I

What is theory?

Our decision to begin this lecture series on modern social theory with the question 'What is theory?' may raise some eyebrows. After all, a fair number of you have attended courses on the great figures of sociological theory – such as Emile Durkheim, George Herbert Mead and Max Weber – which featured no discussion of the 'nature' of theory. The course organizers rightly assumed that you already have an intuitive understanding of 'theory' or soon will have. At any rate, you should by now be in a position to characterize the quite different approaches to social reality taken by Weber, Mead or Durkheim. As is well known, Weber described the state or political phenomena from a completely different point of view from Durkheim; the former thus had a quite different *theoretical* conception of the nature of the political from the latter, though both referred to the same empirical facts in their sociological accounts. Mead's conception of social action clearly differed markedly from that of Weber, though some of the terms they used were similar, and so on. All these authors thus underpinned their sociological accounts with differing *theories* (plural!). But has this insight not brought us a decisive step closer to resolving the issue of the 'nature' of theory? If we were to compare all these theories and pin down what they have in common, thus finding the lowest common denominator, would we not, we might wonder, already have achieved an adequate understanding of theory (singular!)? A comparison of this kind would surely provide us with, as it were, the formal elements that make up a (sociological) theory; we could grasp what social theory in fact is.

Unfortunately, though, this proposed solution fails to take us very far. Since sociology was established in the nineteenth century, its academic practitioners have never succeeded in reaching a truly stable consensus with regard to its object and mission. They have never really agreed even about core concepts. It should therefore come as no surprise that the 'correct' understanding of theory has also been fiercely debated. The *relationship between theory and empirical research* was one subject of controversy, because certain social scientists assumed that we first need to carry out intensive empirical work to prepare the ground for a decent social scientific theory, while others asserted that empirical research without prior, comprehensive theoretical reflection would at best yield meaningless and at worst erroneous results. Social thinkers have also had very different ideas on the *relationship between theories and world views*. While some emphasized that sociological theory or social theory is a

purely scientific affair remote from political or religious world views, others underlined that the humanities and social sciences can never entirely break away from such beliefs, and that the idea of a 'pure' science, of sociology for example, is therefore chimerical. The dispute over the *relationship between theory and normative or moral questions* was closely tied up with this. While some sociologists were of the opinion that science should in principle refrain from making any statements of a normative, political or moral nature, others called for a socio-politically engaged science which would not shrink from tackling 'oughts' (How ought people to act? How should a good or just society be structured?). On this view, science and particularly the social sciences should not act as though they merely make available research results with no responsibility for how these are used. Social scientific research certainly has consequences. Because of this, the discipline cannot be indifferent to what is done with its findings. Finally, the *relationship between theory and everyday knowledge* has also been subject to fierce debate. While some have postulated that science, including the social sciences, is generally superior to everyday knowledge, others have asserted that the humanities and social sciences are far too rooted in that everyday world, and dependent on it, to make such presumptuous claims. Thus, as you can see, the concept of theory itself is highly contentious. Any attempt, of the kind intimated above, to work out the lowest common denominator of the theories produced by the leading figures of sociology would come to nothing; it would remain impossible to answer the question 'What is theory?'. Even an endeavour of this kind would not help you reach a decision with regard to the debates which we have briefly outlined.

But do we need to thrash out and clarify so precisely what 'theory' is in the first place? At the end of the day, you have 'understood' the classical sociological authors, and have perhaps attended seminars on them, without having to explicitly question the concept of theory. Why then do we propose a debate on basic principles tackling the 'nature' of theory only at this stage – when considering *modern* sociological theory or social theory? There are two answers to this question. The *first* is informed by history or the history of the discipline. When, among others, Weber, Durkheim and Simmel, the so-called founding fathers, brought the discipline of 'sociology' into being, this often involved individuals struggling to assert the subject's scientific reputation and clashes with other disciplines that wished to deny the legitimacy of sociology. Of course, sociologists also disagreed with one another, quite often in fact, yet this was as nothing compared to the situation that pertained when sociology was finally established in the universities from the middle of the twentieth century on. Modern sociology, like the modern social sciences as a whole, now features a plethora of competing theoretical schools – not without good reason do we require another nineteen lectures to help you appreciate this diversity. And within this context of tremendous theoretical competition epistemological questions play a significant role, questions relating to the prerequisites

for and characteristics of science and scientific theory construction. The dispute between the various social scientific theoretical schools was and is often about the correct understanding of theory. In this respect, you require at least a certain degree of insight into these issues in order to grasp how and why modern social scientific theories have developed as they have.

