

From Panopticon to Oligopticon

Myopic ANT scholars have a great advantage over sharp-sighted all-encompassing overseers. Not only can they ask gross and silly questions, they can do so obstinately and collectively. The first kind of clamp is the one obtained by this rather naive query: 'Where are the structural effects actually being produced?' I am aware that this geographic question shows a terrible lack of manners, but I am a science student and so, for any piece of scientific knowledge, I am used to supplying its indispensable conditions of production.²²³ For example, even linguists need a room, an office, an institution, a department, boxes of archives, a place to stay, a coffee pot, and Xerox machine so as to gather all the elements, which have been extracted from thousands of local interactions and millions of speech acts, and carefully fabricate a linguistic structure.²²⁴ And the same is true of lawyers: the system of law is compiled using folders, libraries, meetings, etc.²²⁵ Even Karl Marx in the British Library needs a desk to assemble the formidable forces of capitalism. No more than language or law, physiology lives a mysterious and ethereal life: it is always produced somewhere, in such and such laboratory at the Royal College of Surgeons, in a freshly revised textbook, in a doctor's cabinet, after a consensus meeting has modified the standard procedure for taking care of sprained ankles. Culture does not act surreptitiously behind the actor's back. This most sublime production is manufactured at specific places and institutions, be it the messy offices on the top floor of Marshal Sahlins's house on the Chicago University campus or the thick Area Files kept at the Pitts River museum in Oxford.²²⁶

Other sociologists may ignore these production sites as so many transparent intermediaries since, according to their epistemology, they play no other role than to reveal the 'fundamental structures' of human actions, but historians and sociologists of science pay close attention. Ever since we decided to follow how matters of concern are generated by the various disciplines, we have to take into account the practical ways through which the knowledge of others' actions is being daily produced. Is this relativism? I hope so. If no signal travels faster than light, no knowledge travels without scientists, laboratories,

²²³ For an up-to-date attempt at spatializing science, see David N. Livingstone (2003), *Putting Science in Its Place: Geographies of Scientific Knowledge*.

²²⁴ See Sylvain Auroux (1999), *La raison, le langage et les normes*.

²²⁵ See Martha Mundy and Alain Pottage (2004), *Law, Anthropology and the Constitution of the Social: Making Persons and Things* and Bruno Latour (2002), *La fabrique du droit - Une ethnographie du Conseil d'Etat*.

²²⁶ For a materialist account of anthropology making, see the classic works of George W. Stocking (ed.) (1983), *Observers Observed: Essays on Ethnographic Fieldwork*; Bourdieu, *Outline*; and Goody *The Domestication of the Savage Mind*.

and fragile reference chains. Our interest for those humble means is not dictated by suspicion about the true efficacy of those structures or by some reflexive urge. It is simply that they offer ideal *tracers* for discovering what sort of relationship may exist for good between the micro and the macro. If the whole of physical space and physical time had to be reshaped because of the realization that no two signals are really sent simultaneously, then how much more social space and time will have to be reshuffled once every structural feature is brought firmly back inside its local conditions of production?

And sure enough, as soon as the local sites that manufacture global structures are underlined, it is the entire topography of the social world that is being modified. Macro no longer describes a *wider* or a *larger* site in which the micro would be embedded like some Russian Matryoshka doll, but another equally local, equally micro place, which is *connected* to many others through some medium transporting specific types of traces. No place can be said to be bigger than any other place, but some can be said to benefit from far safer connections with many *more* places than others. This move has the beneficial effect to keep the landscape flat, since what earlier, in the pre-relativist sociology, was situated 'above' or 'below' remains side by side and firmly on the same plane as the other loci which they were trying to overlook or include. What is now highlighted much more vividly than before are all the connections, the cables, the means of transportation, the vehicles linking places together. This is their strength but also, as we are going to see, their frailty.²²⁷ If you cut some underlying structure from its local application, nothing happens: it remains there in its mysterious empyrean; if you cut a structure-making site from its connections, it simply *stops* being able to structure anything.

Having reached this point, don't try to be intelligent, don't jump, don't switch vehicles: if you do so, you'll miss the embranchment and fail to trace the new landscape. Just follow the trails myopically. And you have accepted to be, ANT you will remain! If you stick obstinately enough to the decision of producing a continuous trail instead of a discontinuous one, then another mountain range begins to emerge. It is a landscape which runs through, crosses out, and totally shortcuts the former loci of 'local interaction' and of 'global context'.

It's not that there is no hierarchy, no ups and downs, no rifts, no deep canyons, no high spots. It is simply that if you wish to go from one site to another, then you have to pay the full cost of relation, connection, displacement, and information. No lifts, accelerations, or

²²⁷ Even 'vast' master narratives may be produced in these 'local' places. See Michael Lynch and David Bogen (1996), *The Spectacle of History: Speech, Text and Memory at the Iran Contra Hearings*.

shortcuts are allowed. For example, the millions of speech acts that make up a dictionary, a grammar, or a language structure in a linguistics department have been extracted from local speech acts, which have been recorded, transcribed, collated, and classified in various ways using many different mediums.²²⁸ The fact that no structure acts unconsciously 'under' each speech act does not mean that it is made out of thin air by 'local' linguists stuck in their office. It means that the written structure is *related*, connected, associated to all the speech acts *in some ways* the enquiry should discover. Of course, the office of the linguist may have some relationship with what is spoken 'out there', but how would you imagine this relationship to be made without connections and at no cost, without a constant trade going on along the conduits leading to and from the office? These two-way relations are even stronger since grammar has also become, through years of schooling, a common feature of what it is for speakers to interact together. Written grammars have now become part of the equipment of every westernized mother faulting her daughter for defective manners of speech. Viewed in this way, every academic office—the anthropologist's den, the physiologist's lab, the lawyer's library, the social theorist's study, the architect's studio, the consultant's office—begins to take, in the observer's account, a star-like shape with a center surrounded by many radiating lines with all sorts of tiny conduits leading to and fro. The Wolf of Context could gulp down an interaction, but not such a long, flat, folded net in which he would instead find himself fully ensnared.

Provided we follow such a lead without flinching, a new topographical relationship becomes visible between the former micro and the former macro. The macro is neither 'above' nor 'below' the interactions, but *added* to them as *another* of their connections, feeding them and feeding off of them. There is no other known way to achieve changes in relative scale. For each of the 'macro places', the same type of questions can be raised. The answer provided by fieldwork will bring attention back to a local site and re-describe them as some disheveled arrays of connections through which vehicles (carrying types of documents, inscriptions, and materials) are traveling via some sort of conduit.

What was true, at the end of Part I, of the sociologists' written account, is true of all the other structure-makers as well: all of them are launching tiny bridges to overcome the gaps created by disparate frames of reference. The precise nature of those moving entities is not important at this point: the enquiry will decide what are the vehicles

²²⁸ See Simon Winchester (2003), *The Meaning of Everything: The Story of the Oxford English Dictionary*.

and what are the documents for each case. What counts is the possibility for the enquirer to register that kind of 'networky' shape wherever possible, instead of having to cut off data in two heaps: one local, one global. To tell an actor-network story is to be able to capture those many connections without bungling them from the start by some *a priori* decision over what is the 'true size' of an interaction or of some social aggregate. As should be clear by now, ANT is first of all an abstract *projection* principle for deploying *any* shape, not some concrete arbitrary decision about *which* shape should be on the map.

Centers of calculation, as I have called them, offer such a star-like shape in a very striking form.²²⁹ Capitalism, for instance, may be an intractable entity endowed with a 'spirit', but a Wall Street trading room does connect to the 'whole world' through the tiny but expeditious conduits of millions of bits of information per second, which, after having been digested by traders, are flashed back to the very same place by the Reuters or Bloomberg trading screens that register all of the transactions and are then wired to the 'rest of the (connected) world' to determine someone's net worth.²³⁰ Once those conduits are taken into account, we now have a choice between two routes: we can still believe that capitalism acts surreptitiously as the 'infrastructure' of all the world's transactions and, if so, we have to jump from the local assessment of a specific company's worth to its 'context', changing vehicles as we go along, shifting gears and flying into stratospheric considerations instead of walking on foot. Or we can continue doing the footwork and study places such as the Wall Street trading room *without* changing vehicles, just to see where this decision will lead us. The landscape drawn in both cases, using these two definitions of tracers, will be completely different.

And so will the leeway left for action: capitalism has no plausible enemy since it is 'everywhere', but a given *trading room* in Wall Street has many competitors in Shanghai, Frankfurt, and London—a computer breakdown, a sneaky movement by a competitor, an unexpected figure, a neglected variable in a pricing formula, a risky accounting procedure—that may shift the balance from an obscene profit to a dramatic loss. Yes, Wall Street is connected to many places and in this sense, but in this sense only, it is 'bigger', more powerful, overarching. However, it is not a wider, larger, less local, less interactive, less an

²²⁹ For a definition of the term, see Bruno Latour (1987), *Science In Action: How to Follow Scientists and Engineers through Society*.

²³⁰ See Karin Knorr-Cetina and Urs Bruegger (2002), 'Global Microstructures: The Virtual Societies of Financial Markets'; Muniesa, *Des marchés comme algorithmes*; Donald MacKenzie (forthcoming), *An engine, not a camera: finance theory and the making of markets*; Lépinay 'Les formules du marché'; Mirowski *Machine Dreams*; Andrew Leyshon and Nigel Thrift (1996), *Money/Space: Geographies of Monetary Transformation*; and, although a century old, Tarde *Psychologie économique*.

inter-subjective place than the shopping center in Moulins, France or the noisy and smelly market stands in Bouaké, Ivory Coast. Don't focus on capitalism, but don't stay stuck on the screen of the trading room either: follow the connections, 'follow the actors themselves'. No cold objectification has taken place there, no superior reason is being unfolded. Everywhere, blind termites are busy cranking out data. Just keep sniffing through their galleries, no matter how far this takes you.

The same change of topography occurs every time you replace some mysterious structure by fully visible and empirically traceable sites. An organization is certainly not 'bigger' than those it organizes. Since Bill Gates is not physically larger than all his Microsoft employees, Microsoft itself, as a corporate body, cannot be a vast building in which individual agents reside. Instead, there is a certain type of *movement* going through all of them, a few of which begin and end in Mr Gates's *office*.²³¹ It's because an organization is even less a society than the body politic that it's made only of movements, which are woven by the constant circulation of documents, stories, accounts, goods, and passions. For an office to be traversed by longer, faster, and more intense connections is not the same thing as being wider.²³² To follow continuous trails is not the same as to jump to structure. To stick to the visible and the graspable is not the same as to gorge oneself with invisible agencies. To remain with one type of vehicle all along is not the same as accepting a ride from faster and fancier modes of transportation. There exists no place that can be said to be 'non-local'. If something is to be 'delocalized', it means that it is being sent from one place to some *other* place, not from one place to *no* place. 'Shouldn't that be common sense?' So mutters the same obsessively blind, trail-following ANT.

An actor-network is traced whenever, in the course of a study, the decision is made to replace actors of whatever size by local *and* connected sites instead of ranking them into micro and macro. The two parts are essential, hence the hyphen. The first part (the actor) reveals the narrow space in which all of the grandiose ingredients of the world begin to be hatched; the second part (the network) may explain through which vehicles, which traces, which trails, which types of information, the world is being brought *inside* those places and then,

²³¹ Strangely enough, this is true of the building itself in spite of the metaphor of structure, since no building is ever visible *in toto* at any point of its construction and use. See Edward Robbins (1994), *Why Architects Draw* and for an ethnography of scaling, Albena Yaneva (2005), 'Scaling Up and Down: Extraction Trials in Architectural Design'.

²³² A stunning example of the fecundity of this approach is offered by the airport project led by Goodwin and Suchman. See Françoise Brun-Cottan et al. (1991), *The workplace project: Designing for diversity and change* and Goodwin and Goodwin *Formulating Planes*.

after having been transformed there, are being pumped back *out* of its narrow walls. This is why the hyphenated 'network' is not there as a surreptitious presence of the Context, but remains what connects the actors together. Instead of being, like Context, another dimension giving volume to a too narrow and flat description, it allows the relations to remain flat and to pay in full the bill for the 'transaction costs'. It's not that there are a macro-sociology and a micro-sociology, but that there are two different ways of envisaging the macro-micro relationship: the first one builds a series of Russian Matryoshka dolls—the small is being enclosed, the big is enclosing; and the second deploys connections—the small is being unconnected, the big one is to be attached.

It is not by accident that ANT started with the study of science.^{b11} Whenever one looks for a telling example of what it could mean for a social theory to do away with the micro/macro distinction, scientific arrays offer an excellent template. Not only were they much easier to study, they also provided the most extreme examples of how small innovations could, in the end, become a 'macro' feature of the 'whole' world.²³³ Sciences have no size, or rather, if there is one thing that does not account well for their power, it is their diminutive size. It's no accident that whenever Gabriel Tarde wanted to find a perfect example of his theory of 'imitative rays', it was to the (then non-existing) sociology of science that he chose to turn. There exists, he insisted, some *indirect but fully traceable* connection between Galileo's cabinet in Florence in the 16th century and what every schoolboy learns when they are asked not to believe their eyes telling them that the sun is setting at dusk.²³⁴ Any laboratory scale is, *potentially*, immensely small or big. It would be foolish, on the observer's part, to decide in advance and for good what its real size is. Scientific disciplines, including the little 'cameral sciences' such as accounting, management, and business organization provide marvelous examples because, like the fruit flies of geneticists, they offer us an exaggerated version of what occurs everywhere in a less clearly, traceable way. As we saw in Part I, the more science and technology develops, the easier it is to physically trace

²³³ The office at the School of Mines is the birthplace of Schlumberger's early oil detection attempts. On this remarkable story, see Geoffrey Bowker (1994), *Science on the Run: Information Management and Industrial Geographics at Schlumberger, 1920–1940*. On the power of network expansion, the classic story remains Hughes, *Networks of Power*. See also the beautiful example of Indian colonialism in Daniel R. Headrick (1988), *The Tentacles of Progress: Technology Transfer in the Age of Imperialism, 1850–1940*.

²³⁴ 'When a young peasant, observing the sunset, is at a loss whether to believe his schoolmaster, who assures him that the fall of night is due to the motion of the earth and not to the motion of the sun, or the testimony of his senses, which tell him the contrary, in such a case there is but a single imitative ray, which, reaching out through his schoolmaster, unites him with Galileo; nevertheless this is sufficient to render his hesitation, his own internal opposition, social in origin.' In Tarde, *Social Laws*, p. 51.

social connections. Satellites, fiber optic networks, calculators, data streams, and laboratories are the new material equipment that underline the ties as if a huge red pen was connecting the dots to let everyone see the lines that were barely visible before.²³⁵ But what is true for laboratories and offices is true for all the other connecting or structuring sites as well.

To designate this first category of landmarks, I propose to use the word *oligopticon* as the generic term, reserving the expression of 'centers of calculation' for the sites where literal and not simply metaphorical *calculations* are made possible by the mathematical or at least arithmetic format of the documents being brought back and forth.²³⁶ As every reader of Michel Foucault knows, the 'panopticon', an ideal prison allowing for a total surveillance of inmates imagined at the beginning of the 19th century by Jeremy Bentham, has remained a utopia, that is, a world of nowhere to feed the double disease of total paranoia and total megalomania.²³⁷ We, however, are not looking for utopia, but for places on earth that are fully assignable. Oligoptica are just those sites since they do exactly the opposite of panoptica: they see much *too little* to feed the megalomania of the inspector or the paranoia of the inspected, but what they see, they *see it well*—hence the use of this Greek word to designate an ingredient at once indispensable and that comes in tiny amounts (as in the 'oligo-elements' of your health store). From oligoptica, sturdy but extremely narrow views of the (connected) whole are made possible—as long as connections hold. Nothing it seems can threaten the absolutist gaze of panoptica, and this is why they are loved so much by those sociologists who dream to occupy the center of Bentham's prison; the tiniest bug can blind oligoptica.

Sometimes, those sites are easy to pinpoint because physical connections do the tracing for us in the same way as with laboratories: it is obvious, for instance, that an army's command and control center is

²³⁵ This is even more true today with quantitative tools. See Peter Keating and Alberto Cambrosio (2003), *Biomedical Platforms: Realigning the Normal and the Pathological in Late-Twentieth-Century Medicine*.

²³⁶ The close study of formalism enables one to distinguish between the two situations. See Claude Rosenthal (2003), *La Trame de l'évidence*; David Kaiser (2005), *Drawing Theories Apart: The Dispersion of Feynman Diagrams in Postwar Physics*; and, on the other hand, the study of files and bureaucrats in Christian Jacob (1992), *L'empire des cartes. Approche théorique de la cartographie à travers l'histoire*. Suchman uses the expression 'centers of coordination' to insist on the practicalities of the workplace, which she takes to be a hybrid space of forms, calculations, techniques of organizations, and interactions. See Brun-Cottan, *The Workplace Project*.

²³⁷ It's clear that Bentham himself was more than infected by both diseases. See Jérémie Bentham and Michel Foucault (1977), *Le Panopticon précédé de l'oeil du pouvoir: entretien avec Michel Foucault*. It's less clear in the case of Foucault's ironical use of the utopia of the panopticon in Michel Foucault (1975), *Discipline and Punish: The Birth of Prison*.

not 'bigger' and 'wider' than the local front thousands of miles away where soldiers are risking their life, but it is clear nonetheless that such a war room can command and control anything—as the name indicates—*only as long as* it remains connected to the theater of operation through a ceaseless transport of information. So the right topography here is not to include the front line 'into' some overarching power, but to *localize* both and to *connect* through some sort of well-fed cables what in French is called *connectique*.²³⁸ This is what I mean by flattening the landscape. That this is not an easy task, every soldier, commander, and historian of battles knows all too well.²³⁹

Sometimes the star-shaped oligoptica might be more difficult to detect: a newspaper editor's cubicle resembles a command and control room but only a bit, since what goes out and what comes in is not as formatted and binding as a military order or a dispatch.²⁴⁰ In still other cases, the connections are barely visible, as when one is asking in which bureau is 'Oedipus' complex', 'governance', 're-engineering' or 'social capital' being produced. And yet, here again, trails could be followed and a map could be drawn of, for instance, the various contradictory social theories that travel through Paris. Even if they appear immaterial, they are physically transported over fieldwork, questionnaires, statistical bureaus, academic polemics, journal articles, bar conversations, and grant applications before making their way back through editorials, textbooks, party officials, strike committees, and war rooms, where they are put to use by some participants as a way to decide, in part, who they are and to which sort of group they pertain. As we learned from the first source of uncertainty, it is hard to pertain to a group nowadays without some help from a social scientist. What does anyone know about 'cultural capital', 'methodological individualism', 'organizational inertia', 'downsizing', 'gender', 'the precautionary principle' without first passing through some research center?²⁴¹ In the case of such flimsy tracers, it might be more difficult to draw the map since the tracks might be fainter, the connections

²³⁸ Many examples of this fragility can be found in Barry *Political Machines*. For a science studies analysis of bureaucracy at work, see Alberto Cambrosio, Camille Limoges and Denyse Pronovost (1990), 'Representing biotechnology: an ethnography of Quebec Science Policy'.

²³⁹ For a masterly demonstration, see John Keegan (1987), *The Mask of Command*. The recent dispute over weapons of mass destruction offers a stunning example of the limits of all the metaphors of 'gaze' and 'vision', see Hans Blix (2004), *Disarming Iraq*. However, the literary masterpiece remains Tolstoy's *War and Peace*.

²⁴⁰ For some classical examples, see Walter Lippmann (1922), *Public Opinion*, on journals; Chandler *The Visible Hand* about companies; and Peter Miller (1994), 'The Factory as Laboratory' on accounting.

