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On the Subject of the Object

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The distinction between the public and the private is a distinction internal to bourgeois law.

Louis Althusser¹

Critical theory is not finally about reflexivity, except as a means to defuse the bombs of the established disorder and its self-invisible subjects and categories.

Donna Haraway²

I have been puzzling for some time about the problem of the public and the private, and the role of the personal in ethnography or history. Let's put "the personal" into quotes: I have been puzzling for some time about the problem of "the personal" in social science writing: how it works; what it does. My puzzle presents itself in my own writing. The question is whether I should rigorously try to keep the "personal" out. This would be the most common response. But supposing it *were* let in, then there are other questions: how should it be done? how might it be handled? and what kind of job should it be doing there anyway?

These are the issues that I investigate in this paper. But let me make a context, or offer a second introduction:

1. Louis Althusser, "Ideology and Ideological State Apparatuses (Notes towards an investigation)," in *Lenin and Philosophy and Other Essays*, ed. Louis Althusser (London: New Left Books, 1971), p. 137.

2. Donna Haraway, "A Game of Cat's Cradle: Science Studies, Feminist Theory, Cultural Studies," *Configurations* 2 (1994): 63.

Donna Haraway and Sharon Traweek teach us that when we tell stories these are performative.³ This is because they also make a difference, or at any rate might make a difference, or hope to make a difference. Applied in technoscience, the argument goes further; in fact, it is quite radical. It is that *there is no important difference between stories and materials*. Or, to put it a little differently: stories, effective stories, perform themselves into the material world—yes, in the form of social relations, but also in the form of machines, architectural arrangements, bodies, and all the rest. This means that one way of imagining the world is that it is a set of (pretty disorderly) stories that intersect and interfere with one another. It means also that these are, however, not simply narrations in the standard linguistic sense of the term.

I want to hold the question of the “personal” together with the performative character of storytelling and its material embodiments. This paper is composed of stories—performative stories—about the “personal.” The reason for this is that I want to make a difference to the way in which we imagine what we currently think of as the “personal,” the “analytical,” and indeed the “political.” I want to interfere in some of the standard stories. This is because if we do it right then it turns out that the “personal” is not really personal any longer.⁴ Instead, it is an analytical and political tool for interfering and making a difference, one among many, that might allow us to defuse some of the bombs of what Donna Haraway tellingly calls the established disorder.

Well, these are familiar tropes. They are to be found in feminist writing, in cultural studies. The novelty is the application of the personal to the material world. For I want to see what happens if we try it out in the domain of machines.

1965

This is a story about politics and an aircraft, an aircraft as seen by a young man. The young man was called John Law. But the past is at

3. See Sharon Traweek, *Beamtimes and Lifetimes: The World of High Energy Physics* (Cambridge, Mass.: Harvard University Press, 1988); idem, “Border Crossings: Narrative Strategies in Science Studies and among Physicists in Tsukuba Science City, Japan,” in *Science as Practice and Culture*, ed. Andrew Pickering (Chicago/London: University of Chicago Press, 1992), pp. 429–466; idem, “Bodies of Evidence: Law and Order, Sexy Machines, and the Erotics of Fieldwork among Physicists,” in *Choreographing History*, ed. Susan Leigh Foster (Bloomington/Indianapolis: Indiana University Press, 1995), pp. 211–225; idem, “Bachigai (Out of Place) in Ibaraki: Tsukuba Science City, Japan,” in *Technoscientific Imaginaries: Conversations, Profiles, and Memoirs*, ed. George E. Marcus (Chicago: University

of Chicago Press, 1995), pp. 355–377.

4. Having introduced the sneer quotes to signal my reservations, I will now stop them.

least in part a foreign country, and since they do things differently there, I will recount it in the third person.

The air was heady. In the UK a senile Conservative government had been defeated at the polls. It was a pity that it hadn't been overturned by a larger margin, but the country had a Labour government, a government that was going to undo the harm done by "thirteen wasted years" of Tory rule. It was going to abolish medical prescription charges, renationalize the steel industry, and (most important in the present context) cut out waste on "Tory prestige projects." Such was the promise.

On election night, one of his lecturers told John Law in an all-night café for transport workers and railwaymen in the center of Cardiff, "We've got the bastards now." And that is what he believed.

That was in October 1964. Seven months and a number of disappointments later there was an announcement. This was that the government was going to cancel one of the much-hated "Tory prestige projects"—namely, a military aircraft called the TSR2. The young man didn't know very much about the TSR2, but he knew or sensed three things.

First, he believed that this project was a monstrous waste of money, that it was vastly over-budget, and that it was behind schedule. Such, at any rate, was what the government said, and he had no particular reason to doubt that it was true.

Second, he was told that this aircraft was a part of Britain's "independent nuclear deterrent." This was, in itself, a reason for cancelling it. For he was a supporter of CND, the Campaign for Nuclear Disarmament, a pacifist and left-wing pressure group that wished Britain to give up its nuclear weapons unilaterally. Again, he didn't know too much about the detail of these arguments, but he knew what he thought. And he also knew that the new Labour government, in its first seven months, had not cancelled its Polaris submarines. Indeed, it had reaffirmed the importance of this central part of the British nuclear force, and had scrapped only one of the projected submarines.⁵ This was one of the larger disappointments. So, like other CND supporters, he'd felt betrayed by a Labour Party that had toyed with unilateralism. This meant that the TSR2, though small beer by comparison, was at least a gesture in the right direction.

Third, when he learned of the cancellation, at the same time he also felt a sense of disappointment. But why? The specificities of this dissatisfaction are a little obscure. I hope that some of them will become clearer in what follows. But for the moment let's just observe that he had seen pictures of this aircraft on television and in the newspapers. There it was, taking off, flying around, and landing. And, though I don't think he said this to anyone, the aircraft ap-

5. Ironically, while I was working on a version of this paper in May 1996 it was announced that the last of these Polaris submarines was being decommissioned.

pealed to him. It appealed to him how? Let's say that it appealed aesthetically as powerful, masterful, sleek. To witness it in flight was obscurely, or not so obscurely, thrilling.

Well, the gendering tropes are obvious enough: the business of men and their machines—control, force, and power.⁶ But the fact that they are clichéd makes them no less real. So, though I do not think that the cancellation of the TSR2 was that big a deal for the young man, he was nevertheless somewhat ambivalent when he heard the news.

Situated Knowledges

One of the more influential papers to appear in recent feminist writing on technoscience is written by Donna Haraway, on situated knowledges. It does many things, this paper, but one of them is to investigate the optics of knowing, an optics performed in the natural—and in many of the social—sciences. This is an optics that seeks to perform itself as disembodied, as removed from the body, as having nothing to do with the body:

The eyes have been used [writes Haraway] to signify a perverse capacity—honed to perfection in the history of science tied to militarism, capitalism, colonialism and male supremacy—to distance the knowing subject from everybody and everything in the interests of unfettered power.⁷

Vision has been disembodied, disembodied in what she calls the god-trick, “the god-trick of seeing everything from nowhere.”⁸ But, she says, vision is never from nowhere. Rather, it is always from somewhere, even if that somewhere takes the form of a cartography that projects itself from nowhere Euclidean in particular. To put it a little differently, vision always embodies specific optics, optics that vary from place to place and, for that matter, from species to species. Which suggests that:

- any reflective—or even pragmatic—optics that claims to stand back and see it all from a distance is a form of mythology;

6. For a brief review, see Judy Wajcman, *Feminism Confronts Technology* (Cambridge: Polity Press, 1991). In the context of military technology, see Miriam Cooke and Angela Woollacott, eds., *Gendering War Talk* (Princeton: Princeton University Press, 1993); John Law, “Machinic Pleasures and Interpellations,” in *Machines, Agency and Desire*, ed. Brita Brenna, John Law, and Ingunn Moser (Oslo: University of Oslo, 1998), pp. 23–48.

