (Washington, D.C., 1997), p. 1.

BRUNO LATOUR teaches sociology at the École des Mines in Paris.

Do you see why I am worried? I myself have spent some time in the past trying to show “‘*the lack of scientific certainty*’” inherent in the construction of facts. I too made it a “‘primary issue.’” But I did not exactly aim at fooling the public by obscuring the certainty of a closed argument—or did I? After all, I have been accused of just that sin. Still, I’d like to believe that, on the contrary, I intended to *emancipate* the public from prematurely naturalized objectified facts. Was I foolishly mistaken? Have things changed so fast?

In which case the danger would no longer be coming from an excessive confidence in ideological arguments posturing as matters of fact—as we have learned to combat so efficiently in the past—but from an excessive *distrust* of good matters of fact disguised as bad ideological biases! While we spent years trying to detect the real prejudices hidden behind the appearance of objective statements, do we now have to reveal the real objective and incontrovertible facts hidden behind the *illusion* of prejudices? And yet entire Ph.D. programs are still running to make sure that good American kids are learning the hard way that facts are made up, that there is no such thing as natural, unmediated, unbiased access to truth, that we are always prisoners of language, that we always speak from a particular standpoint, and so on, while dangerous extremists are using the very same argument of social construction to destroy hard-won evidence that could save our lives. Was I wrong to participate in the invention of this field known as science studies? Is it enough to say that we did not really mean what we said? Why does it burn my tongue to say that global warming is a fact whether you like it or not? Why can’t I simply say that the argument is closed for good?

Should I reassure myself by simply saying that bad guys can use any weapon at hand, naturalized facts when it suits them and social construction when it suits them? Should we apologize for having been wrong all along? Or should we rather bring the sword of criticism to criticism itself and do a bit of soul-searching here: what were we really after when we were so intent on showing the social construction of scientific facts? Nothing guarantees, after all, that we should be right all the time. There is no sure ground even for criticism.⁴ Isn’t this what criticism intended to say: that there is no sure ground anywhere? But what does it mean when this lack of sure ground is taken away from us by the worst possible fellows as an argument against the things we cherish?

Artificially maintained controversies are not the only worrying sign.

4. The metaphor of shifting sand was used by neomodernists in their critique of science studies; see *A House Built on Sand: Exposing Postmodernist Myths about Science*, ed. Noretta Koertge (Oxford, 1998). The problem is that the authors of this book looked backward, attempting to reenter the solid rock castle of modernism, and not forward to what I call, for lack of a better term, nonmodernism.

What has critique become when a French general, no, a marshal of critique, namely, Jean Baudrillard, claims in a published book that the Twin Towers destroyed themselves under their own weight, so to speak, undermined by the utter nihilism inherent in capitalism itself—as if the terrorist planes were pulled to suicide by the powerful attraction of this black hole of nothingness?⁵ What has become of critique when a book that claims that no plane ever crashed into the Pentagon can be a bestseller? I am ashamed to say that the author was French, too.⁶ Remember the good old days when revisionism arrived very late, after the facts had been thoroughly established, decades after bodies of evidence had accumulated? Now we have the benefit of what can be called *instant revisionism*. The smoke of the event has not yet finished settling before dozens of conspiracy theories begin revising the official account, adding even more ruins to the ruins, adding even more smoke to the smoke. What has become of critique when my neighbor in the little Bourbonnais village where I live looks down on me as someone hopelessly naïve because I believe that the United States had been attacked by terrorists? Remember the good old days when university professors could look down on unsophisticated folks because those hillbillies naïvely believed in church, motherhood, and apple pie? Things have changed a lot, at least in my village. I am now the one who naïvely believes in some facts because I am educated, while the other guys are too *unsophisticated* to be gullible: “Where have you been? Don’t you know that the Mossad and the CIA did it?” What has become of critique when someone as eminent as Stanley Fish, the “enemy of promises” as Lindsay Waters calls him, believes he defends science studies, my field, by comparing the laws of physics to the rules of baseball?⁷ What has become of critique when there is a whole industry denying that the Apollo program landed on the moon? What has become of critique when DARPA uses for its Total Information Awareness project the Baconian slogan *Scientia est potentia*? Didn’t I read that somewhere in Michel Foucault? Has knowledge-slash-power been co-opted of late by the National Security Agency? Has *Discipline and Punish* become the bedtime reading of Mr. Ridge (fig. 1)?

Let me be mean for a second. What’s the real difference between conspiracists and a popularized, that is a teachable version of social critique inspired by a too quick reading of, let’s say, a sociologist as eminent as Pierre

5. See Jean Baudrillard, “*The Spirit of Terrorism*” and “*Requiem for the Twin Towers*” (New York, 2002).

6. See Thierry Meyssan, 911: *The Big Lie* (London, 2002). Conspiracy theories have always existed; what is new in instant revisionism is how much scientific proof they claim to imitate.

7. See Lindsay Waters, *Enemy of Promises* (forthcoming); see also Nick Paumgarten, “Dept. of Super Slo-Mo: No Flag on the Play,” *The New Yorker*, 20 Jan. 2003, p. 32.



FIGURE 1.

Bourdieu (to be polite I will stick with the French field commanders)? In both cases, you have to learn to become suspicious of everything people say because of course we all know that they live in the thralls of a complete *illusio* of their real motives. Then, after disbelief has struck and an explanation is requested for what is really going on, in both cases again it is the same appeal to powerful agents hidden in the dark acting always consistently, continuously, relentlessly. Of course, we in the academy like to use more elevated causes—society, discourse, knowledge-slash-power, fields of forces, empires, capitalism—while conspiracists like to portray a miserable bunch of greedy people with dark intents, but I find something troublingly similar in the structure of the explanation, in the first movement of disbelief and, then, in the wheeling of causal explanations coming out of the deep dark below. What if explanations resorting automatically to power, society, discourse had outlived their usefulness and deteriorated to the point of now

feeding the most gullible sort of critique?⁸ Maybe I am taking conspiracy theories too seriously, but it worries me to detect, in those mad mixtures of knee-jerk disbelief, punctilious demands for proofs, and free use of powerful explanation from the social neverland many of the weapons of social critique. Of course conspiracy theories are an absurd deformation of our own arguments, but, like weapons smuggled through a fuzzy border to the wrong party, these are our weapons nonetheless. In spite of all the deformations, it is easy to recognize, still burnt in the steel, our trademark: *Made in Criticalland*.

