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To the doctoral students I had the good fortune of accompanying through some of their travails.
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This book has passed through many avatars. It began almost thirty years ago when I had the chance of being taught primate sociology by Shirley Strum and her baboons in Kenya. Although that project with Shirley has remained in limbo, it has been the staple of my teaching of sociology to young engineers at the School of Mines in Paris. When, in 1996, I was offered to give the Leclerc lectures in Louvain-la-Neuve, I decided it was about time to synthesize what I had learned from Michel Callon, John Law, Madeleine Akrich, Andy Barry, Annemarie Mol, Antoine Hennion, and many others in what had become known as ‘Actor-Network-Theory’. Time and again, I have found that readers were puzzled not so much by our views on scientific practice and various other topics, but rather by the unusual meaning we gave to the words ‘social’ and ‘social explanations’. And yet, this alternative social theory has never been the object of a systematic introduction. Instead of complaining that this small school of thought had become a monster that had escaped its Frankensteinian makers, I decided it might be fairer to present interested readers with its intellectual architecture.

It was only in 1999, when Barbara Czarniawska asked me to give a crash course in social theory ‘compatible with the needs of organization studies’, that I began to write down a complete draft. Although the present text has not made use of the transcript Barbara had so kindly arranged for, I owe much to her and to her Göteborg students for the organization of the material that, in addition, had been rehearsed at the London School of Economics in the Department of Information Systems in the winters of 1999, 2000 and 2001. When my old friend Steve Woolgar, through the auspices of the Said Business School, asked me to give the Clarendon Lectures in the fall of 2002, I wrote another draft which has since been discussed in varying degrees of detail by Andrew Barry, Howie Becker, Geof Bowker, François Cooren, Didier Debaise, Gerard de Vries, Emilie Gomart, Fabian Muniesa, Noortje Marres, Shirley Strum, Albena Yaneva, Benedikte Zitouni, and Edgar Whitley that has resulted in this new version. Finally, it was submitted to a second round of critiques by Michael Flower, Jean-Toussaint Leca, Michael Lynch, Paolo Quattrone, Isabelle Stengers and Eduardo Vargas. I wish I could say that all remaining defects are theirs and not mine.
My greatest debt goes, however, to the doctoral students who have participated over the years in my ‘thesis-writing workshops’. In a discipline in which I have never been trained but to which I have never despaired of contributing, they have been my best and most patient teachers.

I hope that such a protracted and idiosyncratic genesis goes some way toward explaining the opinionated nature of this piece of work. Now that this alternative social theory has been presented in an orderly fashion, readers can decide to put it to use, to distort it beyond recognition, or, most likely, to drop it altogether—but this time knowingly! As for me, I have finally discovered in writing this book the conditions under which I could be proud of being called a sociologist.

Introduction: How to Resume the Task of Tracing Associations*

The argument of this book can be stated very simply: when social scientists add the adjective ‘social’ to some phenomenon, they designate a stabilized state of affairs, a bundle of ties that, later, may be mobilized to account for some other phenomenon. There is nothing wrong with this use of the word as long as it designates what is already assembled together, without making any superfluous assumption about the nature of what is assembled. Problems arise, however, when ‘social’ begins to mean a type of material, as if the adjective was roughly comparable to other terms like ‘wooden’, ‘steely’, ‘biological’, ‘economical’, ‘mental’, ‘organizational’, or ‘linguistic’. At that point, the meaning of the word breaks down since it now designates two entirely different things: first, a movement during a process of assembling; and second, a specific type of ingredient that is supposed to differ from other materials.

What I want to do in the present work is to show why the social cannot be construed as a kind of material or domain and to dispute the project of providing a ‘social explanation’ of some other state of affairs. Although this earlier project has been productive and probably necessary in the past, it has largely stopped being so thanks in part to the success of the social sciences. At the present stage of their development, it’s no longer possible to inspect the precise ingredients that are entering into the composition of the social domain. What I want to do is to redefine the notion of social by going back to its original meaning and making it able to trace connections again. Then it will be possible to resume the traditional goal of the social sciences but

* A shortened reference format is used in the notes; the complete bibliography is at the end. This somewhat austere book can be read in parallel with the much lighter Bruno Latour and Emile Hermant (1998), Paris ville invisible, which tries to cover much of the same ground through a succession of photographic essays. It's available online in English (Paris the Invisible City) at http://bruno.latour.name.
with tools better adjusted to the task. After having done extensive work on the ‘assemblages’ of nature, I believe it’s necessary to scrutinize more thoroughly the exact content of what is ‘assembled’ under the umbrella of a society. This seems to me the only way to be faithful to the old duties of sociology, this ‘science of the living together’.

Such a project entails, however, a redefinition of what is commonly understood by that discipline. Translated from both the Latin and Greek, ‘sociology’ means the ‘science of the social’. The expression would be excellent except for two drawbacks, namely the word ‘social’ and the word ‘science’. The virtues that we are prepared nowadays to grant the scientific and technical enterprises bear little relation with what the founders of the social sciences had in mind when they invented their disciplines. When modernizing was in full swing, science was a rather powerful urge to be prolonged indefinitely without any misgivings to slow its progress down. They had no idea that its extension could render it almost coextensive with the rest of social intercourse. What they meant by ‘society’ has undergone a transformation no less radical, which is thanks in large part to the very expansion of the products of science and technology. It is no longer clear whether there exists relations that are specific enough to be called ‘social’ and that could be grouped together in making up a special domain that could function as ‘a society’. The social seems to be diluted everywhere and yet nowhere in particular. So, neither science nor society has remained stable enough to deliver the promises of a strong ‘socio-logy’.

In spite of this double metamorphosis, few social scientists have drawn the extreme conclusion that the object as well as the methodology of the social sciences should be modified accordingly. After having been so often disappointed, they still hope to reach one day the promised land of a true science of a real social world. No scholars are more aware of this painful hesitation than those who, like me, have spent many years practicing this oxymoron: ‘sociology of science’. Because of the many paradoxes triggered by this lively but more than slightly perverse subfield and the numerous changes in the meaning of ‘science’, I think time has come to modify what is meant by ‘social’. I therefore wish to devise an alternative definition for ‘sociology’ while still retaining this useful label and remaining faithful, I hope, to its traditional calling.

What is a society? What does the word ‘social’ mean? Why are some activities said to have a ‘social dimension’? How can one demonstrate the presence of ‘social factors’ at work? When is a study of society, or other social aggregates, a good study? How can the path of a society be altered? To answer these questions, two widely different approaches have been taken. Only one of them has become common sense—the other is the object of the present work.

The first solution has been to posit the existence of a specific sort of phenomenon variously called ‘society’, ‘social order’, ‘social practice’, ‘social dimension’, or ‘social structure’. For the last century during which social theories have been elaborated, it has been important to distinguish this domain of reality from other domains such as economics, geography, biology, psychology, law, science, and politics. A given trait was said to be ‘social’ or to ‘pertain to society’ when it could be defined as possessing specific properties, some negative—it must not be ‘purely’ biological, linguistic, economical, cultural—and some positive—it must achieve, reinforce, express, maintain, reproduce, or subvert the social order. Once this domain had been defined, no matter how vaguely, it could then be used to shed some light on specifically social phenomena—the social could explain the social—and to provide a certain type of explanation for what the other domains could not account for—an appeal to ‘social factors’ could explain the ‘social aspects’ of non-social phenomena.

For instance, although it is recognized that law has its own strength, some aspects of it would be better understood if a ‘social dimension’ were added to it; although economic forces unfold under their own logic, there also exists social elements which could explain the somewhat erratic behavior of calculative agents; although psychology develops according to its own inner drives, some of its more puzzling aspects can be said to pertain to ‘social influence’; although science possesses its own impetus, some features of its quest are necessarily ‘bound’ by the ‘social limitations’ of scientists who are ‘embedded’ in the social context of their time; although art is largely ‘autonomous’, it is also ‘influenced’ by social and political ‘considerations’ which could account for some aspects of its most famous masterpieces; and although the science of management obeys its own rules, it might be advisable to also consider ‘social, cultural, and political aspects’ that could explain why some sound organizational principles are never applied in practice.