7. Donna Haraway, “Situated Knowledges: The Science Question in Feminism and the Privilege of Partial Perspective,” in idem, *Simians, Cyborgs and Women: The Reinvention of Nature* (London: Free Association Books, 1991), p. 188.

8. Ibid., p. 189.

- to the extent that it is built into a particular mammalian visual system, such an optics is in any case one that is highly specific;
- and finally (which is where I want to get), it suggests that an *alternative* notion of objectivity may be rescued if the body is put back into the process of seeing. Donna Haraway again:

objectivity turns out to be about particular and specific embodiment, and definitely not about the false vision promising transcendence of all limits and responsibility. The moral is simple: only partial perspective promises objective vision. This is an objective vision that initiates, rather than closes off, the problem of responsibility for the generativity of all visual practices.⁹

There are various components in this turnaround, this attempt to recolonize the notion of “objectivity” for something that is local and situated. Let me mention just two:

- One is the recommendation—certainly not Haraway’s alone— that a commitment to specificity implies a willingness to accept a kind of fractured vision. But putting it this way is not quite right because the term “fractured” implies the failed possibility of a whole. This means that it is a discursive maneuver that firmly belongs to the god-trick, to assumptions about the right and proper character of centered knowing and being. So let’s say instead that it implies a necessary commitment to sets of partialities, partial connections; and with this, an unavoidable entanglement with viewpoints of Otherness, indeed of multiple Othernesses.¹⁰
- Another is the suggestion—the urgent need—that we acknowledge and come to terms, somehow or other, with the specificity of our own knowledges, our situations. It requires, in other words, that we explore our own construction as coherent (or otherwise) knowing subjects.

Which returns us to the place from where we started: the issue of the “personal” in academic writing. But it puts a political spin on the issue.

9. Ibid., p. 190.

10. The term “partial connections” is another of Donna Haraway’s phrases, taken from “A Cyborg Manifesto: Science, Technology and Socialist Feminism in the Late Twentieth Century,” in *Simians, Cyborgs and Women* (above, n. 7), p. 181—a phrase picked up and explored at length by Marilyn Strathern in *Partial Connections* (Savage, Md.: Row-man and Littlefield, 1991).

Vanity

There is a genre of early-modern painting called the *vanitas*, which is a painterly meditation on the ephemeral character of the things of this world. Art historian Svetlana Alpers, talking about the crafted nature of Dutch painting, describes one such painting: a self-portrait by David Bailly.¹¹ This particular representation, painted late in the artist's life, shows Bailly as a young man holding a painting of himself as an old man, surrounded by a series of objects that represent the achievements of that life: visits to Italy, artists' materials, and all the rest. These objects are, however, contextualized by others that insist upon the momentary and passing character of the artist's life: there is a skull, there are flowers that are starting to wilt and drop, and there are soap bubbles that float, beautiful but ephemeral. And, to be sure, there is the juxtaposition of portraits: young man, old man.

The *vanitas* subsists in a space of tension. It plays tricks on, or within, that tension. The tension exists between the changing person, on the one hand, and that which is unchanging and eternal, on the other. While the painting depicts that tension, it also *performs* it in its own specific way—specific, that is, to the artistic conventions of the seventeenth century. But if its modality is specific, then the divide is not. In one version or another it crisscrosses Western representational form, this division between whatever is “personal” on the one hand and that which does not change on the other. For we live with and perform it now, finding it for instance in many forms in our science and social science writing. It is built into anthropological ethnography: in the division between the scholarly monograph, on the one hand, and the field notes or the poetry of the anthropologist, on the other.¹² It is embedded in the conventions of scientific writing, where literary forms expunge the contingencies and construct a truth that emerges from somewhere outside the specific locations of its production.¹³ And it is performed outside the academy—for instance, in the division between the personal strug-

11. Svetlana Alpers, *The Art of Describing: Dutch Art in the Seventeenth Century* (London: Penguin, 1989), pp. 103–109.

12. For a beautiful discussion of literary witnessing, see Clifford Geertz, *Works and Lives: The Anthropologist as Author* (Cambridge: Polity Press, 1988).

13. There is a large literature on this topic. For those who like historical stories, the creation of the space of the laboratory and the character of witnessing by gentlemen in the seventeenth century is described in two wonderful books: Steven Shapin and Simon Schaffer, *Leviathan and the Air Pump: Hobbes, Boyle, and the Experimental Life* (Princeton: Princeton University Press, 1985); and Steven Shapin, *A Social History of Truth: Civility and Science in Seventeenth-Century England* (Chicago: University of

gles or circumstances of the artist and the eternal character of his insights.¹⁴

How many times is it done every day in conversation between social scientists? How many times has it been said that to write about oneself is self-indulgent? For, or so they say, it is not the person who goes and looks, the ethnographer, who is interesting. She may have quirks, and the fieldwork was messy and embodied, full of problems, hurts, illnesses, and failed love-affairs. We all know this, but it isn't important. Rather, it is what is *seen*, has been observed, that is important. What she reports on "out there" regarding Japanese physics, the organization of laboratories, or the performance of witchcraft, this is what matters. This means that if we choose to write about ourselves and write "self-reflexive" ethnography, then at best we are getting in the way of what we should be reporting about, we are introducing noise. And at worst, we are engaging in the self-indulgent practice called "vanity ethnography."¹⁵

The social construction of vanity: that is the distribution being performed in such talk, which is a form of talk that turns those who practice self-reflexivity into sites of self-indulgence and presses them to the margins. It is also a method, a performance, only one of many, that tends to return us to the god-trick. Indeed, it tends to *enact* the god-trick and, as a part of this, constructs "the problem of the personal" in academic writing, performing the disappearance of the body from the representation of truth. It also, one might note, helps to build an ontology of subject versus object—an object that is out there, prior, something that we may, if we are lucky, come to know.

Sometimes, perhaps even often, this sneering is right. This is because the complaints catch something that often does not quite work when the personal is introduced into academic writing, when the text starts toward "self-revelation." But the complaint works, or

Chicago Press, 1994)—together with a fine commentary on exclusion and gendering by Donna J. Haraway, *Modest_Witness@Second_Millennium.Female_Man@_Meets_OncomouseTM: Feminism and Technoscience* (New York/London: Routledge, 1997). For those who prefer ethnography I would recommend Sharon Traweek's *Beamtimes and Lifetimes* (above, n. 3), which considers the related way in which scientific heroes are constituted—heroes, that is, who have (in the mythology) wrested truths from an unwilling nature. Again, the iconography is gender-saturated.

14. More gendering, to be sure. For many tropes of artistic heroism, see Arthur K. Wheelock, ed., *Johannes Vermeer* (Washington/The Hague/New Haven: National Gallery of Art, Royal Cabinet of Paintings, and Yale University Press, 1995).

15. I learned this term from Sharon Traweek, whom I thank. She is often accused of such "vanity ethnography." In what follows it is implied that such accusations presuppose a truth-regime that entirely misunderstands the character of such writing.

so I suggest, because some versions of self-reflexivity precisely *construct* themselves as “self-revelations”—that is, they play on and further perform the divide between the personal and whatever it is that counts epistemologically, the reports about whatever is said to be “out there.”

This poses us a problem—or better, a task—those of us who imagine, following Donna Haraway’s suggestion, that objectivity (if such there be) is situated, embodied, and local. It poses us the problem of trying to find practices of knowledge-relevant embodiment that do not perform themselves as “self-revelations.”