The *second* answer relates both to the history of the discipline and to pedagogical matters. The modern social sciences are characterized not only by a large number of competing theories, but also by an extremely damaging division between theoretical and empirical knowledge. Something of a division of labour, as it were, has arisen between those who see themselves as theoreticians and those who view themselves as empiricists or empirical social researchers. As a result of this strict division of labour, these two groupings scarcely register each other's findings any more. But theoretical and empirical knowledge cannot truly be separated. This lecture on the 'nature' of theory is thus intended to provide us with an opportunity to think about what theory is, its importance to empirical research and the way in which empirical knowledge always informs its theoretical counterpart. Through this lecture we wish to convey to the enthusiastic theoreticians among you – if there are any – that social theories are never free of empirical observations or assumptions. It is thus a mistake to look askance at 'number-crunching' empiricists. In this lecture, we also wish to help the current or future enthusiastic empiricists and (possible) despisers of theory among you to appreciate that empirical observations – however banal they may be – are never free of theoretical statements; there is, therefore, no harm in engaging with theory on an ongoing basis. This is true in part because, despite all the chatter about the declining influence of the social sciences, we should bear in mind that social scientific theories continue to have an enormous impact; we need only think of Marxian theory in the past or the highly consequential debates on globalization and individualization in the cultural and political sections of present-day newspapers. Theories not only imbue the instruments of empirical social research, they also inform the social world we wish to study; for this reason alone, even empirically inclined social scientists cannot simply pass over these theories by arguing that they wish to steer clear of all theoretical speculations and prefer to devote themselves to (empirical) reality. Once again: theoretical and empirical knowledge are too closely linked for such an attitude to be justified.

But if it is the case that, as described above, no uncontested understanding of theory has ever emerged within the social sciences, if it has proved impossible to definitively clarify the relationship between theoretical and empirical knowledge, between theory and world views, between theory and normative questions and between theory and everyday knowledge, does this mean that questions about the 'nature' of theory are meaningless? No, it does not. There are no grounds for resignation and cynicism, for two different reasons. *First,* you will rapidly come to appreciate, if you study sociology for example, that

it is not the only discipline in which the question of the status of theory is discussed. The other social sciences, from political science through history to economics, face similar problems, even if arguments over basic issues tend to play a less central role there. And as you will see, even the seemingly unimpeachable natural sciences are not immune to such disputes. *Second,* it is certainly possible to achieve an understanding capable of attaining consensus, albeit one consisting of several steps, by drawing on the controversies over the status of theories, some of which have a very long history. This, however, requires us to examine precisely where and to what degree consensus has existed on the 'nature' of theory, at what point and why this consensus broke down and when, throughout the history of these controversies, attempts were made, again and again, to re-establish the previous consensus. This is precisely what we wish to elucidate.

At a very basic level, the different theoretical schools and disciplines are at least in agreement that theories should be understood as generalizations. To put it the other way around, which may be easier to grasp, we might say: every generalization is already a theory. We use theories of this kind all the time, particularly in everyday life. Whenever we use the plural, without actually having checked first whether our generalization truly applies to all cases, we are simultaneously deploying a theory: 'all Germans are Nazis', 'all men are macho', 'most sociologists say incomprehensible things', etc. are theories of this kind. On the basis of our observation that some Germans are in fact fascistic in their thinking, that many men do in fact behave in a misogynist manner, and that some sociologists struggle to speak generally intelligible English, we have concluded that *all* Germans are like that, that *all* men behave in this way, that *most* sociologists speak in that way. Of course, we have not really verified this. We neither know each and every German or male nor have we met most sociologists. When we make abstract statements such as these, we are therefore doing nothing other than utilizing a theory. You might also say that we are putting forward a hypothesis. The American logician, semiotician and philosopher Charles Sanders Peirce (1839–1914) has in fact shown to impressive effect that our entire perception of everyday life and our actions rest upon nothing but a wickerwork of hypotheses (or abductions as he calls them), without which we would be quite unable to live a meaningful life:

> Looking out of my window this lovely spring morning I see an azalea in full bloom. No, no! I do not see that; though that is the only way I can describe what I see.
>
> *That* is a proposition, a sentence, a fact; but what I perceive is not a proposition, sentence, fact, but only an image, which I make intelligible in part by means of a statement of fact. This statement is abstract; but what I see is concrete. I perform an abduction when I so much as express in a sentence anything I see. The truth is that the whole fabric of our knowledge is one matted felt of pure hypothesis … Not the smallest

> advance can be made in knowledge beyond the stage of vacant staring, without making an abduction at every step.
>
> (Peirce, Ms. 692, quoted in Thomas A. Sebeok and Jean Umiker-Sebeok, 'You Know My Method'. A Juxtaposition of Charles S. Peirce and Sherlock Holmes, p. 23)