Many other examples can easily be found since this version of social theory has become the default position of our mental software that takes into consideration the following: there exists a social ‘context’ in...
which non-social activities take place; it is a specific domain of reality; it can be used as a specific type of causality to account for the residual aspects that other domains (psychology, law, economics, etc.) cannot completely deal with; it is studied by specialized scholars called sociologists or socio-(x)→'x' being the placeholder for the various disciplines; since ordinary agents are always 'inside' a social world that encompasses them, they can at best be 'informants' about this world and, at worst, be blinded to its existence, whose full effect is only visible to the social scientist's more disciplined eyes; no matter how difficult it is to carry on those studies, it is possible for them to roughly imitate the successes of the natural sciences by being as objective as other scientists thanks to the use of quantitative tools; if this is impossible, then alternative methods should be devised that take into account the 'human', 'intentional', or 'hermeneutic' aspects of those domains without abandoning the ethos of science; and when social scientists are asked to give expert advice on social engineering or to accompany social change, some sort of political relevance might ensue from these studies, but only after sufficient knowledge has been accumulated.

This default position has become common sense not only for social scientists, but also for ordinary actors via newspapers, college education, party politics, bar conversations, love stories, fashion magazines, etc. The social sciences have disseminated their definition of society as effectively as utility companies deliver electricity and telephone services. Offering comments about the inevitable 'social dimension' of what we and others are doing 'in society' has become as familiar to us as using a mobile phone, ordering a beer, or invoking the Oedipus complex—at least in the developed world.

The other approach does not take for granted the basic tenet of the first. It claims that there is nothing specific to social order, that there is no social dimension at all, no 'social context', no distinct domain of reality to which the label 'social' or 'society' could be attributed; that no 'social force' is available to 'explain' the residual features other domains cannot account for; that members know very well what they are doing even if they don't articulate it to the satisfaction of the observers; that actors are never embedded in a social context and so are always much more than 'mere informants'; that there is thus no meaning in adding some 'social factors' to other scientific specialties; that political relevance obtained through a 'science of society' is not necessarily desirable; and that 'society', far from being the context 'in which' everything is framed, should rather be construed as one of the many connecting elements circulating inside tiny conduits. With some provocation, this second school of thought could use as its slogan what Mrs Thatcher famously exclaimed (but for very different reasons): 'There is no such a thing as a society.'

If they are so different, how could they both claim to be a science of the social and aspire to use the same label of 'sociology'? On the face of it, they should be simply incommensurable, since the second position takes as the major puzzle to be solved what the first takes as its solution, namely the existence of specific social ties revealing the hidden presence of some specific social forces. In the alternative view, 'social' is not some glue that could fix everything including what the other glues cannot fix; it is what is glued together by many other types of connectors. Whereas sociologists (or socio-economists, socio-linguists, social psychologists, etc.) take social aggregates as the given that could shed some light on residual aspects of economics, linguistics, psychology, management, and so on, these other scholars, on the contrary, consider social aggregates as what should be explained by the specific associations provided by economics, linguistics, psychology, law, management, etc.

The resemblance between the two approaches appears much greater, however, provided one bears in mind the etymology of the word 'social'. Even though most social scientists would prefer to call 'social' a homogeneous thing, it's perfectly acceptable to designate by the same word a trail of associations between heterogeneous elements. Since in both cases the word retains the same origin—from the Latin root socius—it is possible to remain faithful to the original intuitions of the social sciences by redefining sociology not as the 'science of the social', but as the tracing of associations. In this meaning of the adjective, social does not designate a thing among other things, like a black sheep among other white sheep, but a type of connection between things that are not themselves social.

At first, this definition seems absurd since it risks diluting sociology to mean any type of aggregate from chemical bonds to legal ties, from atomic forces to corporate bodies, from physiological to political assemblies. But this is precisely the point that this alternative branch of social theory wishes to make as all those heterogeneous elements might be assembled anew in some given state of affairs. Far from being a mind-boggling hypothesis, this is on the contrary the most common experience we have in encountering the puzzling face of the

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3 I will use the expression 'society or other social aggregates' to cover the range of solutions given to what I call below the 'first source of uncertainty' and that deals with the nature of social groups. I am not aiming especially here at the 'holist' definitions since, as we shall see, the 'individualist' or the 'biological' definitions are just as valid. See p. 27.
social. A new vaccine is being marketed, a new job description is offered, a new political movement is being created, a new planetary system is discovered, a new law is voted, a new catastrophe occurs. In each instance, we have to re-shuffle our conceptions of what was associated together because the previous definition has been made somewhat irrelevant. We are no longer sure about what 'we' means; we seem to be bound by 'ties' that don't look like regular social ties.

The ever shrinking meaning of social

There is a clear etymological trend in the successive variations of the 'social' word family (Strum and Latour 1987). It goes from the most general to the most superficial. The etymology of the word 'social' is also instructive. The root is sequ, sequi and the first meaning is 'to follow'. The Latin socius denotes a companion, an associate. From the different languages, the historical genealogy of the word 'social' is construed first as following someone, then enrolling and allying, and, lastly, having something in common. The next meaning of social is to have a share in a commercial undertaking. 'Social' as in the social contract is Rousseau's invention. 'Social' as in social problems, the social question, is a nineteenth-century innovation. Parallel words like 'sociable' refer to skills enabling individuals to live politely in society. As one can see from the drifting of the word, the meaning of social shrinks as time passes. Starting with a definition which is coextensive with all associations, we now have, in common parlance, a usage that is limited to what is left after politics, biology, economics, law, psychology, management, technology, etc., have taken their own parts of the associations.

Because of this constant shrinking of meaning (social contract, social question, social workers), we tend to limit the social to humans and modern societies, forgetting that the domain of the social is much more extensive than that. De Candolle was the first person to create scientometrics—the use of statistics to measure the activity of science—and, like his father, a plant sociologist (Candolle 1873/1987). For him corals, baboons, trees, bees, ants, and whales are also social. This extended meaning of social has been well recognized by socio-biology (Wilson 1975). Unfortunately, this enterprise has only confirmed social scientists' worst fears about extending the meaning of social. It's perfectly possible, however, to retain the extension without believing much in the very restricted definition of agency given to organisms in many socio-biological panoramas.

Thus, the overall project of what we are supposed to do together is thrown into doubt. The sense of belonging has entered a crisis. But to register this feeling of crisis and to follow these new connections, another notion of social has to be devised. It has to be much wider than what is usually called by that name, yet strictly limited to the tracing of new associations and to the designing of their assemblages. This is the reason why I am going to define the social not as a special domain, a specific realm, or a particular sort of thing, but only as a very peculiar movement of re-association and reassembling.

In such a view, law, for instance, should not be seen as what should be explained by 'social structure' in addition to its inner logic; on the contrary, its inner logic may explain some features of what makes an association last longer and extend wider. Without the ability of legal precedents to draw connections between a case and a general rule, what would we know about putting some matter 'into a larger context'? Science does not have to be replaced by its 'social framework', which is 'shaped by social forces' as well as its own objectivity, because its objects are themselves dislocating any given context through the foreign elements research laboratories are associating together in unpredictable ways. Those quarantined because of the SARS virus painfully learned that they could no longer 'associate' with parents and partners in the same way because of the mutation of this little bug whose existence has been revealed by the vast institution of epidemiology and virology. Religion does not have to be 'accounted for' by social forces because in its very definition—indeed, in its very name—it links together entities which are not part of the social order. Since the days of Antigone, everyone knows what it means to be put into motion by orders from gods that are irreducible to politicians like Creon. Organizations do not have to be placed into a 'wider social frame' since they themselves give a very practical meaning to what it means to be nested into a 'wider' set of affairs. After all, which air traveler would know the gate to go to without looking anxiously and repeatedly at the number printed on her boarding pass and circled in red by an airline attendant? It might be vacuous to reveal behind the superficial chats of politicians the 'dark hidden forces of society' at work, since without those very speeches a large part of what we understand to be part of a group will be lost. Without the contradictory

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5 Although the study of scientific practice has provided the main impetus for this alternative definition of the social, it will be tackled only later when the fourth uncertainty has been defined, see p. 87.
spiels of the warring parties in Iraq, who in the ‘occupied’ or ‘liberated’ Baghdad will know how to recognize friend from foe?

And the same is true for all other domains.\(^6\) Whereas, in the first approach, every activity—law, science, technology, religion, organization, politics, management, etc.—could be related to and explained by the same social aggregates behind all of them, in the second version of sociology there exists nothing behind those activities even though they might be linked in a way that does produce a society—or doesn’t produce one. Such is the crucial point of departure between the two versions. To be social is no longer a safe and unproblematic property. It is a movement that may fail to trace any new connection and may fail to redesign any well-formed assemblage. As we are going to learn throughout this book, after having rendered many useful services in an earlier period, what is called ‘social explanation’ has become a counter-productive way to interrupt the movement of associations instead of resuming it.