Reflexivity¹⁶

1. “(Word or form) implying subject’s action on himself or its (*Concise Oxford Dictionary*).
2. “(Verb) indicating that subject is same as object” (ibid.).
3. The idea that one is part of what one studies.
4. The rigorous and consistent application of the spirit and methods of critical inquiry to themselves and their own grounds; hence associated with the inquiries of late modernity that are sometimes said to have started at the time of the Enlightenment, and in particular their extension to themselves. Sometimes this leads, or is said to lead, to comprehensive skepticism.
5. The self-monitoring and self-accountability associated with the idea that persons and organizations both need to and should monitor their lives and their projects; associated with above, and also with the idea that the speed of change in modern times means that traditions or plans are, or will rapidly become, inappropriate. Sometimes this leads, or is said to lead to confession or self-indulgence.
6. The analysis of the generation of subject and object position and in particular the suggestion that they are mutually

16. For further reading, see Malcolm Ashmore, *The Reflexive Thesis* (Chicago: University of Chicago Press, 1989); Anthony Giddens, *The Consequences of Modernity* (Cambridge: Polity Press, 1990); Hugh Gusterson, “Becoming a Weapons Scientist,” in Marcus, *Technoscientific Imaginaries* (above, n. 3), pp. 255–274; Hugh Gusterson, “Short Circuit: Watching Television with a Nuclear Weapons Scientist,” in *The Cyborg Handbook*, ed. Chris Hables Gray (New York/London: Routledge, 1995), pp. 107–117; Bruno Latour, “The Politics of Explanation: An Alternative,” in *Knowledge and Reflexivity: New Frontiers in the Sociology of Knowledge*, ed. Steve Woolgar (London: Sage, 1988), pp. 155–176; Traweek, “Bachigai (Out of Place) in Ibaraki” (above, n. 3).

1985: RAF Cosford

I was looking for a subject for study, a case study in the social analysis of technology. I'd done some work in an actor-network tradition on a fifteenth-century technology—but the sources were poor, and even worse for a nonhistorian, because the details of design had been irretrievably lost for the Portuguese vessels in the fourteenth century, no doubt when the craft traditions of the Iberian shipyards in which they were built died out.¹⁷ So I wanted to study a more or less contemporary project and tease out the network of social and technical relations being built in such a project. I wanted to explore an approach that insisted that the human was no different in kind from the nonhuman. Or, more exactly, that if it was, then this was an effect rather than something given in the order of things.

So I was looking for an object of study, but I didn't know what.

One day I took my five-year-old son for a day out to an aerospace museum called RAF (Royal Air Force) Cosford, which isn't far from where I live in Shropshire. The two of us walked around inside the hangars, looking at the aircraft. Some were civil airliners. Most, however, seemed to be military, ranging from First World War biplanes, through Battle of Britain Spitfires, to examples of some of the more elderly types still in service. The boy was pleased with what he saw, and wanted to know how fast each aircraft flew and how high, hoping or guessing all the time that the next one would fly faster, farther, than the one that came before. "Hey look!" he would say, pointing to each new aircraft as it came into view, and running off to see it better.

I followed more slowly, with a mild resentment at the very fact of being in such a place with its implicit glorification of the military. But I was conscious, also, of the way in which this resentment butted up against some kind of inarticulate bodily interest in the machines themselves.

Suddenly I turned a corner and saw a familiar shape, the TSR2. I remembered the aircraft well from twenty years earlier. I remembered it because it was controversial, controversial for a whole lot of reasons including its cancellation. So I looked at this aircraft-carcass and I thought, "Good God, have they got one of *those* here—I'd no idea that any of them had survived." And, in the same instant, I thought "That's what I'll study! That's what I'll look at! That will be my next project. A project on the TSR2 project."

The Civilizing Process

Donna Haraway has done it in one way. In talking of situated knowledges, and locating objectivity precisely in the specificities of

17. The material character of such practices has been described by David Turnbull for the case of Gothic cathedrals: see David Turnbull, "The Ad Hoc Collective Work of Building Gothic Cathedrals with Templates, String, and Geometry," *Science, Technology and Human Values* 18 (1993): 315–340.

embodiment, she has offered a particular account of the truth-regimes that perform disembodiment. These are knowledges that belong to “unmarked subjects” that turn out to be predominantly wealthy, white, and male. But there are other ways of doing it, other deconstructive stories to tell—not in order to contradict those of Haraway, but rather in order to make the textures of alternative modes of storytelling, alternative understandings of the specificities and materialities of embodiment, to make those textures thicker.

So here is another story from social theory or social history.

When I think of the construction of “the personal,” I think immediately of Norbert Elias’s work on “the civilizing process.”¹⁸ It maybe that the term itself is not well chosen, and also that he overgeneralizes, for certainly at times his history seems, well, somewhat mythic. No doubt he underestimated the horrors produced by “civilization.”¹⁹ But does this matter? The answer is sometimes “yes,” but here, “no.” This is because Elias anatomizes “the personal,” and that is what is important here.

Elias says that as the centuries unfold in Western Europe from the late Middle Ages onward, the barrier between the inside and the outside, between the “personal” and the “public,” grows. Table manners, bodily functions, the expression of emotions: in the Middle Ages none of these were particularly restrained—at any rate, by comparison with what was to come later. For—this is his argument—gradually the body and its emotions were concealed. They were hidden behind a wall of politeness, civility, restraint, and repression such that that which was previously visible became private, concealed, invisible, inappropriate, unwise. Turned into a matter of no public interest, it became, as we say, “personal.”

Elias has a story about how this came about. Roughly what he says is that in times of uncertainty and famine, people make the most of the moment. There is not much point, as I say to my students, in studying for a degree if you know you are going to die of starvation before the end of the year—but this was a situation that prevailed in most, perhaps all, contexts during much of the European Middle Ages. On the other hand, if life is a little more stable—if you think you know where the next meal and the meal after that are coming from—then thinking strategically starts to make sense:

18. See Norbert Elias, *The History of Manners* (Oxford: Blackwell, 1978); idem, *The Court Society* (Oxford: Blackwell, 1983).

19. This is the implied (though friendly) criticism made of his work by Zygmunt Bauman in *Modernity and the Holocaust* (Cambridge: Polity Press, 1989). For further commentary, see the first volume of Klaus Theweleit, *Male Fantasies* (Cambridge: Polity Press, 1987).

thinking and acting for the long term and not on the spur of the moment. And this ties in, in turn, with an increasing degree of interdependence: we need one another more. Which means that there is need for repression, calculation, concealment of one kind or another. This is the point within Euro-American logic at which it starts to make sense to divide the public off from the private, for strategy— or so it can be argued—is impossible without concealment.

Elias moves almost imperceptibly between the “social” and the “personal,” for in his way of thinking the distinction does not make much sense. If people are more calculative because the world is not quite so unpredictable, then this has consequences: it tends to increase the level of predictability yet again. This means that a virtuous cycle is set up. Stable social life, increased interdependence, long-term calculation, these tend to reinforce one another. This virtuous cycle expresses itself through a range of materialities: the body and its concealments; individual interaction, but also the organization of economic life (a surplus is more likely if social life is calm, but the existence of surplus itself renders social life more predictable); and the organization of the state (which secures a monopoly over the unpredictabilities performed by violence and therefore, perhaps, secures peace). This is Elias’s argument: overall, European history from the Middle Ages onward may be understood as a virtuous cycle.

Gordon Fyfe says that Norbert Elias combines Sigmund Freud with Max Weber, repression with rationalization. This sounds right. What Elias tells us is, to be sure, “only a story.” Other stories might be, and are, told. But if our concern is with the archaeology of the “personal,” then it is an interesting story: It is interesting because it tells how what we call the “personal” might have been brought into being. It is interesting because it tells, or at any rate implies, that it could be otherwise. And, most of all, it is interesting because it insists that if we want to understand social life, then we need to attend both to the personal and to the social. Or no—that gives too much away: it suggests that the distinction between the personal and the social is analytically irrelevant.

