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**A NEW PHILOSOPHY OF SOCIETY**

Assemblage Theory and Social Complexity

_Manuel DeLanda_
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Introduction

The purpose of this book is to introduce a novel approach to social ontology. Like any other ontological investigation it concerns itself with the question of what kinds of entities we can legitimately commit ourselves to assert exist. The ontological stance taken here has traditionally been labelled 'realist': a stance usually defined by a commitment to the mind-independent existence of reality. In the case of social ontology, however, this definition must be qualified because most social entities, from small communities to large nation-states, would disappear altogether if human minds ceased to exist. In this sense social entities are clearly not mind-independent. Hence, a realist approach to social ontology must assert the autonomy of social entities from the conceptions we have of them. To say that social entities have a reality that is conception-independent is simply to assert that the theories, models and classifications we use to study them may be objectively wrong, that is, that they may fail to capture the real history and internal dynamics of those entities.

There are, however, important cases in which the very models and classifications social scientists use affect the behaviour of the entities being studied. Political or medical classifications using categories like 'female refugee' or 'hyperactive child', for example, may interact with the people being classified if they become aware of the fact that they are being so classified. In the first case, a woman fleeing terrible conditions in her home country may become aware of the criteria to classify 'female refugees' used by the country to which she wants to emigrate, and change her behaviour to fit that criteria. In this case, an ontological
commitment to the referent of the term ‘female refugee’ would be hard to maintain, since the very use of the term may be creating its own referents. On the other hand, accepting that the referents of some general terms may in fact be moving targets does not undermine social realism: to explain the case of the female refugee one has to invoke, in addition to her awareness of the meaning of the term ‘female refugee’, the subjective existence of a whole set of institutional organizations (courts, immigration agencies, airports and seaports, detention centres), institutional norms and objects (laws, binding court decisions, passports) and institutional practices (confining, monitoring, interpolating), forming the context in which the interactions between categories and their referents take place. In other words, the problem for a realist social ontology arises here not because the meanings of all general terms shaped by the very perception that social scientists have of their referents, creating a vicious circle, but only in some special cases and in the context of institutions and practices that are not reducible to meanings. As the philosopher Ian Hacking writes:

I do not necessarily mean that hyperactive children, as individuals, or on their own, become aware of how they are classified, and thus react to the classification. Of course they may, but the interaction occurs in the larger matrix of institutions and practices surrounding this classification. There was a time when children described as hyperactive were placed in ‘stim-free’ classrooms: classrooms in which stimuli were minimized, so that children would have no occasion for excess activity. Desks were far apart. The walls had no decoration. The windows were curtained. The teacher wore a plain black dress with no ornaments. The walls were designed for minimum noise reflection. The classification hyperactive did not interact with the children simply because individual children had heard the word and changed accordingly. It interacted with those who were so described in institutions and practices that were predicated upon classifying children that way.¹

In short, acknowledging the existence of troublesome cases in which the meanings of words affect their own referents in no way compromises a realist approach to institutions and practices. On the contrary, a correct solution to this problem seems to demand an ontology in which the existence of institutional organizations, interpersonal networks and many other social entities is treated as conception-independent. This realist solution is diametrically opposed to the idealist one espoused by phenomenologically influenced sociologists, the so-called ‘social constructivists’. In fact, as Hacking points out, these sociologists use the term ‘construction’ in a purely metaphorical sense, ignoring its literal meaning, that of building or assembling from parts.² By contrast, the realist social ontology to be defended in this book is all about objective processes of assembly: a wide range of social entities, from persons to nation-states, will be treated as assemblages constructed through very specific historical processes, processes in which language plays an important but not a constitutive role.

A theory of assemblages, and of the processes that create and stabilize their historical identity, was created by the philosopher Gilles Deleuze in the last decades of the twentieth century. This theory was meant to apply to a wide variety of wholes constructed from heterogeneous parts. Entities ranging from atoms and molecules to biological organisms, species and ecosystems may be usefully treated as assemblages and therefore as entities that are products of historical processes. This implies, of course, that one uses the term ‘historical’ to include cosmological and evolutionary history, not only human history. Assemblage theory may also be applied to social entities, but the very fact that it cuts across the nature-culture divide is evidence of its realist credentials. It may be objected, however, that the relatively few pages dedicated to assemblage theory in the work of Deleuze (much of it in partnership with Félix Guattari) hardly amount to a fully-fledged theory.³ And this is, in fact, correct. But the concepts used to specify the characteristics of assemblages in those few pages (concepts such as ‘expression’ or ‘territorialization’) are highly elaborated and connected to yet other concepts throughout Deleuze’s work. Taking into account the entire network of ideas within which the concept of ‘assemblage’ performs its conceptual duties, we do have at least the rudiments of a theory. But this, in turn, raises another difficulty. The definitions of the concepts used to characterize assemblages are dispersed throughout Deleuze’s work: part of a definition may be in one book, extended somewhere else, and qualified later in some obscure essay. Even in those cases where conceptual definitions are easy to locate, they are usually not given in a style that allows for a straightforward interpretation. This would seem to condemn a book on assemblage theory to spend most of its pages doing hermeneutics.

To sidestep this difficulty I have elsewhere reconstructed the whole of
Deleuzian ontology, including those parts that bear directly on assemblage theory, in a clear, analytic style that makes a preoccupation with what Deleuze 'really meant' almost completely unnecessary. In this book I will make use of a similar strategy: I will give my own definitions of the technical terms, use my own arguments to justify them, and use entirely different theoretical resources to develop them. This manoeuvre will not completely eliminate the need to engage in Deleuzian hermeneutics but it will allow me to confine that part of the job to footnotes. Readers who feel that the theory developed here is not strictly speaking Deleuze's own are welcome to call it 'neo-assemblage theory', 'assemblage theory 2.0', or some other name.

The first two chapters of this book introduce the fundamental ideas of such a reconstructed theory of assemblages. This theory must, first of all, account for the synthesis of the properties of a whole not reducible to its parts. In this synthetic function assemblage theory has rivals that are historically much older, such as Hegelian dialectics. Thus, an important task, one to be carried out in Chapter 1, is to contrast assemblages and Hegelian totalities. The main difference is that in assemblage theory the fact that a whole possess synthetic or emergent properties does not preclude the possibility of analysis. In other words, unlike organic totalities, the parts of an assemblage do not form a seamless whole. In Chapter 2 I will argue that once historical processes are used to explain the synthesis of inorganic, organic and social assemblages there is no need for essentialism to account for their enduring identities. This allows assemblage theory to avoid one of the main shortcomings of other forms of social realism: an ontological commitment to the existence of essences.

