

The Silent Spring of Bruno Latour

Or, Rachel Carson Never Was Modern

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- 1 Bruno Latour and Rachel Carson are allies across the span of thirty years. I think that the allegiance is a fact of major importance for a number of reasons, not the least of which is that it allows us to get Latour down to earth, where he can do us some good, and out of the realm of mannered high-cultural debate, where he is rendered as useless as the rest of his fellow debaters.
- 2 I have the advantage of access to a mediating discourse that makes the link between Latour and Carson particularly easy. For a number of years I have been privileged to be tolerated by the biologists and software developers of BioQUEST as a resident alien – a Klingon amongst the humans, as it were. BioQUEST is a pioneering consortium dedicated to the development of pedagogical software in biology.¹ Very early on they realized that the computer offered opportunities for enriching biology teaching, both by offering simulated access to the world of real research and by enabling an interactive, collegial relationship between teachers and students.
- 3 Their software, therefore, is embedded in a deep and well thought out philosophy of education. It is developed to fit what they call “the 3P’s,” problem posing, problem solving, and persuasion. The 3P’s structure and inform the classroom as a scene of genuine investigative activity engaged in cooperatively by teacher and students, from the decision about what to investigate to the presentation and defense of results. They seek to instill the idea of science as an egalitarian cooperative activity, and nothing that fails to promote that conception finds its way into their product.
- 4 The rise to prominence of social studies of science in the last decade has been of great interest to BioQUEST. There is an obvious community of interest between BioQUEST, with its emphasis on the social dimensions of scientific pedagogy, and intellectual movements trying to understand the social dimensions of science in general. In particular, BioQUEST became intrigued

with the “constructivist” theories of Bruno Latour.²

- 5 As I said before, a big advantage in talking about Latour in the context of his relevance to BioQUEST is that it allows us to situate Latour properly. Most of the discussion of Latour's work has taken place either in a discursive space inherited from rationalist metaphysics and philosophy of science, or within the confines of a still cryptopositivised social science. BioQUEST has long since turned its back on the first, and is blissfully indifferent to the second. They read Latour with a delightfully Latourian agenda – they seek to recruit him as an ally. In addition, they fairly actively *construct* the Latour they seek to recruit. Fair is fair, after all. My view is the BioQUEST construction of Latour is closer to being in his own terms than the readings of most other commentators and critics.
- 6 BioQUEST's science is, as we've seen, a science constantly in the making. They take Latour's science to be the same. The emphasis on science in process, so deeply contrasted with the rationalist emphasis on completed or idealized science, is the core of BioQUEST's Latour. Thus the Janus figures that pepper *Science in Action* circulated widely inside BioQUEST just after the appearance of the book. As Latour shows us a science in process, full of discussion, negotiation, recruitment of allies (both among human colleagues and among the “phenomena” under investigation), to BioQUEST he seems to be showing us science as a generalized classroom, everywhere full of the hustle and bustle of active cooperative learning. This is a Latour brought down to earth as the guide to proper scientific learning.
- 7 In thinking about the BioQUEST version of Latour in relation to other versions, it's vitally important to think about the cultural and/or intellectual spaces being occupied by the various networks within which Latour circulates, and by the various nodes in the networks. Primarily there is the network that constitutes the context in which, say, “modernism” and “postmodernism” have become epithets of common coin. The participants in this network are located exclusively in the high-cultural regions of cultural/intellectual space – literature, philosophy, the arts: in short, just those areas that have, in the two-culture system, been marginalized as “the humanities.” This is the network of epistemetaphysical debate about subject/object, realism/antirealism, nature/society, and so on; a network still dominated by what Latour calls “The Great Divide.”