So what I have told about the events at RAF Cosford in 1985 is a “personal” story because it is located and makes no particular attempt to perform itself outside time and space, in the eternity depicted by David Bailly in his *vanitas*. I have, I hope, neither pulled any particular god-trick, nor tried to perform myself as an unmarked subject. But that story also makes me uneasy. No, better: *therefore* it also makes me uneasy. I think this is because I (and in some measure you?) perform the distinction between truth and person, between outside and inside. For most Euro-Americans—and perhaps espe-

cially those who have fared best—are the children of Elias’s “civilizing process,” which means that if we write about “ourselves” then we are sailing close to that divide, the divide breached by vanity ethnography or plain, downright, self-indulgence.

Perhaps you are tempted to say “That’s enough of John Law. Enough of the ethnographer. Let’s get to the facts! What about the aircraft?” Well, surely this is the issue that we need to confront and rework.

Discourse/Subjectivity

Which story will I tell about Michel Foucault?

Discourses and arrangements of materials of all kinds. Note that: arrangements of materials of all kinds.

Talk, forms of storytelling, classical and modern.²⁰ Systems of knowledge that are embodied in collections, cabinets of curiosities, museums, state records, statistics, doctors’ surgeries.²¹ Buildings, including the shapes of prisons, real and imaginary,²² arcades for visual display, for the gaze,²³ and the boulevards of Haussman cutting their clean and ordered way through the pullulating quarters of old Paris. Not to mention the new towns of Morocco.²⁴

And then bodies. Yes, there is no doubt: Foucault is particularly interested in bodies, bodies and souls. He is interested in how to separate them, how to keep them together; how they are overseen, how they are marked; how they are broken down into little components and then reassembled, pressed into disciplinary forms. How bodies are made in the process of loading a musket in twenty easy steps, walking in steady formation under fire without the need for further discipline or orders. And then how pleasures, sexualities, are constructed, pleasures that will normalize themselves and thereby per-

20. See Michel Foucault, *The Order of Things: An Archaeology of the Human Sciences* (London: Tavistock, 1970); idem, *The Archaeology of Knowledge* (London: Tavistock, 1972).

21. On medicine, see Michel Foucault, *The Birth of the Clinic: An Archaeology of Medical Perception* (London: Tavistock, 1976).

22. On the prison and punishment, see Michel Foucault, *Discipline and Punish: The Birth of the Prison* (Harmondsworth: Penguin, 1979).

23. I want, quite unfairly, to cite Walter Benjamin in this context. For a fine explanation as to why this is unfair, and an exposition of the arcades project, see Susan Buck-Morss, *The Dialectics of Seeing: Walter Benjamin and the Arcades Project* (Cambridge, Mass.: MIT Press, 1989). But see also Kevin Hetherington, *The Badlands of Modernity: Heterotopia and Social Ordering* (London: Routledge, 1997).

24. On this, see Paul Rabinow’s extraordinary *French Modern: Norms and Forms of the Social Environment* (Cambridge, Mass.: MIT Press, 1989), which may be read as a continuation of Michel Foucault’s project by other means.

form disciplinary effects because such are the ways in which the soul, the body, the possibilities of pleasure, have been constructed .25

Bodies and souls, and then the other materials: talk; buildings; texts; statistics; maps; plans. Techniques for constituting materials and relating them together. For Foucault's archaeology is an attempt to decode the logics of relations, the spaces made available by those logics, the spaces, or at any rate the hints of the spaces, denied and made Other by such logics, discourses, or epistemes.

Of course, yes "of course," the distinction between the personal and the rest is of no analytical significance. For the person is something like this, a subject-position constituted in the ruthless logic of a discourse, for instance a disciplinary discourse; while whatever is outside the person is, well, another set of positions that stand in relation to and perform that person, that subject-position: for instance, knowledge, what is known, or better, "knowledges." So the distinction "public/private," or "knowledge/personal," these are distinctions *made*, constituted in the enabling logics of discourse that run through, permeate, and perform the materials of the social. They go everywhere, into our bodies, our practices, our texts, our knowledges, our town plans, our buildings, and all the rest .26

The method is quite different from that of Elias, but for certain purposes the result is similar. If there is that which has nothing to do with truth because it is personal, and that which has nothing to do with the personal because it is *not* ephemeral, then this is an effect. It is an effect that fails to notice that the divide is one that is being made continuously through time and through different materials— because the continuities, the logics, the discourses, run through the materials, human and nonhuman.

Interpellation

So the concern is with the study of relations, including the relational formation of the distribution between the knowing subject and the object that is known. Or, if you prefer the language, between the constitution of the personal, and the knowledges that we have of

25. See the series of books on the construction of the sexuality of modernity, starting with Michel Foucault, *The History of Sexuality, vol. 1, An Introduction* (Harmondsworth: Penguin, 1981). Note that there have been many questions about Foucault's treatment of the body. It has been seen by many feminists, no doubt rightly, as a location for the performance of discourse while forgetting the specificities of corporeality—including the sexualities of corporeality.

26. For discussion of the multiple spatiality of the architectural and the discursive, see Kevin Hetherington, "Museum Topology and the Will to Connect," *Journal of Material Culture* 2:2 (1997): 199–218.

the world. Michel Foucault was there, but so too was Louis Althusser. And now I want to borrow from Althusser: I want to borrow the term “interpellation.”²⁷

Althusser is telling a story about ideological state apparatuses.²⁸ Talking of ideology, he says that there are moments of recognition, moments when we recognize ourselves because we have been addressed, called out to, in a particular way. “Hey! You!” And round we turn to face the policeman, the head-teacher, the priest. At those moments we become, as he puts it, subjects because we are subjected to an authority, a Subject with a capital S. We are located, in relation to that Subject, as biddable small s subjects precisely because we recognize ourselves, and (this is crucial) *because we have no choice*. We are turned into biddable subjects because it becomes instantly obvious to us that we *are* that way and that we *know* that way.

Althusser links this relational semiotics with ideology and its operation through ideological state apparatuses. And, though I want to talk of interpellation, I will have to abandon much of Althusser’s project. For instance, his play between Subject and subject: the idea that we are turned into little knowing subjects because we are interpellated by, and mirror, a great Subject. This rests upon the idea that in the last instance there is a kind of ideological coherence to be detected by a dialectical materialist god-eye. Well, maybe, but (if we take seriously the notion of an established disorder, the endless interference between different stories) maybe not. At any rate, this is not something I want to build into my version of interpellation. And similarly, I also want to avoid the idea that there are real relations of production that can be distinguished from ideology, that there are, indeed, firm foundations. Or ideology. This, another version of the god-eye, makes me uneasy too because, to say it quickly, it’s another division that separates appearances too much from reality, the performance of storytelling from whatever it is that it tells about. To say this is not to say that we will necessarily avoid resuscitating something of this kind that does work. But even so, in a nonfoundational world, Althusser’s particular version of the distinction between truth and ideology will also have to go.

But I still want to talk of interpellation. This is because it involves two commitments.

27. I am most grateful to Martin Gibbs for extensive and productive discussion about the analytical possibilities of the notion of interpellation.

28. See Althusser, “Ideology and Ideological State Apparatuses” (above, n. 1). Note also that the term is used and explored by Teresa de Lauretis, *Technologies of Gender: Essays on Theory, Film and Fiction* (London: Macmillan, 1987).

First, to embodiment. Perhaps Althusser does not go into this as deeply as Foucault. Or as comprehensively. And he too, as has been widely claimed, ignores corporeal specificities. But even so, it is crucial. For (or so it seems) his sense of interpellation draws from and performs itself through the body of the ex-Catholic. And the ex-Catholic (is there such a thing as an ex-Catholic?) knows that he came to believe because he first knelt and prayed, because he participated in ritual. And he also knows that all this happened long before there was ever any sense of faith, explicit or otherwise. This means that embodiment preceded subjectivity, subjugation to the Subject. We are, he says, interpellated as knowing subjects precisely because we *are* embodiments, embodiments of relations and gestures.