Once the basic ideas have been laid out, the next three chapters apply the assemblage approach to a concrete case-study: the problem of the link between the micro- and the macro-levels of social reality. Traditionally, this problem has been framed in reductionist terms. Reductionism in social science is often illustrated with the methodological individualism characteristic of microeconomics, in which all that matters are rational decisions made by individual persons in isolation from one another. But the phenomenological individualism of social constructivism is also reductionist even though its conception of the micro-level is not based on individual rationality but on the routines and categories that structure individual experience. In neither one of these individualisms is there a denial that there exists, in addition to rationality or experience, something like 'society as a whole'. But such an entity is conceptualized as a mere aggregate, that is, as a whole without properties that are more than the sum of its parts. For this reason we may refer to these solutions to the micro-macro problem as 'micro-reductionist'.

The other position that has been historically adopted towards the micro-macro problem is that social structure is what really exists, individual persons being mere products of the society in which they are born. The young Durkheim, the older Marx, and functionalists such as Talcott Parsons are examples of this stance. These authors do not deny the existence of individual persons but assume that once they have been socialized by the family and the school, they have so internalized the values of the societies or the social classes to which they belong that their allegiance to a given social order may be taken for granted. This tends to make the micro-level a mere epiphenomenon and for this reason this stance may be labelled 'macro-reductionist'. There are many other positions taken in social science towards the problem of the articulation of the micro and the macro, including making an intermediate level, such as praxis, the true core of social reality, with both individual agency and social structure being byproducts of this fundamental level. This seems to be the stance taken by such prominent contemporary sociologists as Anthony Giddens, a stance that may be labelled 'meso-reductionist'.

These three reductionist positions do not, of course, exhaust the possibilities. There are many social scientists whose work focuses on social entities that are neither micro nor macro: Erving Goffman's work on conversations and other social encounters; Max Weber's work on institutional organizations; Charles Tilly's work on social justice movements; not to mention the large number of sociologists working on the theory of social networks, or the geographers studying cities and regions. What the work of these authors reveals is a large number of intermediate levels between the micro and the macro, the ontological status of which has not been properly conceptualized. Assemblage theory can provide the framework in which the contributions of these and other authors (including the work of those holding reductionist stances) may be properly located and the connections between them fully elucidated. This is because assemblages, being wholes whose properties emerge from the interactions between parts, can be used to model any of these intermediate entities: interpersonal networks and institutional organizations are assemblages of people; social justice movements are assemblages of several networked communities; central governments are assemblages of several organizations; cities are assemblages of people, networks,
organizations, as well as of a variety of infrastructural components, from buildings and streets to conduits for matter and energy flows; nations-states are assemblages of cities, the geographical regions organized by cities, and the provinces that several such regions form. Chapters 3, 4 and 5 take the reader on a journey that, starting at the personal (and even subpersonal) scale, climbs up one scale at a time all the way to territorial states and beyond. It is only by experiencing this upward movement, the movement that in reality generates all these emergent wholes, that a reader can get a sense of the irreducible social complexity characterizing the contemporary world. This does not imply that the ontological scheme proposed here is not applicable to simpler or older societies: it can be used in truncated form to apply it to societies without cities or large central governments, for example. I make, on the other hand, no effort to be multicultural: all my examples come from either Europe or the USA. This simply reflects my belief that some of the properties of social assemblages, such as interpersonal networks or institutional organizations, remain approximately invariant across different cultures. But even the illustrations from Western nations are often sketchy and, with the exception of Chapter 5, the historical aspects of my examples are not fully explored. This shortcoming is justified by the fact that my older publications have already engaged history and historical dynamics, and that in this book I am exclusively interested in a clarification of the ontological status of the entities that are the actors of my earlier historical narratives. The shortage of historical examples is also intended to reduce the time the reader spends at each level of scale, that is, to increase the speed of the upward movement, since for this book it is the reader's experience of the journey from the micro to the macro that matters the most. It is my hope that once the complexity of that forgotten territory between the micro and the macro is grasped at visceral level, the intellectual habit to privilege one or the other extreme will become easier to break.

On the other hand, a solution to the micro–macro problem in terms of a multiplicity of social entities operating at intermediate levels of scale calls for a few words to clarify the meaning of the expression 'larger-scale'. Its usual meaning is geometric, as when one says that a street is the longest one in a city, or that one nation-state occupies a larger area than another. But there is also a physical meaning of the expression that goes beyond geometry. In physics, for example, length, area and volume are classified as extensive properties, a category that also includes amount of energy and number of components. It is in this latter extensive sense, not the geometric one, that I use the expression 'larger-scale'. Two interpersonal networks, for example, will be compared in scale by the number of members they contain not by the extent of the geographical area they occupy, so that a network structuring a local community will be said to be larger than one linking geographically dispersed friends if it has more members, regardless of the fact that the latter may span the entire planet. Also, being larger in only one of the properties differentiating the social entities to be discussed here. There are many others properties (such as the density of the connections in a network, or the degree of centralization of authority in an organization) that are not extensive but intensive, and that are equally important. Finally, social entities will be characterized in this book not only by their properties but also by their capacities, that is, by what they are capable of doing when they interact with other social entities.

To those readers who may be disappointed by the lack of cross-cultural comparisons, or the absence of detailed analyses of social mechanisms, or the poverty of the historical vignettes, I can only say that none of these worthy tasks can be really carried out within an impoverished ontological framework. When social scientists pretend to be able to perform these tasks without ontological foundations, they are typically using an implicit, and thereby uncritically accepted, ontology. There is simply no way out of this dilemma. Thus, while philosophers cannot, and should not, pretend to do the work of social scientists for them, they can greatly contribute to the job of ontological clarification. This is the task that this book attempts to perform.

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New York, 2005
1
Assemblages against Totalities

The purpose of this chapter is to introduce the theory of assemblages. But this introduction is not meant as an end in itself, but as a means to elucidate the proper ontological status of the entities that are invoked by sociologists and other social scientists. Is there, for example, such a thing as society as a whole? Is the commitment to assert the existence of such an entity legitimate? And, is denying the reality of such an entity equivalent to a commitment to the existence of only individual persons and their families? The answer to all these questions is a definitive no, but several obstacles must be removed before justifying this negative response. Of all the obstacles standing in the way of an adequate social ontology none is as entrenched as the organismic metaphor. In its least sophisticated form this stumbling-block involves making a superficial analogy between society and the human body, and to postulate that just as bodily organs work together for the organism as a whole, so the function of social institutions is to work in harmony for the benefit of society. As historians of social thought Howard Becker and Harry Barnes have noted, there are many variants of this centuries-old metaphor, some more sophisticated than others:

The theory of the resemblance between classes, groups, and institutions in society and the organs of the individual is as old as social theory itself. We have already noted its presence in Hindu social thought, and have also called attention to the fact that Aristotle, in book IV of his Politics, sets forth this organismic analogy with precision and clarity. The same conception appears clearly in the writings of Cicero, Livy, Seneca, and Paul. In the Middle Ages elaborate anthropomorphic analogies were drawn by John of Salisbury and Nicholas of Cues. In the early modern period, Hobbes and Rousseau contrasted the organism and the state, holding that the organism was the product of nature while the state was an artificial creation. In the late eighteenth and early nineteenth century fanciful notions of the social and political organism appeared with such writers as Hegel, Schelling, Krause, Ahrens, Schmitthenner, and Waizt.1

In the late nineteenth century the organismic metaphor achieved its first systematic development in the work of Herbert Spencer and reached its pinnacle of influence a few decades later in the work of Talcott Parsons, the most important figure of the functionalist school of sociology. After this, the use of the organism as a metaphor declined as sociologists rejected functionalism, some because of its emphasis on social integration and its disregard for conflict, others because of its focus on social structure at the expense of phenomenological experience. But a more sophisticated form of the basic metaphor still exerts considerable influence in most schools of sociology, and in this form it is much more difficult to eliminate. This version involves not an analogy but a general theory about the relations between parts and wholes, wholes that constitute a seamless totality or that display an organic unity. The basic concept in this theory is what we may call relations of interiority: the component parts are constituted by the very relations they have to other parts in the whole. A part detached from such a whole ceases to be what it is, since being this particular part is one of its constitutive properties. A whole in which the component parts are self-subsistent and their relations are external to each other does not possess an organic unity. As Hegel wrote: This is what constitutes the character of mechanism, namely, that whatever relation obtains between the things combined, this relation is extraneous to them that does not concern their nature at all, and even if it is accompanied by a semblance of unity it remains nothing more than composition, mixture, aggregation, and the like.2

Thus, in this conception wholes possess an inextricable unity in which there is a strict reciprocal determination between parts. This version of organismic theory is much harder to eliminate because it is not just a matter of rejecting an old worn-out image and because its impact on sociology goes beyond functionalism. A good contemporary example is the work of the influential sociologist Anthony Giddens, who attempts to
transcend the duality of agency and structure by arguing for their mutual constitution: agency is constituted by its involvement in practice which, in turn, reproduces structure. Structure is conceived as consisting of behavioural procedures and routines, and of material and symbolic resources, neither one of which possesses a separate existence outside of their instantiation in actual practice. In turn, the practices which instantiate rules and mobilize resources are conceived by Giddens as a continuous flow of action 'not composed of an aggregate or series of separate intentions, reasons, and motives'. The end result of this is a seamless whole in which agency and structure mutually constitute one another dialectically.

Following Hegel, other defenders of this approach argue that without relations of interiority a whole cannot have emergent properties, becoming a mere aggregation of the properties of its components. It may be argued, however, that a whole may be both analysable into separate parts and at the same time have irreducible properties, properties that emerge from the interactions between parts. As the philosopher of science Mario Bunge remarks, the 'possibility of analysis does not entail reduction, and explanation of the mechanisms of emergence does not explain emergence away'. Allowing the possibility of complex interactions between component parts is crucial to define mechanisms of emergence, but this possibility disappears if the parts are fused together into a seamless web. Thus, what needs to be challenged is the very idea of relations of interiority. We can distinguish, for example, the properties defining a given entity from its capacities to interact with other entities. While its properties are given and may be denumerable as a closed list, its capacities are not given – they may go unexercised if no entity suitable for interaction is around – and form a potentially open list, since there is no way to tell in advance in what way a given entity may affect or be affected by innumerable other entities. In this other view, being part of a whole involves the exercise of a part's capacities but it is not a constitutive property of it. And given that an unexercised capacity does not affect what a component is, a part may be detached from the whole while preserving its identity.

Today, the main theoretical alternative to organic totalities is what the philosopher Gilles Deleuze calls assemblages, wholes characterized by relations of exteriority. These relations imply, first of all, that a component part of an assemblage may be detached from it and plugged into a different assemblage in which its interactions are different. In other words, the exteriority of relations implies a certain autonomy for the terms they relate, or as Deleuze puts it, it implies that 'a relation may change without the terms changing'. Relations of exteriority also imply that the properties of the component parts can never explain the relations which constitute a whole, that is, 'relations do not have as their causes the properties of the [component parts] between which they are established ... although they may be caused by the exercise of a component's capacities. In fact, the reason why the properties of a whole cannot be reduced to those of its parts is that they are the result not of an aggregation of the components' own properties but of the actual exercise of their capacities. These capacities do depend on a component's properties but cannot be reduced to them since they involve reference to the properties of other interacting entities. Relations of exteriority guarantee that assemblages may be taken apart while at the same time allowing that the interactions between parts may result in a true synthesis.

While those favouring the interiority of relations tend to use organisms as their prime example, Deleuze gravitates towards other kinds of biological illustrations, such as the symbiosis of plants and pollinating insects. In this case we have relations of exteriority between self-subsistent components – such as the wasp and the orchid – relations which may become obligatory in the course of coevolution. This illustrates another difference between assemblages and totalities. A seamless whole is inconceivable except as a synthesis of these very parts, that is, the linkages between its components form logically necessary relations which make the whole what it is. But in an assemblage these relations may be only contingently obligatory. While logically necessary relations may be investigated by thought alone, contingently obligatory ones involve a consideration of empirical questions, such as the coevolutionary history of two species. In addition to this Deleuze considers heterogeneity of components an important characteristic of assemblages. Thus, he would consider ecosystems as assemblages of thousands of different plant and animal species, but not the species themselves, since natural selection tends to homogenize their gene pools. In what follows I will not take heterogeneity as a constant property of assemblages but as a variable that may take different values. This will allow me to consider not only species but also biological organisms as assemblages, instead of having to introduce another category for them as does Deleuze. Conceiving an organism as an assemblage implies that
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despite the tight integration between its component organs, the relations between them are not logically necessary but only contingently obligatory: a historical result of their close coevolution. In this way, assemblage theory deprives organismic theories of their most cherished exemplar.

In addition to the exteriority of relations, the concept of assemblage is defined along two dimensions. One dimension or axis defines the variable roles which an assemblage’s components may play, from a purely material role at one extreme of the axis, to a purely expressive role at the other extreme. These roles are variable and may occur in mixtures, that is, a given component may play a mixture of material and expressive roles by exercising different sets of capacities. The other dimension defines variable processes in which these components become involved and that either stabilize the identity of an assemblage, by increasing its degree of internal homogeneity or the degree of sharpness of its boundaries, or destabilize it. The former are referred to as processes of territorialization and the latter as processes of deterritorialization. One and the same assemblage can have components working to stabilize its identity as well as components forcing it to change or even transforming it into a different assemblage. In fact, one and the same component may participate in both processes by exercising different sets of capacities. Let me give some simple social examples of these four variables.