Do you see why I am worried? Threats might have changed so much that we might still be directing all our arsenal east or west while the enemy has now moved to a very different place. After all, masses of atomic missiles are transformed into a huge pile of junk once the question becomes how to defend against militants armed with box cutters or dirty bombs. Why would it not be the same with our critical arsenal, with the neutron bombs of deconstruction, with the missiles of discourse analysis? Or maybe it is that critique has been miniaturized like computers have. I have always fancied that what took great effort, occupied huge rooms, cost a lot of sweat and money, for people like Nietzsche and Benjamin, can be had for nothing, much like the supercomputers of the 1950s, which used to fill large halls and expend a vast amount of electricity and heat, but now are accessible for a dime and no bigger than a fingernail. As the recent advertisement of a Hollywood film proclaimed, "Everything is suspect . . . Everyone is for sale . . . And nothing is what it seems."

What's happening to me, you may wonder? Is this a case of midlife crisis? No, alas, I passed middle age quite a long time ago. Is this a patrician spite for the popularization of critique? As if critique should be reserved for the elite and remain difficult and strenuous, like mountain climbing or yachting, and is no longer worth the trouble if everyone can do it for a nickel? What would be so bad with critique for the people? We have been complaining so much about the gullible masses, swallowing naturalized facts, it would be really unfair to now discredit the same masses for their, what should I call it, gullible criticism? Or could this be a case of radicalism gone mad, as when a revolution swallows its progeny? Or, rather, have we behaved

8. Their serious as well as their popularized versions have the defect of using society as an already existing cause instead of as a possible consequence. This was the critique that Gabriel Tarde always made against Durkheim. It is probably the whole notion of *social* and *society* that is responsible for the weakening of critique. I have tried to show that in Latour, "Gabriel Tarde and the End of the Social," in *The Social in Question: New Bearings in History and the Social Sciences*, ed. Patrick Joyce (London, 2002), pp. 117–32.

like mad scientists who have let the virus of critique out of the confines of their laboratories and cannot do anything now to limit its deleterious effects; it mutates now, gnawing everything up, even the vessels in which it is contained? Or is it another case of the famed power of capitalism for recycling everything aimed at its destruction? As Luc Boltanski and Eve Chiapello say, the new spirit of capitalism has put to good use the artistic critique that was supposed to destroy it.⁹ If the dense and moralist cigar-smoking reactionary bourgeois can transform him- or herself into a free-floating agnostic bohemian, moving opinions, capital, and networks from one end of the planet to the other without attachment, why would he or she not be able to absorb the most sophisticated tools of deconstruction, social construction, discourse analysis, postmodernism, postology?

In spite of my tone, I am not trying to reverse course, to become reactionary, to regret what I have done, to swear that I will never be a constructivist any more. I simply want to do what every good military officer, at regular periods, would do: retest the linkages between the new threats he or she has to face and the equipment and training he or she should have in order to meet them—and, if necessary, to revise from scratch the whole paraphernalia. This does not mean for us any more than it does for the officer that we were wrong, but simply that history changes quickly and that there is no greater intellectual crime than to address with the equipment of an older period the challenges of the present one. Whatever the case, our critical equipment deserves as much critical scrutiny as the Pentagon budget.

My argument is that a certain form of critical spirit has sent us down the wrong path, encouraging us to fight the wrong enemies and, worst of all, to be considered as friends by the wrong sort of allies because of a little mistake in the definition of its main target. The question was never to get *away* from facts but *closer* to them, not fighting empiricism but, on the contrary, renewing empiricism.

What I am going to argue is that the critical mind, if it is to renew itself and be relevant again, is to be found in the cultivation of a *stubbornly realist attitude*—to speak like William James—but a realism dealing with what I will call *matters of concern*, not *matters of fact*. The mistake we made, the mistake I made, was to believe that there was no efficient way to criticize matters of fact except by moving *away* from them and directing one's attention *toward* the conditions that made them possible. But this meant accepting much too uncritically what matters of fact were. This was remaining too faithful to the unfortunate solution inherited from the philosophy of

9. See Luc Boltanski and Eve Chiapello, *Le Nouvel Esprit du capitalisme* (Paris, 1999).

Immanuel Kant. Critique has not been critical enough in spite of all its sore-scratching. Reality is not defined by matters of fact. Matters of fact are not all that is given in experience. Matters of fact are only very partial and, I would argue, very polemical, very political renderings of matters of concern and only a subset of what could also be called *states of affairs*. It is this second empiricism, this return to the realist attitude, that I'd like to offer as the next task for the critically minded.

To indicate the direction of the argument, I want to show that while the Enlightenment profited largely from the disposition of a very powerful descriptive tool, that of matters of fact, which were excellent for *debunking* quite a lot of beliefs, powers, and illusions, it found itself totally disarmed once matters of fact, in turn, were eaten up by the same debunking impetus. After that, the lights of the Enlightenment were slowly turned off, and some sort of darkness appears to have fallen on campuses. My question is thus: Can we devise another powerful descriptive tool that deals this time with matters of concern and whose import then will no longer be to debunk but to protect and to care, as Donna Haraway would put it? Is it really possible to transform the critical urge in the ethos of someone who *adds* reality to matters of fact and not *subtract* reality? To put it another way, what's the difference between deconstruction and constructivism?

"So far," you could object, "the prospect doesn't look very good, and you, Monsieur Latour, seem the person the least able to deliver on this promise because you spent your life debunking what the other more polite critics had at least respected until then, namely matters of fact and science itself. You can dust your hands with flour as much as you wish, the black fur of the critical wolf will always betray you; your deconstructing teeth have been sharpened on too many of our innocent labs—I mean lambs!—for us to believe you." Well, see, that's just the problem: I have written about a dozen books to inspire respect for, some people have said to uncritically glorify, the objects of science and technology, of art, religion, and, more recently, law, showing every time in great detail the complete implausibility of their being socially explained, and yet the only noise readers hear is the snapping of the wolf's teeth. Is it really impossible to solve the question, to write not matter-of-factly but, how should I say it, in a matter-of-concern way?¹⁰

Martin Heidegger, as every philosopher knows, has meditated many times on the ancient etymology of the word *thing*. We are now all aware that in all the European languages, including Russian, there is a strong connec-

10. This is the achievement of the great novelist Richard Powers, whose stories are a careful and, in my view, masterful enquiry into this new "realism." Especially relevant for this paper is Richard Powers, *Plowing the Dark* (New York, 2000).

tion between the words for thing and a quasi-judiciary assembly. Icelanders boast of having the oldest Parliament, which they call *Althing*, and you can still visit in many Scandinavian countries assembly places that are designated by the word *Ding* or *Thing*. Now, is this not extraordinary that the banal term we use for designating what is out there, unquestionably, a thing, what lies out of any dispute, out of language, is also the oldest word we all have used to designate the oldest of the sites in which our ancestors did their dealing and tried to settle their disputes?¹¹ A thing is, in one sense, an object out there and, in another sense, an *issue* very much *in* there, at any rate, a *gathering*. To use the term I introduced earlier now more precisely, the same word *thing* designates matters of fact and matters of concern.