²⁴¹ A good example of this is Boltanski and Chiapello, *The New Spirit of Capitalism* when they use management literature as their guide to understand how companies make use of new social theories—including ANT...

often interrupted. But it remains necessary to try in order to give the impression that we could be put 'in a category' at no cost.²⁴²

To conclude on this first type of clamp: even though the question seems really odd at first—not to say in bad taste—whenever anyone speaks of a 'system', a 'global feature', a 'structure', a 'society', an 'empire', a 'world economy', an 'organization', the first ANT reflex should be to ask: 'In which building? In which bureau? Through which corridor is it accessible? Which colleagues has it been read to? How has it been compiled?'²⁴³ Inquirers, if they accept to follow this clue, will be surprised at the number of sites and the number of conduits that pop up as soon as those queries are being raised. The social landscape begins to change rather quickly. And as travelers notice right away, it does not produce in them the same feeling as if they were asked to penetrate some intimidating overarching pyramid of power or scan the flattened landscape where many attempts at establishing and securing frail connections circulate. It's this difference in topography that will explain (in the book's concluding chapter) why the two social theories don't aspire to the same sort of political relevance.

Panoramas

And yet, there is no reason to deny that the shadow of a huge social pyramid looms over our heads. It's like a Pavlov reflex, a knee-jerk reaction. Whenever we speak of society, we imagine a massive monument or sphere, something like a huge cenotaph. There is a pecking order from top to bottom. So no matter how many warnings I could flash, every oligopticon used to hold the landscape flat will immediately be engulfed somewhere 'into' a larger social context as snuggly as a pigeon into its pigeon-hole. There is no way to fight this prejudice directly since it has been, for more than two centuries, the default position of our operational systems: society, no matter how it is construed to be, has to be something large in scale. And yet, it is just this default position that makes it impossible to deploy any relativist sociology.

The problem is that social scientists use scale as one of the many variables they need to set up *before* doing the study, whereas scale is

²⁴² See Luc Boltanski (1987), *The Making of a Class: Cadres in French Society* and the early work of Thévenot on socio-economic category making, especially his classic Laurent Thévenot (1984), 'Rules and Implements: Investment in Forms'.

²⁴³ Anke te Heesen (2004), 'Things that talk: News, Paper, Scissors. Clippings in the Sciences and Arts around 1920'.

what actors achieve by *scaling*, *spacing*, and *contextualizing* each other through the transportation in some specific vehicles of some specific traces.²⁴⁴ It is of little use to respect the actors' achievements if in the end we deny them one of their most important privileges, namely that they are the ones defining relative scale. It's not the analyst's job to impose an absolute one. As every reader of relativity theory knows, absolute frames of reference generate only horrible deformations, spoiling any hope of superimposing documents in some readable format, while soft and slimy 'mollusks of reference' (Einstein's term) allow physicists to travel from one frame to the next if not smoothly, then at least continuously.²⁴⁵ Either the sociologist is rigid and the world becomes a mess or the sociologist is pliable enough and the world puts itself in order. Here again the duties of empirical relativism¹¹ are akin to those of morality.

It is because the prejudice of living inside an overarching framework is seemingly impossible to uproot that I have to devise a second type of artificial clamp. As long as we do not ferret out the places where 'up', 'down', 'total', and 'global' are so convincingly staged, the temptation to jump to the 'context' will not be alleviated and the actors' scale-making activity will never have room to be fully deployed. The social landscape will never be flattened enough for the cost of connecting vehicles to be made fully visible. People will go on believing that the big animal doesn't need any fodder to sustain itself; that society is something that can stand without being produced, assembled, collected, or kept up; that it resides behind us, so to speak, instead of being ahead of us as a task to be fulfilled.

As we saw in the earlier part of the book, it is not the sociologist's job to decide in the actor's stead what groups are making up the world and which agencies are making them act. Her job is to build the artificial experiment—a report, a story, a narrative, an account—where this diversity might be deployed to the full. Even though it seems so odd at first, the same is true of scale: it is not the sociologist's business to decide whether any given interaction is 'micro' while some other one would be 'middle-range' or 'macro'. Too much investment, ingenuity, and energy is expended by participants into modifying the relative scale of all the other participants for sociologists to decide on a fixed standard. As Boltanski and Thévenot have shown, if there is one thing you cannot do in the actor's stead it is to decide where they stand on a scale going from small to big, because at every turn of their many

²⁴⁴ Those traces are specified in the third move. Once more, patience is requested here.

²⁴⁵ I have always considered, somewhat infamously, Einstein as a social theorist, that is, as a theorist of associations. See Bruno Latour (1988c), 'A Relativist Account of Einstein's Relativity'.

attempts at justifying their behavior they may suddenly mobilize the whole of humanity, France, capitalism, and reason while, a minute later, they might settle for a local compromise.²⁴⁶ Faced with such sudden shifts in scale, the only possible solution for the analyst is to take the shifting *itself* as her data and to see through which practical means 'absolute measure' is made to spread.

Scale is the actor's own achievement. Although this is the oldest and, in my view, the most decisive proposition made by ANT,²⁴⁷ I have never encountered anyone who could accept to even glance at the landscape thus revealed—no more, if I dare the parallel, than Galileo could tempt his 'dear and respected colleagues' to have a look through his makeshift telescope. The reason is that we tend to think of scale—macro, meso, micro—as a well-ordered *zoom*. It is a bit like the marvelous but perversely misleading book *The Powers of Ten*, where each page offers a picture one order of magnitude closer than the preceding one all the way from the Milky Way to the DNA fibers, with a photo somewhere in the middle range that shows two young picnickers on a lawn near Lake Superior.²⁴⁸ A microsecond of reflection is enough to realize that this montage is misleading—where would a camera be positioned to show the galaxy as a whole? Where is the microscope able to pin down this cell DNA instead of that one? What ruler could order pictures along such a regular trail? Nice assemblage, but perversely wrong. The same is true of the zooming effect in the social realm, except that, in this case, it is taken not as a clever artistic trick, but as a most natural injunction springing from the sturdiest common sense. Is it not obvious that IBM is 'bigger' than its sales force? That France is 'wider' than the School of Mines that is much 'bigger' than me? And if we imagine IBM and France as having the same star-like shape as the command and control war room I mentioned earlier, what would we make of the organizational charts of IBM's corporate structure, of the *map* of France, of the *picture* of the whole Earth? Are they not obviously providing the vastly wider 'framework' into which 'smaller things' have to be 'situated'? Does it not make perfect sense to say that Europe is bigger than France, which is bigger than Paris that is bigger than rue Danton and which is bigger than my flat? Or to say that the 20th century provides the frame 'in which' the Second World War has 'taken place'? That the battle of Waterloo, in Stendhal's *The Charterhouse of Parma*, is a vastly more important event than Fabrizio del Dongo's experience of it? While readers might be ready to listen patiently to the claims of ANT for a new topography, they won't take

²⁴⁶ Boltanski and Thévenot, *On Justification*.

²⁴⁷ See Michel Callon and Bruno Latour (1981), 'Unscrewing the Big Leviathans. How Do Actors Macrostructure Reality'.

²⁴⁸ Philip Morrison and Phylis Morrison (1982), *The Powers of Ten*.

it any further if it goes too much against every commonsensical reaction. How could 'putting things into a frame' not be the most reasonable thing to do?

I agree that the point is to follow common sense. I also agree that framing things into some context is what actors constantly do. I am simply arguing that it is this very framing activity, this very activity of contextualizing, that should be brought into the foreground and that it cannot be done as long as the zoom effect is taken for granted. To settle scale in advance would be sticking to one measure and one absolute frame of reference only when it is *measuring* that we are after; when it is *traveling* from one frame to the next that we want to achieve. Once again, sociologists of the social are not abstract enough. They believe that they have to stick to common sense, although what demonstrates, on the contrary, a complete lack of reason is imagining a 'social zoom' without a camera, a set of rails, a wheeled vehicle, and all the complex teamwork which has to be assembled to carry out something as simple as a dolly shot. Any zoom of any sort that attempts to order matters smoothly like the set of Russian dolls is always the result of a script carefully planned by some stage manager. If you doubt it, then go visit Universal Studios. 'Ups' and 'downs', 'local' and 'global' have to be made, they are never given. We all know this pretty well, since we have witnessed many cases where relative size has been instantaneously reversed—by strikes, revolutions, coups, crises, innovations, discoveries. Events are not like tidy racks of clothes in a store. S, M, X, XL labels seem rather confusingly distributed; they wane and wax pretty fast; they shrink or enlarge at lightning speed. But we never seem ready to draw the consequences of our daily observations, so obsessed are we by the gesture of 'placing things into their wider context'.

And yet this gesture should also be carefully documented! Have you ever noticed, at sociological conferences, political meetings, and bar palavers, the hand gestures people make when they invoke the 'Big Picture' into which they offer to replace what you have just said so that it 'fits' into such easy-to-grasp entities as 'Late Capitalism', 'the ascent of civilization', 'the West', 'modernity', 'human history', 'Postcolonialism', or 'globalization'? Their hand gesture is never bigger than if they were stroking a pumpkin! I am at last going to show you the real size of the 'social' in all its grandeur: well, it is not that big. It is only made so by the grand gesture and by the professorial tone in which the 'Big Picture' is alluded to. If there is one thing that is *not* common sense, it would be to take even a reasonably sized pumpkin for the 'whole of society'. Midnight has struck for that sort of social theory and the beautiful carriage has been transformed back into what it should always have remained: a member of the family *Cucurbitaceae*.

I am mean, I know, but sometimes it can be done in a friendly way like when a surgeon quickly removes a painful wart. Size and zoom should not be confused with *connectedness*. Either this pumpkin-size scale is related through many connections to many other sites, in the same way a trading room in Wall Street is to the many arrays making up world economies—and, if so, I want to be convinced that those connections exist, I want to touch the conduits, to check their solidity, to test their realism—or it is *not* related and, in this case, if there is one thing that this threatening gesture of the hands can't do, it is to force me into believing that my small 'local' description has been 'framed' by something 'bigger'. That's right, I don't want to be framed! But I am ready to study very carefully the framing itself, to turn it from such an automatic resource into a fascinating new topic. It is through the staging of the zoom effect that the social of social theorists enters the scene; that it claims to 'embed' local interactions; that it ends up gaining such a powerful grip over the mind of every actor. So powerful is it that when an alternative social theory offers to get rid of such a grip, it is as if God had died again—and indeed there is more than one common feature between the ever dying God of olden days and that position which the God-like sociologist sometimes dreams of occupying.

In effect, the Big Picture is just that: a picture. And then the question can be raised: in which movie theatre, in which exhibit gallery is it *shown*? Through which optics is it *projected*? To which audience is it *addressed*? I propose to call *panoramas* the new clamps by asking obsessively such questions. Contrary to oligoptica, panoramas, as etymology suggests, see *everything*. But they also see *nothing* since they simply *show* an image painted (or projected) on the tiny wall of a room fully *closed* to the outside. The metaphor comes from those early rooms invented in the early 19th century, whose descendants can be found in the Omnimax cinema rooms built near science centers and shopping malls.²⁴⁹ The Greek word *pan*, which means 'everything', does not signify that those pictures survey 'the whole' but that, on the contrary, they paper over a wall in a blind room on which a *completely* coherent scenery is being projected on a 360° circular screen. Full coherence is their forte—and their main frailty.

Where can we find them now that all of the real panoramas made famous by Walter Benjamin have been destroyed? They are all over the place; they are being painted every time a newspaper editorialist reviews with authority the 'whole situation'; when a book retells the

²⁴⁹ On the history of this 19th century media, see Stephan Oettermann (1997), *The Panorama: History of a Mass Medium*; Bernard Comment (2003), *The Panorama*; and of course Walter Benjamin (2002), *The Arcades Project*.

origins of the world from the Big Bang to President Bush; when a social theory textbook provides a bird's eye view of modernity; when the CEO of some big company gathers his shareholders; when some famous scientist summarizes for the benefit of the public 'the present state of science'; when a militant explains to her cellmates the 'long history of exploitation'; when some powerful architecture—a piazza, a skyscraper, a huge staircase—fills you with awe.²⁵⁰ Sometimes they are splendid achievements as in the *Palazzo della Ragione* in Padua (yes, the Palace of Reason!), where the large city hall is entirely covered by a fresco depicting a vision of the entire Classical and Christian mythology together with the calendar of all the trades and civic events. Sometimes they are only a rough pell-mell of clichés as in the convoluted plots of conspiracy theorists. Sometimes they are offer entirely new programs as when a new show is offered about the 'end of history', the 'clash of civilizations', or 'risk society'. Sometimes they remake history when they propose a complete rereading of the *Zeitgeist* as in the *Phenomenology of Spirit* or *The Communist Manifesto*.

What is so powerful in those contraptions is that they nicely solve the question of staging the totality, of ordering the ups and downs, of nesting 'micro', 'meso', and 'macro' into one another. But they don't do it by multiplying two-way connections with other sites—as command and control rooms, centers of calculation and, more generally, oligoptica do.²⁵¹ They design a picture which has no gap in it, giving the spectator the powerful impression of being fully immersed in the real world without any artificial mediations or costly flows of information leading from or to the outside. Whereas oligoptica are constantly revealing the fragility of their connections and their lack of control on what is left in between their networks, panoramas gives the impression of complete control over what is being surveyed, even though they are partially blind and that nothing enters or leaves their walls except interested or baffled spectators. To confuse them with oligoptica would be like confusing a war episode monitored from the U.S. Army war room in Tampa, Florida, with the same one related on Fox News when a retired general is commenting on the 'day at the front'. The first account, which is a realist one, knows painfully well that it can become unreal as soon as communications are cut off; the second one might be just as real but it has a smaller chance of telling us whether or not it's fiction. Most of the time, it's this excess of coherence that gives the illusion away.

²⁵⁰ On the link between architecture and power, see Jean-Philippe Heurtin (1999), *L'espace public parlementaire: Essais sur les raisons du législateur*.

²⁵¹ Sloterdijk has offered a description of many panoramas under the name of 'globes' in Peter Sloterdijk (1999), *Sphären. Bd.2 Globen*.

Although these panoramas shouldn't be taken too seriously, since such coherent and complete accounts may become the most blind, most local, and most partial viewpoints, they also have to be studied very carefully because they provide the only occasion to see the 'whole story' *as a whole*. Their totalizing views should not be despised as an act of professional megalomania, but they should be *added*, like everything else, to the multiplicity of sites we want to deploy.²⁵² Far from being the place where everything happens, as in their director's dreams, they are local sites to be added as so many new places dotting the flattened landscape we try to map. But even after such a downsizing, their role may become central since they allow spectators, listeners, and readers to be *equipped with a desire for wholeness and centrality*. It is from those powerful stories that we get our metaphors for what 'binds us together', the passions we are supposed to share, the general outline of society's architecture, the master narratives with which we are disciplined. It is inside their narrow boundaries that we get our commonsensical idea that interactions occur in a 'wider' context; that there is a 'up' and a 'down'; that there is a 'local' nested inside a 'global'; and that there might be a *Zeitgeist* the spirit of which has yet to be devised.

The status of these panoramas is strangely ambiguous: they are simultaneously what vaccinates against totalization—since they are obviously local and constricted inside blind rooms—and what offers a foretaste for the one world to be lived in. They collect, they frame, they rank, they order, they organize; they are the source of what is meant by a well-ordered zoom. So, no matter how much they trick us, they prepare us for the political task ahead. Through their many clever special effects, they offer a preview of the collective with which they should not be confused. As we now begin to realize, there is always a danger to take the building of those panoramas for the much harder political task of progressively composing the common world. Watching the movies of social theories in those Omnimax rooms is one thing, doing politics is quite another. Durkheim's 'sui generis society', Luhmann's 'autopoietic systems', Bourdieu's 'symbolic economy of fields', or Beck's 'reflexive modernity' are excellent narratives if they prepare us, once the screening has ended, to take up the political tasks of composition; they are misleading if taken as a description of what is the common world. At best, panoramas provide a prophetic preview of

²⁵² John Tresch has shown how many of those collecting devices exist in a given historical situation and how they can produce what he calls cosmograms. See John Tresch (2001), 'Mechanical Romanticism: Engineers of the Artificial Paradise'. This multiplicity disappears as soon as they are put inside a coherent *Zeitgeist* instead of being followed in their contradictory circulations—more on this in the section dealing with collecting statements p. 221.

the collective, at worst they are a very poor substitute for it. It's one of the ambitions of ANT to keep the prophetic urge that has always been associated with the social sciences, but to accompany the master narratives safely back inside the rooms where they are displayed.²⁵³

So here again, the voluntarily blind ANT scholar should keep asking the same mean and silly questions whenever a well-ordered pecking order between scales has been staged: 'In which room? In which panorama? Through which medium? With which stage manager? How much?' Active, sometimes even beautiful, complex sites will pop up at every corner as soon as this second interrogation is obsessively raised. If you are in doubt, try, as an exercise, to locate the places, the theaters, the stages where 'globalization' is being painted over. You will soon realize that, in spite of so much 'globalonney', globalization circulates along minuscule rails resulting in some glorified form of provincialism.²⁵⁴

After 'go slow', the injunctions are now 'don't jump' and 'keep everything flat!' The three pieces of advice reinforce one another, since it is only once the long distance between different points of the territory has been measured up that the full transaction costs to join them will have been reckoned. How could a walker assess in advance the time it will take to reach some mountaintop if the isometric lines had not first been drawn one by one? How could we discover the breadth of the political task ahead of us if *distances* between incomensurable viewpoints had not been fathomed first?

²⁵³ The critique of Master Narratives and the appeal to multiplicity, fragmentation, and little narratives becomes moot once panoramas are added to the landscape: multiplicity is not in short supply. To limit oneself to it might also mean that the political task of assembling has been abandoned.

²⁵⁴ On the localization of the global, see especially the work of Stephan Harrison, Steve Pile and Nigel Thrift (2004), *Patterned Ground: Entanglements of Nature and Culture*.

Second Move: Redistributing the Local

By equipping inquirers' toolboxes with different instruments (oligopticas and panoramas), we have allowed them to localize the global and to accompany it safely back inside the circuits in which it now circulates back and forth. Whenever the urge to go away from local interactions manifested itself, and instead of trying some *salto mortale* toward the invisible rear-world of the social context, I proposed to trudge toward the many local places where the global, the structural, and the total were being assembled and where they expand outward thanks to the laying down of specific cables and conduits. If you keep doing this long enough, the same effects of hierarchy and asymmetry that before were visible will now emerge out of strings of juxtaposed localities. Since they are pinpointed inside the many oligoptica and panoramas, there is nothing wrong any more with using the word 'contexts'. The vehicles that transport their effects have number plates and well-written labels, much like moving vans. From time to time, contexts are gathered, summed up, and staged *inside* specific rooms into coherent panoramas *adding* their many contradictory structuring effects to the sites to be 'contextualized' and 'structured'.

Needless to say, there exists no other place in which to sum up all those sites—at least not yet. So it would be quite foolish to ask 'in which' super-mega-macro-structure they all reside—in the same way as it has become wholly irrelevant to try to detect, after relativity theory, the ether wind 'through which' the Earth passes. There exists no global all-encompassing place where, for instance, the control room of the Strategic Air Command, the Wall Street floor, the water pollution map, the census bureau, the Christian Coalition, and the United Nations would be gathered and summed up. And if someone tries to do so—as I am doing here in this paragraph—it is *another* place, another circuitous route loosely connected to the others with no claim to 'embed' or 'know' them. If a place wishes to dominate all the others for good, that's just fine. But it will have to pay for every item of

paraphernalia necessary to reach every one of the other places it purports to sum up, and to establish with it some sort of continuous, costly, two-way relation—if it doesn't foot the bill to the last cent, it becomes a panorama. Even though Leibniz never specified it, for one monad to reflect the dim presence of all the others, some extra work is necessary.