According to the second approach, adherents of the first have simply confused what they should explain with the explanation. They begin with society or other social aggregates, whereas one should end with them. They believed the social to be made essentially of social ties, whereas associations are made of ties which are themselves non-social. They imagined that sociology is limited to a specific domain, whereas sociologists should travel wherever new heterogeneous associations are made. They believed the social to be always already there at their disposal, whereas the social is not a type of thing either visible or to be postulated. It is visible only by the traces it leaves (under trials) when a new association is being produced between elements which themselves are in no way ‘social’. They insisted that we were already held by the force of some society when our political future resides in the task of deciding what binds us all together. In brief, the second school claims to resume the work of connection and collection that was abruptly interrupted by the first. It is to help the interested enquirers in reassembling the social that this book has been written.

In the course of the book we will learn to distinguish the standard sociology of the social from a more radical subfamily which I will call critical sociology.\(^7\) This last branch will be defined by the following three traits: it doesn’t only limit itself to the social but replaces the object to be studied by another matter made of social relations; it claims that this substitution is unbearable for the social actors who need to live under the illusion that there is something ‘other’ than social there; and it considers that the actors’ objections to their social explanations offer the best proof that those explanations are right.

To clarify, I will call the first approach ‘sociology of the social’ and the second ‘sociology of associations’ (I wish I could use ‘associology’). I know this is very unfair to the many nuances of the social sciences I have thus lumped together, but this is acceptable for an introduction which has to be very precise on the unfamiliar arguments it chooses to describe as it sketches the well-known terrain. I may be forgiven for this roughness because there exist many excellent introductions for the sociology of the social but none, to my knowledge, for this small subfield of social theory\(^8\) that has been called—by the way, what is it to be called? Alas, the historical name is ‘actor-network-theory’, a name that is so awkward, so confusing, so meaningless that it deserves to be kept. If the author, for instance, of a travel guide is free to propose new comments on the land he has chosen to present, he is certainly not free to change its most common name since the easiest signpost is the best—after all, the origin of the word ‘America’ is even more awkward. I was ready to drop this label for more elaborate ones like ‘sociology of translation’, ‘actant-rhizome ontology’, ‘sociology of innovation’, and so on, until someone pointed out to me that the acronym A.N.T. was perfectly fit for a blind, myopic, workaholic, trail-sniffing, and collective traveler. An ant writing for other ants, this fits my project very well\(^9\) ideally, the word sociology should work best, but it cannot be used before its two components—what is social and what is a science—have been somewhat revamped. As this book unfolds, I will use it more and more often though, reserving the expression ‘sociology of the social’ to designate the repertoire to which other social scientists, in my view, limit themselves too readily.

\(^6\) We will see only in Part II, p. 238, how to reformulate this opposition in a more subtle way than an inversion of cause and effect.

\(^7\) For the distinction between critical sociology and sociology of critique, see Luc Boltanski and Laurent Thévenot (forthcoming) On Justification; Luc Boltanski and Laurent Thévenot (1995), The Sociology of Critical Capacity; and especially Luc Boltanski (1990), L’Amour et la justice comme compétences. If I find it necessary to establish some continuity with the sociology of the social, I will have to be more confrontational with critical sociology and its ‘illusion of an illusion’.

\(^8\) A recent guide is presented in John Law (2004) After Method: Mess in Social Science Research, Andrew Barry (2001), Political Machines, Governing a Technological Society and Anne-Marie Melin (2003), The Body Multiple: Ontologies in Medical Practice (Science and Cultural Theory) may also be taken as a good introduction along with Bruno Latour (1996), Reassembling the Social: An Introduction to Complex Cultural Analysis.\(^9\) I have to apologize for taking the exact opposite position here as the one taken in Bruno Latour (1999a), ‘On Recalling ANT’. Whereas at the time I criticized all the elements of his horrendous expression, including the hyphen, I will now defend all of them, including the hyphen!
How to find one's way in the literature under the heading Actor-Network-Theory

Most of the relevant bibliography can be found on the excellent website 'the Actor Network Resource' maintained by John Law.\(^\text{10}\) The origin of this approach can be found in the need for a new social theory adjusted to science and technology studies (Callon and Latour 1981). But it started in earnest with three documents (Latour 1988b; Callon 1986; Law 1986b). It was at this point that non-humans—microbes, scallops, rocks, and ships—presented themselves to social theory in a new way. As I will explain on p. 87 when reviewing the fourth uncertainty, it was the first time for me that the objects of science and technology had become, so to speak, social-compatible. The philosophical foundation of this argument was presented in the second part of (Latour 1988a) although in a form that made it difficult to grasp.

Since then it has moved in many directions, being reviewed and criticized by many papers listed on Law’s website. Although there is no clear litmus test for ANT membership, some ad hoc and makeshift ones may be devised. Needless to say, this interpretation of ANT represents only my view. This book does not aim at a more collective presentation, only at a more systematic one. Here are some of the tests that I have found most useful.

One of them is the precise role granted to non-humans. They have to be actors (see the definition on p. 64) and not simply the hapless bearers of symbolic projection. But this activity should not be the type of agency associated up to now with matters of fact or natural objects. So if an account employs either a symbolic or a naturalist type of causality, there is no reason to include it in the ANT corpus even though it might claim to be. Conversely, any study that gives non-humans a type of agency that is more open than the traditional natural causality—but more efficient than the symbolic one—can be part of our corpus, even though some of the authors would not wish to be associated in any way with this approach. For instance, a biological book (Kupiec and Sonigo 2000) could pertain to ANT because of the new active role given to the gene.

Another test is to check which direction the explanation is going in. Is the list of what is social in the end the same limited repertoire that has been used to explain (away) most of the components? If the social remains stable and is used to explain a state of affairs, it’s not ANT. For instance, no matter how enlightening it has been for all of us, the Social Shaping of Technology (Bijker 1995) would not be part of the corpus since the social is kept stable all along and accounts for the shape of technological change. But McNeill (1976), although he is in no way an ANT author, would qualify for inclusion, since what is to be associated is being modified by the inclusion of rats, viruses, and microbes into the definition of what is to be 'collected' in an empire. In this way, a book like Cronon’s (1991) is certainly a masterpiece of ANT because no hidden social force is added to explain the progressive composition of the metropolis itself. The same would be true of the work done in distributed cognition (Hutchins 1995). This is also what has made much of the history of science and technology important for our program, and why sociology of art has been a continuous companion, especially through the influence of Henning (1993).

A third and more difficult test would be to check whether a study aims at reassembling the social or still insists on dispersion and deconstruction. ANT has been confused with a postmodern emphasis on the critique of the ‘Great narratives’ and ‘Eurocentric’ or ‘hegemonic’ standpoint. This is, however, a very misleading view. Dispersion, destruction, and deconstruction are not the goals to be achieved but what needs to be overcome. It’s much more important to check what are the new institutions, procedures, and concepts able to collect and to reconnect the social (Callon et al. 2001; Latour 2004b).

It’s true that in most situations resorting to the sociology of the social is not only reasonable but also indispensable, since it offers convenient shorthand to designate all the ingredients already accepted in the collective realm. It would be silly as well as pedantic to abstain from using notions like ‘IBM’, ‘France’, ‘Maori culture’, ‘upward mobility’, ‘totalitarianism’, ‘socialization’, ‘lower-middle class’, ‘political context’, ‘social capital’, ‘downsizing’, ‘social construction’, ‘individual agent’, ‘unconscious drives’, ‘peer pressure’, etc. But in situations where innovations proliferate, where group boundaries are uncertain, when the range of entities to be taken into account fluctuates, the sociology of the social is no longer able to trace actors’ new associations. At this point, the last thing to do would be to limit in advance the shape, size, heterogeneity, and combination of associations. To the convenient shorthand of the social, one has to substitute the painful and costly longhand of its associations. The duties of the social scientist mutate accordingly: it is no longer enough to limit actors to the role of informers offering cases of some well-known types. You have to grant them back the ability to make up their own theories of what the social is made of. Your task is no longer to impose some order, to limit...
the range of acceptable entities, to teach actors what they are, or to add some reflexivity to their blind practice. Using a slogan from ANT, you have 'to follow the actors themselves', that is to try to catch up with their often wild innovations in order to learn from them what the collective existence has become in their hands, which methods they have elaborated to make it fit together, which accounts could best define the new associations that they have been forced to establish. If the sociology of the social works fine with what has been already assembled, it does not work so well to collect anew the participants in what is not—not yet—a sort of social realm.