Needless to say, although he develops this etymology at length, this is not the path that Heidegger has taken. On the contrary, all his writing aims to make as sharp a distinction as possible between, on the one hand, objects, *Gegenstand*, and, on the other, the celebrated *Thing*. The handmade jug can be a thing, while the industrially made can of Coke remains an object. While the latter is abandoned to the empty mastery of science and technology, only the former, cradled in the respectful idiom of art, craftsmanship, and poetry, could deploy and gather its rich set of connections.¹² This bifurcation is marked many times but in a decisive way in his book on Kant:

Up to this hour such questions have been open. Their questionability is concealed by the results and the progress of scientific work. One of these burning questions concerns the justification and limits of mathematical formalism in contrast to the demand for an immediate return to intuitively given nature.¹³

What has happened to those who, like Heidegger, have tried to find their ways in immediacy, in intuition, in nature would be too sad to retell—and is well known anyway. What is certain is that those pathmarks off the beaten track led indeed nowhere. And, yet, Heidegger, when he takes the jug seriously, offers a powerful vocabulary to talk also about the object he despises so much. What would happen, I wonder, if we tried to talk about the object of science and technology, the *Gegenstand*, as if it had the rich and complicated qualities of the celebrated *Thing*?

The problem with philosophers is that because their jobs are so hard they

11. See the erudite study by the remarkable French scholar of Roman law, Yan Thomas, "Res, chose et patrimoine (note sur le rapport sujet-objet en droit romain)," *Archives de philosophie du droit* 25 (1980): 413–26.

12. See Graham Harman, *Tool-Being: Heidegger and the Metaphysics of Objects* (Chicago, 2002).

13. Martin Heidegger, *What Is a Thing?* trans. W. B. Barton, Jr., and Vera Deutsch (Chicago, 1967), p. 95.

drink a lot of coffee and thus use in their arguments an inordinate quantity of pots, mugs, and jugs—to which, sometimes, they might add the occasional rock. But, as Ludwik Fleck remarked long ago, their objects are never complicated enough; more precisely, they are never simultaneously *made* through a complex history and new, real, and *interesting* participants in the universe.¹⁴ Philosophy never deals with the sort of beings we in science studies have dealt with. And that's why the debates between realism and relativism never go anywhere. As Ian Hacking has recently shown, the engagement of a rock in philosophical talk is utterly different if you take a banal rock to make your point (usually to lapidate a passing relativist!) or if you take, for instance, dolomite, as he has done so beautifully.¹⁵ The first can be turned into a matter of fact but not the second. Dolomite is so beautifully complex and entangled that it resists being treated as a matter of fact. It too can be described as a gathering; it too can be seen as engaging the fourfold. Why not try to portray it with the same enthusiasm, engagement, and complexity as the Heideggerian jug? Heidegger's mistake is not to have treated the jug too well, but to have traced a dichotomy between *Gegenstand* and *Thing* that was justified by nothing except the crassest of prejudices.

Several years ago another philosopher, much closer to the history of science, namely Michel Serres, also French, but this time as foreign to critique as one can get, meditated on what it would mean to take objects of science in a serious anthropological and ontological fashion. It is interesting to note that every time a philosopher gets closer to an object of science that is at once historical and interesting, his or her philosophy changes, and the specifications for a realist attitude become, at once, more stringent and completely different from the so-called realist philosophy of science concerned with routine or boring objects. I was reading his passage on the *Challenger* disaster in his book *Statues* when another shuttle, *Columbia*, in early 2003 offered me a tragic instantiation of yet another metamorphosis of an object into a thing.¹⁶

What else would you call this sudden transformation of a completely mastered, perfectly understood, quite forgotten by the media, taken-for-granted, matter-of-factual projectile into a sudden shower of debris falling

14. Although Fleck is the founder of science studies, the impact of his work is still very much in the future because he has been so deeply misunderstood by Thomas Kuhn; see Thomas Kuhn, foreword to Ludwik Fleck, *Genesis and Development of a Scientific Fact* (1935; Chicago, 1979), pp. vii–xi.

15. See Ian Hacking, *The Social Construction of What?* (Cambridge, Mass., 1999), in particular the last chapter.

16. See Michel Serres, *Statues: Le Second Livre des fondations* (Paris, 1987). On the reason why Serres was never critical, see Serres with Latour, *Conversations on Science, Culture, and Time*, trans. Roxanne Lapidus (Ann Arbor, Mich., 1995).

on the United States, which thousands of people tried to salvage in the mud and rain and collect in a huge hall to serve as so many clues in a judicial scientific investigation? Here, suddenly, in a stroke, an object had become a thing, a matter of fact was considered as a matter of great concern. If a thing is a gathering, as Heidegger says, how striking to see how it can suddenly *disband*. If the “thinging of the thing” is a gathering that always connects the “united four, earth and sky, divinities and mortals, in the simple onefold of their self-unified fourfold,”¹⁷ how could there be a better example of this making and unmaking than this catastrophe unfolding all its thousands of folds? How could we see it as a normal accident of technology when, in his eulogy for the unfortunate victims, your president said: “The crew of the shuttle Columbia did not return safely to Earth; yet we can pray that all are safely home?”¹⁸ As if no shuttle ever moved simply in space, but also always in heaven.

This was on C-Span 1, but on C-Span 2, at the very same time, early February 2003, another extraordinary parallel event was occurring. This time a Thing—with a capital T—was assembled to try to coalesce, to gather in one decision, one object, one projection of force: a military strike against Iraq. Again, it was hard to tell whether this gathering was a tribunal, a parliament, a command-and-control war room, a rich man’s club, a scientific congress, or a TV stage. But certainly it was an assembly where matters of great concern were debated and proven—except there was much puzzlement about which type of proofs should be given and how accurate they were. The difference between C-Span 1 and C-Span 2, as I watched them with bewilderment, was that while in the case of *Columbia* we had a perfectly mastered object that suddenly was transformed into a shower of burning debris that was used as so much evidence in an investigation, there, at the United Nations, we had an investigation that tried to coalesce, in one unifying, unanimous, solid, mastered object, masses of people, opinions, and might. In one case the object was metamorphosed into a thing; in the second, the thing was attempting to turn into an object. We could witness, in one case, the head, in another, the tail of the trajectory through which matters of fact emerge out of matters of concern. In both cases we were offered a unique window into the number of *things* that have to participate in the gathering of an *object*. Heidegger was not a very good anthropologist of science and technology; he had only four folds, while the smallest shuttle, the shortest war, has millions. How many gods, passions, controls, insti-