But re-contextualizing context is only part of the job of getting accustomed again to walking on foot inside a flattened landscape. We still have the problem of understanding why we said earlier that interactions were such a dissatisfying starting point because of the number of other ingredients already in place. The reflex of social scientists that led them away from interactions—and which pushed them to look behind, above, or beneath for some other sites of activity—might have been badly directed, but it is still a valid insight. If we understood the first move as a plea to give some privilege to 'local interactions', then we have not gained very much.

Sticking obstinately to the 'localize the global' slogan does not explain what 'local' is, especially if action, as we have witnessed many times earlier, is so clearly 'dislocated'. On the contrary, everything would be lost if, after having revamped the former 'global context', we had to fall back on this other preferred site of social science: the face-to-face encounter between individual, intentional, and purposeful human beings. If the one-way trip from interactions to context led nowhere, as we have just seen, the return trip back to local sites has no reason to be directed at a more accurate target. Far from reaching at last the concrete ground of a 'social hypostasis', we would have simply gone from one artifact to another.²⁵⁵ If the global has no concrete existence—except when it is brought back to its tiny conduits and onto its many stages—neither has the local. So we now have to ask exactly the same question as earlier, but in reverse: *How is the local itself being generated?* This time it is not the global that is going to be localized, it is the local that has to be *re-dispatched* and *redistributed*.

The reason why it's so important to practice this symmetric operation is that once both corrective movements are done in succession, another entirely different phenomenon will move to the foreground:

²⁵⁵ It's rather astonishing to see even Garfinkel maintain this distinction between formal and informal: 'According to the world wide social science movement and the corpus status of its bibliographies there is no order in the concreteness of things. The research enterprises of the social science movement are defeated by the apparently hopelessly circumstantial overwhelming details of everyday activities—the plenum, the plenty, the plenilunium (sic). To get a remedy, the social sciences have worked out policies and methods of formal analysis. These respecify the concrete details of ordinary activities as details of the analytical devices and of the methods that warrant the use of these devices.' And he adds that ethnomethodology 'consists of evidence to the contrary'. Garfinkel, *Ethnomethodology's Program*, p. 95.

our attention will begin to concentrate on the 'connectors' that will then, and then only, be allowed to freely circulate without ever stopping at a place called 'context' or 'interaction'. When the two moves are carried out together, the social world will begin to transform itself for good; it will take a new and more plausible shape—a shape that allows one to travel without sudden hiccups, a shape that might lend itself to the later work of assembling, collecting, and composing.

Articulators and localizers

To say that every local interaction is 'shaped' by many elements already in place, doesn't tell us anything about the origin of those elements. And yet we have now verified where they *don't* come from: they are not oozing out of a global context, of an overarching framework, of a deep structure. We just went there; there is nothing to be seen except the shadow of the body politic—which is to be reserved for later. Although purely negative, this result clears the way rather nicely. We are now free to search for the existence of another more continuous, more empirically traceable path to reach the places where the ingredients entering into interactions appear to come from. And sure enough, if no label, barcode, certificate of origin, or trademark is able to help us follow the 'actors themselves', there exists what is called in the industry an excellent *traceability* between the sites of production of local interactions, provided we don't forget the lesson of Part I and make good use of all the sources of uncertainty.

The meandering path through which most of the ingredients of action reach any given interaction is traced by the multiplication, enrollment, implication, and folding of non-human actors. If the analyst is not allowed to exert some right of pursuit through multiple types of agencies, then the whole question of local and global becomes intractable. But as soon as non-human agents are brought in, another set of connections appears which are as different to those deployed in the preceding section as veins are to neural pathways.²⁵⁶ The powerful insight that most of the ingredients of the situation are 'already' in place, that we simply 'occupy' a predetermined position 'inside' some preformatted order, is always due to the transportation of a site into another one at another time, which is produced by someone else through subtle or radical changes in the ways new types of non-social

²⁵⁶ A good example of the crucial importance of not taking the relative size of entities as a given is provided in the case of French water politics in Jean Pierre Le Bourhis (2004), 'La publicisation des eaux. Rationalité et politique dans la gestion de l'eau en France (1964–2003)'.

agencies are mobilized. Others' actions continue to be carried out at some distance, but through the relay of new types of mediators. Paradoxically, it's only once it's allowed to percolate through *non-social* agencies that the social becomes visible.

This process of delegation, dislocation, and translation is never clearer than in the role of material objects—provided we understand 'matter' in the extended sense given earlier (see p. 109). When we talk about an 'overarching framework', 'pillars', 'infrastructure', 'frame', we use loosely the technical terms borrowed from architecture, metallurgy, and cinema. Why not take literally what it means for an interaction to *frame*, to *structure*, or to *localize* another? As long as we use those metaphors in a muted form, we don't see what could connect a place to another via a template. We may continue to believe that leaving a local scene could really mean jumping into the context, or that all of the ingredients of local interactions have to be improvised on the spot through social skills.²⁵⁷ But as soon as we activate the technical metaphors for good, the connections between sites become visible, even though they are made of many different types of stuff. This heterogeneity, however, no longer represents for us a difficulty since we have learned how to render commensurable various incommensurable materials. We know that objects have the strange capacity of being at once compatible with social skills during certain crucial moments and then totally foreign to any human repertoire of action. This flip-flop renders the inquiry more difficult but not enough to break the newly spun social we use as our Ariadne thread. In effect, what has been designated by the term 'local interaction' is the assemblage of all the *other* local interactions distributed elsewhere in time and space, which have been brought to bear on the scene through the relays of various non-human actors. It is the transported presence of places into other ones that I call *articulators* or *localizers*.²⁵⁸

If, to take a trivial enough example, you sit in a chair in a lecture hall surrounded by well-ordered tiers of students listening to you in an amphitheater, I need only half a day's work in the university archives to find out that fifteen years ago and two hundred kilometers away an architect, whose name I have found and whose exploratory scale models I have ferreted out, has drawn the *specifications* of this place down to the centimeter. She had no precise idea that you would be

²⁵⁷ Such is one of the solutions devised by symbolic interactionists to give some maneuvering room to the individual intentional agent without modifying the overall framework of social theory.

²⁵⁸ The word localizer in computer parlance might be slightly misleading since it is the manifestation of an even larger increase in standards which can then allow the local to be accepted as a mere variation of a more general pattern. We will tackle the question of standardization in the next chapter.

lecturing out loud today, and yet she anticipated, in a gross way, one aspect of such a scene's *script*: you will have to be heard when you speak; you will sit at the podium; you will face a number of students whose maximum number, space requirements, etc. must be taken into consideration. No wonder that, fifteen years later, when you enter this scene, you feel that you have not made it all up and that most of what you need to act is already *in place*. Of course, the space has in fact been tailored for you—the generic you, that is, a large part of you.

Sure enough, no aspect of this structure—and now I can use the term without qualms because there is nothing hidden or discontinuous about it—'determines' what you are going to say, nor even where you will sit. You might decide to stand up, to walk up and down the alleys, or to play the role of the May 1968 rebellious teacher by re-assembling the chairs to form a less 'authoritarian' circle—and nothing can stop the students from falling asleep as soon as you open your mouth. But just because some material element of the place does not 'determine' an action doesn't mean you can conclude that they do nothing. We are now familiar with many more ontological stages than the two foolish extremes of being and nothingness. Fathom for one minute all that allows you to interact with your students without being interfered too much by the noise from the street or the crowds outside in the corridor waiting to be let in for another class. If you doubt the transporting power of all those humble mediators in making this a *local* place, open the doors and the windows and see if you can still teach anything. If you hesitate about this point, try to give your lecture in the middle of some art show with screaming kids and loud speakers spewing out techno music. The result is inescapable: if you are not thoroughly 'framed' by other agencies brought silently on the scene, neither you nor your students can even concentrate for a minute on what is being 'locally' achieved. In other words, what would happen if inter-subjectivity was obtained *for good* by removing, one after the other, all traces of *inter-objectivity*?

In many cases, it is fairly easy to establish some continuous connections that are open to scrutiny between the dreams and drawings of *someone else*, at some *other* time, in some *other* place, and whatever you and your students are now doing locally, face-to-face. This local site has been *made to be a place* by some other locus through the now silent mediation of drawings, specifications, wood, concrete, steel, varnish, and paint; through the work of many workers and artisans who have now deserted the scene because they let objects carry their action in absentia; through the agency of alumni whose generous deeds might be rewarded by some bronze plaque. Locals are *localized*. Places are *placed*.²⁵⁹ And to remain so, myriads of people, behind the doors, have

²⁵⁹ Koolhas and Mau, *Small, Medium, Large, Extra-Large*.

to keep up the premises so that you can remain, you along with your students, safely 'in it'. Far from offering some primordial autochthony which would be 'so much more concrete' than abstract contexts, face-to-face interactions should be taken, on the contrary, as the terminus point of a great number of agencies swarming toward them.

Although there is no 'underlying hidden structure', this is not to say that there doesn't exist *structuring templates* circulating through channels most easily materialized by techniques—paper techniques and, more generally, intellectual technologies being as important as gears, levers, and chemical bonds. To the inter-subjective relation between you and your students, one should add the inter-objectivity that has dislocated actions so much that someone else, from some other place and some other time, is still acting in it through indirect but fully traceable connections.²⁶⁰ That does not mean that this faraway site is part of some mysterious context. It simply reveals between these two places—the architect's studio and this classroom today—another circuitry through which masses of entities begin to circulate. Even more than after the first corrective move, one now finds in the foreground the vehicles, the movements, the shifts, and the translation *between loci* rather than the loci themselves. Places do not make for a good starting point, since every one of them are framed and localized by others—including of course the architect's studio that I chose as the provisional origin for my example. We now understand why we had to start, according to Horace's famous expression, in the middle of things, *in medias res*. Circulation is first, the landscape 'in which' templates and agents of all sorts and colors circulate is second. This is probably the oldest intuition of the social sciences, what made us exclaim that the social was an objective, transcendent, ubiquitous, *sui generis* phenomenon. As usual, the intuition was right but it was difficult to register as long as the circulation of the social was confused with the emergence of a society—itself mixed up with the body politic.

That scale does not depend on absolute size but on the number and qualities of dispatchers and articulators is what I had learned many years ago when I had the chance to follow Shirley Strum and her baboons. When I met her at the first ever 'baboon conference' held in a luxurious castle near New York City, she was a young researcher who had managed to habituate wild monkeys to her close and regular presence. Earlier observers, who watched baboons from afar and from the safe haven of a jeep, had detected a lot of interesting features, but they had situated agonistic encounters 'inside' absent structures—applying to the baboons the stock-in-trade of human sociology.

²⁶⁰ On the condition there exists well-kept archive. Archeologists have to toil much longer to reconstruct the connections.

Animal societies were said to possess, for instance, a rigid dominance pattern 'in which' males had to enter. During this conference, Strum was trying to demonstrate that the dominance 'structure' was not something which male baboons were trying to find, but a *question* all animals raised by testing one another through carefully managed agonistic encounters.²⁶¹ In other words, Strum *as well as* young males moving in the troops were raising the same basic questions about what it meant to generate some social structuring effects.²⁶² And both were slowly discovering, by a series of trials, that it was the females and not the males that were weaving, through daily interactions, a pretty solid kind of dominance order that had remained invisible to the (mostly male) observers too far removed to detect those subtle trials. So I was, in effect, following in this beautiful Kenyan landscape a sort of Garfinkel primatologist as she tried to make sense of baboons whom she was gently moving out of their perennial role of 'cultural dopes' so that they could graduate to the new reflexive actions of competent members. In a word, baboons were smart, socially smart.²⁶³

If there was one social theory mistake not to make, it would be act as if baboons had found a role inside a preexisting structure. But it would be just as wrong to suppose that they were simply interacting with one another. Those furry little beasts were doing just as much social labor as their observers and were living in a world just as complex. And yet, there was a clear difference of *equipment*. The same basic job of testing, achieving, and generating all the ingredients of social life was done, in one case, with 'social tools' only, while the human observer was additionally equipped with materials and intellectual technologies. The primates had to decipher the meaning of the interactions with no other tools than the interactions themselves: they had to decide who was friend and enemy, who was displacing whom, who was leading whom, and who was ready to enter in a coalition by using the basic resource of trying and grooming, more grooming and trying. If they kept records, those records had to be 'inscribed' on their own bodies by their own bodies. It was the primatologist who had to rely on written names, statistical charts, notebooks, documentation, blood samples, genetic fingerprints, and visual aids of all sorts. They were achieving

²⁶¹ Shirley Strum (1982), 'Agonistic Dominance among Baboons an Alternative View' and see Insert p. 69.

²⁶² This is the dramatic episode narrated in Shirley Strum (1987), *Almost Human: A Journey Into the World of Baboons*.

²⁶³ Since her earlier work, this has become somewhat of a standard for a host of other animals. See Richard Byrne and Andrew Whiten (1988), *Machiavellian Intelligence: Social Expertise and the Evolution of Intellects in Monkeys, Apes and Humans*; Strum and Fedigan *Primate Encounters*; Vinciane Despret (1996), *Naissance d'une théorie éthologique*; and Vinciane Despret (2002), *Quand le loup habitera avec l'agneau*.

the same job of making a social order hold but with vastly different resources. The question then became tantalizing: What's the difference between monkeys and humans if there is no longer a gap dividing nature and culture, instinct and reflection, 'cultural dope' and competent intentional agents? In Strum's description, baboons were getting perilously close to humans, and yet I was not prepared, in spite of the title of her book, to consider myself 'almost' a baboon. Or rather, everything now depended on what is meant by this little 'almost'.

Superficially, we could say that the obvious difference resides in technology. Baboons are not utterly deprived of stabilizing tools. But the point is that even though the males show off their formidable canines and the females parade their irresistible (to the males) swollen bottoms, the baboons still have to maintain their force through even more social skills. Chimpanzees have some tools, but baboons only have their 'social tools', namely their bodies which are slowly transformed by years of constant seduction, grooming, and communal life. In a sense, baboon troops could really offer the ideal natural experiment to check what happens when social connections are strictly limited to social skills. In this case, no technology of any sort is available to the participants in order to 'build' the 'superstructure' of their 'society'. Since those architectural terms are completely metaphorical for them as well as for the observer, the baboons have to spend what seems like an inordinate amount of time to repair the shaky 'building' of society, to constantly fix its wobbling hierarchies, to ceaselessly re-establish who is leading whom into foraging forays. They can never rest, nor act on each other at a distance. When they do, it is through the highly *complex* medium of even subtler inter-subjective coalitions. The ways in which baboons have to repair every morning their fast decaying social order remains visible because of the fewer tools at their disposal. Baboons glue the social with ever more complex social interactions while we use interactions that are slightly less social and in a way slightly less complex, even though they may be more *complicated*, that is, made of even more *folds*.²⁶⁴

But there might be another way to use this marvelous example of non-human primates as a sort of theoretical baseline. One of the conclusions we could draw is that a face-to-face interaction is not a plausible departure point to trace social connections for both humans and monkeys because in both cases they are being constantly *interfered* with by other agencies. In both cases, action is dislocated, diffracted, re-dispatched and redistributed, not to mention that it has to rely on

²⁶⁴ For the difference between complicated and complex, see Strum and Latour, 'The Meanings of Social: from Baboons to Humans'. For the definition of social tools, see Kummer, *In Quest of the Sacred Baboon*.

successive layers of mediations piled on top of one another. Baboons, too, use some type of 'intellectual technology': their home range, the life history of each interaction, the trajectory of friendships and coalitions, the built-in variations of sizes, sex, anatomical features, etc. It's this constant interference by the action of others that makes life in a baboon group an environment just as selective, just as pressing, and just as taxing as the one made of resources and predators. A baboon that is not socially smart is selected out just as swiftly if it doesn't find food or can't mate. Humans have lived in an environment as taxing, as selective, and as pressing but which is made up of even more mediators, dispatchers, and 'dislocators' that render local interactions even less local.²⁶⁵ If context was an impossible starting point, so are face-to-face interactions. The difference is no longer between 'simple' baboons and highly 'complex' humans, but rather between complex baboons who have folded themselves into many entities—landscape, predators, groups—and complicated humans who have folded themselves into vastly more entities, some of them having the great advantage of remaining in place, thus simplifying, locally at least, the task of ordering. In humans more so than in monkeys, interference, dispatching, delegation, and articulation are visible and should offer us, in place of local face-to-face interactions, an excellent point of departure.

The implausible locus of face-to-face interactions

Because of the powerful feeling that interactions are 'more concrete', it might be easier for the reader to get rid of the global than the local. As we have seen in reviewing the second source of uncertainty, the same actant may be given different figurations (see p. 57). Although individualized characters might be granted more plausibility because of our habits of reading stories, it requires exactly the same semiotic labor, if I can use this expression, to produce a character as it does a concept or a corporate body. So, while we should remain attuned to small differences in figuration, there is no reason to forget that our own relativistic frame of reference should be indifferent to scale. But it remains true that beliefs in the indisputable existence of individuals is so entrenched, in our western climes at least, that people are only too ready to accept that, even though abstractions like structure, context,

²⁶⁵ This approach of technology as second nature is essential for André Leroi-Gourhan (1993), *Gesture and Speech*; Lewis Mumford (1967), *The Myth of the Machine: Technics and Human Development*; and Tom Hughes (2004), *Human-Built World: How to Think about Technology and Culture*.

or society should be criticized, the *ego* is to be left untouched.²⁶⁶ Thus, it might be prudent to do more corrective gymnastics to redistribute the local than to localize the global. This is why I have to make up a list of what face-to-face interactions, contrary to so many expectations, cannot possibly deliver. Here again, ANT's lessons will be only negative because clearing the way is what we are after so that the social could be deployed enough to be assembled again.

First, no interaction is what could be called *isotopic*. What is acting at the same moment in any place is coming from many other places, many distant materials, and many faraway actors. If we wanted to project on a standard geographical map the connections established between a lecture hall and all the places that are acting in it at the same time, we would have to draw bushy arrows in order to include, for instance, the forest out of which the desk is coming, the management office in charge of classroom planning, the workshop that printed the schedule that has helped us find the room, the janitor that tends the place, and so on.²⁶⁷ And this would not be some idle exercise, since each of these faraway sites has, in some indispensable way, anticipated and preformatted this hall by transporting, through many different sorts of media, the mass of templates that have made it a suitable local—and that are still propping it up.

Second, no interaction is *synchronous*. The desk might be made of a tree seeded in the 1950s that was felled two years ago; the cloth of the teacher's dress was woven five years ago, while the firing of neurons in her head might be a millisecond old and the area of the brain devoted to speech has been around for a good hundred thousands years (or maybe less, this is, hotly disputed question among paleontologists). As to the words she uses, some have been introduced into English from foreign languages four hundred years ago, while this rule of grammar might be even older; the metaphor she chooses is just six years old and this rhetoric trope straight out of Cicero; but the computer keyboard she has typed her speech on is fresh from Apple, although the heavy metals making possible the coordination of some of its switches

²⁶⁶ The implausibility of the individual would of course be much easier to detect for instance in India. See Louis Dumont (1982), *Homo Hierarchicus: The Caste System and Its Implications*. This entrenchment of the individual is most extreme in the rational choice mythology since it also includes a stabilized psychology and a stabilized cognition.