Second, I want to hang on to Althusser's insistence on obviousness. For this is the fulcrum of interpellation: *that the subject instantly recognizes itself when it is addressed*. Note that: the subject *instantly* recognizes itself and is constituted as a knowing subject of a particular kind when it is spoken to. Indeed (and he is equally insistent on this), the constitution of the subject *precedes* the words spoken, the fact of being addressed. So interpellation has nothing to do with "deciding." All the apparatus of "rational decision-making" (assuming we believe in the existence of such a beast in the first place) is bypassed. Instead, there is instant recognition and location.

Perhaps Althusser was thinking of words, words and bodies. Perhaps he was imagining the words of the priest, the schoolteacher, the politician, or the bourgeois political economist, the effect of all these words on the body of the subject. But there is no reason to restrict interpellation to words. The emphasis on embodiment suggests that words are at best the tip of a material iceberg.

Interpellated

This is the moment when I want to narrate a story that joins the "personal" to that which is less than completely ephemeral. The moment at which I want to link the subject of study with the object of study. Because I do not think that the personal is "personal," not put in this way. But we've needed Alpers, Elias, Foucault, and finally Althusser, to reach that point where it is possible to theorize the "personal" in a way that resists its designation in those terms.

1985: RAF Cosford.

It's like this: this was a *moment of interpellation*. Knowing subject, known object, the two were recognized and made together in a single instant. "I would study, study "TSR2"; "TSR2" would be studied,

studied by “me.” The effect was an instant recognition or performance of a set of subject/Subject or subject/object relations coming from—well, coming from somewhere, but deeply buried in its obviousness, somewhere before. Embedded and made in the material-narrations of practice and ritual that are always needed in order to secure self-evidence.

Let us rehearse some of the dangers of obviousness. If we are interpellated then we are being made or remade as particular subject-positions, made to constitute our objects in particular ways. In particular, we are being made to constitute our objects in ways that are obvious, recognized, and made *even before we come to see them and think about them*. There is another study here. We might think of it as a study in the erotics of interpellation: why or how it is that we are spoken to and perform the obviousnesses of our objects of study.²⁹ Technoscience studies, military technologies with all their genderings, biomedical this and that, consumer goods—in all of these, obviousnesses of one kind or another are being made, narrated, performed. But if this is the case, then the question becomes: interpellated as we are, what on earth is it that we are performing in our embodiments?

Large Blocks

Michel Foucault and Louis Althusser had something in common other than their radical politics and their semiotic interest in relations: both tended to imagine that the logics of narrative possibilities, discourses, semiotics, come in very large chunks.

Althusser, talking of the multiplicity of and differences between ideological state apparatuses, writes:

If the ISAs “function” massively and predominantly by ideology, what unifies their diversity is precisely this functioning, insofar as the ideology by which they function is always in fact unified, despite its diversity and its contradictions, *beneath the ruling ideology*, which is the ideology of the “ruling class.”³⁰

And Foucault?

In the last years of the eighteenth century, European culture outlined a structure that has not yet been unraveled; we are only just beginning to disentangle a few of the threads, which are still so unknown to us that we immediately assume them to be either marvelously new or absolutely archaic, whereas for

29. It is indeed a fascinating matter—but it takes us beyond the scope of the present paper. For discussion in the context of military technology, see Law, “Machinic Pleasures and Interpellations” (above, n. 6).

30. Althusser, “Ideology and Ideological State Apparatuses” (above, n. 1), p. 139.

two hundred years (not less, yet not much more) they have constituted the dark but firm web of our experience.³¹

“[I]s always in fact unified . . .”; “. . . the dark but firm web of our experience.”

So the metaphors and the theories are different, but they have this much in common: despite the cracks and the strains, most of the space—the space made by ideology for Althusser and by the episteme for Foucault³²—most of the space we have for knowing and being, narrating and performing, living and building, most of that space is structured by a single set of ontological strategies or distributions. A single set of possibilities that determine what there is, what there might be, in the world. These (this is the crucial point) displace others to the margins, to the places that Foucault, with his exquisite sense of spatiality, sometimes calls the heterotopic.³³ They are displaced to a few places of resistance. Althusser again:

I ask the pardon of those teachers who, in dreadful conditions, attempt to turn the few weapons they can find in the history and learning they “teach” against the ideology, the system and the practices in which they are trapped.³⁴

This is okay intellectually, if not politically. Perhaps it is really like that. Perhaps, to use Donna Haraway’s very different words, we live in a world dominated by narrative metaphors that perform “militarism, capitalism, colonialism and male supremacy.” Perhaps we live in a world in which the narratives that perform alongside one another tend—despite some discordances—to support one another. Perhaps we live in a world in which the “personal” subject positions into which we are interpellated are more or less consistent, performed as reasonably coherent and well coordinated locations within a single great episteme. Perhaps we live in a world that

31. These are the final words of Foucault, *Birth of the Clinic* (above, n. 21).

32. “[W]hat I am attempting to bring to light is the epistemological field, the *episteme* in which knowledge, envisaged apart from all criteria having reference to its rational value or to its objective forms, grounds its positivity and thereby manifests a history which is not that of its growing perfection, but rather that of its conditions of possibility; in this account what should appear are those configurations within the *space* of knowledges which have given rise to the diverse forms of empirical science. Such an enterprise is not so much a history, in the traditional meaning of that word, as an ‘archaeology’” (Foucault, *Order of Things* [above, n. 20], p. xxii).

33. See Foucault, *Birth of the Clinic* (above, n. 21); Hetherington, *Badlands of Modernity* (above, n. 23); idem, “Museum Topology and the Will to Connect” (above, n. 26). I am most grateful to Kevin Hetherington for extensive discussion of the significance of the heterotopic.

34. Althusser, “Ideology and Ideological State Apparatuses” (above, n. 1), p. 148.

presses toward a single form, rather than one that is multiple. Perhaps it is like that, or largely like that; in which case, an inquiry into our interpellations as knowing subjects seems necessary, indeed vital. That is, if (like Althusser's teachers) we can manage "to turn the few weapons [we] can find . . . against . . . the practices in which [we] are trapped," and so perform different stories and narratives—narratives that explore the ways in which our constitution as subjects has generated objects and knowledge relations that perform their obviousness under the guise of whatever sign "science" and "reality" now sail. Vital, but almost impossible.

But I am just a little more optimistic than that. Because I take it that the established disorders are multiple, not singular. Because I take it that, notwithstanding the coordinations of the many strategies for coordination, the strain toward the single is counterbalanced by the heterogeneity of multiplicity. Because I take it that interferences and overlaps do not necessarily ensure that the fields of ontological force, the determinations of what there is and what there might be, are necessarily aligned. In short, because I take it that the conditions of possibility do not necessarily come in large blocks.³⁵

1985–1989

Between 1985 and 1989 I studied the TSR2. I sought to develop actor-network theory by adding TSR2 to the long list of technoscience case studies: bicycles, electric lighting, electric vehicles, electricity power systems, imperialist ships, turbojets, pasteurizations, aquacultures, domestic heating, technology transfers. I was especially concerned with the social and the technical. The social, or so I sought to show, was as malleable as the technical: its shape was not given in the order of things, but rather emerged in the course of "heterogeneous engineering." To do this I told stories about the trajectory of the TSR2 project: its rise, its development, and its fall. I also told stories of particular specificities in this trajectory, particular incidents. I was quite pleased with some of these project-stories. In the space created for this new sociology of technology they seemed to work reasonably well.³⁶

35. This is a topic explored in both real and imagined conversations with Leigh Star. For a trace of these conversations, see John Law, *Organizing Modernity* (Oxford: Blackwell, 1994).