17. Heidegger, “The Thing,” *Poetry, Language, Thought*, trans. Albert Hofstadter (New York, 1971), p. 178.

18. “Bush Talking More about Religion: Faith to Solve the Nation’s Problems,” CNN website, 18 Feb. 2003, www.cnn.com/2003/ALLPOLITICS/02/18/bush.faith/

tutions, techniques, diplomacies, wits have to be folded to connect “earth and sky, divinities and mortals”—oh yes, especially mortals. (Frightening omen, to launch such a complicated war, just when such a beautifully mastered object as the shuttle disintegrated into thousands of pieces of debris raining down from the sky—but the omen was not heeded; gods nowadays are invoked for convenience only.)

My point is thus very simple: things have become Things again, objects have reentered the arena, the Thing, in which they have to be gathered first in order to exist later as what *stands apart*. The parenthesis that we can call the modern parenthesis during which we had, on the one hand, a world of objects, *Gegenstand*, out there, unconcerned by any sort of parliament, forum, agora, congress, court and, on the other, a whole set of forums, meeting places, town halls where people debated, has come to a close. What the etymology of the word *thing*—*chose, causa, res, aitia*—had conserved for us mysteriously as a sort of fabulous and mythical past has now become, for all to see, our most ordinary present. Things are gathered again. Was it not extraordinarily moving to see, for instance, in the lower Manhattan reconstruction project, the long crowds, the angry messages, the passionate emails, the huge agoras, the long editorials that connected so many people to so many variations of the project to replace the Twin Towers? As the architect Daniel Libeskind said a few days before the decision, building will never be the same.

I could open the newspaper and unfold the number of former objects that have become things again, from the global warming case I mentioned earlier to the hormonal treatment of menopause, to the work of Tim Lenoir, the primate studies of Linda Fedigan and Shirley Strum, or the hyenas of my friend Steven Glickman.¹⁹

Nor are those gatherings limited to the present period as if only recently objects had become so obviously things. Every day historians of science help us realize to what extent we have never been modern because they keep revising every single element of past matters of fact from Mario Biagioli’s Galileo, Steven Shapin’s Boyle, and Simon Schaffer’s Newton, to the incredibly intricate linkages between Einstein and Poincaré that Peter Galison has narrated in his latest masterpiece.²⁰ Many others of course could be cited, but the crucial point for me now is that what allowed historians, phi-

19. Serres proposed the word *quasi-object* to cover this intermediary phase between things and objects—a philosophical question much more interesting than the tired old one of the relation between *words* and *worlds*. On the new way animals appear to scientists and the debate it triggers, see *Primate Encounters: Models of Science, Gender, and Society*, ed. Shirley Strum and Linda Fedigan (Chicago, 2000), and Vinciane Despret, *Quand le loup habitera avec l’agneau* (Paris, 2002).

20. See Peter Galison, *Einstein’s Clocks, Poincaré’s Maps: Empires of Time* (New York, 2003).

losophers, humanists, and critics to trace *the* difference between modern and premodern, namely, the sudden and somewhat miraculous appearance of matters of fact, is now thrown into doubt with the merging of matters of fact into highly complex, historically situated, richly diverse matters of concern. You can do one sort of thing with mugs, jugs, rocks, swans, cats, mats but not with Einstein's Patent Bureau electric coordination of clocks in Bern. Things that gather cannot be thrown at you like objects.

And, yet, I know full well that this is not enough because, no matter what we do, when we try to reconnect scientific objects with their aura, their crown, their web of associations, when we accompany them back to their gathering, we always appear to *weaken* them, not to *strengthen* their claim to reality. I know, I know, we are acting with the best intentions in the world, we want to *add* reality to scientific objects, but, inevitably, through a sort of tragic bias, we seem always to be subtracting some bit from it. Like a clumsy waiter setting plates on a slanted table, every nice dish slides down and crashes on the ground. Why can we never discover the same stubbornness, the same solid realism by bringing out the obviously webby, "thingy" qualities of matters of concern? Why can't we ever counteract the claim of realists that only a fare of matters of fact can satisfy their appetite and that matters of concern are much like nouvelle cuisine—nice to look at but not fit for voracious appetites?

One reason is of course the position objects have been given in most social sciences, a position that is so ridiculously useless that if it is employed, even in a small way, for dealing with science, technology, religion, law, or literature it will make absolutely impossible any serious consideration of objectivity—I mean of "thinginess." Why is this so? Let me try to portray the critical landscape in its ordinary and routine state.²¹

We can summarize, I estimate, 90 percent of the contemporary critical scene by the following series of diagrams that fixate the object at only two positions, what I have called the *fact* position and the *fairy* position—*fact* and *fairy* are etymologically related but I won't develop this point here. The *fairy* position is very well known and is used over and over again by many social scientists who associate criticism with antifetishism. The role of the critic is then to show that what the naïve believers are doing with objects is simply a projection of their wishes onto a material entity that does nothing at all by itself. Here they have diverted to their petty use the prophetic ful-

21. I summarize here some of the results of my already long anthropological inquiry into the iconoclastic gesture, from Latour, *We Have Never Been Modern*, trans. Catherine Porter (Cambridge, Mass., 1993) to *Pandora's Hope: Essays on the Reality of Science Studies* (Cambridge, Mass., 1999) and of course *Iconoclash*.

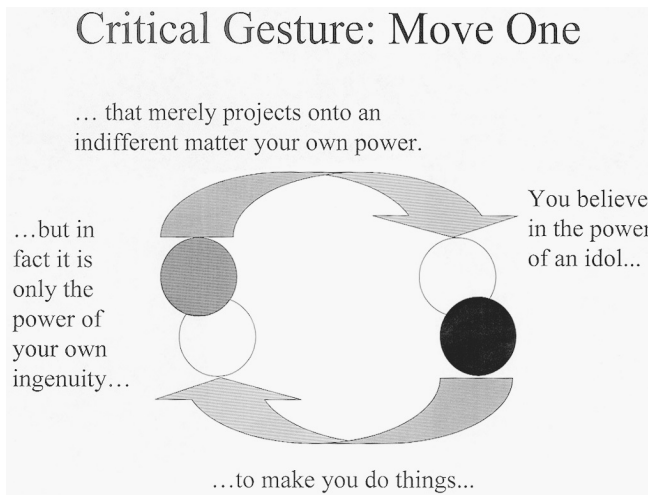


FIGURE 2.

mination against idols “they have mouths and speak not, they have ears and hear not,” but they use this prophecy to decry the very objects of belief—gods, fashion, poetry, sport, desire, you name it—to which naïve believers cling with so much intensity.²² And then the courageous critic, who alone remains aware and attentive, who never sleeps, turns those false objects into fetishes that are supposed to be nothing but mere empty white screens on which is projected the power of society, domination, whatever. The naïve believer has received a first salvo (fig. 2).