²⁶⁷ I follow here a simple pedagogical example, but see Sequence 3 of Latour and Hermant, *Paris the Invisible City*. This is exactly the type of map that Cronon has been able to draw with his masterful study of Chicago in William Cronon (1991), *Nature's Metropolis. Chicago and the Great West* and that Hutchins has been able to deploy with his study of ship navigation. See also what Law has been able to do with aircraft in Law, *Aircraft Stories*. Cognition is indeed so distributed that the idea of an individual doing a calculation is moot.

will last for as long as the universe. Time is always folded.²⁶⁸ So the idea of any synchronic interaction where all the ingredients will have the same age and the same pace is meaningless—even for baboons. Action has always been carried on thanks to shifting the burden of connection to longer- or shorter-lasting entities.

Third, interactions are not *synoptic*. Very few of the participants in a given course of action are simultaneously visible at any given point. The lecturer might believe she is center stage, but that does not mean that many others are not acting as well, only that there is no way to sum them up. The wooden desk was not part of the lecture before she pointed it out as an example of design, and yet it does something; it is one of the ingredients that helps put it into shape, allowing interaction to be framed. So was the slip of paper that advertised the lecture²⁶⁹ and set the appointed time and space even though she did not highlight it. But if we wanted all the ingredients of this scene to stand up and be counted, we will not be able to do it because there is no way to underline all of them at once, either because there are too many or because they are part of complicated machineries that are necessarily hidden if playing their part as efficient intermediaries. How many distinct entities in this microphone? In this body? In this school's organization? You will never get the same count, no matter how many times you do the counting, because every time different agents will be made visible while others will have become dormant.

Fourth, interactions are not *homogeneous*. We have already understood this point earlier, since the relays through which action is carried out do not have the same material quality all along. How many successive shifts in agencies should we have to detect if we wanted to move from the architect's cabinet, fifteen years ago, to the lecture hall? When slides are projected on the screen, how many different successive ingredients are necessary when some writing on a keyboard becomes digitalized, then transformed again in an analogical signal before being retransformed in some sort of slower brain wave into the mind of half-asleep students? What is staggering in any given interaction is exactly the opposite of what sociologists with a tropism for 'local sites' find so great in finally reaching face-to-face encounters, namely the crowd of non-human, non-subjective, non-local participants who gather to help carry out the course of action and transport it through channels that do not resemble a social tie, even though all of them are associated together.

Fifth, interactions are not *isobaric*, if I am allowed to borrow a metaphor from the lines of equal pressures that we read in weather

²⁶⁸ See Michel Serres (1995), *Conversations on Science, Culture and Time with Bruno Latour*.

maps when looking for depressions or anticyclones. Some of the participants are pressing very strongly, requesting to be heard and taken into account, while others are fully routine customs sunk rather mysteriously into bodily habits. Others are black-boxed into some hardware known only by engineers in faraway places in Asia and, very vaguely, by some techie from the maintenance staff somewhere on campus. Especially important are the different pressures exerted by mediators and intermediaries, the later adding, as we know, predictability to the setting, while the former might suddenly make it bifurcate in unexpected ways. At every point during the lecture, something could break, be it the microphone, the speaker, perhaps even the teacher. If any of the intermediaries mutates into a mediator, then the whole set up, no matter how solemn or controlled, may become unpredictable.

No wonder interactions provided social scientists with the strong impression that they were overflowing in all directions. They are! That does not mean that some solid overarching context holds them solidly in place through the grip of some hidden structural force. It means that a bewildering array of participants is simultaneously at work in them and which are dislocating their neat boundaries in all sorts of ways, redistributing them away and making it impossible to start anywhere that can be said to be 'local'. Relativity in the social sciences would be a rather simple affair if we had simply to localize the global; it becomes relevant only when it is the solid ground of the local that vanishes. In most situations, actions will already be interfered with by heterogeneous entities that don't have the same local presence, don't come from the same time, are not visible at once, and don't press upon them with the same weight. The word 'interaction' was not badly chosen; only the number and type of 'actions' and the span of their 'inter' relations has been vastly underestimated. Stretch any given inter-action and, sure enough, it becomes an actor-network.

The exception, of course, is if we fall back into loose talk and abandon the arduous task of following all the interferences. In that case it is perfectly all right to speak of 'structure' and 'face-to-face interaction'. But this means that we are dealing with more routine situations and are using a pre-relativist frame of reference. In such an abbreviated manner of speech, a 'structure' is simply an actor-network on which there is scant information or whose participants are so quiet that no new information is required. An 'interaction' is a site so nicely framed by localizers behaving as intermediaries that it can be viewed, without too much trouble, as 'taking place locally'.

When you go through this list of features that face-to-face interaction cannot possibly offer, you remain suspicious of the efforts made to root sociology into inter-subjective interactions, individual

calculations, or personal intentionality.²⁶⁹ It is clear, on the contrary, that the notion of a local interaction has just as little reality as global structure. Such a result renders, retrospectively, even queerer the attempts done throughout the history of the social sciences to strike some sort of compromise between the so-called global context and the so-called interaction, to negotiate perhaps some subtler 'middle way' between 'actor' and 'system'. These projects make about as much sense now as the Renaissance compilers who tried so earnestly to calibrate the dates of Greek mythology over those of the Bible. The midpoint between two mythologies is still a mythology.

But if we follow the trails left behind by non-human actors, we understand where the right impression of being 'framed' comes from. Every local site is being localized by a flood of localizers, dispatchers, deviators, articulators—whatever word we want to choose. The role of inter-objectivity is to introduce in local interactions some fundamental dislocation. What could be the meaning of *relative* scale without inter-objectivity? How would we know we are small participants in a 'wider' scheme of things if we were not walking, for instance, inside the deep and dark canyons carved inside the massive features of some skyscrapers? *Feeling small* largely depends on how many other people, distributed in time and space, have preformed a place for the anonymous visitor now traveling, for instance, through the streets of New York City. Size is relative indeed—relative to the care with which it was designed and the care with which it is still enforced. But that does not mean we really are small participants 'inside' some framework. How long do we need to be reminded of this painful lesson? The saddest experimental proof was recently provided when a group of fanatics, equipped with nothing more than paper cutters, undid what many others had so carefully constructed and destroyed buildings in such a way that, although the dark shadow of death remains, the long and oppressing shade that the Twin Towers had projected onto the narrow streets was removed in the space of a few hours. After such an event, should we not be extraordinarily sensitive to the frailty of scale?

Constructing relative scale has a completely different meaning if we take it as a loose metaphor to 'express', 'reproduce', and 'reflect' the always present 'social structure', or if there is no other way to build anything bigger than through the medium of architecture and technology in its literal sense. In the traditional version of social theory, society is strong and nothing can destroy it since it is *sui generis*; in the

²⁶⁹ This is why, especially for methodological reason, methodological individualism seems a very unfortunate choice of departure in spite of the attempt made in Raymond Boudon (1981), *The logic of social action: an introduction to sociological analysis*.

other, it is so weak that it has to be built, repaired, fixed and, above all, *taken care of*. These two maps of the social drawn with different social tracers lead to two completely different esthetics, ethics, and politics—in addition to generating very different accounts.

Plug-ins

No place dominates enough to be global and no place is self-contained enough to be local. As long as we try to use either local interaction or structure, or some compromise between the two, there is no chance to trace social connections—and the cleverer the compromise, the worse it would be, since we would simply extend the lease of two non-existing sites. On the contrary, I am trying here to be as dumb as possible and multiply clamps to make sure we resist the temptation to cut away in two boxes—global and local—what actors are doing, interrupting at once the deployment of their many fragile and sometimes bizarre itineraries. If we stick enough of these clamps firmly in place, we begin to draw another landscape which cuts through the former pathways going from the local to the global and back, and that runs, so to speak, transversally to all of them as if, through some odd cartographic operation, we had slowly morphed the hydrological map of some water catchments into another one. It is as if we had made a west flowing river run along a north-south gradient.

What is so striking in this change of topography is that both the former global and the former local have now taken the same star-shaped aspect—in our projection grid of course, not ‘out there’. Context-building sites now look like the intersections of many trails of documents traveling back and forth, but local building sites, too, look like the multiple crossroads toward which templates and formats are circulating. If we take these two ‘networky’ shapes seriously, then the former landscape flattens itself for good since those two types of star-like shapes cannot be ordered on top of one another inside any three-dimensional structure. They are now side-by-side, every move forcing the analyst to follow the edges without any jump or break, just like the two-dimensional space imagined by Edwin Abbott’s *Flatland*. Movements and displacements come first, places and shapes second. So in the end, localizing the global and re-dispatching the local are not as difficult as it appeared. After a few minutes of accommodation, the number of traces becomes so great that you would have to be blind not to follow them. Sites no longer differ in shape or size, but in the direction of the movements to and fro as well as in the *nature*, as we shall see, of what is being transported: information, traces, goods,

plans, formats, templates, linkages, and so on. It is now the mythical sites of local and global that are hard to locate on a map. Where could those enchanted utopias have resided?

The reason why it's so important to learn how to navigate into this flattened space is that, as soon as we become better at focusing on what circulates, we can detect many other entities whose displacements were barely visible before. Indeed, they were not supposed to circulate at all. It might be possible to pay attention to much subtler phenomena which earlier had to be stocked, because of their apparent subtlety, in the subject's inner sanctuary. Just as a flat, dry, and dusty landscape reveals the trails left by all the animals that have passed through it, we might be able to detect moving entities that leave no trace whatsoever in the bushy undergrowth of the sociology of the social.

Especially important is that which allows actors to *interpret* the setting in which they are located. No matter how many frames are pouring through localizers to format a setting, no matter how many documents are flowing from this setting to oligoptica and back, there is still a huge distance between the *generic* actors preformatted by those movements and the course of action carried out by fully involved *individualized* participants. Everyone has this common experience when they try and make sense of even the most carefully written user's manual. No matter how many *generic* persons an assembly drawing has been designed for, you will surely start grumbling after hours on your newly purchased digital camera and feel that you are not one of these persons. By measuring the distance between instructions addressed to no one in particular and yourself, you have been made painfully aware of what Don Norman has called 'the gap of execution'.²⁷⁰ It would be foolish to ignore that which gave the impression that face-to-face interactions were so 'concrete' and on such a 'real life' scale, and which gave the feeling that it was individuals who were carrying out the action.

Such a feeling, of course, was immediately lost when sociologists of the social substituted this healthy intuition with the hidden action of some invisible structure—at which point, *nobody* in particular was doing any action any more! It was also lost when interactionists retrieved a purposeful and personalized actor but without dissolving the frame 'in which' members were supposed to deploy their intelligence. A *human agent* is making sense of a world of objects which are by themselves *devoid* of any meaning. At which point we are back to square one, having to choose between meaning without object and

²⁷⁰ See Norman, *The Psychology of Everyday Things* and Garfinkel, *Ethnomethodology's Program*, Chapter 6.

objectivity without meaning. But the powerful insight would be lost just as fast if actors were simply localized by the agency of other sites through the medium of some material or intellectual techniques, without themselves being able to interpret and understand the propositions made by the setting.²⁷¹ This is why we have to become sensitive to more elusive tracers than the ones we have reviewed so far.

Let us take the simple-minded example of the lecture hall that we used earlier. No matter how nicely it has been designed, it is still necessary for the teachers and the professors, in order for them to know what to do there, to do quite a lot of work. Without some equipment brought in, human actors would remain, even in the midst of the best-designed frame, unable to interpret what is given; they would remain as unconnected to the meaning of the site as a cat prowling on the Acropolis.

So we have to add something, but what and how? We know already what we don't want to do if we are to pursue our 'flattening' of the landscape all the way: we don't want to jump by resorting to another 'level' or another 'type' of resource. And yet, this would be the safest, the easiest, and the most reasonable strategy. However, as the reader is now painfully aware, reasonableness is not what I am after! I am conducting here a thought experiment that will pay off only if carried out all the way: How far can we maintain a point of view that abstains from ever using the local/global or the actor/system repertoire? Is it possible to resist the temptation? Once again, I am not trying to describe substantively or positively what the landscape is, but simply finding ways to resist the temptation to make a break in its description.

To fill in the 'gap of execution', the solution is usually to shift gears and to abruptly bring in 'subjectivity', 'intentionality', and 'interiority' or at least appeal to some sort of 'mental equipment'. If the social framing from 'outside' is not enough to complete the course of action, then the remainder of the resources has to come from the 'inside' or from the human group locally assembled. At which point, positivism gives way to hermeneutics and sociologists pass the baton to psychologists or to cognitive scientists while structural sociologists shift to interpretative sociology. But if this jump in method is allowed to occur, the continuous trail I have tried to keep from the beginning would suddenly be interrupted; the flat map will be slashed yet again; the scene of an individual subjective actor having 'some leeway' 'inside' a larger system will be reactivated; the two mythical lands of global and local will be drawn anew; Merlin's castle will pop up again.

²⁷¹ This is the shift introduced by Boltanski and Thévenot in Bourdieu's theory of field: actors are fully able to justify themselves and do not only hide their real motivations. See Luc Boltanski (1999), *Distant Suffering: Morality, Media and Politics*.

So, in keeping with our myopic ANT obsession, we have to keep fumbling in the dark for another clamp.

Surely the question we need to ask then is where are the other vehicles that transport individuality, subjectivity, personhood, and interiority? If we have been able to show that glorified sites like global and local were made out of circulating entities, why not postulate that subjectivities, justifications, unconscious, and personalities would *circulate* as well?²⁷² And sure enough, as soon as we raise this very odd but inescapable question, new types of clamps offer themselves to facilitate our enquiry. They could be called *subjectifiers*, *personnalizers*, or *individualisers*, but I prefer the more neutral term of *plug-ins*, borrowing this marvelous metaphor from our new life on the Web. When you reach some site in cyberspace, it often happens that you see nothing on the screen. But then a friendly warning suggests that you 'might not have the right plug-ins' and that you should 'download' a bit of software which, once installed on your system, will allow you to *activate* what you were unable to see before.²⁷³ What is so telling in this metaphor of the plug-in is that competence doesn't come in bulk any longer but literally in bits and bytes. You don't have to imagine a 'wholesale' human having intentionality, making rational calculations, feeling responsible for his sins, or agonizing over his mortal soul. Rather, you realize that to obtain 'complete' human actors, you have to *compose* them out of many successive *layers*, each of which is empirically distinct from the next. Being a fully competent actor now comes in discreet *pellets* or, to borrow from cyberspace, *patches* and *applets*, whose precise origin can be 'Googled' before they are downloaded and saved one by one.²⁷⁴

As we have witnessed so many times throughout this book, information technologies allow us to trace the associations in a way that was impossible before. Not because they subvert the old concrete 'humane' society, turning us into formal cyborgs or 'post human' ghosts, but for exactly the opposite reason: they make *visible* what was before only present virtually. In earlier times, competence was a rather mysterious affair that remained hard to trace; for this reason, you had to order it, so to speak, in bulk. As soon as competence can be counted in bauds and bytes along modems and routers, as soon as it can be peeled back layer after layer, it opens itself to fieldwork.

²⁷² Mol, *The Body Multiple*; Cussins, 'Ontological Choreography'; and Myriam Winance (2001), *Thèse et prothèse. Le processus d'habilitation comme fabrication de la personne: l'association française contre les myopathies, face au handicap* have shown in their own ways what equipment is needed to become a subject and how fragile it is.

²⁷³ I often find that my reader would complain a lot less about my writings if they could download ANT version 6.5 instead of sticking with the beta.

²⁷⁴ This multiplicity of plug-ins is clearly visible in Thévenot's list of regimes of action. See Thévenot, 'Which road to follow?'

Every pellet leaves a trace behind it that now has an origin, a label, a vehicle, a circuit, sometimes even a price tag.²⁷⁵ While information technology, standing as one human on a stage, was supposed to be an all-or-nothing affair, it has now clearly become the provisional result of a whole assemblage of plug-ins coming from completely different loci. To be a realistic whole is not an undisputed starting point but the provisional achievement of a composite assemblage.²⁷⁶

Just as the division of labor created by the industries and bureaucracies helped Durkheim and Weber to trace their own definitions of social links, information technologies help us realize the work going on in actor-making. It's now much easier to not consider the actor as a subject endowed with some primeval interiority, which turns its gaze toward an objective world made of brute things to which it should resist or out of which it should be able to cook up some symbolic brew. Rather, we should be able to observe empirically how an anonymous and generic body is made to be a person: the more intense the shower of offers of subjectivities, the more interiority you get.²⁷⁷ Subjects are no more autochthonous than face-to-face interactions. They, too, depend on a flood of entities allowing them to exist. To be an 'actor' is now at last a fully artificial and fully traceable gathering: what was before true only of the Leviathan is now also true for each of its 'components'. Later on, this result will be important for our definition of politics.

Some plug-ins are fairly easy to trace. For instance, there are all of those official and legal papers which designate 'you' as being *someone*. If you doubt the ability of those humble paper techniques to generate *quasi-subjects*, try living in a large European city as an 'undocumented alien' or extricating yourself out of the FBI's grip because of a misspelling of your name. Other vehicles leave such a thin trace as if

²⁷⁵ The massive digitalization of many types of documents may offer Tarde a belated vindication. The poor statistics available at the end of the 19th century could not validate his requirement for a point-to-point 'epidemiology'. It's interesting to think that the possibility of a Tardian quantitative sociology might be opened now. We now have quasi-quantitative tools allowing us to follow in the same fashion rumors, opinions, facts, and fantasies. See Rogers, *Information Politic on the Web*. On the tracing of new *quantum* see Michel Callon (2001), 'Les méthodes d'analyse des grands nombres'.

²⁷⁶ No one has made this point more emphatically than Donna Haraway (2000), *How like a Leaf: an Interview with Thyrza Goodeve*. But it's probably with queer theory that the notion of multiple layers and artificial construction could be best applied. In spite of some posthuman ideology and masses of critical sociology, it offers a rich building site regarding the number of elements that can be detached and made to circulate. For a different approach see Stefan Hirschauer (1998), 'Performing Sexes and Genders in Medical Practice'.

²⁷⁷ A splendid allegory of this layered makeup is offered by computer-generated imagery. *Siggraph* meetings in Los Angeles, for example, have entire sessions devoted to it. There is a morning dedicated to the shine of nylon, one afternoon to the refraction of light onto red hair, one evening to the 'realistic rendering' of blows, and so on. As usual 'virtual' reality is a materialization of what is needed for 'natural' reality.

they were really immaterial. But if we maintain our outlook, we can follow them as well: How many circulating *clichés* do we have to absorb before having the competence to utter an opinion about a film, a companion, a situation, a political stance? If you began to probe the origin of each of your idiosyncrasies, would you not be able to deploy, here again, the same star-like shape that would force you to visit many places, people, times, events that you had largely forgotten? This tone of voice, this unusual expression, this gesture of the hand, this gait, this posture, aren't these traceable as well?²⁷⁸ And then there is the question of your inner feelings. Have they not been given to you? Doesn't reading novels help you to know how to love? How would you know which group you pertain to without ceaselessly downloading some of the cultural clichés that all the others are bombarding you with?²⁷⁹ Without the avid reading of countless fashion magazines, would you know how to bake a cake? And what about putting on a condom, consoling your lover, brushing your hair, fighting for your rights, or picking out the right clothes? Magazines help here as well. If you take each of the rubrics as the mere 'expression' of some dark social force, then their efficacy disappears. But if you remember that there is nothing beyond and beneath, that there is no rear-world of the social, then is it not fair to say that they make up a part of your own cherished intimacy? We are now familiar with what should no longer appear as a paradox: it's precisely once the overall society disappears that the full range of what circulates 'outside' can be brought to the foreground.