A more extreme way of relating the two schools is to borrow a somewhat tricky parallel from the history of physics and to say that the sociology of the social remains 'pre-relativist', while our sociology has to be fully 'relativist'. In most ordinary cases, for instance situations that change slowly, the pre-relativist framework is perfectly fine and any fixed frame of reference can register action without too much deformation. But as soon as things accelerate, innovations proliferate, and entities are multiplied, one then has an absolutist framework generating data that becomes hopelessly messed up. This is when a relativistic solution has to be devised in order to remain able to move between frames of reference and to regain some sort of commensurability between traces coming from frames traveling at very different speeds and acceleration. Since relativity theory is a well-known example of a major shift in our mental apparatus triggered by very basic questions, it can be used as a nice parallel for the ways in which the sociology of associations reverses and generalizes the sociology of the social.

In what follows I am not interested in refutation—proving that the other social theories are wrong—but in proposition. How far can one go by suspending the common sense hypothesis that the existence of a social realm offers a legitimate frame of reference for the social sciences? If physicists at the beginning of the previous century were able to do away with the common sense solution of an absolutely rigid and indefinitely plastic ether, can sociologists discover new traveling possibilities by abandoning the notion of a social substance as a 'superfluous hypothesis'? This position is so marginal, its chance of success so slim, that I see no reason to be fair and thorough with the perfectly reasonable alternatives that could, at any point, smash it into pieces. So, I will be opinionated and often partial in order to demonstrate clearly the contrast between the two viewpoints. In exchange for this breach of fairness, I will try to be as coherent as possible in drawing the most extreme conclusions from the position I have chosen to experiment with. My test will be to see how many new questions can be brought to light by sticking firmly, even blindly, to all the obligations that this new departure point is forcing us to obey. The final test will be to check, at the end of this book, if the sociology of associations has been able to take up the relay of the sociology of the social by following different types of new and more active connections, and if it has been able to inherit all that was legitimate in the ambition of a science of the social. As usual, the result of whether this has been successful or not will be up to the reader.

For those who like to trace a discipline to some venerable ancestor, it is worth noting that this distinction between two contrasted ways of understanding the duties of social science is nothing new. It was already in place at the very beginning of the discipline (at least in France) in the early dispute between the elder Gabriel Tarde and Emile Durkheim, the winner. Tarde always complained that Durkheim had abandoned the task of explaining society by confusing cause and effect, replacing the understanding of the social link with a political project aimed at social engineering. Against his younger challenger, he vigorously maintained that the social was not a special domain of reality but a principle of connections; that there was no reason to separate 'the social' from other associations like biological organisms or even atoms; that no break with philosophy, and especially metaphysics, was necessary in order to become a social science; that sociology was in effect a kind of inter-psychology; that the study of innovation, and especially science and technology, was the growth area of social theory; and that economics had to be remade from top to bottom instead of being used as a vague metaphor to describe the calculation of interests. Above all, he considered the social as a circulating fluid that should be followed by new methods and not a specific type of organism. We don't need to accept all of Tarde's idiosyncrasies—and there are many—but in the gallery of portraits of eminent predecessors he is one of the very few, along with Harold Garfinkel, who believed sociology could be a science accounting for how society is held together, instead of using society to explain something else or to help solve one of the political questions of the time. That Tarde was...
utterly defeated by sociologists of the social to the point of being squeezed into a ghostly existence for a century does not prove that he was wrong. On the contrary, it simply makes this book even more necessary. I am convinced that if sociology had inherited more from Tarde (not to mention Comte, Spencer, Durkheim, and Weber), it could have been an even more relevant discipline. It still has the resources to become so as we will see at the end of this book. The two traditions can easily be reconciled, the second being simply the resumption of the task that the first believed was too quickly achieved. The factors gathered in the past under the label of a 'social domain' are simply some of the elements to be assembled in the future in what I will call not a society but a collective.

Gabriel Tarde: An alternative precursor for an alternative social theory

Gabriel Tarde (1843–1904) was a judge and then a self-taught criminologist and became the predecessor of Bergson at the Collège de France.

A few quotes will give an idea of the strong contrast between the two lines of thought. Here is Tarde's definition of society:

'The idea that every thing is a society and that all things are societies. And therefore quite remarkable that science, by a logical sequence of its earlier movements, tends to strangely generalize the notion of society. It speaks of cellular societies, why not of atomic societies? Not to mention societies of stars, solar systems. All of the sciences seem fated to become branches of sociology.' (Tarde 1999: 58)

Most interestingly, Tarde was head of a statistical institute for many years and always believed simultaneously in monographs and quantitative data, but he disagreed with Durkheim on the type of quantum sociology had to trace.

Generalizing Leibniz's monads, but without a God, Tarde's projects reverses the link between micro and macro:

'In a multitude of forms, though on a smaller scale, the same error always comes to light, namely, the error of believing that, in order to see a gradual dawn of regularity, order, and logic in social phenomena, we must go outside of the details, which is essentially irregular, and rise high enough to obtain a panoramic view of the general effect; that the source and foundation of every social coordination is the same general fact from which it descends gradually to particular facts, though always diminishing in strength: in short, that man acts in accordance with a law of evolution guides him. I hold the contrary, in a certain sense.' (Tarde 1999/2000: 75)

This explains the radical opposition with Durkheim, a generation younger than Tarde:

'This conception is, in fact, almost the exact opposite of the unilinear evolutionists' notion and of M. Durkheim's. Instead of explaining everything by the supposed supremacy of a law of evolution, which compels collective phenomena to reproduce and repeat themselves indefinitely in a certain order rather than explaining lesser facts by greater, and the part by the whole—I explain collective resemblances of the whole by the massing together of minute elementary acts—the greater by the lesser and the whole by the part. This way of regarding phenomena is destined to produce a transformation in sociology similar to that brought about in mathematics by the introduction of infinitesimal calculus.' (Tarde 1895/1999: 35)

The reason why Tarde may pass for an early ancestor of ANT is that his best example of a social connection is always history and sociology of science:

'As regards the structure of science, probably the most imposing of human edifices, there is no possible question. It was built in the full light of history, and we can follow its development almost from the very outset down to our own day. Everything here originates in the individual, not only the material but the general design of the whole and the details as well. Everything, including what is now diffused among all educated minds and taught even in the primary school, began as the secret of some single mind, whence a little flame, faint and flickering, sent forth its rays, at first only within a narrow compass, and even there encountering many obstructions, but, growing brighter as it spread further, it at length became a brilliant illumination. Now, if it seems plainly evident that science was thus constructed, it is no less true that the construction of every dogma, legal code, government, or economic régime was effected in the same manner; and if any doubt be possible with respect to language and ethics, because the obscurity of their origin and the slowness of their transformations remove them from observation through the greater part of their course, is it not highly probable that their evolution followed the same path?' (Tarde 1895/1999: 84–5)

The entities that Tarde is dealing with are not people but innovations, quanta of change that have a life of their own:

'This is why any social production having some marked characteristics, be it an industrial good, a verse, a formula, a political idea which has appeared one day somewhere in the corner of a brain, dreams like Alexander of conquering the world, tries to multiply itself by thousands and millions of copies in every place where there exists human beings and will never stop except if it is kept in check by some rival production as ambitious as itself.' (Tarde 1895/1999: 96)

What is most useful for ANT is that Tarde does not make the social science break away from philosophy or even metaphysics:

'To exist is to differ; difference, in one sense, is the substantial side of things, what they have most in common and what makes them most different. One has to start from this difference and to abstain from trying
to explain it, especially by starting with identity, as so many persons wrongly do. Because identity is a minimum and, hence, a type of difference, and a very rare type at that, in the same way as rest is a type of movement and the circle a type of ellipse. To begin with some primordial identity implies at the origin a prodigiously unlikely singularity, or else the obscure mystery of one simple being then dividing for no special reason.’ (Tarde 1895/1999: 73)

This book on how to use ANT for reassembling social connections is organized in three parts corresponding to the three duties that the sociology of the social has conflated for reasons that are no longer justified:

1. How to deploy the many controversies about associations without restricting in advance the social to a specific domain?