- 8 The recent rise of historicosociological studies of science within the context of “culture studies” seemed a godsend, as it were, for these marginalized disciplines. It looked (briefly) to the “humanities” as if, after years of decline in contrast with the sciences and social studies, they could be intellectual kings of the hill once again. (History as a discipline is plural enough to occupy a number of different positions on the fractal boundary between the humanities and the social sciences). Alas it turns out that the marginalized disciplines could regain an ascendancy within the intellectual debates concerning the sciences only by marginalizing the intellectual debates themselves. Yet, in the process of rarifying the debate for survival in their own preferred mix of gases, they, among other things, have set the terms of the most extensive discussions of Latour. He, in turn, has ratified the rarefication by pausing to write *We Have Never Been Modern*.³ While there are continuities between it and the previous books, and even more continuities between it and some of his previous papers, there are also discontinuities of tone and tenor that signal its place in the high-cultural discursive space – ironically (?) a move into a space whose very existence he laments in the course of the move. *WHNBM* is thus a *dialectical* intervention in the marginalized high-cultural debate. While carried out in high-cultural terms, it provides a critical (and accusatory) account of the social marginalization inherent in the adoption of those very terms. The resulting ironies themselves then become a major rhetorical framework. Latour has to become part of a network in which the nodes are tuned in a particular way precisely in order to try to retune the nodes.
- 9 Meanwhile BioQUEST has no *intrinsic* place in this high-cultural network. However, they are deeply concerned with the problem of the two cultures, and want to contribute to their unification. So they omnivorously attempt to tune themselves to the marginalized high-cultural network. In fact, they move into the high-cultural space without a fully articulated sense that they are moving into an “alien” space when they do so. For BioQUEST has no real sense of discursive spaces of this sort. On the one hand, their view of discursive spaces comes from a consideration of subfields within the sciences, so their assumption is that crossing into the high-cultural space is like moving from, say, biophysics to cytology. New truths of a new field have to be learned, but the rules of the discursive game are fundamentally the same in both fields. Further, of course, it is BioQUEST’s view that there shouldn’t be hard edges drawn through the space of intellectual life between its “parts.” The edges between subdisciplines are difficult, but they’re

soft edges, often overstated for the sake of one or another turf battle. So why shouldn't they be able to follow Latour anywhere he wants to go, moving across soft edges and learning along the way what there is to be learned?

- 10 Furthermore BioQUEST has never lost its connection with the homely ideals of traditional American public education. They naturally assume, perhaps totally anachronistically, that the traditional productions of high culture – great literature and great art – are everyone's rightful patrimony, accessible to all as a matter of pleasure and edification. A wonderful teacher somewhere along the way (we all had one) told them so. What this teacher *didn't* tell them was that populating the upper reaches of intellectual life were people busy appropriating great art and great literature as the private preserve of a rarified discourse designed solely to distinguish them as scholars and intellectuals. Consequently BioQUEST misestimates the terms of entry into networks such as the high-cultural network within which the Latourian message currently circulates, *even as they become increasingly aware of (and increasingly frustrated with) the academic discourse of high culture.*
- 11 Latour is, in contrast, a *European* intellectual, comfortable in the white tie and tails of sophisticated high-cultural badinage. Despite this difference he is, in fact, a big help in allowing BioQUEST to have their more down-to-earth view of his work and its fundamental import. He *is*, after all, in common cause with BioQUEST in a lot of ways. He too thinks that the project of "modernism," the project that's responsible for the discursive geography of the two cultures BioQUEST is fretting against, is a disaster. Indeed the pivot point of the critique is the same for both. Latour would identify this pivot point as the *a priori* dualism ("The Great Divide") that forces into existence hybrid objects, that is, objects that have no legitimate home in the ontology of "modernism."
- 12 Among the loci of typical hybrids, according to Latour, are "the chemistry of the upper atmosphere, scientific and industrial strategies, the preoccupations of heads of state, the anxieties of ecologists" (*WHNBM*, p.10). Hybrids abound at those loci for obvious reasons: there is no way to assign them cleanly either to a "nature" purified of human or societal intervention, or to the "mind," thought of either in the Cartesian or the Hegelian sense. BioQUEST has no trouble recognizing the existence and import of these hybrids, not because they've read Hegel or some other effort

at high-cultural synthesis, but because they've read Rachel Carson. For BioQUEST, it is second nature to think of Latourian hybrids as the loci of (very often problematic) interconnection of biologist, society, and nature. Indeed it's not difficult for BioQUEST to see the hybrids as the objects with the real ontological priority – just as Latour does.