36. The results of this work are reported in John Law, "The Olympus 320 Engine: A Case Study in Design, Development, and Organisational Control," *Technology and Culture* 33 (1992): 409–440; idem, "The Anatomy of a Sociotechnical Struggle: The Design of the TSR2," in *Technology and Social Process*, ed. Brian Elliott (Edinburgh: Edinburgh University Press, 1988), pp. 44–69; John Law and Michel Callon, "Engineering and Sociology in a Military Aircraft Project: A Network Analysis of Technical Change," *Social Problems* 35 (1988): 284–297; idem, "The Life and Death of an Aircraft: A Network Analysis of

But things started to go wrong. This showed itself in a number of ways. In particular, however, I started to become uneasy about my relationship with this aircraft, and especially with its high-status spokespersons. These were people, invariably men, who were always successful and impressive, usually thoughtful, and often attractive. But as I talked to them, I gradually found that these conversations seemed to be laying a charge on me: I was being constituted as the person who would document this project, as it was sometimes said, “definitively.” It was, or so some of them said quite explicitly, “the right time to document the project.” Far removed from those sad days in 1965 when the aircraft was cancelled, people could now look back calmly. And they were still alive, enough of them, to make the study possible.

And then this. I wanted to write an actor-network story, a narrative exploring the malleability of the technical and the social. But my interviewees knew nothing and cared even less of actor-network theory. Instead, they treated any empirical description as an admittedly crucial prelude to the more important task of making balanced judgments, and two such judgments in particular: first, whether it was right to have cancelled the TSR2; and second, what might be learned from this sorry story that could be applied to other military aircraft projects.

I had written most of a book on the TSR2 project. I was writing the final chapter—a chapter that “summed up” the study, the lessons of the study. And as I did so, a great sense of heaviness started to weigh me down. The actor-network findings were okay. Perhaps not scintillating, but okay. But the sense that I also needed to write about policy, about “what went wrong,” and even more, “what to do in order to avoid a repeat performance,” slowed me, eventually, little by little, to a stop. I did not want to—I found that I physically could not—write about how to better manage military aircraft projects. And though I told myself that whatever I wrote would be irrelevant, out of date, this made no difference. To write in this way felt wrong. Impossible, and wrong.

Fortunately, I was not completely trapped. There was, for instance, no need to write a book in order to obtain tenure. I had a contract with no one. I also had a quite different research project in its early stages, a project that had nothing to do with military technology. So, after weeks of struggle, somewhere toward the end of 1989 I put the manuscript in a box, put the box on a shelf, and went to work on this new project. And forgot about the TSR2, except in those moments, in the middle of the night, when I worried (as one does) about what to do with this great and uneasy weight of effort, of material.

Five Narrative Forms, Five Interpellations

Now I want to tell a rather formal story. It is too discrete, too clear, but never mind. For the sake of simplicity I want to imagine

Technical Change,” in *Shaping Technology, Building Society: Studies in Sociotechnical Change*, ed. Wiebe Bijker and John Law (Cambridge, Mass.: MIT Press, 1992), pp. 21–52.

that we are concerned with five separate discourses, five distributions, five styles of narrative, five modes of interpellation.

Number 1. With ill-concealed irony, I will call this *plain history*. It is a story, a form of storytelling, that moves chronologically, starting at the beginning and moving to the end. A follows B follows C. It is a story that, for instance, charts the inception and development of a technological project and then its growth and decline. Perhaps it charts its cancellation. At any rate, it is a story that tells of a historical trajectory. This small example comes from a book by a well-known military aviation journalist and commentator, Derek Wood:

By mid 1957 the RAF had formulated its basic requirement under the title of General Operational Requirement No. 339 and it was passed to the Ministry of Supply for action. The Controller Aircraft, Sir Claude Pelly, sent out a letter to industry on GOR.339 on September 9th.³⁷

There is no such thing as “plain history.” All history, plain or otherwise, is a narration and a performance. It distributes and links things together, making them by chaining them. And—the performativity point—it makes them too, constituting some kind of truth-regime and effecting some consequences. So this little excerpt is just that, an excerpt. It makes one or two links in a narrative that would be much longer if we were to spend more time on it. But never mind, for my point is that in many stories—including stories about technologies—there is this sense of something like a lowest common denominator: the making of series of linked dates and events. The effect is the production of something: a set of specificities, specific object-positions, that often come to act as the “raw material” in other forms of storytelling. And at the same time, it generates a set of subject-positions or a reader/author that makes, that appreciates, that is interpellated, by “the facts as they are”—the facts, for instance, about a project, an aircraft project. A particular version of the god-eye, the view from nowhere. A particular version that appreciates the need for a narrative landscape of facts.³⁸

Number 2. Let’s call this *policy narrative*. This performs a story that has something to do with “plain history.” But in policy narrative, specificities are distributed into chains energized by being given some kind of pragmatic policy value. That is, the specificities that might have been built in “plain history” now have the potential for

37. Derek Wood, *Project Cancelled* (London: McDonald’s and Janes, 1975), p. 153.

38. No, I am not endorsing empiricism by the back door. I am making, albeit very rapidly, an argument to do with intertextuality: the relationship between narratives, intertextualities that perform empiricist effects.

judgment, or for contributing to a judgment. This, then, performs normativity, a narrative that chains itself together in part by distributing praise, blame, and responsibility. It is energized with polarities, with pluses and minuses. Locating positions in the world that failed when they were put to the test. That had a choice. That could, that should, have done better. And with its objects it creates a series of subject-positions, positions that are engaged, that are normative, that are prescriptive. The god-eye in its role as judge. As arbiter of value. Here is a small example:

Sixth, and probably the greatest single cause of increased costs, was the repeated delay in getting official decisions, and the permanent uncertainty which so grievously effected the rhythm of production and from time to time the morale of design and production teams.³⁹

So this is an instance of policy narrative, a story about TSR2, written by a historically minded policy practitioner, Conservative MP Stephen Hastings. Interpellation by the compelling need to “learn from our mistakes.” To perform better “next time.”

Narrative style number 3 is somewhat like number 2. It is a way of talking, of living, and of performing the world, that is *ethical*. Perhaps the distinction is like that made by Max Weber between instrumental and value-rational action.⁴⁰ Here, at any rate, is Labour Member of Parliament Tam Dalyell in a censure debate that took place in Parliament immediately after the cancellation of the TSR2:

It is a sombre fact that as the twentieth century rolls on more and more science-based developments have evolved from armaments. The right hon. Gentleman is, tragically, historically accurate when he says that armaments have been the life-blood of industry, but the fact that he is historically right casts a pretty damning reflection on contemporary capitalism. . . . One of the reasons why I became a Socialist was my belief that in a Socialist set-up at least one had a chance of creating conditions in which technical progress could be freed from the armaments race.⁴¹

Wertrationalität rather than *zweckrationalität*. Here the links that provide for narrative are normative—but also ethical. The subject-positions are interpellated and linked by means of a particular sense of right and wrong. Interpellation by moral means.

Narrative number 4 I will call *esoteric narrative*. These are narrations and performances that are specific, local, and analytical—as in

39. Stephen Hastings, *The Murder of TSR-2* (London: Macdonald, 1966), p. 60.

40. See Max Weber, *Economy and Society: An Outline of Interpretive Sociology*, ed. Guenther Roth and Claus Wittich (Berkeley: University of California Press, 1978), p. 24.

41. *Hansard* 710 (1964–5): col. 1258, April 13, 1965.

many versions of academic storytelling. There are, to be sure, dozens of variants here, just as there are dozens of variants of policy storytelling and, for that matter, of “plain history.” But sometimes, perhaps often, academia is a place that makes stories, but stories where the links, and so the subject-positions, are esoteric in quality: interpellative for a specialist reader, drawing on, but not rapidly feeding back into, other forms of narration. And it is this sense of removal from the exoteric, of strictly local relevance, that I want to catch. So the story I am telling right now (though I might wish it otherwise) is a version of esoteric narrative. But so too is this:

At this point, then, the project came properly into being. The managers had been granted an area of relative autonomy by actors in the global network; they had been granted what we will call a *negotiation space* in order to build a *local network*.⁴²

This is Michel Callon and John Law performing and enjoying the benefits of actor-network theory. Perhaps helping to make a specialist version of the god-eye. Interpellated, and interpellating, into a specific version of self-recognition and obviousness—one that links again with “plain history” in a relation of mutual parasitism.⁴³

And number 5? Let’s call this *aesthetic*, a form of narrative that helps to distribute and perform pleasure or beauty. As in the following:

The cockpit felt almost detached from reality. There was no vibration; the only noise a subdued hum from the big turbo jets, the seat comfort as luxurious as an airliner’s and the air conditioning warm, fresh and comfortable. The instrument panels showed steady readings of flight conditions, engine and systems performance with no malfunctions; the radio for once silent.