2. How to render fully traceable the means allowing actors to stabilize those controversies?

3. Through which procedures is it possible to reassemble the social not in a society but in a collective?

In the first part, I will show why we should not limit in advance the sort of beings populating the social world. Social sciences have become much too timid in deploying the sheer complexity of the associations they have encountered. I will argue that it’s possible to feed, so to speak, off controversies and learn how to become good relativists—surely an indispensable preparation before venturing into new territory. In the second part, I will show how it’s possible to render social connections traceable by following the work done to stabilize the controversies followed in the first part. Borrowing a metaphor from cartography, I could say that ANT has tried to render the social world as flat as possible in order to ensure that the establishment of any new link is clearly visible. Finally, I will conclude by showing why the task of assembling the collective is worth pursuing, but only after the shortcut of society and ‘social explanation’ has been abandoned. If it’s true that the views of society offered by the sociologists of the social were mainly a way of insuring civil peace when modernism was under way, what sort of collective life and what sort of knowledge is to be gathered by sociologists of associations once moderniz-

14 I have left aside in this book the question of quantitative sociology not because I believe more in qualitative data, but because the very definition of which quantum tally is at stake in the different definitions of the social vector I am going to follow here.

15 The first instance of the words ‘sociology’ and ‘social sciences’ are found in the famous pamphlet Qu’est-ce que le Tiers-État? by Emmanuel Joseph Sieyès (1748-1836) to designate a fusion of all the ‘cultural sciences’ in an art of government, see Frédéric Audren (forthcoming), ‘Les juristes et les sociologues’.
Introduction to Part I:
Learning to Feed off Controversies

Like all sciences, sociology begins in wonder. The commotion might be registered in many different ways but it’s always the paradoxical presence of something at once invisible yet tangible, taken for granted yet surprising, mundane but of baffling subtlety that triggers a passionate attempt to tame the wild beast of the social. We live in groups that seem firmly entrenched, and yet how is it that they transform so rapidly? ‘We are made to do things by other agencies over which we have no control and that seem plain and mundane enough.’ ‘There is something invisible that weighs on all of us that is more solid than steel and yet so incredibly labile.’ ‘There exist forces that are strangely similar to those studied by natural scientists and yet distinctively different.’ ‘This puzzling mixture of obdurate resistance and perverse complexity seems wide opened to inquiry, and yet it defies all inquiries.’ It would be hard to find a social scientist not shaken by one or more of these bewildering statements. Are not these conundrums the source of our *libido scienti*? What pushes us to devote so much energy into unraveling them?

There is, however, an increasing distance between what triggers those successive shocks and the solutions that have been devised to explain them. I am going to argue in Part I that although the insights of sociology are correct, the solutions suggested by a shrinking definition of the social has in many ways adulterated what was productive and scientific in them. This is why I want to reexamine each of those successive questions and dissect them so that we can renew our definition of what is an association.

Faithful to relativist principles, instead of dividing the social domain as most textbooks of sociology usually do into a list of actors, methods, and domains *already* taken as members of the social realm, I have organized the first part of this work by types of controversies about what this universe is made of. I think it is possible to build upon the
major intuitions of the social sciences by examining five major uncertainties: the nature of groups: there exist many contradictory ways for actors to be given an identity; the nature of actions: in each course of action a great variety of agents seem to barge in and displace the original goals; the nature of objects: the type of agencies participating in interaction seems to remain wide open; the nature of facts: the links of natural sciences with the rest of society seems to be the source of continuous disputes; and, finally, about the type of studies done under the label of a science of the social as it is never clear in which precise sense social sciences can be said to be empirical.

What has made ANT so implausible is that before going anywhere those five uncertainties have to be piled on top of one another, with each new one making the former even more puzzling until some common sense is regained—but only at the end. Most users of ANT have so far had little patience to wait and I can’t blame them.

The reader will discover here a set of complicated instructions to make displacement more costly and more painful. The reason for this is that I want to break the habit of linking the notions of ‘society’, ‘social factor’, and ‘social explanation’ with a sudden acceleration in the description. When sociologists of the social pronounce the words ‘society’, ‘power’, ‘structure’, and ‘context’, they often jump straight ahead to connect vast arrays of life and history, to mobilize gigantic forces, to detect dramatic patterns emerging out of confusing interactions, to see everywhere in the cases at hand yet more examples of well-known types, to reveal behind the scenes some dark forces pulling the strings. Not that they are wrong since it perfectly true that older social relations have been packaged in such a way as to seem to provide a ready explanation for many puzzling subjects. But the time has come to have a much closer look at the type of aggregates thus assembled and at the ways they are connected to one another.

When you wish to discover the new unexpected actors that have more recently popped up and which are not yet bona fide members of ‘society’, you have to travel somewhere else and with very different kinds of gear. As we are going to see, there is as much difference in the

two uses of the word ‘social’ as there is between learning how to drive on an already existing freeway and exploring for the first time the humpy territory in which a road has been planned against the wishes of many local communities. There’s no question that ANT prefers to travel slowly, on small roads, on foot, and by paying the full cost of any displacement out of its own pocket.

The reason for this change of tempo is that, instead of taking a reasonable position and imposing some order beforehand, ANT claims to be able to find order much better after having let the actors deploy the full range of controversies in which they are immersed. It is as if we were saying to the actors: ‘We won’t try to discipline you, to make you fit into our categories; we will let you deploy your own worlds, and only later will we ask you to explain how you came about settling them.’ The task of defining and ordering the social should be left to the actors themselves, not taken up by the analyst. This is why, to regain some sense of order, the best solution is to trace connections between the controversies themselves rather than try to decide how to settle any given controversy. The search for order, rigor, and pattern is by no means abandoned. It is simply relocated one step further into abstraction so that actors are allowed to unfold their own differing cosmos, no matter how counter-intuitive they appear.

It is this increased level of abstraction in social theory which makes ANT hard to grasp at first. And yet this shift is comparable to what a cartographer does in trying to record the shape of a foreign coast on

A reader, asking in what sense our theory of the social could be reconciled with ‘conventional’ sociology, offered as an objection the way AIDS patients mobilized as a group. Looking at traditional ‘social movements’, it was obvious to him that patients’ organizations corresponded to ‘conventional’ definitions of the social because she had entirely forgotten how deeply innovative it was for patients to make politics out of stigmata. For us on the other hand, AIDS activism, and more generally patient-based organizations, is just the type of innovation that requires completely new definitions of the social. See Steven Epstein (1996). Impure Science. Ethics, Activism and the Politics of Knowledge; Michel Callon and Volontela Babebarisso (1999). Le pouvoir des maladies; and Nicolas Dodier (2003). Les mondes des maladies.

16 I have chosen ‘uncertainties’—in a weak allusion to the ‘uncertainty principle’—because it remains impossible to decide whether it resides in the observer or in the phenomenon observed. As we will see, it’s never the case that the analyst knows what the actors know, nor is it the case that the actors know what the observer ignores. This is the reason why the social needs to be reassembled.

17 For readers most interested in science studies, it might make more sense to read Chapter 4 first—p. 87—and then swallow the other sources of uncertainty one by one. For those more familiar with ANT, it might be easier to start with the interlude, p. 141.
a piece of paper. She might exert herself to fit the various reports sent by explorers into some existing geometrical format—bays have to be circles, capes triangles, continents squares. But after noticing the hopeless mess created by those records, none of which exactly fall into pre-determined shapes, she will eagerly accept any proposition to dispel the quest for geometrical rigor with a totally abstract Cartesian grid. Then she will use this empty grid to patiently record the coastline itself, allowing it to be drawn in as tortuous a way as geological history made it to be. Although it may appear stupid to record every reported point simply by longitude and latitude, it would be even more stupid to insist that only data that fits a preordained geometrical shape be kept. Similarly, ANT claims that it is possible to trace more sturdy relations and discover more revealing patterns by finding a way to register the links between unstable and shifting frames of reference rather than by trying to keep one frame stable. Society is no more ‘roughly’ made of ‘individuals’, of ‘cultures’, of ‘nation states’ than Africa is ‘roughly’ a circle, France a hexagon or Cornwall a triangle. There is nothing surprising in this since every scientific discipline is a slow training in devising the right sort of relativism that can be adapted to the data at hand. Why would sociology alone be forbidden to invent its own path and be requested to stick to the obvious? Now that geologists have accepted the notion of cold and rigid continental plates floating freely over the hot, molten seabed that seeps out of deep oceanic rifts, are they not, so to speak, on ‘firm ground’? Similarly, ANT claims that we will find a much more scientific way of building the social world if we abstain from interrupting the flood of controversies. We, too, should find our firm ground: on shifting sands. Contrary to what is so often said, relativism is a way to float on data, not drown in them.