The components of social assemblages playing a material role vary widely, but at the very least involve a set of human bodies properly oriented (physically or psychologically) towards each other. The classic example of these assemblages of bodies is face-to-face conversations, but the interpersonal networks that structure communities, as well as the hierarchical organizations that govern cities or nation-states, can also serve as illustrations. Community networks and institutional organizations are assemblages of bodies, but they also possess a variety of other material components, from food and physical labour, to simple tools and complex machines, to the buildings and neighbourhoods serving as their physical locales. Illustrating the components playing an expressive role needs some elaboration because in assemblage theory expressivity cannot be reduced to language and symbols. A main component of conversations is, of course, the content of the talk, but there are also many forms of bodily expression (posture, dress, facial gestures) that are not linguistic. In addition, there is what participants express about themselves not by what they say but by the way they say it, or even by their very choice of topic.

These are nonlinguistic social expressions which matter from the point of view of a person’s reputation (or the image he or she tries to project in conversations) as much as what the person expresses linguistically. Similarly, an important component of an interpersonal network is the expressions of solidarity of its members, but these can be either linguistic (promises, vows) or behavioural, the solidarity expressed by shared sacrifice or mutual help even in the absence of words. Hierarchical organizations, in turn, depend on expressions of legitimacy, which may be embodied linguistically (in the form of beliefs about the sources of authority) or in the behaviour of their members, in the sense that the very act of obeying commands in public, in the absence of physical coercion, expresses acceptance of legitimate authority.

The concept of territorialization must be first of all understood literally. Face-to-face conversations always occur in a particular place (a street-corner, a pub, a church), and once the participants have ratified one another a conversation acquires well-defined spatial boundaries. Similarly, many interpersonal networks define communities inhabiting spatial territories, whether ethnic neighbourhoods or small towns, with well-defined borders. Organizations, in turn, usually operate in particular buildings, and the jurisdiction of their legitimate authority usually coincides with the physical boundaries of those buildings. The exceptions are governmental organizations, but in this case too their jurisdictional boundaries tend to be geographical: the borders of a town, a province or a whole country. So, in the first place, processes of territorialization are processes that define or sharpen the spatial boundaries of actual territories. Territorialization, on the other hand, also refers to non-spatial processes which increase the internal homogeneity of an assemblage, such as the sorting processes which exclude a certain category of people from membership of an organization, or the segregation processes which increase the ethnic or racial homogeneity of a neighbourhood. Any process which either destabilizes spatial boundaries or increases internal heterogeneity is considered deterritorializing. A good example is communication technology, ranging from writing and a reliable postal service, to telegraphs, telephones and computers, all of which blur the spatial boundaries of social entities by eliminating the need for co-presence: they enable conversations to take place at a distance, allow interpersonal networks to form via regular correspondence, phone calls or computer communications, and give organizations the means to operate in different countries at the same time.
While the decomposition of an assemblage into its different parts, and the assignment of a material or expressive role to each component, exemplifies the analytic side of the approach, the concept of territorialization plays a synthetic role, since it is in part through the more or less permanent articulations produced by this process that a whole emerges from its parts and maintains its identity once it has emerged. But there is another synthetic process in assemblage theory that complements territorialization: the role played in the production and maintenance of identity by specialized expressive entities such as genes and words. Although Deleuze considers all entities, even nonbiological and nonsocial ones, as being capable of expression, he argues that the historical appearance of these specialized entities allowed a great complexification of the kinds of wholes that could be assembled in this planet. Let me elaborate this point starting with the idea that physical or chemical entities are capable of expression. When atoms interact with radiation their internal structure creates patterns in this radiation through the selective absorption of some of its wavelengths. In manmade photographs this pattern appears as a spatial arrangement of light and dark bands (a spectrograph) which is correlated in a unique way with the identity of the chemical species to which the atom belongs. In other words, the absorption pattern expresses the identity of the chemical species in the form of physical information which can be used by astrophysicists, for example, to identify the chemical elements present in a given celestial process.\textsuperscript{12}

On the other hand, this expressivity is clearly not functional in any sense. That is, while the information patterns do have an objective existence, in the absence of astrophysicists (or other users of spectrographs) the patterns do not perform any function. These patterns may be compared to the fingerprints that are expressive of human organic identity, but that in the absence of a law-enforcement organization that collects them, stores them and retrieves them as part of a process of identification, perform no real biological function at all. But, Deleuze argues, there have been critical thresholds in the history of the planet when physical expressivity has become functional. The first threshold is the emergence of the genetic code, marking the point at which information patterns ceased to depend on the full three-dimensional structure of an entity (such as that of an atom) and became a separate one-dimensional structure, a long chain of nucleic acids. The second threshold is the emergence of language: while genetic linearity is still linked to spatial relations of contiguity, linguistic vocalizations display a temporal linearity that endows its information patterns with an even greater autonomy from their material carrier.\textsuperscript{13} These two specialized lines of expression must be considered assemblages in their own right. Like all assemblages they exhibit a part-to-whole relation: genes are made up of linear sequences of nucleotides, and the component parts of chromosomes; words are made of linear sequences of phonetic sounds or written letters, and are the component parts of sentences. Some of these component parts play a material role, a physical substratum for the information, and through elaborate mechanisms this information can be expressed as proteins, in the case of genetic materials, or as meanings, in the case of linguistic ones.\textsuperscript{14}

In assemblage theory, these two specialized expressive media are viewed as the basis for a second synthetic process. While territorialization provides a first articulation of the components, the coding performed by genes or words supplies a second articulation, consolidating the effects of the first and further stabilizing the identity of assemblages.\textsuperscript{15} Biological organisms are examples of assemblages synthesized through both territorialization and coding, but so are many social entities, such as hierarchical organizations. The coding process in the latter will vary depending on whether the source of legitimate authority in these hierarchies is traditional or rational-legal, as in modern bureaucracies. In the former the coding is performed by narratives establishing the sacred origins of authority, while in the latter it is effected by constitutions spelling out the rights and obligations associated with each formal role. It is tempting to see in the fact that both biological organisms and some of the most visible social institutions are doubly articulated, the source of the appeal of the organismic metaphor: the isomorphism of the processes giving rise to some biological and social entities would explain their resemblance. On the other hand, this real resemblance should not license the idea that ‘society as a whole’ is like an organism, since many social assemblages are not highly coded or highly territorialized. In fact, in both the biological and the social realms there are processes of decoding, yielding assemblages which do not conform to the organismic metaphor. In biology such decoding is illustrated by animal behaviour which has ceased to be rigidly programmed by genes to be learned from experience in a more flexible way. This decoding produces, for example, animal territories, the assemblages generated when animals have gone beyond the passive expression of information
patterns (patterns of the fingerprint kind) actively to use a variety of means – from faeces and urine to song, colour and silhouette – as an expression of their identity as owners of a particular geographical area. A social example of the result of a process of decoding would be informal conversations between friends. As social assemblages, conversations do not have the same durability of either interpersonal networks or institutional organizations, and no one would feel tempted to compare them to organisms. But they do involve rules, such as those governing turn-taking. The more formal and rigid the rules, the more these social encounters may be said to be coded. But in some circumstances these rules may be weakened giving rise to assemblages in which the participants have more room to express their convictions and their own personal styles.