- 13 Here we have located an important opposition, that between Cartesianism and Carsonianism, and must pause long enough to see exactly where the battle lines are drawn. The ontology of Cartesianism is Christian; the ontology of Carsonianism is Pagan.⁴ What Latour calls the “crossed out God” of modernism is the *aufgehoben* Neoplatonic God enforcing the dualistic ontology within pseudosecularized rationalism. For the Carsonian, the fundamental ontology is a battleground contested by forces of good and evil in great plurality.⁵ These forces are nearly all Latourian hybrids. The best examples are “disease” and “health,” both complex interactive, “interpenetrative” phenomena that can't be *ontologically* reduced to “natural” and “social” components, but, of course, can be heuristically dismantled in the search for strategies and battle plans. These strategies and battle plans are praxical and, in general, utterly disrespectful of the great divide.
- 14 The high-cultural readings of Latour nearly always paint him as threatening the *disablement* of science. BioQUEST knows better. Latour surely does threaten the mythic construction of science whose power would rest on the possibility of its rational totalization in detachment from the contingencies of process. But in marked contrast, Carsonians find Latour's theory to be a message of liberation and empowerment for science in process. Thus BioQUEST reads Latour from the point of view of committed enthusiastic scientists, confident of the success of their activity, whereas the gloomy readers of Latour share metaphysical and/or theological agenda that are the real object of Latour's threat.
- 15 Similarly, and with a good deal of textual justice, BioQUEST constructs a Latour who is radically egalitarian, and even iconoclastic. This Latour would replace many of the hierarchical rationalist myths with a flat playing field where investigator and investigated interact with something approaching equal dignity. This is exactly parallel, of course, to the replacement of the hierarchical relationship of teacher and student with a more egalitarian collegiality.
- 16 Thus Latour's Cartesian critics (and defenders, for that matter)

come to his work from the point of view of *epistemological* ideals, whereas BioQUEST and other Carsonians come to it with fundamental social ideals. An epistemology, for BioQUEST, must be a guide to improved learning in the service of life as a whole, not a rarified ideal in itself.⁶ In general, the Carsonians approach the edge of the high-cultural debate offering simultaneously (a) a challenge to rationalist conceptions of science that can't be ignored because of its topical practicality, (b) a demonstration of the ease with which Latour is recruited to the Carsonian view,⁷ (c) an invitation to recruit a past (Nightingale, Pasteur, Snow, Martineau, Semmelweis, George Eliot) shared by the entrenched science and the marginalized humanities (the two cultures of modernism), and consequently (d) a way to bring into question the intellectual and institutional trajectories of both cultures.

- 17 In short, the claim is that the battle Latour is fighting in the high-cultural discourse of *WHNBM* is the mirror image of the battle that is being fought, and has been fought for over a century (at the very least), by the Carsonians and their predecessors against the Cartesians. And, as Latour and BioQUEST well know, this battle does not really divide the contending parties on modernist lines. Neither does it divide them along the line separating the two cultures. In fact, among the main antagonists for Carsonian scientists are *other scientists* (and the politics that support them). The defenders of the isolated bureaucracy of science, conceiving themselves as the neutral and innocent purveyors of neutral and innocent science are the natural (as it were) foes of the Carsonians.
- 18 BioQUEST, as the educational arm of the Carsonians, takes aim at one of the roots of this foe's power when it proposes to educate young scientists to understand that they are not going to end up as neutral innocents. Latour attacks the other root when he dismantles the claims of timeless universal reason on which the claims of neutrality and innocence ("purity," in his terms) rest. Of course the two roots are connected, and so are the two attacks. The point where the two attacks meet is called, by the rationalist orthodoxy, "constructivism."
- 19 The final points to be made about BioQUEST's Latour are to connect it with feminism, gender studies, and "postcolonialism," all sites of important allegiances in the network of Carsonian Science. Latour would be no more surprised to find himself connected to feminism than BioQUEST would be to find itself connected to postcolonialism. Both would be perfectly happy with the respective association even though they so far have had little

specific to say about it. The other two associations, BioQUEST with feminism and Latour with postcolonialism are, in contrast specific and long-standing. We needn't look at the feminist connections of BioQUEST in detail here. The last third of *WHNBM* shows us clearly that the colonial asymmetries are at the core of Latour's critique of rationalist science. But we could have seen that through a prescient reading of *The Pasteurization of France* in any case.