Metaphors borrowed from cartography or from physics break down very fast, however, once the range of uncertainties to be swallowed by sociologists of association begins to be deployed. In some extreme situations, actors seem to have an uncanny ability to disagree with everything sociologists supposedly take for granted in order to begin their work. Abandoning the fixed frame of reference offered by ether, as physicists did, appears in retrospect a rather simple affair when compared with what we will have to let go of if we want to leave the actors free to deploy the full incommensurability of their own world-making activities.21 Be prepared to cast off agency, structure, psyche, time, and space along with every other philosophical and anthropological category, no matter how deeply rooted in common sense they may appear to be.

Using the example of our cartographer, it is as if she had to deal not only with multiple reports coming from many travelers but also with multiple projection grids, where each point is requesting its own ad hoc coordinates. Faced with this confusion, one may decide to restrain the range of controversies or to unleash all of them. The first pre-relativist solution works fine but risks limiting sociology to routine, cold, and quiet situations. The second relativist solution tackles active, warm, and extreme situations, but then one has to let controversies unfold all the way. Striking some compromise between the two positions would be most absurd since controversies are not simply a nuisance to be kept at bay, but what allows the social to be established and the various social sciences to contribute in its building. Many of the difficulties in developing those disciplines have come from a refusal to be theoretical enough and from a misplaced attempt at clinging to common sense mixed with an ill-timed craving for political relevance. Such is the extreme position I wish to try and sustain for as long as possible. The drawback is that throughout their travels readers have to support themselves on a strange diet: they have to feed off controversies about what the social is made out of.

Traveling with ANT, I am afraid to say, will turn out to be agonizingly slow. Movements will be constantly interrupted, interfered with, disrupted, and dislocated by the five types of uncertainties. In the world ANT is trying to travel through, no displacement seems possible without costly and painful translations. Sociologists of the social seem to glide like angels, transporting power and connections almost immaterially, while the ANT-scholar has to trudge like an ant, carrying the heavy gear in order to generate even the tiniest connection. At the end of this book, we will attempt to summarize what differentiates a good ANT account from a bad one—a crucial quality test—by asking three questions: have all the difficulties of traveling been recognized? Has the complete cost of the travel from one connection to the next been fully paid? Has the traveler not cheated by surreptitiously getting a ride from an already-existing ‘social order’? In the meantime, my advice is to pack as little as possible, don’t forget to pay your ticket, and prepare for delays.

20 It’s only in Part II that we will deal with the other question of stabilizing controversies. For reasons that will become clear only later, sociologists of the social have not been able to keep the two movements distinct.

21 ‘World-making’ would be a fine word, see Nelson Goodman (1988), Ways of World Making, were it not for the conception of ‘making’ that goes with it and the definition of the ‘one world’. This expression is thus taken as a provisional placeholder until we can define constructivism—see p. 88—and then much later what it means to compose ‘one common world’—p. 247.
Introduction to Part II: Why is it so Difficult to Trace the Social?

It should be the simplest thing in the world. We are all bound by social interactions; we’ll live in a society; and we are all cultural animals. Why do these ties remain so elusive? In the preceding pages, one reason has been offered up as an explanation. The adjective ‘social’ designates two entirely different phenomena: it’s at once a substance, a kind of stuff, and also a movement between non-social elements. In both cases, the social vanishes. When it is taken as a solid, it loses its ability to associate; when it’s taken as a fluid, the social again disappears because it flashes only briefly, just at the fleeting moment when new associations are sticking the collective together. Although it seemed at first sight that the subject matter of social sciences was easy to locate thanks to the massive and ubiquitous evidence of the social order, it now appears that it’s just the opposite: there is nothing more difficult to grasp than social ties. It’s traceable only when it’s being modified. Physiologists have shown that for a perception to take place, continuous movements and adjustments are necessary: no movement, no feeling. This is true for the senses of sight and hearing as well as for taste, smell, and touch. If you clasp someone’s hand and keep the grasp perfectly still, very soon you no longer feel anything but a vague, embarrassing dullness—even if it’s the hand of your beloved. With the absence of movements has come a blurring of the senses. The same is true of the ‘sense of the social’: no new association, no way to feel the grasp.

This is why to renew the feeling for social connections I had to oppose two different types of methods. One that I called ‘sociology of the social’ tries to keep together as firmly as possible and as long as possible elements which it claims are made of some homogeneous

stuff; the other—which I referred to as 'sociology of associations'—tries to fathom controversies about the range of heterogeneous elements that may be associated together. In one case, we know roughly what the social world is made of—it's made of 'of' or 'in' the social; in the other, we should always begin by not knowing what it's made of. Thus, much like the pharmakon of the Greeks, the search for the social becomes either a remedy or a powerful poison depending on the dose and on the timing. Freshly ground into small and timely doses, it allows the observer to detect the new associations that have to be constantly reshuffled in order to gather once more a collective that is threatened by irrelevance. But if you let the elements that have been bundled together pass their 'sell by dates', they will begin to rot. If you persist in ingesting them, they will lead to complete paralysis. You begin to take what has been connected together for a special type of fabric: the social explains the social. You have entered a world that is no longer traceable, a world that is in danger of being quickly invaded by the fairies, dragons, heroes, and witches of critical sociology.

But how is it possible to have two completely opposite meanings for the same adjective? It can be explained. I think, because the social sciences have pursued simultaneously three different tasks: documenting the various ways in which the social is built by its members' ingenuity; settling the controversies about the social by limiting the range of entities at work in the world; and trying to solve the 'social question' by offering some prosthesis for political action. There is nothing wrong with these goals since sociology, the 'science of living together', should indeed be able to fulfill the three following duties: it should be able to deploy the full range of controversies about which associations are possible; it should be able to show through which means those controversies are settled and how such settlements are kept up; and it can help define the right procedures for the composition of the collective by rendering itself interesting to those who have been the object of study. But what is impossible is to try to fulfill those duties simultaneously without paying attention to their succession.

If you confuse the second with the first, for instance, you start thinking that your main task is to restrict—in advance and in the actor's place—the range of uncertainties in which you are afraid the actors will get lost. This means that you take it upon yourself to narrow down the number of possible social aggregates, to limit the number of agencies that make actors do things, to exclude as many non-human objects as possible, to cling to a strict division of labor between natural and social sciences, and, finally, to maintain a firm belief in sociology as an autonomous scientific discipline. After such a treatment, it is no longer possible to trace the five sources of uncertainty that we have reviewed. Things get even worse when you confuse the third

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that is, to make the collective traceable and to play the role of a substitute for politics, it has never been able to do either of them properly. The supposed existence of a society has precluded the emergence of a well-assembled collective as well as thwarted all efforts at defining the odd sort of corporate body that political activities should remain able to form.

Even though it will become clear only at the end of this book, the reason of this double bind can be stated simply: the body politic was supposed, by construction, to be virtual, total, and always already there. There is nothing wrong with this since it had to solve the impossible problem of political representation, fusing the many into one and making the one obeyed by the many. Only political action is able to trace, by a continuous circular movement, this virtual and total assembly that is always in danger of disappearing altogether. This is what Walter Lippmann had designated by the apt word *phantom*, the Phantom Public. From the myth of the social contract onward, the body politic has always been, as John Dewey put it in his answer to Lippmann, a problem, a ghost always in risk of complete dissolution. Never was it supposed to become a substance, a being, a sui generis realm that would have existed beneath, behind, and beyond political action. What has struck all readers in Hobbes's sketch of his Leviathan is how fragile 'this mortal god' was and how quickly it could dissolve. For all to see, this giant had feet of clay.

But as soon as you displace the mode of existence of the public into that of a society, so as to save you the immense, contradictory, and arduous task of composing it through political means, its *problematique* fragility vanishes. The body politic transmogrified into a society is supposed to hold up under its own force even in the absence of any 202


203 Walter Lippmann (1927 [1933]), The Phantom Public. I am following here the work of Noortje Marres on Dewey and Lippmann's political philosophies. See Noortje Marres (2005), 'No Issue, No Politics'. The fragility of political personae is one of the great lessons drawn from Ernst Kantorowicz (1957), The King's Two Bodies. This is the reason why the state is always the product of a continuing trial. See Dominique Linhardt (2004), 'La force de l'Etat en démocratie: La République fédérale d'Allemagne à l'épreuve de la guerre urbaine 1967-1982'.

204 Although he takes it negatively instead of positively, Bourdieu summarizes perfectly this faculty when defining political representation: 'So delegation — this originary act of constitution in both the philosophic and political senses of the word — is an act of magic which enables what was merely a collection of several persons, a series of juxtaposed individuals, to exist in the form of a fictitious person, a *corporation*, a body, a mystical body incarnated in a social body, which itself transmutes the biological bodies which compose it ("corpus corporato")'. Pierre Bourdieu (1991), ‘Delegation and Political Federalism’, p. 208.