But, wait, a second salvo is in the offing, and this time it comes from the fact pole. This time it is the poor bloke, again taken aback, whose behavior is now “explained” by the powerful effects of indisputable matters of fact: “You, ordinary fetishists, believe you are free but, in reality, you are acted on by forces you are not conscious of. Look at them, look, you blind idiot” (and here you insert whichever pet facts the social scientists fancy to work with, taking them from economic infrastructure, fields of discourse, social domination, race, class, and gender, maybe throwing in some neurobiology, evolutionary psychology, whatever, provided they act as indisputable facts whose origin, fabrication, mode of development are left unexamined) (fig. 3).

Do you see now why it feels so good to be a critical mind? Why critique,

22. See William Pietz, “The Problem of the Fetish, I,” *Res* 9 (Spring 1985): 5–17, “The Problem of the Fetish, II: The Origin of the Fetish” *Res* 13 (Spring 1987): 23–45, and “The Problem of the Fetish, IIIa: Bosman’s Guinea and the Enlightenment Theory of Fetishism,” *Res* 16 (Autumn 1988): 105–23.

Critical Gesture: Move Two

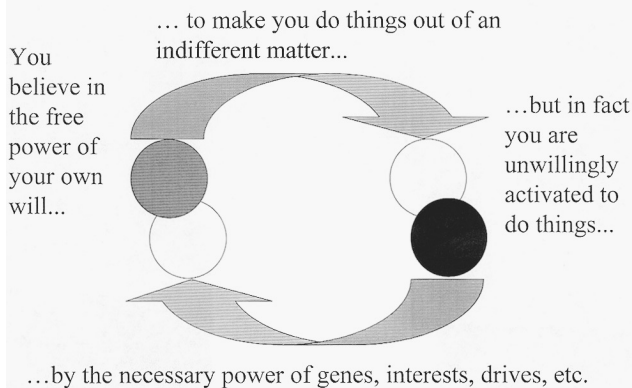


FIGURE 3.

this most ambiguous *pharmakon*, has become such a potent euphoric drug? You are always right! When naïve believers are clinging forcefully to their objects, claiming that they are made to do things because of their gods, their poetry, their cherished objects, you can turn all of those attachments into so many fetishes and humiliate all the believers by showing that it is nothing but their own projection, that you, yes you alone, can see. But as soon as naïve believers are thus inflated by some belief in their own importance, in their own projective capacity, you strike them by a second uppercut and humiliate them again, this time by showing that, whatever they think, their behavior is entirely determined by the action of powerful causalities coming from objective reality they don't see, but that you, yes you, the never sleeping critic, alone can see. Isn't this fabulous? Isn't it really worth going to graduate school to study critique? "Enter here, you poor folks. After arduous years of reading turgid prose, you will be always right, you will never be taken in any more; no one, no matter how powerful, will be able to accuse you of naïveté, that supreme sin, any longer? Better equipped than Zeus himself you rule alone, striking from above with the salvo of antifetishism in one hand and the solid causality of objectivity in the other." The only loser is the naïve believer, the great unwashed, always caught off balance (fig. 4).

Is it so surprising, after all, that with such positions given to the object, the humanities have lost the hearts of their fellow citizens, that they had to retreat year after year, entrenching themselves always further in the narrow barracks left to them by more and more stingy deans? The Zeus of Critique rules absolutely, to be sure, but over a desert.

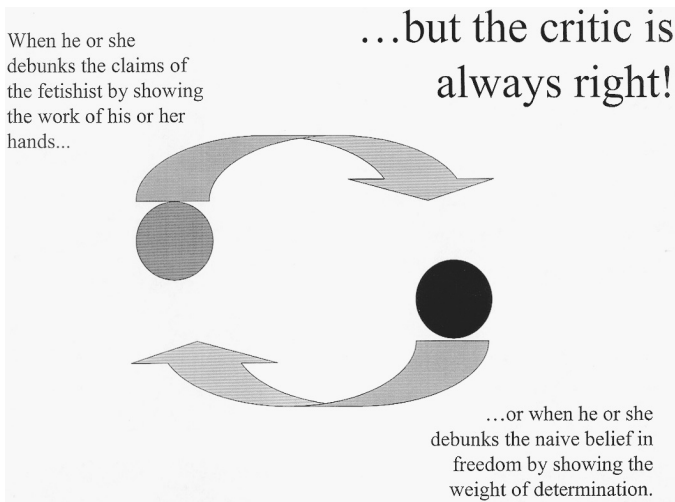


FIGURE 4.

One thing is clear, not one of us readers would like to see *our* own most cherished objects treated in this way. We would recoil in horror at the mere suggestion of having them socially explained, whether we deal in poetry or robots, stem cells, black holes, or impressionism, whether we are patriots, revolutionaries, or lawyers, whether we pray to God or put our hope in neuroscience. This is why, in my opinion, those of us who tried to portray sciences as matters of concern so often failed to convince; readers have confused the treatment we give of the former matters of fact with the terrible fate of objects processed through the hands of sociology, cultural studies, and so on. And I can't blame our readers. What social scientists do to our favorite objects is so horrific that certainly we don't want them to come any nearer. "Please," we exclaim, "don't touch them at all! Don't try to explain them!" Or we might suggest more politely: "Why don't you go further down the corridor to this other department? *They* have bad facts to account for; why don't you explain away those ones instead of ours?" And this is the reason why, when we want respect, solidity, obstinacy, robustness, we all prefer to stick to the language of matters of fact no matter its well-known defects.