- 20 Here as elsewhere BioQUEST and Latour meet as the former move from very and local concerns to more “global” ones and Latour works his way to a very concrete analysis from a relatively theoretical starting point. BioQUEST started by noticing an entrenched practice, male-dominated hierarchically structured pedagogy. They noticed how women fare in this practice, and realized that if they succeeded in installing a new pedagogy that dismantled the teacher/student asymmetry, they'd *ipso facto* have furthered the feminist agenda of equality. This turned their attention explicitly to the critical discourse of feminism, a natural ally. Here they found the vocabularies of empowerment and alterity. These vocabularies then entered the BioQUEST self-conception, and began to be used in the critical production of the pedagogical tools themselves.⁸ But alterity isn't a concept whose critical power can be stopped at the boundaries of gender issues. Furthermore we must remember once again, BioQUEST does Carsonian biology. The Green Revolution, AIDS in central Africa, and so forth were always part of their normal core agenda. So in Latourian fashion, the network of alterities grew quite naturally for BioQUEST. Their old agenda easily became partly reconstituted under the rubric of neocolonialism. Thus it was very simple for Latour to lead them into the realm of global postcolonial concerns. BioQUEST has already been there in practice for some time.
- 21 At the same time, Latour has managed to wend his way to the very *practical* solution to the “problem of cultural relativism” we find at the end of *WHNBM*. As colonialism in its traditional political form is dismantled, and when the “others,” the ex-colonized are included in the network, one of three things can happen. They can be purified as a condition for inclusion, whereupon the problem of cultural relativism is *ipso facto* solved by conversion. They can be colonized in the classic repressive ways, whereupon the problem of cultural relativism is solved by obliterating all but one culture. Or the others can (or must) be allowed entry into an international network on something like symmetrical cultural terms, in which

case a long process of network expansion, retuning of nodes, negotiation of self-conception, and other social change begins – to end we-know-not-where.

- 22 But this last was always the Carsonian agenda – from a practical point of view. Or is it that this latter was always the Carsonian point of view, on the basis of practical agenda? Either will do, as long as the primacy of the praxical isn't obscured. *Silent Spring* was an early call for awareness of the environment as the locus of global concern, hence potential cooperation. It was also, of course, one of the early articulations of the responsibility of the colonial nations for the environmental problems of the colonized nations.⁹ Nothing could be more practical. Nothing could be thicker with hybrid objects.
- 23 In summary, there are all sorts of points that could be drawn from the relationship between the Latourian and Carsonian projects. I choose to emphasize the issues of praxis and the (excuse the expression) reality of hybrid objects. Whatever DDT may be from the point of view of the metaphysical high culture, from the Carsonian point of view it's a chemical that gets into the food web and kills. That's as real as the Carsonians ever required DDT to be in order for it to be worth their attention. The Carsonians are plenty sophisticated enough to know how the reality of DDT was woven into a web of scientific, economic, and political practices all over the globe. That web itself is real enough for the Carsonians: a real condition of their scientific, economic and political activity.
- 24 For BioQUEST, Carsonians of the classroom, all these realities are palpable quotidian ones. But they think that the realities go even deeper. If they were to adhere to the "Modern" constitution and its insistence on the "Great Divide" then they would have to think of those who do their labs and take their exams as hybrid objects in the process of construction. They prefer to think of them as their students and participants in the collegial Carsonian project of science. Now is BioQUEST, in the name of intellectual responsibility, perhaps, to be asked to revise their ontological commitments? Or, to put it in a more Foucaultian voice, do the knowledges of the metaphysical high culture have the power to discipline BioQUEST to an orthodox modernism? Don't be silly. The metaphysical high culture has no such power.
- 25 Powerlessness: that's the problem – for the high culture, that is, not for the Carsonians. Intellectual high culture is absolutely irrelevant to DDT, HIV, halide aerosols, and the rest. Its acute

feeling of irrelevance is a good part of what motivates it to its current ritual exorcisms of science. In contrast, the Carsonians know perfectly well where the power lies. It lies in the “hybrid objects” of science, economy, and politics – just as Latour says it does. BioQUEST sees this more clearly than most, for they have to put forward their educational ideals, programs, software in the face of a politics of science and a politics of education that is more often than not hostile to them. In the context of their own work, they come up against the modern constitution as the ideological smokescreen behind which many scientists hide (on grounds of neutrality and objectivity), and with which those for whom Carsonian science is uncomfortable try to keep it at bay.