Nevertheless, and despite the importance of genetic and linguistic components for the consolidation of the identity of biological and social assemblages, it is crucial not to conceptualize their links to other components as relations of interiority. In other words, the interactions of genes with the rest of a body’s machinery should not be viewed as if they constituted the defining essence of that machinery. And similarly for the interactions of language with subjective experience or with social institutions. In an assemblage approach, genes and words are simply one more component entering into relations of exteriority with a variety of other material and expressive components, and the processes of coding and decoding based on these specialized lines of expression operate side by side with nongenetic and nonlinguistic processes of territorialization and deterritorialization. To emphasize this point in the chapters that follow, I will always discuss language last and as a separate component. This will allow me to distinguish clearly those expressive components that are not linguistic but which are mistakenly treated as if they were symbolic, as well as to emphasize that language should be moved away from the core of the matter, a place that it has wrongly occupied for many decades now.

There are two more questions that must be discussed to complete the characterization of the assemblage approach. The first regards the processes of assembly though which physical, biological and social entities come into being, processes that must be conceptualized as recurrent. This implies that assemblages always exist in populations, however small, the populations generated by the repeated occurrence of the same processes. As the assemblages making up these collectivities interact with one another, exercising a variety of capacities, these interactions endow the populations with some properties of their own, such as a certain rate of growth or certain average distributions of assemblage properties. The second question regards the possibility that within these collectivities larger assemblages may emerge of which the members of the population are the component parts. In other words, the interactions between members of a collectivity may lead to the formation of more or less permanent articulations between them yielding a macro-assemblage with properties and capacities of its own. Since the processes behind the formation of these enduring articulations are themselves recurrent, a population of larger assemblages will be created leading to the possibility of even larger ones emerging.

The combination of recurrence of the same assembly processes at any one spatial scale, and the recurrence of the same kind of assembly processes (territorialization and coding) at successive scales, gives an assemblage theory a unique way of approaching the problem of linking the micro- and macro-levels of social reality. The bulk of this book will be spent giving concrete examples of how we can bridge the level of individual persons and that of the largest social entities (such as territorial states) through an embedding of assemblages in a succession of micro- and macro-scales. But at this point it will prove useful to give a simple illustration. One advantage of the present approach is that it allows the replacement of vaguely defined general entities (like ‘the market’ or ‘the state’) with concrete assemblages. What would replace, for example, ‘the market’ in an assemblage approach? Markets should be viewed, first of all, as concrete organizations (that is, concrete market-places or bazaars) and this fact makes them assemblages made out of people and the material and expressive goods people exchange.

In addition, as the economic historian Fernand Braudel argues, these organizations must be located in a concrete physical locale, such as a small town and its surrounding countryside, a locale which should also be considered a component of the assemblage. In these terms, the smallest economic assemblage has always been, as Braudel says:

- a complex consisting of a small market town, perhaps the site of a fair, with a cluster of dependent villages around it. Each village had to be close enough to the town for it to be possible to go to the market and back in a day. But the actual dimensions of the unit would equally depend on the available means of transport, the density of settlement and the fertility of the area in question.
Roughly, prior to the emergence of steam-driven transport, the average size of these complexes varied between 160 and 170 square kilometres. In the high Middle Ages, as European urbanization intensified, these local markets multiplied, generating a large population of similar assemblages. Then, some of the market places belonging to these population were assembled together into regional markets, larger assemblages with an average area of 1,500 to 1,700 square kilometres. Each such region typically exhibited a dominant city as its centre and a recognizable cultural identity, both of which are parts of the larger assemblage. Next came provincial markets, with dimensions about ten times as large as the regional markets they assembled, but a lesser degree of internal homogeneity. Finally, when several such provincial markets were stitched together, as they were in England in the eighteenth century, national markets emerged.

This brief description yields a very clear picture of a series of differently scaled assemblages, some of which are component parts of others which, in turn, become parts of even larger ones. Although I left out the historical details behind the assembly of local market places into regional markets, or those behind the creation of national markets, it is clear that in each case there was a process through which larger entities emerged from the assembly of smaller ones. As Braudel notes of national markets, they were a network of irregular weave, often constructed against all odds: against the over-powerful cities with their own policies, against the provinces which resisted centralization, against foreign intervention which breached frontiers, not to mention the divergent interests of production and exchange. The situation is, indeed, even more complex because I am leaving out long-distance trade and the international markets to which this type of trade gave rise. But even this simplified picture is already infinitely better than the reified generality of the ‘market’.

Let me summarize the main features of assemblage theory. First of all, unlike wholes in which parts are linked by relations of interiority (that is, relations which constitute the very identity of the parts) assemblages are made up of parts which are self-subsistent and articulated by relations of exteriority, so that a part may be detached and made a component of another assemblage. Assemblages are characterized along two dimensions: along the first dimension are specified the variable roles which component parts may play, from a purely material role to a purely expressive one, as well as mixtures of the two. A second dimension characterizes processes in which these components are involved: processes which stabilize or destabilize the identity of the assemblage (territorialization and deterritorialization). In the version of assemblage theory to be used in this book, a third dimension will be added: an extra axis defining processes in which specialized expressive media intervene, processes which consolidate and rigidify the identity of the assemblage or, on the contrary, allow the assemblage a certain latitude for more flexible operation while benefiting from genetic or linguistic resources (processes of coding and decoding). All of these processes are recurrent, and their variable repetition synthesizes entire populations of assemblages. Within these populations other synthetic processes, which may also be characterized as territorializations or codings but which typically involve entirely different mechanisms, generate larger-scale assemblages of which some of the members of the original population become component parts.