Outside an unbroken cloud sheet stretching below to the pale northern horizon, varied in colour only here and there by long streaks of shadow laid by the low winter sun from behind strato cumulus domes.⁴⁴

The excerpt is from a book by the test pilot Roland Beamont, and much could be said of it. For instance, like David Bailly’s *vanitas* it both performs and artfully bridges the distinction between public

42. Law and Callon, “Engineering and Sociology” (above, n. 36), p. 289.

43. The direction of parasitism is defined, tautologically, by defining this style of narrative as “esoteric.” However, its one-way character is not given in the order of things— and esoteric forms of narrative have not infrequently emerged into and remodeled other story forms.

44. Roland Beamont, *Phoenix into Ashes* (London: William Kimber, 1968), p. 152. Beamont was the pilot who was primarily responsible for testing the TSR2 aircraft. He is here describing a moment on the first and only supersonic flight of TSR2 on February 22, 1965.

and private. The pilot is rendered a cool technician (“the instrument panels showed steady readings,” or “strato cumulus domes”) but there is also poetry, pleasure, and sadness too, the sadness of a loss that will come when the TSR2 is grounded and destroyed. This, then, is a performance of aesthetic narrative potential—another interpellative logic. The subject in awe. The subject made in sublimity.

Interferences

I have made five forms of narrative, five performances of interpellation, five different subject-positions and object-positions, five modes of distributing. Some questions arise.

The first questions have to do with what they are, their status. The answer I want to offer is that they are *modes of ordering*. By which I mean that they are all of: stories; interpellations; knowing locations; realities; materially heterogeneous sociotechnical arrangements; and discourses. In the context of classic theory, they are closest to Foucault’s notion of discourse. This is because they are arrangements that run through and perform material relations, arrangements with a pattern and their own logic. Except, as I have already noted, they are smaller. More contingent. Putatively less consistent, less coherent. Which is why, following an earlier subversion of Foucault’s understanding of discourse, I want instead to think of them as “modes of ordering.”⁴⁵ That is, as arrangements that recursively perform themselves through different materials— speech, subjectivities, organizations, technical artifacts; and that therefore, since they perform themselves alongside one another, also interact with one another.

If these forms may be thought of as modes of ordering, then a second set of questions arises: Why are there five? and Why these five, and not others? For, as a reader of an earlier version of this paper put it, they seem to appear like magic, as if out of a hat. So though I am not too anxious about the dangers of magic, some account of their origins is needed. In response I need to say two things. First, that we are confronted with a version of the *problem of imputation*. For it is a standard problem—for instance, in the sociology of knowledge, but also in cultural studies—that imputing regularities or patterns to

45. The citation is from Law, *Organizing Modernity* (above, n. 35). In this study I argued that much of the laboratory ordering in which managers were implicated could be treated as an expression and a performance of four “logics”: enterprise, administration, vocation, and vision; that these rubbed along together, sometimes supporting one another and sometimes eroding one another; that the ordering of the laboratory could not be reduced to any one of these; and that the whole was a process, an unfinished enactment.

endlessly complex empirical materials is a leap of faith; that those imputations are defeasible; that, in other words, alternative imputations might be made; and that such imputations both go beyond, and do not cover, all the materials to which they apply. All this applies here. Alternative modes of ordering could be discerned. The only justification of the five that I have actually listed is that they seem to do some work. In particular, they make sense of many of the complexities that I encountered toward the end of the writing described above. Which is the second point I need to make. For even though they are no doubt too discrete, they nevertheless offer a way of narrating the immobility that I experienced.

Which brings us to the third set of questions, to do with interference. The interferences between the different ways in which they interpellate. The more or less different forms of obviousness that they make. Their differing necessities. The ways in which they say “Hey! You!” For we are dealing in multiplicity: multiple object-positions; multiple subject-positions. Donna Haraway observes:

Optical metaphors are unavoidable in figuring technoscience, and a few sentences later she notes:

My favorite optical metaphor is diffraction—the noninnocent, complexly erotic practice of making a difference in the world, rather than displacing the same elsewhere.⁴⁶

My argument, then, is that Haraway’s optical diffraction metaphor allows us to ask how the different modes of ordering interacted with one another to generate complex patterns of interpellative interference. To make subjects, readers and authors, places of illumination where the wave patterns were coherent, but also with dark places where they were not because they cancelled one another out.

Places of dark where they were not.

It is possible to make the argument in many ways. But I want to link it to the formation of subjectivity. To the formation or the performance of what I hope we are no longer so disposed to think of as “the personal.”

As it happens, in 1989 these patterns of ordering coalesced in a particular way to interfere with one another and make a place of darkness. They overlapped to produce a series of mutually cancelling interpellations, conflicting subject-positions, a place where there was no possibility of writing, reading, or knowing in any conventional sense.

46. Haraway, “Game of Cat’s Cradle” (above, n. 2), p. 63 (the preceding citation is from p. 62).

I was writing history. This was the first interpellation. But it was not “just history,” not in the way I imagined it, for “plain history” was never the strongest form of interpellation for an author made as a sociologist. So it was a prelude to what? The answer is that I thought I was writing history as a prelude to a particular academic narrative, a story, as I have already mentioned, about human and nonhuman agents. So that was the second interpellation, the performance of a subject within an esoteric ordering mode: in this case, the narrative of actor-network theory. But my high-status interviewees imagined that I was writing history, making my inquiries, as a prelude to something quite different: a judgment of policy, a judgment about the worthiness of the project. They thought I was going to write about whether or not it was well managed, what had gone wrong, why it had been cancelled, and, perhaps most important, whether or not it should have been cancelled. This was a third interpellation, and it was one that was powerful. In an effect that is sometimes called “studying up,” it felt like a form of colonization. “Hey! You!”

There were thus three simultaneous interpellations, three simultaneous modes of ordering—but two of them were interfering with one another. The writer constituted as esoteric specialist, and the writer as policymaker: here the two did not fit.⁴⁷ That was the first interference pattern. A place of darkness. But there was also a resistance deriving from another ordering story, another interpellation, a long-ago story form to do with the waste of military spending. This was a form of being that reflected and embodied a fear and a horror of nuclear weapons. Perhaps it was an ethical ordering that had been almost buried, long ago cleansed from other narrative forms, from those to do with either the esoteric or matters of policy. What form did the interference take? The answer is that I found I could *not* perform policy. I could not, that is, perform the kind of policy that judged the TSR2 in terms of its (how to say it?) efficacy with respect to military strategy or procurement policy. This was the point at which I stopped. I could not make that final move. Interpellation as a policy-narrator interfered, though in different ways, with *both* an esoteric subject-position, and an ethical subject.

Interpellation. Diffraction and interference. A moment of darkness. Destructive subject-multiplicity. And what of the question of aesthetics?

47. There is, to be sure, no necessity that academic and policy narratives will interfere in a destructive or immobilizing fashion. Very often—for instance, in the form of stories about large technical systems—they do not. Interference is a contingency.

This was another form of interference, I think, for there is a pleasure in aircraft.