Theory is as necessary as it is unavoidable. Without it, it would be impossible to learn or to act in consistent fashion; without generalizations and abstractions, the world would exist for us only as a chaotic patchwork of discrete, disconnected experiences and sensory impressions. Of course, in everyday life we do not speak of 'theories'; we use them with no awareness that we are doing so. In principle, working and thinking *scientifically* functions no differently, except for the fact that here of course the formation and deployment of theories occurs *quite deliberately*. Specific hypotheses or theories are proposed to deal with specific problems; one then tries to combine several such specific theories to make a more general theory that links together the various generalizations in consistent fashion. But all in all, the construction of theories, of generalizing statements, is a significant component of both everyday life and science. It is our only means of approaching 'reality'. The Anglo-Austrian philosopher Karl Raimund Popper (1902–94) expressed this elegantly, though not much differently from Charles Sanders Peirce:

> Theories are nets cast to catch what we call 'the world': to rationalize, to explain, and to master it. We endeavour to make the mesh ever finer and finer.
>
> (Popper, *The Logic of Scientific Discovery*, p. 59)

This understanding of theory, that is, its function with respect to generalization, is now almost universally accepted.

Historically, the first controversies began on the next level; but they too have been overcome because, as we shall see in a moment, one perspective emerged victorious, its superiority widely acknowledged.

The goal of scientific endeavour is not to produce generalizations of just any kind. Prejudices are also theories. They are also generalizations, albeit highly problematic or erroneous ones, as the above examples about the behaviour of Germans, men and sociologists clearly attest. But prejudices are the very thing that scientists claim not to produce; their concern is to formulate *accurate* generalizations on the basis of individual cases (inference from an individual case or individual cases to a universal statement is also termed 'induction' in the philosophy of science) or to explain individual cases *accurately* on the basis of theories ('deduction' – inferring individual cases from a generalization). But in order to speak of 'accurate' or 'inaccurate' theories, we require a yardstick. This must stipulate that theories are scientific (rather than prejudiced) only if they bear close scrutiny in light of reality, or can at least be checked against reality.

It was over this issue that consensus began to break down. People had different ideas about *what* exactly this process of checking against reality should involve. It seems obvious, for example, that *verification* should be the ideal of science. For a long time, until the early twentieth century, this was in fact the view commonly held by scientists and philosophers of science. If theoretical assumptions have to prove themselves against reality, then the best approach – it was presumed at the time – must be to first remove from science the entire stock of prejudiced everyday knowledge, in order to rebuild the edifice of scientific knowledge on absolutely solid ground. On this view, meticulous observation would lead to generalized statements which – repeatedly confirmed by individual observations and experiments – would become ever more certain. These principles and statements, verified in this way, that is, with their claim to truth confirmed, would then be combined, such that slowly but steadily more and more building blocks of *verified* knowledge could be accumulated and integrated. This would then lead to certainty, to 'positive' knowledge as it was called, which is one of the reasons why advocates of this conception of science are known as 'positivists'.

The problem with this positivist position, first clearly identified by the same Karl Raimund Popper mentioned above, is that verification cannot be a good yardstick of the scientific validity of statements for the simple reason that it is in fact impossible to verify most theoretical statements. As Popper lays out in his now very famous book *The Logic of Scientific Discovery*, which first appeared in 1934, in the case of most scientific problems we cannot be certain whether a generalization, that is, a theory or hypothesis, *truly applies in all cases*. In all probability, we will never be able to verify once and for all the astrophysical statement that 'All planets move around their suns along an elliptical trajectory', because we are unlikely ever to get to know all the solar systems in the universe and therefore we will presumably never be able to confirm with absolute certainty that every single planet does in fact follow an elliptical trajectory around its sun, as opposed to some other route. Much the same applies to the statement 'All swans are white'. Even if you have seen thousands of swans and all of them were in fact white, you can ultimately never be certain that a black, green, blue, etc. swan will not show up at some point. As a rule, universal statements cannot therefore be confirmed or verified. To put it another way: inductive arguments (that is, inference from individual instances to a totality) are neither logically valid nor truly compelling arguments; induction cannot be justified purely in terms of logic, because we are unable to rule out the possibility that *one* observation may eventually be made that refutes the general statement *thought to be* corroborated. Positivists' attempts to trace laws back to elementary observations or to derive them from elementary observations and verify them are thus doomed to failure.