On the condition that we add another flow, another circuitry, through which plug-ins lend actors the supplementary tools—the supplementary souls—that are necessary to render a situation interpretable.²⁸⁰ A supermarket, for instance, has preformatted you to be a consumer, but only a generic one. To transform yourself into an active and understanding consumer, you also need to be equipped with an ability *to calculate* and *to choose*. In the sociology of the social there were only two sources for such a competence: either you were born with it as a human—as if Darwinian evolution had, from the dawn of time, prepared men and women to be supermarket calculators and optimal maximizers—or you were molded into becoming a clever consumer by the powerful grip of some economic infrastructure. But

²⁷⁸ See Jean Claude Schmitt (1990), *La Raison des gestes dans l'Occident médiéval*; Jan Bremmer and Herman Roodenburg (1992), *A Cultural History of Gesture: From Antiquity to the Present Day*; and Geneviève Calbris (1990), *The Semiotics of French Gesture*.

²⁷⁹ This is the main reason for the lasting impact of Lev Semenovich Vygotski (1978), *Mind in Society: The Development of Higher Cognitive Processes*.

²⁸⁰ This is why Bourdieu's notion of habitus, once it is freed from its social theory, remains such an excellent concept. So is the notion of equipment developed in Thévenot, 'Which road to follow?'

with this new topography that we are sketching, another source of competence might be located at your fingertips: there are plug-ins circulating to which you can *subscribe*, and that you can download on the spot to *become* locally and provisionally competent.

If you look at supermarkets in this way, a bewildering array of devices is underlined, each having the capacity to provide you with the possibility of carrying out calculations somewhat more competently. Even when one has to make the mundane decision about which kind of sliced ham to choose, you benefit from dozens of measurement instruments that equip you to become a consumer—from labels, trademarks, barcodes, weight and measurement chains, indexes, prices, consumer journals, conversations with fellow shoppers, advertisements, and so on.²⁸¹ The crucial point is that you are sustaining this mental and cognitive competence as long as you *subscribe* to this equipment. You don't carry it with you; it is not your own property. You might have internalized it somewhat, but even for that feat of internalization you need to download another plug-in! If you try to make a rational calculation *away* from such equipment—deciding for example to buy Universal Panoramas in order to become the World Company—you might have nothing more to make your 'macro-decision' with than rough estimates on the back of an envelope; you will no longer possess the competence to be rational at all.²⁸² Here again, it makes much more realistic sense to bypass entirely the two sites: the market forces and the individual agent.

Marcel Mauss defines 'habitus' and traces just the same social as Tardé:

A kind of revelation came to me in hospital. I was ill in New York. I wondered where previously I had seen girls walking as my nurses walked. I had the time to think about it. At last I realized that it was at the cinema. Returning to France, I noticed how common this gait was, especially in Paris; the girls were French and they, too, were walking in this way. In fact, American walking fashions had begun to arrive over here, thanks to the cinema. This was an idea I could generalize. The positions of the arms and hands while walking form a social idiosyncrasy, they are not simply a product of purely

²⁸¹ See Cochoy, *Une sociologie du packaging*.

²⁸² As recent economic history shows, big decisions are less rational than small ones because they are much less equipped. No equipment, no rationality. There is a direct link in MacKenzie's work between his earlier study of theorems and his present study of markets. See Donald MacKenzie (2001), *Mechanizing Proof: Computing, Risk, and Trust* and MacKenzie, *An engine, not a camera*. The same trend is visible in Karin Knorr's moves from laboratory science, in Knorr-Cetina, *Epistemic Cultures*, to market 'rationality', in Knorr-Cetina and Bruegger, 'Global Microstructures'.

individual, almost completely psychical, arrangements and mechanisms. For example: I think I can also recognize a girl who has been raised in a convent. In general, she will walk with her fists closed. And I can still remember my third-form teacher shouting at me: 'Idiot! Why do you walk around the whole time with your hands flapping wide open?' Thus there exists an education in walking, too.

Another example: there are polite and impolite *positions for the hands* at rest. Thus you can be certain that if a child at the table keeps his elbows in when he is not eating, he is English. A young Frenchman has no idea how to sit up straight; his elbows stick out sideways; he puts them on the table, and so on.

Finally, in *running*, too, I have seen, you all have seen, the change in technique. Imagine, my gymnastics teacher, one of the top graduates of Joinville around 1860, taught me to run with my fists close to my chest: a movement completely contradictory to all running movements; I had to see the professional runners of 1890 before I realized the necessity of running in a different fashion.

Hence, I have had this notion of the social nature of the *habitus* for many years. Please note that I use the Latin word—it should be understood in France—*habitus*. The word translates infinitely better than *habitude* (habit or custom), the *exis*, the 'acquired ability' and 'faculty' of Aristotle (who was a psychologist). It does not designate those metaphysical *habitudes*, that mysterious 'memory', the subjects of volumes or short and famous theses. These 'habits' do not vary just with individuals and their imitations; they vary especially between societies, educations, proprieties and fashions, prestiges. In them we should see the techniques and work of collective and individual practical reason rather than, in the ordinary way, merely the soul and its repetitive faculties. (Mauss 1979: 100–1)

Cognitive abilities do not reside in 'you' but are distributed throughout the formatted setting, which is not only made of localizers but also of many competence-building propositions, of many small intellectual technologies.²⁸³ Although they come from the outside, they are not descended from some mysterious context: each of them has a history that can be traced empirically with more or less difficulty. Each patch comes with its own vehicle whose shape, cost, and

²⁸³ This propagation is key to the field of distributed cognition: 'Internalization has long connoted some thing moving across some boundary. Both elements of this definition are misleading. What moves is not a thing, and the boundary across which movement takes place is a line that, if drawn too firmly, obscures our understanding of the nature of human cognition. Within this larger unit of analysis, what used to look like internalization now appears as a *gradual propagation* of organized functional properties across a set of malleable media.' Hutchins, *Cognition in the wild*, p. 312 (my emphasis).

circulation can be mapped out—as historians of accounting, cognitive anthropologists, and psychologists have so forcefully shown. If there is one thing that is not ‘in’ the agent, it is those many layers of competence builders that we have to ceaselessly download in order to gain some sort of ability for a while. This should be the advantage of a flattened landscape: when I utter such an assertion, it no longer means that I have to fall back on the other symmetric solution and say that ‘of course’ they are held by some ‘social context’. On the contrary, to say that they circulate through their own conduits means that they no longer come from either context or from the actor’s subjectivity, or for that matter from any clever compromise between the two.

But what about me, the *ego*? Am I not in the depth of my heart, in the circumvolutions of my brain, in the inner sanctum of my soul, in the vivacity of my spirit, an ‘individual’? Of course I am, but only as long as I have been individualized, spiritualized, interiorized. It is true that the circulation of these ‘subjectifiers’ is often more difficult to track. But if you search for them, you will find them all over the place: floods, rains, swarms of what could be called *psycho-morphs* because they literally lend you the shape of a psyche. Take for instance, love talks. If you doubt the efficacy of this kind of transportation, do the experiment. Try living without them for a bit and see how fast ‘you’—yes, the primeval ‘you’—will simply wither away.²⁸⁴ Even love, love especially, can be construed as that which comes from the outside, as a somewhat miraculous gift to create an inside. And it is certainly the way it has been traced in poems, songs and paintings, not to mention the countless retinue of angels, cherubs, putties, and arrows whose objective existence, yes *objective*, should also be taken into account. Even love has to have its vehicle, its specific techniques, its conduits, its equipment just as much as a trading room, a headquarters, or a factory. Of course, the medium will be different and so will be *what* is transported, but the general abstract shape will be the same—and it is this purely theoretical shape that I wish to capture for now.

What I am trying to do here is simply show how the boundaries between sociology and psychology may be reshuffled for good. For this, there is only one solution: make every single entity populating the former inside come from the outside not as a negative constraint

²⁸⁴ There is a small but telling set of literature from the classic Denis De Rougemont (1983), *Love in the Western World* to Ulrich Beck and Elisabeth Beck-Gernsheim (1995), *The Normal Chaos of Love* and Sabine Chalvon-Demersay (1999), *A Thousand Screenplays: The French Imagination in a Time of Crisis*. But no one peeled back all the successive layers of all the equipment necessary better than Michel Foucault (1990), *The History of Sexuality: An Introduction*.

'limiting subjectivity', but as a positive *offer* of subjectivation.²⁸⁵ As soon as we do this, the former actor, member, agent, person, individual—whatever its name—takes the same star-shaped aspect we have observed earlier when flattening the global and re-dispatching the local. It is *made to be* an individual/subject or it is *made to be* a generic non-entity by a swarm of other agencies. Every competence, deep down in the silence of your interiority, has first to come from the outside, to be slowly sunk in and deposited into some well-constructed cellar whose doors have then to be carefully sealed.²⁸⁶ None of this is a given. Interiorities are built in the same complicated way as Horus's chamber in the center of the pyramid of Cheops. The old empiricist motto was not that off the mark: *nihil est in intellectu, quod non sit prius in sensu*, although its meaning (nothing is inside which has not come from the outside) is a bit different. Nothing pertains to a subject that has not been given to it. In a way, is this not the strongest intuition of social sciences: 'Have we been made up?' Of course, the meaning of this tricky phrase depends entirely on what is meant by this innocent little word 'outside'.

From actors to attachments

Have I not drifted from Charybdis to Scylla? What does it mean to say that psycho-morphs come from the outside? Have I fought so fiercely against the global/local dichotomy that I have ended up reinstating it in its oldest guise, namely the interior/exterior opposition, the stock-in-trade dispute between psychology and sociology? What a huge step backward! Do I really want to revert to the time where actors were considered as so many puppets manipulated, in spite of themselves, by so many invisible threads?²⁸⁷ What's the use of having done away with global structure and face-to-face interactions if it is to drown the

²⁸⁵ Foucault's later work is a good example of the richness of this line of thought, although the construction of human interior psyches is somewhat obfuscated by the earlier theme of the 'death of the subject'. In spite of his own affirmation, the two are parallel, not contradictory.

²⁸⁶ Durkheim showed how all logical and personal categories inside are in some ways the translation and interiorization of the outside. But this outside was mistaken for a society thus opening, in spite of Tarde's warnings, the empty debate between psycho- and socio-logy. Compare the sociology of logics in Gabriel Tarde (1893), *La logique sociale* with Emile Durkheim (1915), *The Elementary Forms of the Religious Life*.

²⁸⁷ As this label indicates, post-structuralism is the survival of structuralism after the structure is gone, much like a chicken that goes on running after its head has been cut off. Although it has abandoned the search for coherence, post-structuralism has retained the same definition of causality: a few causes followed by long chains of passive place-holders or what I have called intermediaries.

person's most intimate subjectivity in fields of anonymous forces? Acting without actors! Subjectivity without subjects! Back to the glorious Sixties! But what is gained? Well, that's exactly where ANT's gain may reside. After this flattening of the landscape, the outside itself has changed a lot: it's no longer made of society—and nor is it made of nature. In doing away *both* with ungraspable subjectivity and with intractable structure, it might be possible to finally place at the forefront the flood of *other* more subtle conduits that allow us *to become* an individual and *to gain* some interiority.²⁸⁸

The difficulty in following these types of 'subject-carrying' or psycho-morph mediators is that since they come from the 'outside', they seem to transport the *same sort of constraints* as the one imagined by sociologists of the social for their definition of society.²⁸⁹ And sure enough, given what they meant by 'outside', namely the constraining power of context or the causal determination of nature, there was not the slightest chance for plug-ins to deposit anything *positive* inside the actor. Structural forces had to do most of the work—give or take a few small marginal adjustments by the individuals. In their fanciful theory of action, this was the only way sociologists had imagined that the string of the puppeteer's hand could activate the puppet.²⁹⁰ But we have no longer any reason to be intimidated by this odd way of conceiving the import of an outside force because we have detected two successive mistakes in the notion of the sociology of the social: one in the definition of the cause and the other in the vehicle that was supposed to transport the effect. The relationship between puppeteers and their puppets is much more interesting than that.²⁹¹ Besides, we have also learned how to redress two misconceptions: we know that mediators are not causes and that without transformations or translations no vehicles can transport any effect. Something happens along the strings that allow the marionettes to move.

The hopeless division of labor between psychology and sociology may begin to change once the definition of the 'outside' has been dissolved and replaced by the circulation of plug-ins. While none of the the plug-ins have the power to determine, they can simply *make*

²⁸⁸ Peter Sloterdijk with his three-volume book on different types of spheres has offered a new and powerful metaphor to get out of the inside/outside dichotomy. Unfortunately, his work is not yet available in English. See Peter Sloterdijk (2004), *Sphären*, 3 Bde.

²⁸⁹ See Anne-Nelly Perret-Clermont (1979), *La Construction de l'intelligence dans l'interaction sociale* and her early critique of Piaget's linkage between social theory and epistemology.

²⁹⁰ And so does my version of the *Roget's Thesaurus*! It proposes the following entries: 'dupe', 'image', 'non-entity', 'slave'. No wonder the debate between psychology and sociology never goes anywhere.

²⁹¹ See p. 58 and Bruno Latour (1999a), 'Factures/fractures. From the Concept of Network to the Concept of Attachment'.

someone *do* something. We are now in a position to bring the two points together and refurbish for good the notion of an outside: it's not situated at the same place and the influence it exerts keeps acting through a totally different theory of action. The outside is not a context 'made of' social forces and it doesn't 'determine' the inside.

The gravest consequence of the notion of context was that it forced us to stick to double-entry accounting so that whatever came from the outside was *deducted* from the total sum of action allotted to the agents 'inside'. With that type of balance sheet, the more threads you added in order to *make you act* from the outside, the *less* you *yourself* acted: the conclusion of this accounting procedure was inescapable. And if you wished, for some moral or political reason, to save the actor's intention, initiative, and creativity, the only way left was to increase the total sum of action coming from the inside by *cutting some of the threads*, thus denying the role of what is now seen as so many 'bondages', 'external constraints', 'limits to freedom', etc. Either you were a free subject or you lived in abject subjection. And of course critical sociologists reinforced this tendency since they couldn't talk about the 'outside force' of the social, except by gloating over the 'narrow constraints' put by 'the anonymous weight of society' over 'personal freedom'. But this odd landscape does not depress us any longer. The outside never resembles some Gobi desert invented by sociologists of context, nor is it simply populated by matters of fact; the inside never resembles an inner sanctum surrounded by cold social forces like a desert island circled by hungry sharks.²⁹² Ins and outs, like ups and downs, are results not causes. The sociologist's job is not to fix their limits in advance.²⁹³

The difference between the two theories does not reside only in the number of bonds, but also in the theory of action that connects any one of those bonds. We saw earlier that what was wrong with the metaphor of marionettes was not their activation by the many strings firmly held in the hands of their puppeteers, but the implausible argument that domination was simply *transported* through them without translation. Of course marionettes are bound! But the consequence is certainly not that, to emancipate them, you have to cut all the strings. The only way to liberate the puppets is for the puppeteer to be a *good* puppeteer. Similarly for us, it is not the *number of connections* that we have to diminish in order to reach at last the sanctuary of the self. On the contrary, as William James so magnificently demonstrated, it is by multiplying the connections with the outside that

²⁹² This move is complementary to what I did with the 'outside' of nature in Chapter 5 of Latour, *Politics of Nature*.

²⁹³ On Durkheim's misreading of Tarde's psychology, see Louise Salmon (2004), *La pensée politique de Gabriel Tarde*.

there is some chance to grasp how the 'inside' is being furnished.²⁹⁴ You need to subscribe to a lot of subjectifiers to become a subject and you need to download a lot of individualizers to become an individual—just as you need to hook up a lot of localizers to have a local place and a lot of oligoptica for a context to 'dominate' over some other sites.

It is only once the alternative between actor and system is ignored—note that I do not say overcome, reconciled, or solved—that the most important topic of sociology can begin to shine through. This had been Tarde's major contribution against Spencer's organism and Durkheim's society. He clearly articulated the obligation for a social scientist to generate *intra-psychology* through the many mediations offered by *inter-psychology*, the former one being conceived as a sort of bridgehead for the later.²⁹⁵ We might end up gaining some 'intra-psyches' only if we are entering into a relationship with a lot of 'extra-psyches', or what could be called mind-churning substances, namely *psycho-tropes* or—to use still another expression about soul generating entities—*psycho-genes*.²⁹⁶ If you treat what comes from the outside as mediators offering an occasion to the next agent to behave as a mediator, the whole scene of the inside and outside might be modified for good. The puppeteer still holds many strings in her hands, but each of her fingers is itching to move in a way *the marionette* indicates. The more strings the marionettes are allowed to have, the more articulated they become.²⁹⁷

We are now at least free from a whole set of discussions considering the 'relative weight' of 'individual freedom' over 'structural determination': every mediator along any chain of action is an individualized event because it is connected to many other individualized events. This might offer a good place to bid farewell to the notion of 'actor' that I have used all along as a provisional placeholder. What's wrong with the word is not that it is often limited to humans—this limit we have learned to encroach upon—but that it always designates a *source* of initiative or a starting point, the extremity of a vector oriented toward some other end. Of course, when the sociology of the social held sway, it was important to insist on actors, activity, initiative,

²⁹⁴ The classic work on this 'exteriorisation' remains William James (1890), *The Principles of Psychology*.

²⁹⁵ But unfortunately he did not have the allegory of information technologies to materialize his web of connections and instead had to rely on the loose metaphor of 'imitative rays'. On Tarde's limits see Bruno Karsenti (2002), 'L'imitation. Retour sur le débat entre Durkheim et Tarde'.

²⁹⁶ See Gomart, 'Surprised by Methadone' and Gomart 'Methadone: Six Effects in Search of a Substance'.

²⁹⁷ Witness the powerful effect on the audience of puppets held by visible manipulators in Japanese *bunraku* theater.

interpretation, improvisation, justification, interactions, and so on, because the only possible activity that context could bring was that of a cause in search of consequences, of a mediator looking for some passive intermediaries that would faithfully carry its forces. But this is no longer the case with ANT: the theory of action itself is different, since we are now interested in mediators *making* other mediators *do* things. 'Making do' is not the same thing as 'causing' or 'doing': there exists at the heart of it a duplication, a dislocation, a translation that modifies at once the whole argument. It was impossible before to connect an actor to what made it act, without being accused of 'dominating', 'limiting', or 'enslaving' it. This is no longer the case. The more *attachments* it has, the more it exists. And the more mediators there are the better.²⁹⁸

Now it's the actor, which so far in this book was kept as a point, an atom, or a source, that has to be flattened out and forced to take a star-like shape. What should we call this newly 'flattened' element? Is it something that is 'made to act'? Is it something that is 'triggered into being triggered into action'?²⁹⁹ Why not use actor-network? I know this expression remains odd because it could mean just the opposite as well, namely a solution to the actor/system quandary we have just rejected. But we have the word already at hand, and it's not that badly designed in the end. So, an actor-network is what is made to act by a large star-shaped web of mediators flowing in and out of it. It is made to exist by its many ties: attachments are first, actors are second. To be sure, such an expression smacks of 'sociologism', but only as long as we put too much in 'being' and not enough in 'having'. As Tarde insisted long ago, the family of 'to have' is much richer than the family of 'to be' because, with the latter, you know neither the boundary nor the direction: to possess is also being possessed; to be attached is to hold and to be held.³⁰⁰ Possession and all its synonyms are thus good words for a reworked meaning of what a 'social puppet' could be. The strings are still there, but they transport autonomy or enslavement depending on *how* they are held. From now on, when we speak of actor we should always add the large network of attachments making

²⁹⁸ Attachment is another word for what I tried to capture under the makeshift expression 'factish'. See also Emilie Gomart and Antoine Hennion (1998), 'A sociology of attachment: music amateurs, drug users'.

²⁹⁹ See François Jullien (1995), *The Propensity of Things: Toward a History of Efficacy in China*.