And yet this is not the only way because the cruel treatment objects undergo in the hands of what I'd like to call *critical barbarity* is rather easy to undo. If the critical barbarian appears so powerful, it is because the two mechanisms I have just sketched are never put together in one single diagram (fig. 5). Antifetishists debunk objects they don't believe in by showing the productive and projective forces of people; then, without ever making

The Critical Trick: Two Objects-Two Subjects

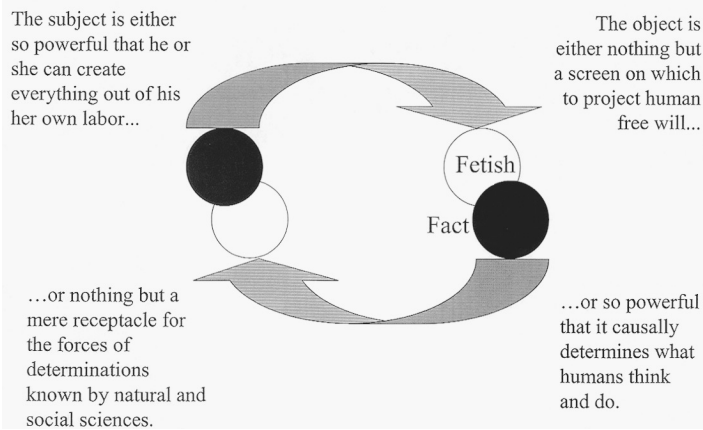


FIGURE 5.

the connection, they use objects they do believe in to resort to the causalist or mechanist explanation and debunk conscious capacities of people whose behavior they don't approve of. The whole rather poor trick that allows critique to go on, although we would never confine our own valuables to their sordid pawnshop, is that there is never any *crossover between the two lists of objects* in the fact position and the fairy position. This is why you can be at once and without even sensing any contradiction (1) an antifetishist for everything you don't believe in—for the most part religion, popular culture, art, politics, and so on; (2) an unrepentant positivist for all the sciences you believe in—sociology, economics, conspiracy theory, genetics, evolutionary psychology, semiotics, just pick your preferred field of study; and (3) a perfectly healthy sturdy realist for what you really cherish—and of course it might be criticism itself, but also painting, bird-watching, Shakespeare, baboons, proteins, and so on.

If you think I am exaggerating in my somewhat dismal portrayal of the critical landscape, it is because we have had in effect almost no occasion so far to detect the total mismatch of the three contradictory repertoires—antifetishism, positivism, realism—because we carefully manage to apply them on *different* topics. We explain the objects we don't approve of by treating them as fetishes; we account for behaviors we don't like by discipline whose makeup we don't examine; and we concentrate our passionate interest on only those things that are for us worthwhile matters of concern. But of course such a cavalier attitude with such contradictory repertoires is not possible for those of us, in science studies, who have to deal with states

of affairs that fit neither in the list of plausible fetishes—because everyone, including us, does believe very strongly in them—nor in the list of undisputable facts because we are witnessing their birth, their slow construction, their fascinating emergence as matters of concern. The metaphor of the Copernican revolution, so tied to the destiny of critique, has always been for us, science students, simply moot. This is why, with more than a good dose of field chauvinism, I consider this tiny field so important; it is the little rock in the shoe that might render the routine patrol of the critical barbarians more and more painful.

The mistake would be to believe that we too have given a social explanation of scientific facts. No, even though it is true that at first we tried, like good critics trained in the good schools, to use the armaments handed to us by our betters and elders to crack open—one of their favorite expressions, meaning to destroy—religion, power, discourse, hegemony. But, fortunately (yes, fortunately!), one after the other, we witnessed that the black boxes of science remained closed and that it was rather the tools that lay in the dust of our workshop, disjointed and broken. Put simply, critique was useless against objects of some solidity. You can try the projective game on UFOs or exotic divinities, but don't try it on neurotransmitters, on gravitation, on Monte Carlo calculations. But critique is also useless when it begins to use the results of one science uncritically, be it sociology itself, or economics, or postimperialism, to account for the behavior of people. You can try to play this miserable game of explaining aggression by invoking the genetic makeup of violent people, but try to do that while dragging in, at the same time, the many controversies in genetics, including evolutionary theories in which geneticists find themselves so thoroughly embroiled.²³

On both accounts, matters of concern never occupy the two positions left for them by critical barbarity. Objects are much too strong to be treated as fetishes and much too weak to be treated as indisputable causal explanations of some unconscious action. And this is not true of scientific states of affairs only; this is our great discovery, what made science studies commit such a felicitous mistake, such a *felix culpa*. Once you realize that scientific objects cannot be socially explained, then you realize too that the so-called weak objects, those that appear to be candidates for the accusation of antitfetishism, were never mere projections on an empty screen either.²⁴ They

23. For a striking example, see Jean-Jacques Kupiec and Pierre Sonigo, *Ni Dieu ni gène: Pour une autre théorie de l'hérédité* (Paris, 2000); see also Evelyn Fox-Keller, *The Century of the Gene* (Cambridge, Mass., 2000).

24. I have attempted to use this argument recently on two most difficult types of entities, Christian divinities (Latour, *Jubiler ou les tourments de la parole religieuse* [Paris, 2002]) and law (Latour, *La Fabrique du droit: Une Ethnographie du Conseil d'État* [Paris, 2002]).

too act, they too do things, they too *make you do* things. It is not only the objects of science that resist, but all the others as well, those that were supposed to have been ground to dust by the powerful teeth of automated reflex-action deconstructors. To accuse something of being a fetish is the ultimate gratuitous, disrespectful, insane, and barbarous gesture.²⁵

Is it not time for some progress? To the fact position, to the fairy position, why not add a third position, a *fair* position? Is it really asking too much from our collective intellectual life to devise, at least once a century, some *new* critical tools? Should we not be thoroughly humiliated to see that military personnel are more alert, more vigilant, more innovative than we, the pride of academia, the *crème de la crème*, who go on ceaselessly transforming the whole rest of the world into naïve believers, into fetishists, into hapless victims of domination, while at the same time turning them into the mere superficial consequences of powerful hidden causalities coming from infrastructures whose makeup is never interrogated? All the while being intimately certain that the things really close to our hearts would in no way fit any of those roles. Are you not all tired of those “explanations”? I am, I have always been, when I know, for instance, that the God to whom I pray, the works of art I cherish, the colon cancer I have been fighting, the piece of law I am studying, the desire I feel, indeed, the very book I am writing could in no way be accounted for by fetish or fact, nor by any combination of those two absurd positions?

To retrieve a realist attitude, it is not enough to dismantle critical weapons so uncritically built up by our predecessors as we would obsolete but still dangerous atomic silos. If we had to dismantle social theory only, it would be a rather simple affair; like the Soviet empire, those big totalities have feet of clay. But the difficulty lies in the fact that they are built on top of a much older philosophy, so that whenever we try to replace matters of fact by matters of concern, we seem to lose something along the way. It is like trying to fill the mythical Danaid’s barrel—no matter what we put in it, the level of realism never increases. As long as we have not sealed the leaks, the realist attitude will always be split; matters of fact take the best part, and matters of concern are limited to a rich but essentially void or irrelevant *history*. More will always seem less. Although I wish to keep this paper short, I need to take a few more pages to deal with ways to overcome this bifurcation.