This was precisely Popper's criticism. He then proposed a different criterion, for which he became famous, in order to mark off the empirical sciences

from other forms of knowledge – from everyday knowledge and metaphysics. He championed *falsification*, underlining that '*it must be possible for an empirical scientific system to be refuted by experience*' (Popper, *Logic*, p. 41; original emphasis). Popper's position was thus that while generalizations or scientific theories are not ultimately provable or verifiable, they may be checked against reality intersubjectively, that is, within the research community; they may be repudiated or *falsified*. This may sound trivial, but is in fact an ingenious argument that lays the foundations for 'empirical science' and demarcates it from other forms of knowledge. With his reference to the fundamental testability and falsifiability of scientific propositions, Popper excludes *first* so-called universal 'existential statements' from the realm of science. Statements such as 'UFOs exist', 'God exists', 'There are ants the size of elephants' cannot be falsified: I can provide no evidence to refute the claim that God or UFOs or elephant-sized ants exist, as it is conceivable, at least theoretically, that if you searched long enough, you would eventually find a UFO, God or elephantine ants somewhere. Popper does not deny that such statements can be meaningful. The statement 'God exists' is manifestly highly significant and thus meaningful for many people. Popper is simply of the opinion that there is little point in entering into a *scientific* dispute about the existence of God, precisely because a statement to this effect cannot ultimately be disproved.

Second, the criterion of falsification now allows us to test and in fact verify so-called universal statements ('All Germans are Nazis'), because a single observation – of a German who is not a Nazi – can cause the assertion or theory to collapse. For Popper, the criterion of falsification is thus the only productive as well as the most efficient yardstick enabling us to distinguish scientific from other kinds of statements.

This brings a quite different dynamic to scientific work than pertained when the old 'positivist' conception of science and its principle of verification held sway. Popper's approach, which has triumphed over positivism, eschews a view of science as a slow accumulation of knowledge; for him, science means the *constant testing and questioning* of our theoretical assumptions by deliberately exposing them to the risk of falsification. Only the best theories survive in this (Darwinian) struggle. Science, Popper claims, is not set in stone: it is incapable of achieving absolute knowledge, truth or even probability; science is rather a steady forward march, a process of 'guessing' with respect to theoretical statements which are constantly put to the test. Theories can therefore only ever be described as 'provisionally warranted':

> it is not so much the number of corroborating instances which determines the degree of corroboration as *the severity of the various tests* to which the hypothesis in question can be, and has been, subjected.
>
> (Popper, *Logic*, p. 267; original emphasis)

Popper is thus less concerned to demand that scientists maintain distance from quotidian knowledge and its prejudices than with encouraging a willingness to repeatedly examine their own theory (or theories) for potentially falsifying evidence in order to get rid of all those theories with no chance of survival. Scientists should not be searching for evidence to confirm their own theories, but actively divesting themselves of all false certainties through consistent use of the principle of falsification! Popper puts it in typically pithy fashion: 'Those among us who are unwilling to expose their ideas to the hazard of refutation do not take part in the scientific game' (*Logic*, p. 280).

The superiority of the Popperian conception of science over its positivist predecessor is now widely recognized; falsification is generally thought to be a better criterion for defining what science is than verification. In this respect, there is once again consensus about what theory is and what it can do. Admittedly, scientists disagree over whether Popper's emphasis on scientific theories as generalizations that may be tested against reality and are thus falsifiable is really all that can be said about the concept of theory. Advocates of the 'rational choice' approach, which we examine in the fifth lecture, are in fact of this opinion insofar as they wish to reserve the concept of 'theory' only for those systems of statements in which social facts are *explained* quite explicitly *with the aid of a universal statement*, a general law. Here, 'theory' is understood *solely* as an explanatory system: 'Every explanation begins with the question of why the phenomenon under examination exists (or existed) in this way, functions (or functioned) as it does (or did) or changes (changed) in the manner it has been claimed to do' (Esser, *Soziologie. Allgemeine Grundlagen* ['Sociology: General Foundations'], p. 39). To explain things, you need, among other things, a universal statement – and it is only explanatory systems based on such universal statements that may be called 'theories' from the perspective of this approach. The rational choice approach refuses to honour other reflections, those not immediately concerned with producing law-like propositions, with the title of 'theory'.

At first sight this approach, which tallies with the Popperian conception of theory, appears reasonable and scarcely open to criticism. Furthermore, this definition of 'theory' has the advantage of being fairly narrow and precise: you know exactly what you mean then when you use the term 'theory'. However, this is not quite as unproblematic and self-evident as it might seem, because the relationship between theoretical and empirical knowledge throws up rather serious problems for the Popperian approach. The applicability of the criterion of falsification that Popper has brought into play (as well as that of the criterion of verification vanquished by him) rests on the assumption that the level of empirical observation and that of theoretical interpretation or explanation may be clearly distinguished, and thus that purely theoretical statements may be tested against separate, purely empirical observations. One can falsify and refute a theoretical statement with complete certainty

only if one's observations, through which one is attempting to falsify it, are correct and beyond dispute. Observations cannot themselves entail yet more theories, because otherwise of course it is possible that, because one's observations may already contain a false theory, one is wrongly falsifying (or verifying) a statement. In other words, for falsification (or verification) to proceed smoothly we would require direct access to an unmediated, theory-free form of observation.