³⁰⁰ 'So far, all of philosophy has been founded on the verb *To be*, whose definition seemed to have been the Rosetta's stone to be discovered. One may say that, if only philosophy had been founded on the verb *To have*, many sterile discussions... would have been avoided. From this principle "I am", it is impossible to deduce any other existence than mine, in spite of all the subtleties of the world. But affirm first this postulate: "I have" as the basic fact, and then the *had* as well as the *having* are given at the same time as inseparable.' Tarde, *Monadologie et sociologie*, p. 86.

it act. As to emancipation, it does not mean 'freed from bonds' but *well-attached*.

In spite of the criticism I made earlier about the notion of society—by opposition to what I proposed to call the collective—an even more radical solution would be to consider these bundles of actor-networks in the same way that Whitehead considers the word 'society'. For him societies are not assemblages of social ties—in the way Durkheim or Weber could have imagined them—but are all the bundles of composite entities that *endure* in time and space.³⁰¹ In his words, a society needs new associations in order to persist in its existence. And of course, such a labor requires the recruitment, mobilization, enrollment, and translation of many others—possibly of the whole universe. What is so striking in this generalized definition of societies is that the respective meanings of subjectivity and objectivity are entirely reshuffled. Is a subject whatever *is* present? Is an object whatever *was* present? So every assemblage that pays the price of its existence in the hard currency of recruiting and extending is, or rather, *has* subjectivity. This is true of a body, of an institution, even of some historical event which he also refers to as an organism. Subjectivity is not a property of human souls but of the gathering itself—provided it lasts of course. If we could retain this vastly expanded meaning of society, then we could again understand what Tarde meant when he said that 'everything is a society and that all things are society'.

³⁰¹ 'The point of a "society", as the term is used here, is that it is self-sustaining; in other words, that it is its own reason.' Alfred North Whitehead (1929/1978), *Process and Reality. An Essay in Cosmology*, p. 89. See Didier Debaise (2003), 'Un empirisme spéculatif: Construction, Processus et Relation chez Whitehead'.

Third Move: Connecting Sites

Is not the 'Tortoise and the Hare' fable rather like that of the 'Ant and the Hare' story? One character jumps, runs, leaps, slumbers, wakes up, and summersaults, so sure he is of winning the race and snatching the prize. But the other one never sleeps. He trudges along, masticating endlessly; he allows himself no break in digging around minuscule galleries, the walls of which are nothing but clay and saliva through which he travels back and forth. And yet is it not fair to say that the Ant, much to the hare's great surprise, is going to win? By sticking obstinately to the notion of a flatland and by inserting clamps every time there is a temptation to take three-dimensional shapes for granted, we have been highlighting types of connections that had no recognizable existence before—even though everyone felt they had to be there. By refusing to leap to context or to stick to the local or to take any position in between, are we not registering now in our account a view of the social rarely seen before?

In the first chapter of Part II, we reckoned that the abrupt alternation between micro and macro, actor and system, was not due to some essential trait of sociology, but rather to the shadow projected over society by the body politic. For this reason, we then imagined two solutions to break the urge that was leading the observer from the local interaction to context or from structure to situated practice. The first move transferred the global, the contextual, and the structural inside tiny loci; it allowing us to identify through which two-way circulations those loci could gain some relevance for others. The second move transformed every site into the provisional endpoint of some other sites distributed in time and space; each site becomes the result of the action at a distance of some other agency. As I warned the reader several times, it's only once the two corrective moves have been practiced assiduously that a third phenomenon appears, the only one worth the efforts of abstraction that we had to go through.

Now is the time for the Ant to fetch its prize. What happens when we practice the two gestures—localizing the global and distributing the local—*together*? Every time a connection has to be established, a new conduit has to be laid down and some new type of entity has to be

transported through it. What circulates, so to speak, 'inside' the conduits are the very acts of giving something a dimension. Whenever a locus wishes to act on another locus, it has to go through some medium, transporting something all the way; to go on acting, it has to maintain some sort of more or less durable connection. Conversely, every locus is now the target of many such activities, the crossroads of many such tracks, the provisional repository of many such vehicles. Sites, now transformed into actor-networks for good, are moved to the background; connections, vehicles, and attachments are brought into the foreground. As soon as we do this, we end up with a superposition of various canals as entangled and varied as those that an anatomist would see if she could simultaneously color all the nerve, blood, lymph, and hormone pathways that keep organisms in existence.^{b11} 'Admirable networks' (from *retia mirabilia*) is the expression histologists have used to register some of these wondrous shapes. How even more miraculous than the body does the social now appear! Could sociology, as Whitehead said of philosophy, not only begin but also *end* in wonder?

I hope it's clear that this flattening does not mean that the world of the actors themselves has been flattened out. Quite the contrary, they have been given enough space to deploy their own contradictory gerunds: scaling, zooming, embedding, 'panoraming', individualizing, and so on. The metaphor of a flatland was simply a way for the ANT observers to clearly distinguish their job from the labor of those they follow around. If the analyst takes upon herself to decide in advance and *a priori* the scale in which all the actors are embedded, then most of the work they have to do to *establish* connections will simply vanish from view. It is only by making flatness the default position of the observer that the activity necessary to generate some difference in size can be detected and registered. If the geographical metaphor is by now somewhat overused, the metaphor of accounting could do just as well—even though I may have used it too much already. The transaction costs for moving, connecting, and assembling the social is now payable to the last cent, allowing us to resist the temptation that scaling, embedding, and zooming can be had for nothing without the spending of energy, without recruitment of some other entities, without the establishment of expensive connections.

Whatever metaphors we want to cling to, they do nothing more than help us counterbalance the weight of social inertia. They are part of our infra-language. Once again, everything happens as if ANT did not locate social theory at the same level as sociologists of the social. What the latter means by theory is a positive, substantive, and synthetic view of the ingredients out of which the social is

fashioned—and those accounts may often be very suggestive and powerful. With ANT, we push theory one step further into abstraction: it is a negative, empty, relativistic grid that allows us *not* to synthesize the ingredients of the social in the actor's place. Since it's never substantive, it never possesses the power of the other types of accounts. But that's just the point. Social explanations have of late become too cheap, too automatic; they have outlived their expiration dates—and critical explanations even more so. So many ingredients have been packed into society, individual, cognition, market, empire, structure, face-to-face interactions, that it has become as impossible to unpack them as it is to read the hundred thousand lines of code making up a proprietary operating system—not to mention trying to rewrite it. This is why we have to make sure that every entity has been reshuffled,^{b11} redistributed, unraveled, and 'de-socialized' so that the task of gathering them again can be made in earnest. When we shift to ANT, we are like lazy car drivers newly converted to hiking; we have to relearn that if we want to reach the top of the mountain, we need to take it one step at a time, right foot after left foot, with no jumping or running allowed, all the way to the bitter end! I will show in the Conclusion why this point is so important not only for science but also for politics.

Three new questions may now be tackled in our discussion. The first is to detect the type of connectors that make possible the transportation of agencies over great distance and to understand why they are so efficient at formatting the social. The second is to ask what is the nature of the agencies thus transported and to give a more precise meaning to the notion of mediator that I have been using. Finally, if this argument about connections and connectors is right, it should be possible to come to grips with a logical consequence that readers must have already puzzled about: What lies *in between* these connections? What's the extent of our ignorance concerning the social? In other words, how vast is the *terra incognita* we will have to leave blank on our maps? After having complained too often in this book that the social of sociologists was so badly packaged—we could not inspect its composition any more than we could check its degree of freshness—the time has now come to take much more positively the work done by the social sciences to render the social traceable.

From standards to collecting statements

Before proceeding forward, let's do a little test to see whether we are able to tackle a topic where scale is obviously involved *without* ourselves making any assumption about the respective dimensions of all

the agents along the chain. This will allow us to verify how nimble we have become in avoiding the local as well as the global.

Consider for instance this series of photos that show Alice voting in France for a general election. Go from the first to the last and try to decide which one is more local or more global than the other. The first, where Alice ponders the newspaper *Le Monde* to make up her mind about which party to vote for, cannot be said to be local simply because she is alone reading at her breakfast table. The same issue of this newspaper is read that day by millions. Alice is bombarded by a flood of clichés, arguments, columns, and opinions out of which she has to make up her own mind. But the last image that sums up the result of the election day cannot be said to be global either under the pretext that it's the 'whole of France' that is summarized in one pie chart on television (with the surprising result that the Left has been winning). On the television inside Alice's apartment, this pie chart is a few centimeters wide. So, once we realize that none of the successive images in this photomontage can be said to be smaller or bigger than any other, the key feature of their *connectedness* becomes fully visible—although it is not graspable on any single photograph!³⁰² Something is circulating here from the first to the last. In the opaque voting booth, Alice's opinion is transformed into a piece of paper certified by her signature and then placed by scrutineers into a ballot box, where it is then ticked off as one anonymous dot in a tally whose sum is wired to the Ministry of the Interior's central bureau to be merged inside other double checked additions. What's the relationship between the 'small' Alice and 'France as a whole'? *This path*, laid down by *this instrument*, makes it physically possible to collect, through the circulation of paper technologies, a link between Alice and France whose exacting traceability has been slowly elaborated through two centuries of violent political history and contested voting reforms.³⁰³ The gap between 'interaction' and 'context' would hide the complex machinery establishing continuous connections between the sites, none of which is either big or small.

As soon as we concentrate on what circulates from site to site, the first type of entities to snap into focus are *forms*.³⁰⁴ Few words are more ambiguous, and yet this is just the sort of topic that the shift in social

³⁰² This is the central argument about image flaws and image flows in Latour and Weibel, *Iconoclash*. More can be seen on this 1996 election example in Latour and Hermant, *Paris the Invisible City*.

³⁰³ See Latour and Weibel, *Making Things Public*; Heurtin; *L'espace public*.

³⁰⁴ Let us remember that any site will be taken as an actor network if it is the source of what acts at a distance on other sites—hence giving it a star-like shape—and is the end point of all the transactions leading to it—hence giving it the same star-like shape. So the word 'site' should not be taken as a synonym of the local that we have abandoned in the previous chapter.

theory allows us to see in a new light.³⁰⁵ Usually, form is taken not in a material but in a formal sense. And it's true that if you forget that in a flat world no jumping is allowed, then formalism becomes an adequate description of itself: you will attempt to give a formal description of formalism—and God knows that there has been no lack of such endeavors. But as soon as you notice that each site has to pay the connection with another site through some displacement, then the notion of form takes a very concrete and practical sense: a form is simply something which allows something else to be transported from one site to another. Form then becomes one of the most important types of translations.

Such a displacement from ideal to material can be extended to *information*. To provide a piece of information is the action of putting something into a form.³⁰⁶ But now the word takes a very mundane, practical meaning; it can be a paper slip, a document, a report, an account, a map, whatever succeeds in practicing the incredible feat of transporting a site into another one without deformation through massive transformations.³⁰⁷ Watch in the case of Alice's vote how many metamorphoses her opinion has undergone even though it has been faithfully registered—provided there has been no fraud along the way. It is to register such contradictory requirements of formalism that I had proposed long ago the expression of 'immutable mobiles'.³⁰⁸ Once again, scientific activity offers many privileged cases of transportation through transformations: from the humble and smelly tasks of the taxidermy of rare animal specimens³⁰⁹ to the

³⁰⁵ I introduced the expression of inscription devices in Bruno Latour and Steve Woolgar (1986), *Laboratory Life: The Construction of Scientific Facts*.

³⁰⁶ French speakers have the great advantage of still hearing in their word *forme* the same etymology as in their beloved *fromages*, cheese being literally fermented milk that is put into a *forme* or a *fourme*. Gastronomy and epistemology are close enough for them!

³⁰⁷ There is a rich literature on the 'matter of form', including Jacques Derrida (1998), *Of Grammatology*; François Dagognet (1974), *Ecriture et iconographie*; Elizabeth Eisenstein (1979), *The Printing Press as an Agent of Change*; and Goody, *The Domestication of the Savage Mind*. For recent work on formalism see Eric Livingston (1985), *The Ethnomethodological Foundations of Mathematical Practice*; MacKenzie, *Mechanizing Proof*; Hélène Mialet (2003), 'Reading Hawking's Presence: An Interview with a Self-Effacing Man'; Rosental, *La Trame de l'évidence*; Bryan Rotman (1993), *Ad Infinitum: The Ghost in Turing Machine. Taking God out of Mathematics and Putting the Body Back In*; and Andrew Warwick (2003), *Masters of Theory: Cambridge and the Rise of Mathematical Physics*. Derrida has never stopped meditating on the odd sort of materiality implied by archives—see Derrida (1995), *Archive Fever: A Freudian Impression*.

³⁰⁸ An expression I introduced in Latour, *Science In Action* to describe not displacement *without* transformation but displacement *through* transformations. See also the seminal paper by Thévenot, 'Rules and implements: investment in forms' that links standardization, economization, and formatting together.

³⁰⁹ Susan Leigh Star and Jim Griesemer (1989), 'Institutional Ecology, "Translations" and Boundary Objects: Amateurs and Professionals in Berkeley's Museum of Vertebrate Zoology, 1907–1939'.



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most elevated, but just as practical, writing of equations, through the building of a statistical apparatus or the even humbler task of paper clippings and file making of all hues and colors. Whatever the medium, a material description of formalism is now possible which takes very seriously the connecting ability of forms—conceived as physically as possible—while shedding the idea that formalisms could themselves be formally described.³¹⁰

The first important consequence of becoming attentive to the material traceability of immutable mobiles is to help us locate what has been so important with the sociology of the social from its inception. This will also be the occasion to make amends for the apparently cavalier way in which I have treated my elders and betters. I can now confess that it's not without scruples that, throughout this book, I had to be so critical of the ways the social sciences approached the question of formatting. In truth, the sociology of the social has been amazingly successful. Its achievements are truly impressive and has made it possible for us all to 'have' a society to live in.³¹¹ I knew from the beginning that, although those sociologies make for awkward social theory because they interrupt the task of assembling the social, this is just the reason why they are so good at *performing* it, that is, at *formatting* the relations between sites. Their weakness is just what makes them so strong, or rather their strength at fixing up the social is what makes them so unwieldy when reassembling it. Thus, all things considered, critiques of sociology of the social are misdirected if they forget to consider their extraordinary efficacy in generating one form of attachments: the social ones, or at least that part of the social that has been stabilized. There cannot be anything wrong in forming, formatting, or informing the social world.³¹²

To reproach the social sciences for being formal would be like criticizing a dictionary for ranking words from A to Z or a pharmacist for having labels on all his vials and boxes. The task of stabilizing the five sources of uncertainty is just as important as that of keeping them open. Even though it's a dangerous mistake to confuse the two, it would be ridiculous not to tackle the second under the pretext that

³¹⁰ Harry Collins (1990), *Artificial Experts: Social Knowledge and Intelligent Machines* and MacKenzie, *Mechanizing Proof* provide many powerful examples of the richness of a redescription of formalism as does Galison, *Image and Logic*.

³¹¹ See Alain Desrosières (2002), *The Politics of Large Numbers: A History of Statistical Reasoning*; Theodore M. Porter (1995), *Trust in Numbers: The Pursuit of Objectivity in Science and Public Life*; and Norton Wise (1995), *The Values of Precision and Exactitude*.

³¹² This is why there is no reason to deplore the empire of what Garfinkel designates, somewhat derogatively, by FA, that is, 'Formal Analysis' of the 'worldwide social movement'. 'Thinking like a sociologist involves a commitment to the belief that there is no orderliness in the concreteness of everyday life.' Garfinkel, *Ethnomethodology's Program*, p.136.

the first has to be dealt with. On the contrary, once the task of deploying controversies about the social world is fully undertaken—as I did in Part I—then the crucial importance of the second task of enforcing boundaries, categories, and settlements has to be fully recognized as well.³¹³ If it is such a grave methodological mistake to limit in advance and in the actor's stead the range of entities that may populate the social world, it would be equally pathetic to ignore the constant work they do so as to restrict the repertoire of actants and to keep controversies at bay. Once again, even if it has become somewhat irritating, the only viable slogan is to 'follow the actors themselves'; yes, one must follow them when they *multiply* entities and again when they *rarefy* entities.

We now must learn to pay respect to the formalizers, pigeonholers,^{b11} categorizers, and number crunchers just as we had to learn earlier to reject them for interrupting too early the task of association and composition. I recognize that this new corrective calisthenics might make us sore, but who said the practice of social science should be painless? If the actors are busy doing many things at once, should we not become as pliable, articulate, and skillful as they are? If the social sciences *per-form* the social, then those forms have to be followed with just as much care as the controversies. This is especially the case now that we no longer run the risk of confusing such a study of formalism with its formalist description. Forms have not 'lost' anything. They have not 'forgotten' any sort of human, concrete, lived-in dimension. They are neither 'cold' nor 'heartless', nor are they devoid of a 'human face'. Following the making, the fine-tuning, the dissemination, and upkeep of immutable mobiles will not for one second take us away from the narrow galleries of practice.³¹⁴ If there is one opposition that no longer holds us back, it's the one that was supposed to pit positivist against interpretative sociologies. Once carefully relocated, their intuitions reveal two successive aspects of social assemblages.³¹⁵

In following the stabilization of controversies, we are greatly helped if we bring to the foreground the crucial notion of *standards*. We can say that the sociology of the social circulates in the same way as physical standards do or, better yet, that social sciences are part of *metrology*. Before science studies and especially ANT, standardization

³¹³ This is a restatement of the principle of irreduction as defined in Latour *Irreductions*.

³¹⁴ A telling example is provided in Bowker and Star, *Sorting Things Out*. It would be a case of 'misplaced concreteness' to criticize those formatting as being 'abstract'. This is the limit of Lave *Cognition in Practice*, which otherwise shows a welcomed attention to the practice.

³¹⁵ When we deal later with plasma, we will once again reconsider the great advantage of Garfinkel's position and understand why it has most likely been misdirected due to his attachment to phenomenology.

and metrology were sort of dusty, overlooked, specialized, narrow little fields. This is no wonder since their truly wonderful achievements were cut off by the gap between local and global that we have now recognized to be an artifact. As soon as local and global disappears, the central importance of standards and the immense advantages we draw from metrology—in the widest acceptance of the term—become obvious.

Take, for instance, the case of the platinum kilogram maintained by the International Bureau of Weights and Measures (*Bureau International des Poids et Mesures*) in a deep vault inside the Breteuil Pavillon at the Sèvres park outside of Paris. Is it a convention? Yes. Is it a material object? Yes. Is it an international institution? Once more, yes. Does it represent the head of a metrological chain, the ideal model to which all other inferior copies are compared in a solemn ceremony once every two years? Again, yes. There is no doubt that it is a hybrid. And yet it is exactly those confusing entities that allow all the metrological networks of the world to have some sort of ‘common weight’. Is a metrological reference like the kilogram local or global? Local, since it always resides somewhere and circulates inside special boxes using specific signals, at certain specified times, following specific protocols.³¹⁶ Is it global? Sure, since without standards like the watt, the newton, the ohm, the ampere, that is, without the *Système International d’Unités*, there would be no global of any sort because no locus would have the ‘same’ time, the ‘same’ distance, the ‘same’ weight, the same intensity of electric current, the same chemical ‘reagents’, the ‘same’ biological reference materials, etc. There would be no baseline, no benchmark. All sites would be incommensurable for good.