No. Let me be careful. Some of us, some of the time, some subject-positions, are constituted to find pleasure in relation to machines, flying machines, and even killing machines. Which is a whole other way of talking and being, and one that is pressed (or so I want to suggest) to the margins, in the narrative forms that I have mentioned above. My conclusion is that the ordering of machinic pleasure was what interpellated me one day in 1985 at RAF Cosford, and then hid itself again. Which is some kind of answer as to why I “chose” to study TSR2 when I might have studied so much else.⁴⁸ This was a beautiful aircraft. It called out: “Hey, you. I am a tragedy. You are the person who will study me. Celebrate my ruined beauty.”

To End

Some observations.

I am asserting that *whatever is personal is also social*. Always. Whatever we conceal, whatever we take to be shameful, inappropriate, self-indulgent, uninteresting, whatever we hide, is also social. Elias tells us this.

It may, of course, *also* be shameful, inappropriate, self-indulgent, or plain, downright uninteresting. All of these are real possibilities that we watch being performed every day. They are performed in one way by Elias and Foucault in their writing—if only because they never talk about their own “repressions,” their own subjectivities.⁴⁹ But if we assume, as I have in this paper, that ordering modes perform subject-positions and object-positions, then there is, at least in principle, the possibility that subject-positions, the positions that constitute us as knowing subjects, are relevant if we want to understand the performativity of stories, to understand how distributions are being made. If we want to understand what is being said and what is not; indeed, what *we* are saying or not.

So that is a first possibility: that there is continuity between subjects and objects. That we are lodged in, made by, multiple and overlapping distributions, which shuffle that which is made “personal” and that which is rendered “eternal” into two heaps. And that that process of shuffling is worthy of reworking in a contemporary version of the *vanitas*. And because it performs obviousnesses.

48. Ten years later I returned to RAF Cosford. The erotics and aesthetics of that ambivalent day are described in John Law, “Air Show,” (working paper, Department of Sociology, University of Lancaster, 1999).

49. Althusser talks about “the personal,” but only in his late autobiography: again, the division between personal and scientific.

And *in particular* because it performs obviousnesses. Because the performance of obviousnesses sets limits to what we know, to the kinds of knowledges that we have. It sets limits to the conditions of possibility. For instance, to the ways in which we come to know machines. Come to recognize them. Come, yes, to perform them.

This is where, having journeyed almost all the way with Michel Foucault and Louis Althusser, I finally part company from them. The point is methodological. For I would also like to suggest that the body is a particularly sensitive instrument precisely because the semiotics of subject-object relations *do not* come in big blocks like ideologies, discourses, or epistemes. Let me be more cautious. They *may* come in big blocks—at any rate, in certain respects. Perhaps the conditions of possibility in Euro-American societies are in some ways uniform. But not all the time. For smaller blocks, narratives, semiotic logics, distributions, smaller modes of ordering—these are multiples that are also capable of interfering with one another. At any rate, they are capable of doing so under certain circumstances, in particular places or institutions. In, for instance, the practices within a building, the intertextualities that pass through the body, the heterotopic within that makes us, that interpellates us and our materials in multiple ways.⁵⁰

Lighten our darkness. Deliver us this day from our simplicities.

This is why I am more optimistic than Louis Althusser. But it is also why the body is so important: for it is a detector, a finely tuned detector, a detector of narrative diffraction patterns. It is an exquisite and finely honed instrument that both detects and performs patterns of interference between modes of ordering, those places where the peaks peak together and there is Enlightenment. At which point there is overdetermination. The necessities, but also the horrors of multiply performed obviousness. The conditions for transparent knowledge, the god-eye. And then, more promisingly for the

50. On difference between specificities, and their links, see the exemplary work of Annemarie Mol, who, with her collaborators, has explored the diversity and coordination of medical practices within certain parts of medicine: Annemarie Mol, *The Body Multiple: Ontology in Medical Practice* (Durham, N.C.: Duke University Press, forthcoming); Annemarie Mol and Marc Berg, "Principles and Practices of Medicine: The Coexistence of Various Anaemias," *Culture, Medicine and Psychiatry* 18 (1994): 247–265; Annemarie Mol and John Law, "Regions, Networks and Fluids: Anaemia and Social Topology," *Social Studies of Science* 24 (1994): 641–671; Annemarie Mol and Bernard Elsmann, "Detecting Disease and Designing Treatment: Duplex and the Diagnosis of Diseased Leg Vessels," *Sociology of Health and Illness* 18:5 (1996): 609–631; Annemarie Mol and Jessica Mesman, "Neonatal Food and the Politics of Theory: Some Questions of Method," *Social Studies of Science* 26 (1996): 419–444; Marianne de Laet and Annemarie Mol, "The Zimbabwe Bush Pump: Mechanics of a Fluid Technology," *ibid.* (forthcoming).

doubter, moments like the one in which I found myself during the summer of 1989, where there is dark, where there is something wrong, where the energies cancel one another out. And interpellations wrestle themselves to a standstill.

This suggests that there is a place for the body, not only as the flesh and narrative blood that walks in what we used to call “the field,” bringing back reports, reports of how it is “out there.” But rather, or also, that there is room for the body, for the personal, in the stories that are later performed, that perform themselves through us as we tell of narrative diffractions and interferences. For however it may be constructed by the heirs of the civilizing process, the personal is no longer necessarily “personal.” Rather, it may be understood and performed, as a location, one particular location, of narrative overlap. A place of multiplicity, of patterns, of patterns of narrative interference.

Whether we tell stories about ourselves as we perform our situated knowledges will depend on what we are trying to achieve, and on the context in which we are seeking to achieve it. But these are situated, specific, rhetorical and political questions rather than great issues that can be resolved by principles. For it is itself wrong, a confusion, a self-indulgence, to forget that the body is a site, an important site, where ordering modes and the subjectivities of interpellations produce effects that are strange and beautiful and terrible, effects that might make a difference if we were able to attend to their interferences.

For instance, there are moments—I lived through one that I have described above—when the possibility of performing the coordinations of narrative potential is lost: when it is no longer possible to link subject-positions together in this way or that, to make a single story; when it is no longer possible to create, perform, and be performed by an object that is turned into a singularity; when it is no longer possible to work perspectively, to make a god-eye view. There are moments when, instead, the interferences and overlaps perform themselves into “a” subject that is broken and fragmented; a subject that is decentered; a subject that is therefore interpellated by—and interpellates—a multiplicity of different objects; a subject that thereby suddenly apprehends that the failure to center is not simply a failure, but that it is also a way of becoming sensitive to the multiplicities of the world. At that moment, failure to center is also a way of learning that objects are made, and that there are many of them. It is a way of learning that objects are decentered—a set of different object-positions. It is a way of apprehending that knowing is as much about making, about ontology, as it ever was about epistemology.

There is a final question, isn't there? Could I have done all this without introducing the "personal"?

The answer is going to be no. No doubt I could have made arguments like these and *told* it otherwise in some version or other of the god-trick. But this is not how the method of bodily interference produced its effects. So I shall leave you with another question: If we are constituted as knowing subjects, interpellated, in ways that we do not tell, then what are we doing? What are we telling? What are we making of our objects of study? Or, perhaps better, what are they making of us?

The question is real. At any rate it's real from where I stand. For finally, in a study of the TSR2, it turns itself into something specific that is also not specific. If those of us who study military technologies—and those who dream of them, design them, fly them—do not reflect on the aesthetics of our interpellations, then we are not attending to a way of living and ordering that runs through us. A way of living and ordering that is, in some ways, dangerously arousing. A way of living and ordering that makes a difference. That performs the military into being, one way or another.⁵¹

A White Bird

In March 1996 I looked at a videotape of the first flight of the TSR2, a version of the publicity film issued by the British Aircraft Corporation in 1964. This was unexpected. It was thrilling. It was thrilling to see it start down the runway, and then to watch this aircraft take to the air like a great white bird.

Perhaps it was the music, for they played the theme from the film *Chariots of Fire*. Perhaps.

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51. I have tried to survey some of these practices in Law, "Machinic Pleasures and Interpellations" (above, n. 6), pp. 23–48.