But we know, as the lengthy quotation from Peirce already brought home to us so powerfully, that this is not the case. Every observation made in everyday life, and every statement about it, is already permeated by theory. The same also applies to scientific observations and statements. Within a community of scientists, empirical observations must be formulated in an observer's language that either draws directly upon everyday language or, if explicitly specialist terminology is used in the process of observation, whose terms can be explicated and defined with the aid of everyday language. And this everyday language is of course always 'infected' with theory already. Peirce showed that *every* observation is a generalization and thus an elementary theory: observational languages *inevitably* entail theories already, which direct our attention towards certain phenomena and which help determine how we perceive phenomena. But this also means that we can never describe individual instances without implicit generalizations. It is thus impossible to maintain a strict division between empirical and theoretical knowledge. And the idea, which goes back to Popper, that it is possible to falsify theories in straightforward fashion, is untenable.

If there is no polarity, no strict division between empirical and theoretical knowledge, how are we to define their relationship? The American sociologist Jeffrey Alexander, whose work we will come across again in the course of this lecture series (see Lecture XIII) has made a very helpful suggestion in this regard. He speaks not of a 'polarity' but of a 'continuum':

> Science can be viewed as an intellectual process that occurs within the context of two distinctive environments, the empirical observational world and the non-empirical metaphysical one. Although scientific statements may be oriented more toward one of these environments than the other, they can never be determined exclusively by either alone. The differences between what are perceived as sharply contrasting kinds of scientific arguments should be understood rather as representing different positions on the same epistemological continuum.
>
> (Alexander, *Theoretical Logic in Sociology*, vol. I, p. 2)

Thus, according to Alexander, scientific thought is constantly moving between the extremes, at which we never finally arrive, of what he calls the 'metaphysical environment' and the 'empirical environment' – which chimes with the Peircean argument that we are unable to access the world directly, without

theory. Alexander has attempted to outline this in Figure 1.1 below (ibid., p. 3). The core message here is that observations are indeed relatively close to reality, that is, to the 'empirical environment', but that it is impossible to reproduce reality directly because observations are bound up with methodological assumptions, laws, definitions, models and even 'general presuppositions', which are relatively close to the pole of the 'metaphysical environment'. But this means – and we will return to this point later on – that it is quite misguided to try to limit scientific work to the construction of theories in the sense of explanatory systems and attempts to falsify them. If scientific argumentation does in fact take place along the continuum outlined by Alexander, then the task of scientific theorizing undoubtedly amounts to more than advocates of the 'rational choice' approach mentioned above, for example, assert. If 'general presuppositions', 'classifications', 'concepts', etc. play just as significant a role in the research process as 'laws' and observations – or at least a not unimportant role – there is no reason for us to accept that we can advance our understanding only by concentrating on these laws and observations. It would also be difficult to maintain the notion that the term 'theory' must be reserved exclusively for systems of statements consisting of laws and observations. And many social scientists have in fact adopted a more broadly conceived conception of theory.

But let us return immediately to the fact, problematic for Popperian falsificationism, that it is impossible to draw a strict dividing line between the levels

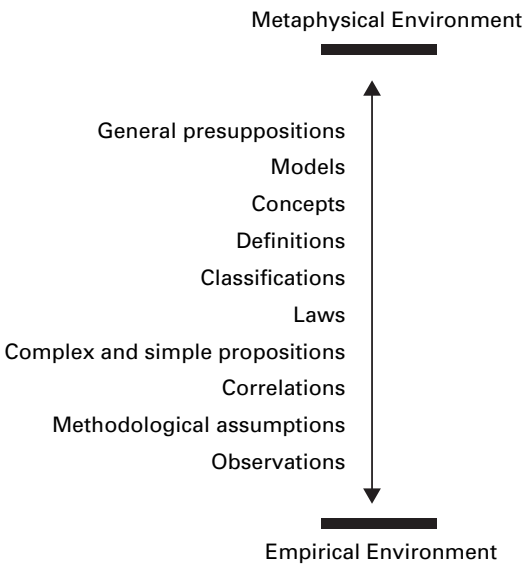

Figure 1.1