Alfred North Whitehead famously said, “The recourse to metaphysics is

25. The exhibition in Karlsruhe, Germany, *Iconoclash*, was a sort of belated ritual in order to atone for so much wanton destruction.

like throwing a match into a powder magazine. It blows up the whole arena.”²⁶ I cannot avoid getting into it because I have talked so much about weapon systems, explosions, iconoclasm, and arenas. Of all the modern philosophers who tried to overcome matters of fact, Whitehead is the only one who, instead of taking the path of critique and directing his attention *away* from facts to what makes them possible as Kant did; or adding something to their bare bones as Husserl did; or avoiding the fate of their domination, their *Gestell*, as much as possible as Heidegger did; tried to get *closer* to them or, more exactly, to see through them the reality that requested a new respectful realist attitude. No one is less a critic than Whitehead, in all the meanings of the word, and it’s amusing to notice that the only pique he ever directed against someone else was against the other W., the one considered, wrongly in my view, as the greatest philosopher of the twentieth century, not W. as in Bush but W. as in Wittgenstein.

What set Whitehead completely apart and straight on our path is that he considered matters of fact to be a very poor rendering of what is given in experience and something that muddles entirely the question, What is there? with the question, How do we know it? as Isabelle Stengers has shown recently in a major book about Whitehead’s philosophy.²⁷ Those who now mock his philosophy don’t understand that they have resigned themselves to what he called the “bifurcation of nature.” They have entirely forgotten what it would require if we were to take this incredible sentence seriously: “For natural philosophy everything perceived is in nature. We may not pick up and choose. For us the red glow of the sunset should be as much part of nature as are the molecules and electric waves by which men of science would explain the phenomenon” (*CN*, pp. 28–29).

All subsequent philosophies have done exactly the opposite: they have picked and chosen, and, worse, they have remained content with that limited choice. The solution to this bifurcation is not, as phenomenologists would have it, adding to the boring electric waves the rich lived world of the glowing sun. This would simply make the bifurcation greater. The solution or, rather, the adventure, according to Whitehead, is to dig much further into the realist attitude and to realize that matters of fact are totally implausible, unrealistic, unjustified definitions of what it is to deal with things:

26. Alfred North Whitehead, *The Concept of Nature* (Cambridge, 1920), p. 29; hereafter abbreviated *CN*.

27. See Isabelle Stengers, *Penser avec Whitehead: Une Libre et sauvage création de concepts* (Paris, 2002), a book which has the great advantage of taking seriously Whitehead’s science as well as his theory of God.

Thus matter represents the refusal to think away spatial and temporal characteristics and to arrive at the bare concept of an individual entity. It is this refusal which has caused the muddle of *importing the mere procedure of thought into the fact of nature*. The entity, bared of all characteristics except those of space and time, has acquired a physical status as the ultimate texture of nature; so that the course of nature is conceived as being merely the fortunes of matter in its adventure through space. [CN, p. 20]

It is not the case that there would exist solid matters of fact and that the next step would be for us to decide whether they will be used to explain something. It is not the case either that the other solution is to attack, criticize, expose, historicize those matters of fact, to show that they are made up, interpreted, flexible. It is not the case that we should rather flee out of them into the mind or add to them symbolic or cultural dimensions; the question is that matters of fact are a poor *proxy* of experience and of experimentation and, I would add, a confusing bundle of polemics, of epistemology, of modernist politics that can in no way claim to represent what is requested by a realist attitude.²⁸

Whitehead is not an author known for keeping the reader wide awake, but I want to indicate at least the *direction* of the new critical attitude with which I wish to replace the tired routines of most social theories.

The solution lies, it seems to me, in this promising word *gathering* that Heidegger had introduced to account for the “thingness of the thing.” Now, I know very well that Heidegger and Whitehead would have nothing to say to one another, and, yet, the word the latter used in *Process and Reality* to describe “actual occasions,” his word for my matters of concern, is the word *societies*. It is also, by the way, the word used by Gabriel Tarde, the real founder of French sociology, to describe all sorts of entities. It is close enough to the word *association* that I have used all along to describe the objects of science and technology. Andrew Pickering would use the words “mangle of practice.”²⁹ Whatever the words, what is presented here is an entirely different attitude than the critical one, not a flight into the conditions of possibility of a given matter of fact, not the addition of something

28. That matters of fact represent now a rather rare and complicated historical rendering of experience has been made powerfully clear by many writers; see, for telling segments of this history, Christian Licoppe, *La Formation de la pratique scientifique: Le Discours de l'expérience en France et en Angleterre (1630–1820)* (Paris, 1996); Mary Poovey, *A History of the Modern Fact: Problems of Knowledge in the Sciences of Wealth and Society* (Chicago, 1999); Lorraine Daston and Katherine Park, *Wonders and the Order of Nature, 1150–1750* (New York, 1998); and *Picturing Science, Producing Art*, ed. Caroline A. Jones, Galison, and Amy Slaton (New York, 1998).

29. See Andrew Pickering, *The Mangle of Practice: Time, Agency, and Science* (Chicago, 1995).

more human than the inhumane matters of fact would have missed, but, rather, a multifarious inquiry launched with the tools of anthropology, philosophy, metaphysics, history, sociology to detect *how many participants* are gathered in a *thing* to make it exist and to maintain its existence. Objects are simply a gathering that has failed—a fact that has not been assembled according to due process.³⁰ The stubbornness of matters of fact in the usual scenography of the rock-kicking objector—“It is there whether you like it or not”—is much like the stubbornness of political demonstrators: “the U.S., love it or leave it,” that is, a very poor substitute for any sort of vibrant, articulate, sturdy, decent, long-term existence.³¹ A gathering, that is, a thing, an issue, inside a Thing, an arena, can be very sturdy, too, on the condition that the number of its participants, its ingredients, nonhumans as well as humans, not be limited in advance.³² It is entirely wrong to divide the collective, as I call it, into the sturdy matters of fact, on the one hand, and the dispensable crowds, on the other. Archimedes spoke for a whole tradition when he exclaimed: “Give me one fixed point and I will move the Earth,” but am I not speaking for another, much less prestigious but maybe as respectable tradition, if I exclaim in turn “Give me one matter of concern and I will show you the whole earth and heavens that have to be gathered to hold it firmly in place”? For me it makes no sense to reserve the realist vocabulary for the first one only. The critic is not the one who debunks, but the one who assembles. The critic is not the one who lifts the rugs from under the feet of the naïve believers, but the one who offers the participants arenas in which to gather. The critic is not the one who alternates haphazardly between antifetishism and positivism like the drunk iconoclast drawn by Goya, but the one for whom, if something is constructed, then it means it is fragile and thus in great need of care and caution. I am aware that to get at the heart of this argument one would have to renew also what it means to be a constructivist, but I have said enough to indicate the direction of critique, not *away* but *toward* the gathering, the Thing.³³ Not westward, but, so to speak, eastward.³⁴

30. See Latour, *Politics of Nature: How to Bring the Sciences into Democracy*, trans. Porter (Cambridge, Mass., 2004).

31. See the marvelously funny rendering of the realist gesture in Malcolm Ashmore, Derek Edwards, and Jonathan Potter, “The Bottom Line: The Rhetoric of Reality Demonstrations,” *Configurations* 2 (Winter 1994): 1–14.