Standards and metrology solve practically the question of relativity that seems to intimidate so many people: Can we obtain some sort of universal agreement?³¹⁷ Of course we can! *Provided* you find a way to hook up your local instrument to one of the many metrological chains

³¹⁶ There is now a rich literature on the practical extension of networks through standards. See Ken Alder (1995), ‘A Revolution to Measure: The Political economy of the Metric System in France’; Rexmond Canning Cochrane (1976), *Measures for Progress: A History of National Bureau of Standards*; Alexandre Mallard (1996), ‘Les instruments dans la coordination de l’action: pratique technique, métrologie, instrument scientifique’; Mélard ‘L’autorité des instruments’; and Joseph O’Connell (1993), ‘Metrology: the Creation of Universality by the Circulation of Particulars’. The most decisive work has been done in Simon Schaffer (1988), ‘Astronomers Mark Time: Discipline And The Personal Equation’ and (1991b), ‘A Manufactory of OHMS, Victorian Metrology and its Instrumentation’.

³¹⁷ A stunning example of the use of metrology in the arm’s race debate has been provided by Don MacKenzie (1990), *Inventing Accuracy: A Historical Sociology of Nuclear Missile Guidance*. See also Galison, *Einstein’s Clocks*.

whose material network can be fully described, and whose cost can be fully determined. Provided there is also no interruption, no break, no gap, and no uncertainty along any point of the transmission. Indeed, traceability is precisely what the whole of metrology is about! No discontinuity allowed, which is just what ANT needs for tracing social topography. Ours is the social theory that has taken metrology as the paramount example of what it is to expand *locally everywhere*, all the while bypassing the local *as well* as the universal. The practical conditions for the expansion of universality have been opened to empirical inquiries. It's not by accident that so much work has been done by historians of science into the situated and material extension of universals. Given how much modernizers have invested into universality, this is no small feat.

As soon as you take the example of scientific metrology and standardization as your benchmark to follow the circulation of universals, you can do the same operation for other less traceable, less materialized circulations: most coordination among agents is achieved through the dissemination of *quasi-standards*. For many types of traces the metaphor is pretty easy to follow: What would be the state of any economical activity without accounting codes and summaries of best practices? If, for instance, you shift from the North American to the European Union accounting format, you offer investors different handrails to help them make calculations: profitable European companies will fall in the red, while others will jump into black.³¹⁸ Of course, those who believe the economy to be an infrastructure would not be moved by this 'little difference' in accounting; they will say that it is moot compared to the 'real impact' of economical forces down below. But those of us who have to understand what it means to calculate something, to externalize some elements and to internalize others to take them, literally, *into the account*, are going to follow nonetheless every little detail of this 'technical dispute' because explaining what is a profit, an exploitation, or a plus value depends entirely upon such niceties.³¹⁹ If *economies* are the outcome of *econom-*

³¹⁸ Consider the standards of the International Accounting Standards Board (IASB), a private firm based in London to which the European Union has delegated some of the work. Many powerful examples of the way 'micro' techniques of accounting hold the 'macro' consequences of profit and economical theories can be found in the journal *Accounting, Organizations and Society*. See also Tomo Susuki (2003), 'The epistemology of macroeconomic reality: The Keynesian Revolution from an accounting point of view'.

³¹⁹ See Alexandra Minvielle (forthcoming), 'De quoi une entreprise est-elle capable?'. On all those questions of 'spreading' in time and space by 'making' space and time, see the special issue of *Organizations* and especially G. Jones, C. McLean and Paolo Quattrone (2004), 'Spacing and Timing': Introduction to the Special Issue of *Organization* on 'Spacing and Timing'.

ics, as Michel Callon has argued, the humble paper tools allowing coordination are at once placed in the foreground.

Other circulations of standards seem more tenuous, even though their tractability is fairly good as long as the observer does not let the irruption of the 'social explanation' break this Ariadne thread. How would you know your 'social category' without the enormous work done by statistical institutions that work to calibrate, if not to standardize, income categories? How would one identify oneself as 'upper-middle class', 'yuppy', or 'preppy' without reading the newspapers? How would you know your 'psychological profile' without more statistical surveys, more professional meetings, more consensus conferences? How would a psychiatrist categorize a mental patient without the DSM?³²⁰ It is no use saying that those categories are arbitrary, conventional, fuzzy, or, on the contrary, too sharply bounded or too unrealistic. They do solve practically the problem of extending some standard everywhere locally through the circulation of some traceable document—even though the metaphor of a document might dim somewhat. It is not the case that some powerful people unfairly 'pigeon-hole' other people whose 'ineffable interiority' is thus ignored and mutilated; rather, the circulation of quasi-standards allow anonymous and isolated agencies to slowly become, layer after layer, *comparable* and *commensurable*—which is surely a large part of what we mean by being human. This common measurement depends, of course, on the *quality* of what is transferred. The question is not to fight against categories but rather to ask: 'Is the category subjecting or *subjectifying* you?' As we saw at the end of the last chapter, freedom is getting out of a *bad* bondage, not an *absence* of bonds.

Viewed in this way, we can now understand the great services, albeit unwittingly, that the sociology of the social can render to our inquiry. It has rendered traceable that portion of the social that is going to be stocked and stabilized just as much as utility companies, information technology, bureaucracies and, more generally, the dissemination of formats and benchmarks have been rendering the cost of generating universality visible. This is why the social sciences are as much a part of the problem as they are a solution: they ceaselessly kept churning out the collective brew. Standards that define for everyone's benefit what *the social itself* is made of might be tenuous, but they are powerful all the same. Theories of what a society is or should become have played an enormous role in helping actors to define where they stand, who they are, whom they should take into account, how they should justify themselves, and to which sort of forces they are allowed to

³²⁰ Stuart A. Kirk and Herb Kutchins (1992), *The Selling of DSM: The Rhetoric of Science in Psychiatry*.

bend. If natural sciences, like physics or chemistry, have transformed the world, how much more have the social sciences transformed what it is for humans to be connected to one another? Actors can download those theories of the social as effectively as they do MP3 files. And of course the very idea that 'we are members of a society', that we are 'accountable', that we have 'legal responsibility', that 'gender is different from sex', that 'we have a responsibility toward the next generation', that we have 'lost social capital', etc., does circulate through conduits that intellectual historians can reconstruct almost as precisely as their colleagues do for the International clock, the ohm, the meter, double-entry bookkeeping, or the spread of ISO-9000 standards. Social theories are not behind all this but are very much in the foreground. Each one is trying to expand or is, as Tarde noted,³²¹ 'dreaming like Alexander of conquering the world'. Even if one social theory had reached hegemony, it would never be more universal than the meter, and like it, it would not survive a minute longer than the metrological chains that sustain it.³²¹

As soon as we become good at tracing it, we can use this topography to tackle other conduits that are not materialized continuously by some state apparatus but whose movements have nonetheless the same effect. *Collecting statements* play exactly the same role, on condition that we don't see them as simply 'representing' or 'distorting' existing social forces. For example, the medieval expression *Vox populi, vox Dei* does not simply 'express' some widely held popular belief residing in the eternal wisdom of the people. As Alain Boureau has done, you can document most of the occurrences of this speech act during the Middle Ages, draw the networky shape of its usage and show that every time it has been uttered, it has modified, albeit slightly, the distribution of roles and powers among *deus, populus, vox*, and *rex*.³²² We have learned from the first source of uncertainty that even a tiny change in the ways of talking about groups would change the performance of those groups. This is even truer when a statement carries a different social theory as is the case with this highly unstable expression which implies, like a delicate relief carved on the

³²¹ It does not require some heroic feat of reflexivity to apply this principle to Tarde's sociology and to ANT itself. No privileged position is required to make this point, nor any absolute frame of reference.

³²² In addition to Alain Boureau (1992), 'L'adage *Vox Populi, Vox Dei* et l'invention de la nation anglaise (VIIIe-XIIe siècle)', a modern day example is provided by the word 'environnement' in Florian Charvolin (2003), *L'invention de l'environnement en France. Chroniques anthropologiques d'une institutionnalisation*. For a general theory of macro-actors, see Cooren, *The Organizing Property of Communication*. In a different vein, Jean-Pierre Faye (1972), *Langages totalitaires* offers another way to take seriously the connecting power of specific statements. For the use of socio-linguistics tools, see Lorenza Mondada (2000), *Décrire la ville: La construction des savoirs urbains dans l'interaction et dans le texte*.

surface of a gem, a whole interpretation of the linkages between theology and politics.

These collecting statements are not rare and exotic cases. Think of what is achieved when an American proudly exclaims 'This is a free country!' or when a Frenchman retorts '*On est en République quand même!*' Consider how many positions are modified when the 'principle of precaution' is invoked by European bureaucrats against the more classical American definition of risk.³²³ Fathom what is triggered in a Middle Eastern audience when you speak of an 'Axis of Evil' or plead for 'an Islamic Enlightenment'. Collecting statements not only traces new connections but also offers new highly elaborated theories of what it is to connect.³²⁴ They perform the social in all practical ways. Such is the power of the 'justifications' analyzed by Boltanski and Thévenot: they have no size but they leave 'sizings', so to speak, in their wake since those expressions allow people to rank themselves as well as the objects in dispute. Every time an expression is used to justify one's action, they not only format the social but also provide a second order description of how the social worlds should be formatted.³²⁵ It's precisely because scale is not a fixed feature of the social that those collecting statements play such an important role. As soon as they are allowed to simply represent, reify, or objectify something else, for instance the social context behind them, their efficacy stops being visible. But as soon as they are taken again as so many standards circulating along tiny metrological chains, they clearly become the source of what we mean by being in a society. Without collecting statements, how could the collective be collected?

Mediators at last

Now that we understand how to navigate our way through the flattened landscape and how to pay our respects to the formatting power of the sociology of the social, the next step is as difficult as it is logical. The very metrological power of the social sciences is just what makes it

³²³ In his work on the expression 'precautionary principle' in European offices, see Jim Dratwa (2003), 'Taking Risks with the Precautionary Principle'.

³²⁴ A beautiful example of the connecting ability of arguments is provided in Michael Baxandall (1985), *Patterns of Intention. On The Historical Explanation Of Pictures*. Timothy Mitchell (2002), *Rule of Experts: Egypt, Techno-Politics, Modernity* provides one of the best cases of the richness of studying in addition to the collecting statement 'development' the formatting power of intellectual technologies.

³²⁵ Boltanski and Thévenot, *On Justification*. Boltanski's sociology is half Kantian philosophy and half a new attention toward collecting and circulating statements. There should be no difficulty in relocating the second and getting rid of the first.

difficult for them to encounter the social as associations. It's precisely because it is so good at calibrating and benchmarking *stabilized* definitions of the social that it finds so impractical the sizing up of newcomers that are constantly imported in the course of controversies. The better you are at defining the 'older' social, the worse you are at defining the 'new' one. The situation is exactly the same with the technical fields of metrology: they allow all the other laboratories to do science, but they are not themselves the sources of much discovery—even though they are quick to use any new fact to improve the accuracy of their instruments by a few more decimal places.³²⁶ Metrol-
ogy is no more the whole of science than the sociology of the social is the whole of sociology. The social that makes up society is only one part of the associations that make up the collective. If we want to reassemble the social, it's necessary, aside from the circulation and formatting of traditionally conceived social ties, to detect other circu-
lating entities.

This detection is made easier once we know that we should not confuse the already assembled social with the work of reassembling it, and once we learn how not to substitute the entities we are looking for with something made out of social stuff. By localizing the circulation, production, formatting, and metrology of the social inside tiny, expansive, and expensive conduits, we have already opened a space in which other types of entities may begin to circulate.

But if we wish to profit from this small 'window of opportunity', we have to modify the default setting of our inquiries. We should not state that 'when faced with an object, ignore its content and look for the social aspects surrounding it'. Rather, one should say that 'when faced with an object, attend first to the associations out of which it's made and only later look at how it has renewed the repertoire of social ties'. In other words, what we have to understand is why sociologists are so shy to meet the non-social entities that make up the social world, even though this wondrous encounter is a most common experience. It's as if we could not stand meeting face-to-face the puzzling phenomena that keep proliferating whenever we feel that collective life is breaking down. Why is it that when faced with religion, we tend to limit our inquiry to its 'social dimensions' and take as a scientific virtue *not* to study religion itself? When faced with science, why is our first reaction to politely stick to its 'social biases' and *not* to account for objectivity itself? Why is it that when inquiring about art we restrict ourselves only to 'what is social' in the appreciation of a masterpiece and not to

³²⁶ See Cochrane, *Measures for Progress*. Unfortunately, the amazing article by P. Hunter (1980), 'The National System of Scientific Measurement', to my knowledge, has not been updated.

the many other sources from which its worth could come from? When we study economics, why are we so hesitant at going to the heart of our attachments to goods and instead limit ourselves to 'the something sociological' that seems to 'embed' the purely rational calculations? And so on. It's as if our first reaction was to welcome associations only if they had first been covered in a coat made of social ties; as if we could never accept to talk with the original characters but only with the social forces that act as their proxies. In a period not known for its chastity, such prudishness is rather extraordinary: 'Hide, please hide, I can't bear to see those associations!' or 'Before entering the palace of social sciences please conceal yourself under the chador of social explanations.'

Although our most common encounter with society is to be over-loaded by new elements that are not themselves part of the social repertoire, why do we keep insisting that we should stick to the short list of its accepted members? Such a limitation made sense during the time of modernization. To mark a clean break with the past, it was logical to limit in advance society to a small number of *personae gratae*. But this doesn't mean that sociology should accept forever to be an object-less discipline, that is, a science *without object*. Respecting the formatting power of the sociology of the social is one thing, but it's another to restrict oneself to metrology and abandon the discovery of new phenomena. How could we call empirical a discipline that excises out of the data only those that can be packaged into 'social explanations'? It does not take much courage or imagination to see that, once modernism is put aside, such an attitude no longer makes moral, scientific, or political sense.

Consider for instance what would happen if we were approaching the study of religion while keeping the older default settings. Pious souls have an uncanny obstinacy to speak as if they were attached to spirits, divinities, voices, ghosts, and so on. All of those entities would have, of course, no existence at all in the observer's agenda since they would not pertain to the limited repertoire of agencies fixed at the onset. So what should we do with what the actors designate ceaselessly as 'real beings'? We would have to put scare quotes around them, bracket their existence out, and locate them firmly in the believer's mind. We would literally have to *invent a believer*.³²⁷ A first fanciful sphere would begin to develop. Now since those entities don't exist but are nonetheless 'taken as' being real, they have to come from the inside of one's spirit or brain.

³²⁷ That belief is a modernist institution coming from critique is one of the important aspects of the study of iconoclasm and of the whole repertoire of critical gestures. See Latour and Weibel, *Iconoclasm*.

But divinities, spirits, and voices live a rather cramped life inside the individual person's sphere. They are too precise, too technical, too innovative. They move too wildly and they obviously overflow the individual capacity of invention, imagination, and self-delusion. And besides, actors still insist they are made to do things by those real entities 'outside' of them! Ordinary persons don't want them to be just an object of belief and so those entities have to come from the outside after all. Does this mean that we have to accept their real existence? No, no, since they don't exist—that's supposedly the only 'sure fact' of the matter. What is the only reality which is outside the individual and which has the strength to sustain the existence of non-existing phenomena? The answer of course is society, the social made of social stuff. Here, a second even bigger sphere would begin to develop out of our own studies: the non-existing social stuff in charge of maintaining the existence of non-existing entities that populate the narrow mind of deluded members. And all of that would be in the name of good science and serious scholarship! All the while, ordinary folks would keep insisting that they are made to act by real entities *outside* of themselves.

But any science has to invent risky and artificial devices to make the observer sensitive to new types of connections. Is it not obvious that it makes no empirical sense to refuse to meet the agencies that make people do things? Why not take seriously what members are obstinately saying? Why not follow the direction indicated by their finger when they designate what 'makes them act'? A (surely fake) Chinese proverb says that 'When the wise man shows the moon, the moron looks at the finger'. I find it impossible to accept that social sciences could be so debased as to create entire disciplines to make scholars moronic. Why not say that in religion what counts are the beings that make people act, just as every believer has always insisted?³²⁸ That would be more empirical, perhaps more scientific, more respectful, and much more economical than the invention of two impossible non-existing sites: one where the mind of the believer and the social reality are hidden behind illusions propped up by even more illusions. Besides, what is so scientific in the notion of 'belief'?

If such a default setting is accepted—look at the object first and only later at the standardized social—there is of course a catch. I am not deluded enough to believe that ANT could escape the fate of all theories: to think is not to solve arduous problems, only to displace them. For such an encounter with objects to take place, other circulating entities have to be granted back some rights of citizenry, so that they, too, can have a seat with the older members. But aren't sociologists of

³²⁸ Claverie, *Les Guerres de la Vierge*.

the social proud of having dissolved all those exotic objects? Do we really have to bring back the gods when talking of religion, masterpieces when analyzing art, and objective facts when studying science? Is this not exactly the obstacle that social science is proud of having left behind? By invoking the existence of non-social circulating entities, is this not taking the most reactionary, backward, and archaic move possible? This is where the Ant wins or loses. Can we anticipate a social science *that takes seriously the beings that make people act?* Can sociology become *empirical* in the sense of respecting the strange nature of what is 'given into experience', as zoologists do with their zoos and botanists with their herbariums? Can we trace social connections shifting from one non-social being to the next, instead of replacing all entities populating the world by some ersatz made of social stuff? Even simpler: can social science have a *real object* to study?

Before answering emphatically 'no', consider for a minute what it would do to the sensitivity of our instruments were we to change the default setting and consider objects first, rather than beat around the bush in search of social explanations. Then, compare it with the ways in which religion was mishandled in the example just mentioned. Take works of art, for instance.³²⁹ Apart from religion, no other domain has been more bulldozed to death by critical sociology than the sociology of art. Every sculpture, painting, *haute cuisine* dish, techno rave, and novel has been explained to nothingness by the social factors 'hidden behind' them. Through some inversion of Plato's allegory of the Cave, all the objects people have learned to cherish have been replaced by puppets projecting social shadows which are supposed to be the only 'true reality' that is 'behind' the appreciation of the work of art. Nowhere has social explanation played more the role of a negative King Midas transforming gold, silver, and diamonds into dust. And yet, as one sees in religion, if you are listening to what people are saying, they will explain at length how and why they are deeply *attached, moved, affected* by the works of art which 'make them' feel things. Impossible! Forbidden! To be affected is supposed to be mere affectation.³³⁰ So what should we do if we keep the old setting? Well, here again, as for religion, science, and politics, people are made to delude themselves by the 'scientific' grasp of social science: they are transmogrified, once more, into believers! And here again, as always, some people, infuriated by the barbarous irreverence of 'social explanations', come forth and defend the 'inner sanctity' of the work of art against barbarians. And sadly—the slope is steep, the outcome

³²⁹ I have already shown in Part I what it did to the study of science.

³³⁰ I am following here Antoine Hennion (1993), *La passion musicale: Une sociologie de la médiation.*

inevitable—we end up swinging gently between ‘internalism’ and ‘externalism’, esthetic and social explanations, all the way back to kindergarten.

Of course, this is not what is empirically given because the beings to which we are attached via the mediation on the works of art, if they never resemble the social of sociologists, *never look* like the insulated ‘object’ of esthetics with its ‘inner core’ of ‘ineffable beauty’. While in the old paradigm you had to have a zero-sum game—everything lost by the work of art was gained by the social, everything lost by the social had to be gained by the ‘inner quality’ of the work of art—in the new paradigm you are allowed a win/win situation: the more attachments the better.³³¹ Is this not the most common experience? You watch a painting; a friend of yours points out a feature you had not noticed; you are thus *made to see* something. Who is seeing it? You, of course. And yet, wouldn’t you freely acknowledge that you would have not seen it *without* your friend. So who has seen the delicate feature? Is it you or your friend? The question is absurd. Who would be silly enough to *deduct* from the total sum of action the influence of pointing something out? The more influence, the better. And if you are allowed progressively to influence the quality of the varnish, the procedures of the art market, the puzzles of the narrative programs, the successive tastes of collectors making up a long retinue of mediators, then the ‘inner’ quality of the work will not diminish but, on the contrary, be reinforced.³³² The more ‘affluence’, the better.³³³ It is counterintuitive to try and distinguish ‘what comes from viewers’ and ‘what comes from the object’ when the obvious response is to ‘go with the flow’. Object and subject might exist, but everything interesting happens upstream and downstream. Just follow the flow. Yes, follow the actors themselves or rather that which makes them act, namely the circulating entities.