205 Remember that I have chosen to follow Bauman's decisive insight into the invention of sociology as a substitute to politics. See Bauman, *Intimations of Postmodernity*. political activity. Although it remains invisible, the giant body politic is now said to have had its feet solidly fastened to a sturdy pedestal. All the difficulties of grasping the social start from such an impossible feat of metallurgical fiction: the moving shape of the Phantom Public now cast in bronze.

Whereas the body politic was ceaselessly traced by politics, society is there whether we like it or not. And instead of seeing this as a contradiction or technical impossibility, social scientists will take this ghostly presence as the best proof of its mysterious existence. Only now does the Phantom become a ghoul, the Leviathan turned into a behemoth. But it does not require much effort to see that a virtual and always present entity is exactly the opposite of what is needed for the collective to be assembled: if it's already there, the practical means to compose it are no longer traceable; if it's total, the practical means to totalize it are no longer visible; if it's virtual, the practical means to realize, visualize and collect it have disappeared from view. As long as we detect behind the collective the shadow of society and behind society the shadow of the Leviathan, no science of the social can proceed forward. To put it even more bluntly: *either there is society or there is sociology*. You can’t have both at once as Gabriel Tarde warned his readers when he saw the discipline taking such a wrong turn.

Naturally, all social theorists know this perfectly well and this is why each in his or her own way has made efforts to extricate their inquiries out of the shadows of a society. They all have stated that society is a virtual reality, *a cosa mentale*, a hypostasis, a fiction. But by maintaining where it was, if only to criticize it, they have never been able to do more than carve a little niche for themselves inside the virtual, total body that they claimed did not really exist. So, through a strange twist of fate, society became at once what was always criticized as a fiction and what was always there nonetheless as the impassable horizon of all discussions concerning the social world. Whatever the solution, it remained strained like a whale, yes a leviathan, beached on a seashore 206


207 The democratic ideal has never defined the function of the public. It has treated the public as an immature shadowy executive of all things. The confusion is deep-seated in a mystical notion of society. In Lippmann, *The Phantom Public*, p. 137.

208 For a recent inquiry into the state of the art, see Nicholas Gane (2004), *The Future of Social Theory*.

209 Thanks to the illusory power of dialectics, it's sometimes this very contradictory nature that is taken as the very circular definition of society itself. This is clear in Castoriadis' *The Imaginary Institution of Society* but also in the notion of self-transcendence developed in Jean Pierre Dupuy (1992), *Introduction aux sciences sociales. Logiques phénoménologiques collectifs* and in the argument by Luhmann regarding the notion of autopoiesis of Humberto R. Maturana and Francisco J. Varela (1980), *Autopoiesis and Cognition: The Realization of the Living*. Although they might all be tracing circles, the body politic, society, and organisms do not carry the same entities and are not transported by the same vehicles.
where Lilliputian social scientists tried to dig it a suitable abode. Of late, the smell of this decaying monster has become unbearable. There is no way to succeed in renewing social theory as long as the beach has not been cleared and the ill-fated notion of society entirely dissolved. To do so we have to extract out of it both the body politic that it has usurped as well as the collective that it keeps hiding.\textsuperscript{210}

That society stands in the way of sociology and of politics is not so surprising for those of us in science studies who saw earlier how nature, too, stood in the way. Both monsters are born in the same season and for the same reason: nature assembles non-humans apart from the humans; society collects humans apart from the non-humans. As I have shown elsewhere at length, both are twin freaks generated to stifle the very possibility of a rightful composition of the collective.\textsuperscript{211} But if it's relatively easy to show the political composition of nature, so obvious is the difference between matters of concern and matters of fact, society, through some strange perversity, remains more obdurate, more obvious, more taken for granted. The abyss between the social as association and the social as substance seems more difficult to recognize. So much so that even my own efforts at reducing the power of nature have been taken as a reinforcement of that of society! The latter seems to be able to reign where the former has been forced to give up some of its sovereignty. Hence the unfortunate success of the notion of 'social construction' I scrutinized earlier. And yet, there is no escape. After nature, it is society that has to go. If not, we will never be able to collect the collective.

How can we move on and render the social fully traceable again? By following the same strategy as in Part I. We should deploy the full range of controversies instead of attempting to decide by ourselves what is the best starting point to follow it. Once again, we should be more abstract and more relativist than at first anticipated. This time I will take as our point of departure the very difficulty social scientists seem to have had in locating their inquiries at the right locus. By choosing such a roundabout way, we are going to discover that the two collectors they have chosen are simply not there because one specific problem—how to solve the political relations of the Many and the One—has been confused with another: how to compose the collective. This discovery will allow us to escape once and for all the large shadow still cast by the fast disappearing society and, hopefully, to render the social fluid traceable at last.

\textsuperscript{210} I will account later with the notion of 'panorama' for the reasons why this way of summarizing the social has nonetheless such a powerful grip on imagination, see p. 188.

\textsuperscript{211} Even though I don't treat the question of nature as thoroughly here, it's important to remember that my argument makes no sense if the balance between nature and society is not kept firmly in place.

How to Keep the Social Flat

Users of social science seem to consider that it's rather straightforward to assemble, invoke, convoke, mobilize, and explain the social. Practitioners of social science know how painful, costly, arduous, and utterly puzzling it is. The 'easy' social is the one already bundled together while the 'difficult' social is the new one that has yet to appear in stitching together elements that don't pertain to the usual repertoire. Depending on which tracer we decide to follow we will embark on very different sorts of travels. Sociologists of the social have traced, with their definition of a social, a vast domain that bears no relation whatsoever with the maps we are going to need for our definition of the social. I am not only saying that existing maps are incomplete, but that they designate territories with such different shapes that they don't even overlap! It is not even clear if they pertain to the same Earth. The job now before us is no longer to go to different places in the same country—less crowded sites, less trodden paths—but to generate an altogether different landscape so we can travel through it. Needless to say, this is not going to speed up our trips: 'slowiology' it was in Part I, 'slowiology' it will remain.

Since what is now at stake is the very topography of the social, there is no way to decide how to draw our itineraries without understanding the principle of projection sociologists of the social have used for theirs. It's only by seeing how they have been led astray that we will grasp why they drew those implausible maps. When you begin to ask this question you realize how arduous their travels have been. They have been forced to constantly migrate between two types of sites—the local interaction and the global context—each so uncomfortable that they had to flee from them as fast as possible. Adam and Eve had been chased out of only one paradise, but sociologists of the social, less fortunate than their forebears, have been forced to leave two resting places in succession, each situated at the polar opposite of the other, and have been shuttling between both. We have to grasp the dynamic of this infernal trip if we wish to escape their fate.

Every social scientist knows quite well that local interactions are not a good place to rest. When, for one reason or another, you happen to
This does not mean those disciplines are fictions, inventing their subject matter out of thin air. It means that they are, as the name nicely indicates, disciplines: each has chosen to deploy some sort of mediator and favored some type of stabilization, thus populating the world with different types of well-drilled and fully formatted inhabitants. Whatever a scholar does when she writes an account, she is already part of this activity. This is not a defect of the social sciences, as if they would be better off by freeing themselves out of this loop. It simply means that they are like all the other sciences, involved in the normal business of multiplying agencies and stabilizing or disciplining some of them. In this sense, the more disinterested the science, the more engaged and politically relevant it already is. The ceaseless activities of the social sciences in making the social exist, in churning the collective into a coherent whole, make up a large part of what it is to study the social. Every account added to this mass also consists of a decision about what the social should be, that is, on what the multiple metaphysics and singular ontology of the common world should be. Rare are the group formations today that are not equipped and instrumented by economists, geographers, anthropologists, historians, and sociologists, who are hoping to learn how the groups are made, what are their boundaries and functions, and how best to maintain them. It would make no sense for a social science to wish to escape from this ceaseless work. But it makes a lot of sense to try to do this work well.

A different definition of politics

So in the end, what is ANT’s political project? Since this tiny school is nothing more than a complicated way to go back to the surprise at seeing the social unravel—an experience which has been somewhat dulled by the recent history of the social sciences—the only way to register again what we mean by politics is to get even closer to the original experience.

During the 19th century it was easy to see how this feeling was constantly refreshed by the surprising emergence of masses, crowds, industries, cities, empires, hygiene, the media, and inventions of all sorts. Strangely enough, this insight should have been even stronger in the next century with its catastrophes and innovations, increasing numbers of threatened humans, and ecological crises. That this was not the case was due to the very definitions of society and of social ties that tried to mop up a few elements while excluding vast numbers of candidates. Where naturalism reigned, it was very difficult to scrutinize the composition of the social for any length of time with any seriousness. What ANT has tried to do is make itself sensitive again to the sheer difficulty of assembling collectives made of so many new members once nature and society have been simultaneously put aside.