- 26 It becomes obvious, then, why Latour is an attractive ally for BioQUEST. They use his conception of constructivist science to cut through the modernist ideology that threatens to seal them off from the hybrid world where all the action is. The claim that we have never been modern looks, to BioQUEST, like the commonsensical claim that science has never made much sense outside the rich multidimensional network of human life that is, in turn, the network of interactions with all events and processes however parsed. They are together with Latour in reacting against the ideology that claims otherwise. They consider it outrageously irresponsible to teach their students otherwise. In addition, as we have seen, Carsonians are more than comfortable with the projects of feminism and anticolonialism that lie at the base of Latour’s insistence on dismantling the imperialist asymmetries implicit in modernism. From that point of view, Latour fits into one of the longest of Carsonian traditions.
- 27 But finally, then, what about the problem of the two cultures, since BioQUEST seems to want to overcome that dichotomy, but apparently turns its back on the high culture. Well, in general, this is a longish story for another time. But the short way to put it is that BioQUEST consists of terrific learners as well as terrific teachers. They worry that the apostles of high culture seem to be neither. BioQUEST thinks that there is only one responsible way to dismantle *that* asymmetry.

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Notes

- ¹ *Science*, November 4, 1994 honored John Jungck, the “godfather” of pedagogical software, and one of the founders of BioQUEST in its section on great teachers. In addition to Jungck, the identifiable core of BioQUEST contains Patty Soderberg, Jim Stewart, and Nils Peterson. The circle then widens to developers, consultants, programmers, editors, etc.
- ² The most influential of Latour’s works for BioQUEST, for reasons of trajectory convergence at a particular time, is Bruno Latour and Steve Woolgar, *Laboratory Life*, Princeton, NJ, Princeton University Press, 1986. Subsequently Latour, *Science in Action*, Cambridge, MA, Harvard University Press, 1987 has been folded into the batter.
- ³ Bruno Latour, *We Have Never Been Modern*, Catherine Porter, tr., Cambridge, Harvard University Press, 1993. An exactly similar pause resulted in Michel Foucault, *The Archaeology of Knowledge* and *The Discourse on Language*, A. M. Sheridan-Smith, tr., New York, Random House, (1969 and 1970), 1972. There’s a necessity to both the pauses, having to do with the dynamics of the high-cultural debate, readerships, etc. I won’t go into the issues here.
- ⁴ BioQUEST does, however, inherit strategies, styles, and rhetorics from Christianity, especially the deeply embedded American evangelical Christianity. This is discussed in its place.
- ⁵ Or, at least, in great plurality now that the convenient juxtaposition of socialism against capitalism is impossible.
- ⁶ This is not to say that a life of learning can’t be an ideal; but that’s an entirely different story.
- ⁷ When we recall that the book that drew everyone’s attention to Latour was *The Pasteurization of France*, Alan Sheridan and John Law, trs., Cambridge, MA, Harvard University Press, 1988, it’s hard to see how we could have lost sight of Latour’s Carsonian foundations. If anything, this early book was an account of an agon *within* a Carsonian framework.
- ⁸ Not surprisingly, given the rural Midwest base of BioQUEST, race is never anything like the focus that gender is for them. The expansion of BioQUEST into other frames, at test sites etc., helped to add this dimension over time. Here again BioQUEST had never

been blind to racial asymmetries (any number of people in and near the core of BioQUEST had been active in civil rights movements), they just never had impinged as quotidian concerns in the very practical classroom experience that was generating the BioQUEST projects.

⁹ BioQUEST itself was also influenced by Richard Levins' call for a democratic endogenous science in the colonized nations.