To conclude this chapter I would like to add some detail to the description of the synthetic aspects of assemblage theory. In particular, to speak of processes of territorialization and coding which may be instantiated by a variety of mechanisms implies that we have an adequate notion of what a mechanism is. In the case of inorganic and organic assemblages these mechanisms are largely causal, but they do not necessarily involve linear causality, so the first task will be to expand the notion of causality to include nonlinear mechanisms. Social assemblages, on the other hand, contain mechanisms which, in addition to causal interactions, involve reasons and motives. So the second task will be to show what role these subjective components play in the explanation of the working of social assemblages. The first task is crucial because the shortcomings of linear causality have often been used to justify the belief in inextricable organic unities. In other words, the postulation of a world as a seamless web of reciprocal action, or as an integrated totality of functional interdependencies, or as a block of unlimited universal interconnections, has traditionally been made in opposition to linear causality as the glue holding together a mechanical world. Hence if assemblages are to replace totalities the complex mechanisms behind the synthesis of emergent properties must be properly elucidated.

In addition to supplying an excuse for the postulation of a block universe, the formula for linear causality, ‘same cause, same effect, always’, has had damaging effects on the very conception of the relations between causes and effects. In particular, the resemblance of that formula
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with the one for logical implication ('If C, then E necessarily') has misled many philosophers into thinking that the relation between a cause and its effect is basically that the occurrence of the former implies that of the latter. But if causality is to provide the basis for objective syntheses causal relations must be characterized as productive, that is, as a relation in which one event (the cause) produces another event (the effect), not just implies it. The events which are productively connected by causality can be simple or atomistic events such as mechanical collisions. But causality may also connect complex entities, such as the component parts that make up a whole. In this case, while the entity itself cannot act as a cause because it is not an event, a change in its defining properties can be a cause, since changes, even simple quantitative ones, are events. For the same reason, actions performed by a complex entity can also be causes.

Linear causality is typically defined in terms of atomistic events, but once we depart from these we must consider the role that the internal organization of an entity may play in the way it is affected by an external cause. This internal organization may, for example, determine that an external cause of large intensity will produce a low-intensity effect (or no effect at all) and vice versa, that small causes may have large effects. These are cases of nonlinear causality, defined by thresholds below or above which external causes fail to produce an effect, that is, thresholds determining the capacities of an entity to be causally affected. In some cases, this capacity to be affected may gain the upper hand to the point that external causes become mere triggers or catalysts for an effect. As Bunge puts it, in this case 'extrinsic causes are efficient solely to the extent to which they take a grip on the proper nature and inner processes of things'. Catalysis deeply violates linearity since it implies that different causes can lead to one and the same effect - as when a switch from one internal state to another is triggered by different stimuli - and that one and the same cause may produce very different effects depending on the part of the whole it acts upon - as when hormones stimulate growth when applied to the tips of a plant but inhibit it when applied to its roots. It is important to emphasize, however, that to refer to inner processes (or to an internal organization) does not imply that nonlinear or catalytic interactions are examples of relations of interiority; inner processes are simply interactions between the component parts of an entity and do not imply that these parts are mutually constituted.

These two departures from linearity violate the first part of the formula ('same cause, same effect'), but the second part ('always') may also be challenged. Violating this second part, the part involving strict necessity, results in statistical causality, a form of causality that becomes important in cases where we start to consider not single entities but large populations of such entities. Thus, when one says that, in a given population of smokers, 'Smoking cigarettes causes cancer', the claim cannot be that one repeated event (smoking) produces the same event (the onset of cancer) in every single case. The genetic predispositions of the members of the population must also be taken into account, and this implies that the cause will produce its effect only in a high percentage of cases. Furthermore, statistical causality does not depend on the existence of complex internal processes in the members of a population. It may also obtain without such internal organization given that, outside of laboratory conditions, no series of events ever occurs in complete isolation from other series which may interfere with it. Thus, even if we had a population of genetically identical humans, smoking would still not always lead to the onset of cancer, since other activities (physical exercise, for example) may play a part in counteracting its effects. The most that one can say about external causes in a population is that they increase the probability of the occurrence of a given effect.

It is clear that assemblage theory, in which assemblages can be component parts of other assemblages (leading to the internal organization behind nonlinear and catalytic causality), and in which assemblages are always the product of recurrent processes yielding populations (involving statistical causality), can accommodate these complex forms of causality. And in doing so it takes away the temptation to use seamless-web imagery. For example, the idea that there are reciprocal forms of determination between parts can be accommodated via nonlinear mechanisms involving feedback (such as the negative feedback characterizing thermostats), mechanisms that do not imply a fusion between the parts of a whole. The chance encounters between independent series of events at the source of statistical causality can also contribute to eliminate totalities and the block universe they imply. As Bunge puts it:

A further test of the falsity of the doctrine of the block universe is the existence of chance (that is, statistically determined) phenomena; most of them arise from the comparative independence of different entities, that is, out of their comparative reciprocal contingency or irrelevancy. The existence of mutually independent lines of evolution...
is in turn ensured by the attenuation of physical interactions with distance, as well as their finite speed of propagation—the most effective looseners of the tightness of the block universe.²⁶

The two roles that components play in an assemblage, material and expressive, are related to these different forms of causality. While material components include the entire repertoire of causal interactions, expressive ones typically involve catalysis. The odours, sounds or colours that territorial animals use as expressions of their identity, for example, act only as triggers for behavioural responses in both rivals and potential mates, both of which must possess complex nervous systems to be capable of being affected this way. This is also true of genes, many of which code for enzymes that are highly effective and specific catalysts, although genes also code for proteins which play a material role, such as being building-blocks for cellular membranes. Language, on the other hand, typically plays a catalytic role which assumes that both speakers and listeners have complex internal organizations. This internal order, however, is only partially explained by material causes (such as possessing a nervous system) and implies more elaborate mechanisms. In particular, the capacity of human beings to be affected by linguistic triggers (as well as by nonlinguistic expressions of solidarity, legitimacy or prestige) demands explanations in which reasons for acting are involved and, in some cases, by explanations involving motives. Roughly, while reasons may be exemplified by traditional values or personal emotions, motives are a special kind of reason involving explicit choices and goals.²⁷

As the sociologist Max Weber argued long ago, causes, reasons and motives are typically combined in the interpretation of social action, that is, action oriented towards the behaviour of others. As he writes: 'A correct causal interpretation of a concrete course of action is arrived at when the overt action and the motives have been correctly apprehended and at the same time their relation has become meaningfully comprehensible.'²⁸ The fact that Weber speaks of 'causal interpretations' is conveniently ignored by most students of his method of understanding (or Verstehen). This method by no means licenses the conclusion that all social action may be read like a text, or that all social behaviour can be treated as an enacted document.²⁹ The source of this mistaken assessment of Weber's method is a confusion of two different meanings of the word 'meaning': signification and significance, one referring to semantic content, the other to importance or relevance. That Weber had significance and
interpretation of the sacred texts involved and of assessments of the relative importance of different portions of these texts for the explanation of concrete courses of action.