In the pre-relativist definition of the social, what had been brought to the foreground was the human participant and then, through a sharp discontinuity, the social world of beyond. Nothing was allowed to encounter humans unless it was made of social ties. Such was the etiquette of this odd diplomacy. In the new definition it’s just the opposite: human members and social context have been put

³³¹ See Antoine Hennion and Geneviève Teil (2003), ‘Le goût du vin: Pour une socio-logie de l’attention’ and Joseph Leo Koerner (2004), *The Reformation of the Image*.

³³² The treatment of masterpieces by some art historians, see Svetlana Alpers (1988), *Rembrandt’s Enterprise: The Studio and the Market*, is an excellent model for treating the rest of the social, even for those who like Francis Haskell (1982), *Patrons and Painters: A Study in the Relations Between Italian Art and Society in the Age of the Baroque* don’t indulge in any explicit social theory whatsoever.

³³³ Neologism in Yaneva, ‘L’affluence des objets’.

into the background; what gets highlighted now are all the mediators whose proliferation generates, among many other entities, what could be called quasi-objects and quasi-subjects. To take up and reverse the rather unfortunate astronomical simile rendered even shakier by Kant's use of it, instead of objects turning around social aggregates as in the pre-Copernican sociology, various social aggregates are emanating out of the many attachments which now occupy the center of the social universe. No matter how hesitant the metaphor, it is such a shift in perspective that ANT is looking for. Things, quasi-objects, and attachments are the real center of the social world, not the agent, person, member, or participant—nor is it society or its avatars. Is this not a better way, to use another of Kant's expressions, of rendering sociology able at last to 'walk onto the sure path of science'? 3074e041b11

The reader might remember that in the very first pages of this book, when I had to define as sharply as possible the difference between sociology of the social and sociology of associations, I had to say, following Tarde, that the first had simply confused the *explanans* with the *explanandum*: society is the consequence of associations and not their cause. At the time, this trenchant distinction could not be very convincing because it simply reversed the direction of causal efficacy. I might now be in a position to offer a more precise definition: there are many other ways to retrace the entire social world than the narrow definition provided by standardized social ties.

I could of course maintain the simplified argument and claim, for instance, that it's not science that is explained by social factors, but scientific *content* that explains the shape of its *context*; that it's not social power that explains law, but legal practice that defines what it is to be *bound*; that it's not technology that is 'socially shaped', but rather techniques that grant extension and durability to social *ties*; that it's not social relations that 'embed' economical calculations, but economists' calculations that provide actors with the competence to behave in an economic way, and so on. Although every one of these inversions would be right in terms of ANT, they would remain partial because I have kept the two positions of what explains and what should be explained intact, simply substituting one for the other. In this first formulation it's not the social that accounts for associations but rather associations that explain the social.

But now that we are getting used to traveling in the new flatland, the two positions themselves have vanished together with the very urge for a social explanation that would appeal to the stock of already stabilized social ties: social is not a place, a thing, a domain, or a kind of stuff but a provisional movement of new associations. This change of topography allows for the same ANT argument to be now presented in a more interesting light, offering, so to speak, landing

strips for other entities to enter the collective, entities just as complete, ubiquitous, respectable, and empirical as the social of sociologists but not as thoroughly followed by them.

It's not only that law, for instance, is unexplainable by the influence social forces exert over it; and it's not even true to say that law has to explain in turn what society is, since there is no society to be explained. Law has much better things to do: one of them is to circulate throughout the landscape to associate entities *in a legal way*. Science cannot of course be explained by its social context, but nor does it really have to be used in order to explain the ingredients of social relations. It, too, has much better things to do: one of them is to circulate throughout, tying entities together *in a scientific way*. Although it would be pretty empty to explain religion as a fanciful embodiment of society, doing the reverse would be only slightly better because religion does not even aim at explaining the shape of society either. It, too, has much more potent things to do, namely gathering all the same entities as law and science did but tying them together *in a religious way*. Since explaining politics by power and domination is a moot point, there would be no sense either in simply reversing the argument, since politics has a much more important task to fulfill, namely to trace again and again the paradoxical shape of the body politic in *a political way*. And the same could be said of many other types of *connectors* which are now center stage because it is their displacements that trace social connections—an expression that, as we know, does not mean 'connections made of social', but new associations between non-social elements.

Now comes the tricky part as here comes the straw that breaks the camel's back: displacement yes, but *of what?* What does it mean to speak of legal, religious, scientific, technical, economical, and political 'ways' of associating? And how could this be comparable with the traces left by the calibrated definitions of social ties? This is where the simile of the Copernican revolution is but a meek understatement; this is where the real rupture is going to occur with any sort of 'social' science if we don't modify for good the meaning of this adjective—and this is where the few readers I have managed to keep until now may well abandon the theory for good.³³⁴ To understand what I take to be the ultimate goal of ANT, we have to let out of their cages entities which had been strictly forbidden to enter the scene until now and

³³⁴ This is also the place where I have to part company finally with Tarde, who never thought it necessary to differentiate the types of threads with which he was weaving his definition of the social world. In this sense, Tarde maintained a substantive and not a relativist definition of sociology.

allow them to roam in the world again.³³⁵ What name could I give them? Entities, beings, objects, things, perhaps refer to them as invisibles.³³⁶ To deploy the different ways in which they assemble the collective would require an entirely different book, but fortunately I don't need to make the point positively, only to indicate the direction and explain why we keep minimizing our chances of being 'objective' when we stick too long to the sociology of the social.

I might have used the relativity metaphor too often but the parallel is striking: abandoning social explanation is like abandoning the ether; nothing is lost except an artifact that made impossible the development of a science by forcing observers to invent entities with contradictory features, blinding them to the real ones. What I see as the major advantage of the odd move I propose is that it allows social scientists to get an empirical grasp on what all members actually do.³³⁷ Once social explanations are relocated into the making and dissemination of standards, the other beings that gather the collective in their own ways may be emphasized at last. No pious soul ever accepted to be merely a believer, so why act as if belief was the only way to 'explain' religion? No amateur ever alternated between 'subjectivity' and 'objectivity', so why force the whole sociology of art into this artificial quandary? No engineer ever distinguished the assembly of people and the assemblage of parts, so why explain things as if society and technology had to be kept separate? No laboratory scientist was ever confronted with an object 'out there' independently of the work to 'make it visible', so why act as if the alternative between 'realism' and 'constructivism' was interesting? No politician was ever confronted with mere domination, so why pretend that the distinction between formal procedures and real social forces was important? If the word 'empirical' means 'faithful to experience', then is this not a way to respect what is given in the most common encounters with the social?

Mediators have finally told us their real names: 'We are beings out there that gather and assemble the collective just as extensively as what you have called so far the social, limiting yourselves to only one standardized version of the assemblages; if you want to follow the actors themselves, you have to follow us as well.' When you begin addressing mediators that scrupulously, you realize that very few of them are content with the ontological repertoire granted by the two former collectors of society and nature. Law, science, religion, economies, psyches, moralities, politics, and organizations might all have

³³⁵ It's possible that such a move is beyond the reach of social science and that it leads to philosophy. But I have learned from Mol that 'empirical philosophy' might be another way to do social science.

³³⁶ If I was accused of positivism in rejecting every hidden force (see the second source of uncertainty, p. 43), I hope it's now clear that it was only a momentary impression.

their own modes of existence, their own circulations. The plurality of inhabited worlds might be a farfetched hypothesis but the plurality of regimes of existence in our own world, well that's a *datum*.³³⁷ Is there any reason why sociology should keep ignoring it?³³⁸

The problem is that the social sciences have never dared to really be empirical because they believed that they simultaneously had to engage in the task of modernization. Every time some enquiry began in earnest, it was interrupted midway by the urge to gain some sort of relevance. This is why it's so important to keep separate what I earlier called the three different tasks of the social sciences: the deployment of controversies, the stabilization of those controversies, and the search for political leverage. But before we take up this last question of political epistemology, I have to point out another puzzling feature³³⁹ that is the reason for writing this introduction. Contrary to all the other 'clamps' I managed to put in place, this one will break the continuity of the networks, the *terra firma* of traces and documents. This one will lead us back to the sea, the sea of our common ignorance.

Plasma: the missing masses

What a great relief it is to discover that we are not 'in' society—no more than we are 'in' nature. The social is not like a vast impalpable horizon in which every one of our gestures is embedded; society is not omnipresent, omniscient, ubiquitous, watching every one of our moves, sounding every one of our most secret thoughts like the omnipotent God of older catechisms. When we accept to draw the flattened landscape for which I offered a list of props, tricks, grids, and clamps, the social—at least that part that is calibrated, stabilized, and standardized—is made to circulate inside tiny conduits that can expand only through more instruments, spending, and channels. The total, that is the systematic or structural, is not ignored but rather carefully situated inside one of the many Omnimax theaters offering complete panoramas of society—and we now know that the more thrilling the impression, the more enclosed the room has to be. Society is not the whole 'in which' everything is embedded, but what travels 'through' everything, calibrating connections and offering every

³³⁷ This is what renders so interesting a philosophy such as that of Etienne Souriau (1943), *Les différents modes d'existence*. To define and explore them is my next project, which I call an inquiry into regimes of enunciation.

³³⁸ Luhmann's masterly attempt at respecting the differences through the notion of autonomous spheres was unfortunately wasted because he insisted in describing all the spheres through the common meta-language borrowed from a simplified version of biology.

entity it reaches some possibility of commensurability. We should now learn to 'hook up' social channels like we do cable for our televisions. Society does not cover the whole any more than the World Wide Web is really worldwide.

But then the next question is so simple, the step forward so inevitable, the consequence so logical to draw that I am sure every reader has already anticipated this last aspect. If it is true, as ANT claims, that the social landscape possesses such a flat 'networky' topography and that the ingredients making up society travel inside tiny conduits, *what is in between* the meshes of such a circuitry? This is why, no matter its many defects, the net metaphor remains so powerful. Contrary to substance, surface, domain, and spheres that fill every centimeter of what they bind and delineate, nets,⁵ networks,⁵ and 'worknets'⁴ leave everything they don't connect simply *unconnected*. Is not a net made up, first and foremost, of empty spaces? As soon as something as big and encompassing as the 'social context' is made to travel throughout the landscape much like a subway or gas pipes, the inescapable question is: What sort of stuff is it that does *not* get touched by or is *not* hooked up on those narrow sort of circulations? Once this question is raised, it's as if a vertiginous reversal of background and foreground had taken place. Once the whole social world is relocated inside its metrological chains, an immense new landscape jumps into view. If knowledge of the social is limited to the termite galleries in which we have been traveling, what do we know about what is *outside*? Not much.

In a way, this is the consequence of taking formalism materially. If formalism doesn't offer a complete description of itself, this means that in order to complete any act of formalism you need to *add something* that is coming from elsewhere and which, by definition, is not itself formal. This is Wittgenstein's greatest lesson: what it takes to follow rules is not itself describable by rules. As usual, it's Garfinkel who offers the starker definition of the 'outside' to which we should appeal in order to complete any course of action: 'The domain of things that escape from FA [Formal analytic] accountability is astronomically massive in size and range.'³³⁹ Even though he did not realize the true importance of standardization, Garfinkel's metaphor is not an exaggeration: the ratio of what we have formatted to what we ignore is indeed astronomical. The social as normally construed is but a few specks compared to the number of associations needed to carry out even the smallest gesture.

³³⁹ Garfinkel, *Ethnomethodology's Program*, p. 104.

You find this same bewilderment in many different schools of social theory: *action doesn't add up*. For instance, it's the great virtue, not to say the charm, of Howie Becker's accounts of social practices. If his descriptions remain always incomplete, open-ended, hesitant, if they begin midway and stop for no special reason, this is not a weakness on his part but the result of his extreme attention to the vagaries of experience.³⁴⁰ To learn a tune, to coordinate a band, you need to fathom a large number of unlearned, uncoordinated fragments of action. This is also the reason, to take a different school of thought, why Thévenot has to multiply the different regimes of action so as to simply begin to cover the simplest behavior. As soon as a non-formal description of formalism has to be given, every thinker becomes another Zeno, multiplying the intermediary steps *ad infinitum*.³⁴¹ It's also why Law, when trying to define his ANT perspective, insists that 'the alternative metaphysics assumes out-thereness to be overwhelming, excessive, energetic, a set of undecided potentialities, and an ultimately undecidable flux'.³⁴²

But it is Tarde, not surprisingly, who offered the most radical insights about the background necessary for every activity to emerge.³⁴³ This is the consequence of his interpretation of the links between the big and the small that I have already used in the previous chapters. The big (states, organizations, markets) is an amplification but also a *simplification* of the small. Only Tarde could reverse common sense that much in quietly stating that: 'So, too, there is generally more logic in a phrase than in a discourse, and more in a single discourse than in a succession or group of discourses; there is more in one special rite than in a whole religion, in one point of law than in a whole legal code, in one particular scientific theory than in the whole body of science; and there is more in a single piece of work executed by one workman than in the sum total of his performances.'³⁴⁴ With this principle we should not consider that the macro encompasses the micro, but that the micro is made of a proliferation of incommensurable entities—what he calls 'monads'—which are simply lending one of their aspects, a 'façade of themselves', to make up a provisional whole. The small holds the big. Or rather the big could at any moment drown again in the small from which it emerged and to which it will return. Whatever the expression, it seems that no understanding of the social can be provided if you don't turn your attention to another range of

³⁴⁰ See Howard Becker (1991), *Outsiders: studies in the sociology of deviance* and Becker, *Art Worlds*.

³⁴¹ Law, *After Method*, p. 144.

³⁴² Tarde, *Psychologie économique*, p. 220.

³⁴³ Tarde, *Social Laws*, p. 76.

unformatted phenomena. It's as if at some point you had to leave the solid land and go to sea.³⁴⁴

I call this background *plasma*, namely that which is not yet formatted, not yet measured, not yet socialized, not yet engaged in metrological chains, and not yet covered, surveyed, mobilized, or subjectified.³⁴⁵ How big is it? Take a map of London and imagine that the social world visited so far occupies no more room than the subway. The plasma would be the rest of London, all its buildings, inhabitants, climates, plants, cats, palaces, horse guards. Yes, Garfinkel is right, 'it's astronomically massive in size and range'.

Once we recognize the extent of this plasma, we may relocate to the right place the two opposite intuitions of positivist and interpretative sociologies: yes, we have to turn our attention to the outside to make sense of any course of action; and yes, there is an indefinite flexibility in the interpretations of those courses. But the outside is not made of social stuff—just the opposite—and interpretation is not a characteristic of individualized human agents—just the opposite.

To interpret some behavior we have to add something, but this does not mean that we have to look for a social framework. Of course, sociologists were right to look for some 'outside', except this one does not resemble at all what they expected since it is entirely devoid of any trace of calibrated social inhabitant. They were right to look for 'something hidden behind', but it's neither behind nor especially hidden. It's *in between* and not made of social stuff. It is not hidden, simply *unknown*. It resembles a vast hinterland providing the resources for every single course of action to be fulfilled, much like the countryside for an urban dweller, much like the missing masses for a cosmologist trying to balance out the weight of the universe.

To interpret some behavior we have indeed to be prepared for many different versions, but this doesn't mean that we have to turn to local interactions. At many points in this book I have criticized phenomenologists, and perhaps also humanists, for believing that face-to-face interactions, individual agents, and purposeful persons provided a more realist and lively locus than what they called the vain abstractions of society. Although they were right in insisting on uncertainties, they have misplaced their sources. It's not that purposeful humans, intentional persons, and individual souls are the only interpretative agents in a world of matters of fact devoid of any meaning by itself.

³⁴⁴ Sloterdijk with his philosophy of explicitation of the envelopes in which we are all folded—although very different from the metaphorical circulation of network—offers a powerful new description of what is always missing from any account.

³⁴⁵ See Emmanuel Didier (2001), 'De l'échantillon à la population: Sociologie de la généralisation par sondage aux Etats-Unis' for a remarkable example of plasma before it has been turned into numbers.

What is meant by interpretations, flexibility, and fluidity is simply a way to register the vast outside to which every course of action has to appeal in order to be carried out. This is not true for just human actions, but for every activity. Hermeneutics is not a privilege of humans but, so to speak, a property of the world itself. The world is not a solid continent of facts sprinkled by a few lakes of uncertainties, but a vast ocean of uncertainties speckled by a few islands of calibrated and stabilized forms.

Do we really know that little? We know even less. Paradoxically, this ‘astronomical’ ignorance explains a lot of things. Why do fierce armies disappear in a week? Why do whole empires like the Soviet one vanish in a few months? Why do companies who cover the world go bankrupt after their next quarterly report? Why do the same companies, in less than two semesters, jump from being deep in the red to showing a massive profit? Why is it that quiet citizens turn into revolutionary crowds or that grim mass rallies break down into a joyous crowd of free citizens? Why is it that some dull individual is suddenly moved into action by an obscure piece of news? Why is it that such a stale academic musician is suddenly seized by the most daring rhythms? Generals, editorialists, managers, observers, moralists often say that those sudden changes have a soft impalpable liquid quality about them. That’s exactly the etymology of plasma.³⁴⁶ This does not mean that the solid architecture of society is crumbling behind, that the Great Leviathan has feet of clay, but that society and the Leviathan circulate inside such narrow canals that in order to be activated they have to rely on an unaccounted number of ingredients coming from the plasma around them. So far I have insisted too much on continuity, which is achieved through traceable connections that have always to be considered against a much vaster backdrop of discontinuities. Or to put it another way, a sociology has to emerge whose contradictory intuitions have to be maintained: it is hard and soft at the same time. We have to be able to consider both the formidable inertia of social structures and the incredible fluidity that maintains their existence: the latter is the real milieu that allows the former to circulate.

To every action I have described so far, you have to add an immense repertoire of missing *masses*. They are needed to balance the accounts, but they are *missing*. The good news is that social paraphernalia do not occupy much space; the bad news is that we don’t know much about this outside. And yet there exists a reserve, a reserve army, an immense territory—except it’s neither a territory nor an army—for every formatted, localized, continuous, accountable action to be carried out in.

³⁴⁶ See the index in Cassin, *L'effet sophistique*.

It might be understood now why I have been so obstinate in criticizing the social of sociologists because it was a package not easily opened for inspection. If I have insisted a lot on not confusing the social as society with the social as association, it was to be able in the end to mobilize this reserve. How could any political action be possible if it couldn't draw on the potentials lying in wait?

The laws of the social world may exist, but they occupy a very different position from what the tradition had first thought. They are not *behind* the scene, *above* our heads and *before* the action, but *after* the action, *below* the participants and smack in the *foreground*. They don't cover, nor encompass, nor gather, nor explain; they circulate, they format, they standardize, they coordinate, they have to be explained. There is no society, or rather, society is not the name of the whole terrain. Thus we may start all over again and begin exploring the vast landscape where the social sciences have so far only established a few tiny bridgeheads. For sociology the era of exploration may start again, provided we keep reminding ourselves of this motto: *don't fill in the blanks*. Why should we be impatient with this discipline? Sociology is a new science that was born last in a large family of many older brothers and sisters. It's comprehensible that it tried at first to emulate their successes by imitating their definition of science and of the social. It takes time to discover one's own way.