The feeling of crisis I perceive to be at the center of the social sciences could now be registered in the following way: once you extend the range of entities, the new associations do not form a livable assemblage. This is where politics again enters the scene if we care to define it as the intuition that associations are not enough, that they should also be composed in order to design one common world. For better or for worse, sociology, contrary to its sister anthropology, can never be content with a plurality of metaphysics; it also needs to tackle the ontological question of the unity of this common world. This time, however, it has to be done not inside the panamas I have presented, but outside and for good. So it’s perfectly true to say that no sociology can be content with ‘just describing’ associations, and nor can it simply enjoy the spectacle of the sheer multiplicity of new connections. Another task also has to be fulfilled to deserve the label of ‘a science of living together’, to use again Laurent Thévenot’s paradoxical expression. If sociology is a science, what does it have to do with ‘living together’? If the question is one of cohabitation, why would we need a science? Answer: because of the number of new candidates in existence and because of the narrow limits of the collectors imagined to render the cohabitation possible.

The LSE student that was so puzzled by ANT in the interlude was right to strive for political relevance; so are all the young fellows who enter into departments of political science, science studies, women studies, and cultural studies to gain a critical edge, to make a difference, and to render the world more livable. Their formulations may be naive, but it’s hard to see how one could call oneself a sociologist and look down on them as if theirs was just some adolescent dream. Once this urge for political involvement is no longer confused with the two other duties, once the recruitment process of new candidates for collective life is not interrupted, the burning desire to have the new entities detected, welcomed, and given shelter is not only legitimate, it’s probably the only scientific and political cause worth living for.

The words ‘social’ and ‘nature’ used to hide two entirely different projects that cut across both of those ill-assembled assemblies: one to trace connections among unexpected entities and another to make those connections hold in a somewhat livable whole. The mistake is not in trying to do two things at once—every science is also a political

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357 I have tried to capture this difficulty in Latour, *We Have Never Been Modern*. Modernism has never been able to catch up with its own time.

358 Thévenot, ‘Une science de la vie ensemble dans le monde’.
project—the mistake is to interrupt the former because of the urgency of the latter. ANT is simply a way of saying that the task of assembling a common world cannot be contemplated if the other task is not pursued well beyond the narrow limits fixed by the premature closure of the social sphere.

It is hard to believe that we still have to absorb the same types of actors, the same number of entities, the same profiles of beings, and the same modes of existence into the same types of collectives as Comte, Durkheim, Weber, or Parson, especially after science and technology have massively multiplied the participants to be cooked in the melting pot. Yes, sociology is the science of immigrant masses, but what do you do when you have to deal with electron and eletors, GMOs and NGOs all at once? For the new wine of new associations, a dusty old flask just won’t do. This is the reason why I defined the collective as an expansion of nature and society and sociology of associations as the resumption of the sociology of the social.

This is what I take to be the political project of ANT, what I mean by a search for political relevance. Once the task of exploring the multiplicity of agencies is completed, another question can be raised: What are the assemblies of those assemblages?

We should be careful here in not confusing this formulation with one that has a strong resemblance to Derrida, but which would lead us back to an entirely different project. To raise a political question often means to reveal behind a given state of affairs the presence of forces hitherto hidden. But then you risk falling into the same trap of providing social explanations I criticized earlier and end up doing exactly the opposite of what I mean here by politics. You use the same old repertoire of already gathered social ties to ‘explain’ the new associations. Although you seem to speak about politics, you don’t speak politically. What you are doing is simply extending one step further the same small repertoire of already standardized forces. You might feel the pleasure of providing a ‘powerful explanation’, but that’s just the problem: you partake in the expansion of power, but not in the re-composition of its content. Even though it resembles political talks, it has not even begun to address the political endeavor, since it has not tried to assemble the candidates into a new assembly adjusted to their specific requirements. ‘Drunk with power’ is not an expression fit only for generals, presidents, CEOs, mad scientists, and bosses. It can also be used for those sociologists who confuse the expansion of powerful explanations with the composition of the collective. This is why the ANT slogan has always been: ‘Be sober with power’, that is, abstain as much as possible from using the notion of power in case it backfires and hits your explanations instead of the target you are aiming for. There should be no powerful explanation without checks and balances.\footnote{For a more complete elaboration of these points and especially the crucial notion of assembly, see Latour and Woolgar, Making Things Public.}

So in the end there is a conflict—no need to hide it—between doing critical sociology and being politically relevant, between society and the collective. Retracing the iron ties of necessity is not sufficient to explore what is possible. Provided we accept a detoxification of the powerful explanations of critical sociology, being politically motivated now starts to take a different and more specific meaning: we look for ways to register the novelty of associations and explore how to assemble them in a satisfactory form.

In the end, strangely enough, it’s only the freshness of the results of social science that can guarantee its political relevance. No one has made the point as forcefully as John Dewey did with his own definition of the public. For a social science to become relevant, it has to have the capacity to renew itself—a quality impossible if a society is supposed to be ‘behind’ political action. It should also possess the ability to loop back from the few to the many and from the many to the few—a process often simplified under the terms of representation of the body politic.\footnote{Dewey, The Public and Its Problems.} So the test for political interest is now slightly easier to pass: one must practice sociology in such a way that the ingredients making up the collective are regularly refreshed. Clear the path for the composition so that it can go through the complete loop and take it up again, making sure that the number, modes of existence, and recalcitrance of those that are thus assembled are not thwarted too early. Every reader can now judge what sort of social theory is best able to fulfill these goals.

Our distinctive touch is simply to highlight the stabilizing mechanisms so that the premature transformation of matters of concern into matters of fact is counteracted. ANT argues that it should be possible to clarify this confusion, to distinguish the two tasks of deployment and unification, to spell out the procedures for due process, thus modifying what it means for a social science to be more politically relevant and more scientific.\footnote{Callon, Lescouezec and Barthe, Agir dans un monde incertain.} In this sense we share the same keen interest in science and in politics as our predecessors, although ANT diverges from it because of the way the deployment is accepted and the way the collection is achieved. So far, the sociology of the social has not been especially interested in proposing explicit procedures to distinguish the two tasks of deployment and collection. We simply claim to be a bit better at those two opposed and complementary moves precisely because the conception of what science and society is has
been modified due to the emergence of a hard-headed sociology of science. There exists a link, in my view at least, between the end of modernization and the definition of ANT. If we were still modern, we could simply ignore this soul-searching and hair-splitting. We could continue the earlier tasks of modernization and strive for a disinterested science and/or a scientifically-based politics. The reason is that the sociology of the social has always been very strongly linked to the superiority of the West—including, of course, its shame at being so overpowering and so hegemonic. So, if you really think that the future common world can be better composed by using nature and society as the ultimate meta-language, then ANT is useless. It might become interesting only if what was called in the recent past 'the West' decides to rethink how it should present itself to the rest of the world that is soon to become more powerful. After having registered the sudden new weakness of the former West and trying to imagine how it could survive a bit longer in the future to maintain its place in the sun, we have to establish connections with the others that cannot possibly be held in the nature/society collectors. Or, to use another ambiguous term, we just might have to engage in cosmopolitics.\footnote{In the sense developed in Isabelle Stengers (1996), *Cosmopolitiques - Tome 1: la guerre des sciences* and not in the Stoic or Kantian one, which implies an already unified cosmos. For a review of the latter tradition see Daniele Archibugi (2003), *Debating Cosmopolitics*.}

I am well aware that I have not said enough to substantiate any of these numerous points. This book is just an introduction to help the interested reader in drawing the social theory consequences of the sociology of science. It's not for me to say if anyone will end up using these tricks in any trade. At least now nobody can complain that the project of actor-network-theory has not been systematically presented. I have voluntarily made it such an easy target that a sharpshooter is not needed in order to hit it.

I have completed what I promised at the beginning, namely to be one-sided enough so as to draw all the consequences from a fairly implausible starting point. And yet, I can't totally shake the impression that the extreme positions I have taken might have some connections with common sense. In a time of so many crises in what it means to belong, the task of cohabitation should no longer be simplified too much. So many other entities are now knocking on the door of our collectives. Is it absurd to want to retool our disciplines to become sensitive again to the noise they make and to try to find a place for them?

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**BIBLIOGRAPHY**