Weber’s method gives us a way to approach the question of mechanisms in social assemblages: mechanisms which will always involve complex mixtures of causes, reasons and motives.33 Not acknowledging the hybrid nature of social mechanisms can be a source of misunderstanding and mystification in social science. For example, social activities in which means are successfully matched to ends are traditionally labelled ‘rational’. But this label obscures the fact that these activities involve problem-solving skills of different kinds (not a single mental faculty like ‘rationality’) and that explaining the successful solution of practical problems will involve consideration of relevant causal events, such as physical interactions with the means to achieve a goal, not just calculations in an actor’s head. Similarly, when giving traditional routines as explanations one may reduce these to ritual and ceremony (and label these ‘irrational’), but this obscures the fact that many inherited routines are in fact problem-solving procedures which have been slowly refined by successive generations. These practical routines may be overlaid by ritual symbolism, while at the same time being capable of leading to successful causal interactions with material entities, such as domesticated plants and soil.

In addition to preserving the objective and subjective components, social mechanisms must include the full variety of causal interactions, that is, they must take into account that the thresholds characterizing non-linear causality may vary from one actor to another (so that the same external cause may affect one but not the other) and that causal regularities in the behaviour of individual actors are, as Weber himself argued, only probabilistic.34 Statistical causality is even more important when we consider populations of actors. Thus, in the case of explanation by motives, we may acknowledge that individual actors are capable of making intentional choices, and that in some cases such intentional action leads to the creation of social institutions (such as the written constitutions of some modern nation-states), while at the same time insisting that the synthesis of larger social assemblages is many times achieved as the collective unintended consequence of intentional action, that is, as a kind of statistical result. In the case of explanations by reasons, on the other hand, the collective aspect may already be taken into account if the beliefs and desires involved are the effect of socialization by families or schools. But this socialization must, in addition, be conceived in probabilistic terms. Much as the effects of genes on the bodily characteristics of plants and animals are a matter of probabilities (not linear causal determinism) and that, therefore, in describing populations we are interested in the statistical distribution of the variation in these bodily properties, so the effects of socialization should always be pictured as variable and the proper object of study should be how this variation is distributed in a given population.

This concludes the introduction of assemblage theory. The next chapter will add the only component which I left out here (the topological diagram of an assemblage) after which the ontological status of assemblages will be properly elucidated. It will also expand the discussion of the part-to-whole relation that figures so prominently in the distinction between assemblages and totalities, and show in more detail how assemblage theory can help to frame the problem of the relationships between the micro- and the macro-levels of social phenomena. Once the problem has been correctly posed the other chapters will attempt to flesh out a solution.
Notes

Introduction

2. Ibid., p. 49.

Chapter 1

3. ‘Structure is not “external” to individuals: as memory traces, and as instantiated in social practices, it is in a certain sense more “internal” than exterior to their activities in a Durkheimian sense’ (Anthony Giddens, The Constitution of Society [Berkeley, CA: University of California Press, 1986], p. 25).
4. Ibid., page 3.
8. Gilles Deleuze, Empiricism and Subjectivity (New York: Columbia University Press, 1991), p. 98. Deleuze is here discussing a specific type of component. Humean ideas (and this is what the original quote refers to), but the point applies to any other type of component.
9. Thus Deleuze writes:
   What is an assemblage? It is a multiplicity which is made up of heterogeneous terms and which establishes liaisons, relations between them, across ages, sexes and reigns – different natures. Thus the assemblage’s only unity is that of a co-functioning: it is a symbiosis, a ‘sympathy’. It is never filiations which are important, but alliances, aloys; these are not successions, lines of descent, but contagions, epidemics, the wind. (Deleuze and Parnet, Dialogues II, p. 69)
   The exclusion of lines of descent, such as they exist among organisms and even species, shows that he means to exclude the latter from the definition of an assemblage. In his work with Félix Guattari, Deleuze distinguishes between ‘assemblages’ on the one hand, and ‘strata’ on the other. Biological organisms and institutional organizations would be classified by them as strata. I will not retain this distinction here for reasons explained below in note 21.
10. Deleuze and Guattari use slightly different terminology. In particular, instead of ‘material’ and ‘expressive’ roles for components they talk of segments of ‘content’ and ‘expression’.
   We may draw some conclusions of the nature of Assemblages from this. On a first, horizontal axis, an assemblage comprises two segments, one of content, the other of expression. On the one hand it is a machinic assemblage of bodies, of actions and passions, and intermingling of bodies reacting to one another; on the other hand, it is a collective assemblage of enunciation, of acts and statements, of incorporeal transformations attributed to bodies. Then, on a vertical axis, the assemblage has both territorial sides, or reterritorialized sides, which stabilize it, and cutting edges of deterritorialization, which carry it away. (Gilles Deleuze and Félix Guattari, A Thousand Plateaus [Minneapolis, MN: University of Minnesota Press, 1987], p. 88)
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With the exception of the term ‘territorialization’ I will avoid using any of this complex terminology in this book. Also, instead of two dimensions I use three, a manoeuvre which allows me to get rid of the distinction between strata and assemblages, as explained in note 21.

11. This distinction between linguistic and nonlinguistic expression is somewhat obscured in the previous note by the reference to expressive components as ‘collective assemblages of enunciation’, unless one interprets it as referring not to the semantic content of statements, but to their illocutionary force, that is, to what they express as ‘speech acts’. See Deleuze and Guattari, A Thousand Plateaus, p. 80.

At any rate, even if we interpret ‘statement’ this way, the definition of assemblage is still inconvenient in that it seems to apply only to social cases (unless one takes inorganic and biological entities as capable of producing statements) which goes directly against the idea that assemblage theory applies equally well to physics, biology and sociology. See also note 13.


13. Deleuze and Guattari, A Thousand Plateaus, p. 62. Deleuze and Guattari distinguish the substance and the form of the materiality and expressivity of assemblages. Materiality involves not merely substance but formed substance, and expressivity is not purely formal but involves its own substance. The specialization of genes and words is then conceptualized as the separation between the substance and form of expression. In what follows I will not stick to this terminology. I will speak of physical or direct expressivity to refer to, for example, facial expressions or the expressivity of behaviour, and refer to language as a specialized medium of expression. But the reader should keep in mind that facial expressions are referred to by Deleuze and Guattari as ‘substance of expression’ and language as ‘form of expression’. As they write: ‘On the other hand, language becomes the new form of expression... The substance involved is fundamentally vocal substance, which brings into play various organic elements: not only the larynx, but the mouth and lips, and the overall motricity of the face’ (ibid., p. 61).