32. This is the challenge of a new exhibition I am curating with Peter Weibel in Karlsruhe and that is supposed to take place in 2004 under the provisional title “Making Things Public.” This exhibition will explore what *Iconoclash* had simply pointed at, namely, beyond the image wars.

33. This paper is a companion of another one: Latour, “The Promises of Constructivism,” in *Chasing Technoscience: Matrix for Materiality*, ed. Don Ihde and Evan Selinger (Bloomington, Ind., 2003), pp. 27–46.

34. This is why, although I share all of the worries of Thomas de Zengotita, “Common Ground: Finding Our Way Back to the Enlightenment,” *Harper's* 306 (Jan. 2003): 35–45, I think he is

The practical problem we face, if we try to go that new route, is to associate the word *criticism* with a whole set of new positive metaphors, gestures, attitudes, knee-jerk reactions, habits of thoughts. To begin with this new habit forming, I'd like to extract another definition of critique from the most unlikely source, namely, Allan Turing's original paper on thinking machines.³⁵ I have a good reason for that: here is the typical paper about formalism, here is the origin of one of the icons—to use a cliché of anti-fetishism—of the contemporary age, namely, the computer, and yet, if you read this paper, it is so baroque, so kitsch, it assembles such an astounding number of metaphors, beings, hypotheses, allusions, that there is no chance that it would be accepted nowadays by any journal. Even *Social Text* would reject it out of hand as another hoax! “Not again,” they would certainly say, “once bitten, twice shy.” Who would take a paper seriously that states somewhere after having spoken of Muslim women, punishment of boys, extra-sensory perception: “In attempting to construct such machines we should not be irreverently usurping [God's] power of creating souls, any more than we are in the procreation of children: rather we are, in either case, instruments of His will providing mansions for the souls that He creates” (“CM,” p. 443).

Lots of gods, always in machines. Remember how Bush eulogized the crew of the *Columbia* for reaching home in heaven, if not home on earth? Here Turing too cannot avoid mentioning God's creative power when talking of this most mastered machine, the computer that he has invented. That's precisely his point. The computer is in for many surprises; you get out of it much more than you put into it. In the most dramatic way, Turing's paper demonstrates, once again, that all objects are born things, all matters of fact require, in order to exist, a bewildering variety of matters of concern.³⁶ The surprising result is that we don't master what we, ourselves, have fabricated, the object of this definition of critique:³⁷

entirely mistaken in the *direction* of the move he proposes back to the future; to go back to the “natural” attitude is a sign of nostalgia.

35. See A.M. Turing, “Computing Machinery and Intelligence,” *Mind* 59 (Oct. 1950): 433–60; hereafter abbreviated “CM.” See also what Powers in *Galatea 2.2* (New York, 1995) did with this paper; this is critique in the most generous sense of the word. For the context of this paper, see Andrew Hodges, *Alan Turing: The Enigma* (New York, 1983).

36. A nonformalist definition of formalism has been proposed by Brian Rotman, *Ad Infinitum: The Ghost in Turing's Machine: Taking God out of Mathematics and Putting the Body Back In* (Stanford, Calif., 1993).

37. Since Turing can be taken as the first and best programmer, those who believe in defining machines by inputs and outputs should meditate his confession:

Machines take me by surprise with great frequency. This is largely because I do not do sufficient calculation to decide what to expect them to do, or rather because, although I do a calculation, I do it in a hurried, slipshod fashion, taking risks. Perhaps I say to myself, “I suppose the voltage here ought to be the same as there: anyway let's assume it is.” Naturally I

Let us return for a moment to Lady Lovelace's objection, which stated that the machine can only do what we tell it to do. One could say that a man can "inject" an idea into the machine, and that it will respond to a certain extent and then drop into quiescence, like a piano string struck by a hammer. Another simile would be an atomic pile of less than critical size: an injected idea is to correspond to a neutron entering the pile from without. Each such neutron will cause a certain disturbance which eventually dies away. If, however, the size of the pile is sufficiently increased, the disturbance caused by such an incoming neutron will very likely go on and on increasing until the whole pile is destroyed. Is there a corresponding phenomenon for minds, and is there one for machines? There does seem to be one for the human mind. The majority of them seem to be "sub-critical," *i.e.* to correspond in this analogy to piles of sub-critical size. An idea presented to such a mind will on average give rise to less than one idea in reply. A smallish proportion are super-critical. An idea presented to such a mind may give rise to a whole "theory" consisting of secondary, tertiary and more remote ideas. Animals' minds seem to be very definitely sub-critical. Adhering to this analogy we ask, "Can a machine be made to be super-critical?" ["CM," p. 454]

We all know subcritical minds, that's for sure! What would critique do if it could be associated with *more*, not with *less*, with *multiplication*, not *subtraction*. Critical theory died away long ago; can we become critical again, in the sense here offered by Turing? That is, generating more ideas than we have received, inheriting from a prestigious critical tradition but not letting it die away, or "dropping into quiescence" like a piano no longer struck. This would require that all entities, including computers, cease to be objects defined simply by their inputs and outputs and become again things, mediating, assembling, gathering many more folds than the "united four." If this were possible then we could let the critics come ever closer to the matters of concern we cherish, and then at last we could tell them: "Yes, please, touch them, explain them, deploy them." Then we would have gone for good beyond iconoclasm.

am often wrong, and the result is a surprise for me for by the time the experiment is done these assumptions have been forgotten. These admissions lay me open to lectures on the subject of my vicious ways, but do not throw any doubt on my credibility when I testify to the surprises I experience. ["CM," pp. 450–51]

On this nonformalist definition of computers, see Brian Cantwell Smith, *On the Origin of Objects* (Cambridge, Mass., 1997).