14. In addition, the processes which territorialize or deterritorialize genes and words should be included. The materiality of language, for example, becomes territorialized with the emergence of writing. But this spatial identity may become deterritorialized when carvings in stone or inked inscriptions on paper become modulations in electromagnetic fields, as in radio transmissions of spoken language, or television broadcasts of written language. Deterritorializations of the expressive part of language, that is, its semantic content, are trickier to conceptualize. Deleuze gives some indications of how this conceptualization may be pursued. In particular, he singles out certain semantic entities as playing a key role in these processes: infinitive verbs, proper nouns, indefinite articles. See ibid., pp. 263-4.

15. Deleuze and Guattari refer to this synthesis of wholes out of components as a process of double articulation (ibid., pp. 40-41). (This process is said to synthesize strata not assemblages, but see below, note 21.)

16. Ibid., p. 316.

17. Historically, the ancient Greek cities, located far from their main contemporary empires, but not so far that they could not benefit from their advanced civilizations, may have supplied the conditions in which conversations between friends broke free from the rigidity of similar encounters elsewhere. See Gilles Deleuze and Félix Guattari, What is Philosophy? (New York: Columbia University Press, 1994), p. 87. The Greek case is in fact a combination of deterritorialization and decoding. Here Deleuze and Guattari stress the former, but I would argue that decoding is also involved.


20. Ibid., p. 287.

21. This departs from Deleuze and Guattari’s own version of assemblage theory since they define assemblages along two, not three dimensions, but they are then forced to introduce two categories of actual entities, strata and assemblages. To use this opposition would unnecessarily complicate the presentation, particularly when the same objective may be achieved by adding a third dimension to the concept of assemblage. That they thought the opposition between strata and assemblages was relative (i.e. that assemblages are a kind of strata, or vice versa) is clear from the following:

From this standpoint, we may oppose the consistency of assemblages to the stratification of milieus. But once again, this opposition is only relative, entirely relative. Just as milieus swing between a stratum state and a movement of destrafication, assemblages swing between a territorial closure that tends to restrafify them and a deterritorializing movement that connects them to the Cosmos. Thus it is not surprising that the distinction we were seeking is not between assemblage and something else, but between two limits of any possible assemblage. (Deleuze and Guattari, A Thousand Plateaus, p. 337)

In addition, Deleuze distinguishes between two forms of deterritorialization. The first form, relative deterritorialization, refers to processes which destabilize the identity of an assemblage, opening it up to transformations which may yield another identity (in a process called ‘reterritorialization’). The second form is quite different, and it is referred to as absolute deterritorialization. In this second form it involves a much more radical
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identity change: indeed, a loss of identity altogether, but without falling into an undifferentiated chaos. Assemblages exist as actual entities, but the structure of the processes of assembly (what gives these processes their recurrent nature, or what explains that they can be repeated in the first place) is not actual but virtual. When deterritorialization is absolute it means that the process has departed from actual reality to reach the virtual dimension. In this sense, the term is synonymous with ‘counter-actualization’ as the limit process which creates the plane of immanent multiplicities which define the virtual structure of assemblages. The two limits referred to in the quote above are, on the one hand, a highly territorialized and coded assemblage and, on the other, the plane of immanence containing the virtual structure of all assemblages linked by relations of exteriority. In Chapter 2 I discuss the question of the virtual structure of assemblages using the concept of the ‘diagram’ of an assemblage.

23. Ibid., p. 178. Bunge credits both Spinoza and Leibniz with the introduction of efficient inner causation. Gilles Deleuze continues this tradition when he gives equal importance to capacities to affect and capacities to be affected.
24. Ibid., p. 49.
29. The concept of culture I espouse ... is essentially a semiotic one. Believing, with Max Weber, that man is an animal suspended in webs of significance he himself has spun, I take culture to be those webs, and the analysis of it to be therefore not an experimental science in search of law but an interpretive one in search of meaning (Clifford Geertz, Thick description: toward an interpretive theory of culture, in The Interpretation of Culture [New York: Basic Books, 1973], p. 5 [my emphasis].)

Geertz goes on to speak of ‘structures of significance’, as if this expression meant the same thing as ‘webs of significance’, a manoeuvre which illustrates the error I am discussing here. On the other hand, it must be admitted that Geertz’s ‘thick descriptions’ of cultural practices are indeed invaluable as a starting point in any social explanation, and this regardless of his rejection of explanatory strategies in favour of descriptive ones.
32. Ibid., p. 115. Weber discusses four ideal types of social action: (1) action oriented towards the matching of means to individually chosen ends; (2) action oriented emotionally; (3) action oriented by habituation to a tradition; and (4) action oriented towards an absolute value, that is, action ‘involving a conscious belief in the absolute value of some ethical, aesthetic, religious, or other form of behaviour, entirely for its own sake and independently of any prospects of external success’.
33. Ibid., p. 117.
34. Thus causal explanation depends on being able to determine that there is a probability, which in the ideal case can be numerically stated, but is always in some sense calculable, that a given event (overt or subjective) will be followed or accompanied by another event’ (ibid., p. 99).

Chapter 2

2. One is called that which subsists as such according to accident in one way, and in another, that which subsists essentially. A thing is called one according to accident, for instance Coriscus and what is musical, and the musical Coriscus; for it is one and the same thing to say, Coriscus and what is musical, as to say, Coriscus the musician; also, to say the musical and the just is one with saying the just musician Coriscus. For all these are called one according to accident. (Ibid., p. 97)
3. ‘The very nature of a thing will not, accordingly, be found in any of those things that are not the species of a genus, but in these only, for these seem to be predicated not according to participation or passion, nor as an accident’ (ibid., p. 136).
5. For a full discussion of the ontological and epistemological aspects of phase space; see Manuel DeLanda, Intensive Science and Virtual Philosophy (London: Continuum, 2002), Ch. 1.
6. For Deleuze’s most extended discussion of diagrams, see Gilles Deleuze, Foucault (Minneapolis, MN: University of Minnesota Press, 1988), pp. 34–41 and 71–2.

The structure of a space of possibilities is sometimes referred to as a ‘multiplicity’, a term that in French is equivalent to ‘manifold’, the differential geometry spaces used in the construction of phase space. Deleuze sometimes uses the terms ‘multiplicity’ and ‘diagram’ as synonyms. Thus, he says that ‘every diagram is a spatio-temporal multiplicity’ (ibid., p. 34). But he also uses alternative formulations that do not involve the mathematics of phase space. Thus he defines a diagram as a display of relations of force, or of a distribution of capacities to affect and be affected.