3

Positivism and Sociology

Positivism is an epistemological position with certain 'left-of-centre' political implications. It emerged in combination with sociology, which would eventually develop into a full-fledged academic discipline concerned with the social problems generated by capitalist industrialisation, urbanisation, and other aspects of contemporary daily life. The combined development of positivism and sociology transpired in several stages.

- the original positivism and sociology of A. Comte (1798-1857), in many respects a product of the restoration following the French revolution and Napoleon;

- the later, 'classical' sociologists, Durkheim (1858-1917) and Max Weber (1864-1920), whose work dates from the period when the workers' movement was reaching the high point of its historic ascent and militancy;

- the neo-positivists of the Vienna School, who sought to apply the atomistic philosophy of the natural sciences to all the sciences generally (not just sociology).

Of the first two stages, Alvin Gouldner writes, 'If the key polemical target of Positivist Sociology had been the *philosophes* and the French Revolution, the common polemical target of the thinkers of the Classical

period was Marxism… Classical Sociology was the great achievement of the middle class of Western Europe… when in general, the middle class was increasingly threatened by the rise of Marxist Socialism' (quoted in Seidman, 1983: ix).

In the present chapter we will deal, first , with the principles of sociology and positivism as they emerged in the first half of the 19th century. Then we turn to the sociology of Durkheim and others as exemplary of a managerial, reformist approach to the 'social question' (Weber was not a positivist but stands in the hermeneutic/neo-Kantian tradition that we look at in Chapter 4). Finally, we turn to neo-positivism which more than the others worked to imprint the sociological, empirical method with the subjectivist approach which warrants its place at this point in our study (which as noted, may be legitimately contested for the earlier versions).

1. EARLY POSITIVISM AND SOCIOLOGY

Positivist sociology emerged in the early 19th century in the context of the restoration after the French revolution. With Napoleon imprisoned at St. Helena, the progressive bourgeoisie found itself in a situation that Gramsci terms 'passive revolution'—the need to adjust to the conditions of political defeat and hence to advance in a 'molecular' fashion. As a class associated with commerce and private property, the French bourgeoisie

had to deal with, 1) the industrial revolution on the British Isles, and 2) the need to develop an ethics in which the modernisation of the state achieved in the previous decades could be salvaged amidst a resurgent *Ancien Régime*.

Henri de SAINT SIMON (1760-1825) was prominent among those who resisted the idea of a return of the aristocracy and clergy expropriated in the revolution.

St. Simon saw the industrialists and craftsmen as the driving force of modern society and was concerned about finding ways to make them the

political directive class. He famously wrote that it would immediately be apparent which class is more vital to the happiness of France if the country would have to choose between losing its best engineers, scientists, artists, and businessmen; or losing the aristocrats holding state power, the clergy, and the landowning class (see his 'letter' of 1803).

Through the convulsions of the revolutionary epoch, St. Simon claimed that France had lived through *a crisis*—not primarily of politics, but of social change, 'from a feudal and theological to the industrial and scientific system' (quoted in Therborn, 1976: 164-5). Positivism and sociology crystallised as a combined perspective to articulate and deal with this transformation.

Progressive Evolutionism

Sociology was characterised by Gramsci as 'an attempt to create a method of historical and political science in a form dependent on a pre-elaborated philosophical system, that of evolutionist positivism…'

> It became a philosophy of non-philosophers, an attempt to provide a schematic description and classification of historical and political facts, according to criteria built up on the model of natural science. It is therefore an attempt to derive "experimentally" the laws of evolution of human society in such a way as to "predict" that the oak tree will develop out of the acorn' (Gramsci, 1971: 426).

The mechanical and statistical understanding of social change, however, tends to preclude insight into qualitative ruptures. 'Statistical laws can be employed in the science and art of politics only so long as the great masses of the population remain… essentially passive' (Ibid.: 428). But whatever its inherent limitations, statistics and more generally, the empirical and historical approach, highlight to what extent we are looking at an approach that is fundamentally different from the axiomatic economics and Rational Choice discussed in the last chapter.

Given that the overtly political demands of the bourgeoisie had been put on ice for the moment, the positivist sociologists emerging in the context of the restoration had to find a different reference point for their claims—science. Adopting the Kantian view that only phenomena can be known

as its starting point, 'positivism asserted that scientific knowledge was the only certain knowledge' (Ross, 1991: 17).

The vision of an impending triumph of industry and science descends from one of the constitutive social forces of the Atlantic revolutions of the late 18th and early 19th centuries, *Freemasonry* (see my 1998: 99-106). As a transnational liberal movement inspired by the Glorious Revolution in England and radiating from the British Isles, the semi-secret Masonic lodges campaigned for a separation of church and state. Their concept of progress was built around a firm belief in the blessings of science and the arts. Although St. Simon has sometimes been credited as a 'father of socialism', his role is better understood in this perspective, as the founder of the French technocratic tradition which has placed itself in the service of the nation.

Auguste COMTE (1798-1857), his long-time assistant, shared St. Simon's belief in the need to let science operate as the guiding principle of social organisation. Otherwise Comte was a conservative. Like St. Simon, he believed in an organic, evolutionary process of social change. It was Comte who coined the notion of positivism, the sovereignty of positive (proven, confirmed) scientific fact against superstition and prejudice. But its key objective was politically conservative nonetheless: positivism in Comte's view was 'the only guarantee against the communist invasion' (quoted in Therborn, 1976: 224).

In a way, positivist sociology from its earliest inception took its distance from the atomistic individualism of Lockean liberalism. The classical European tradition, Seidman argues (1983: 8), 'features holism, idealism, and historicism, [and it] marks a decisive break from Enlightenment social thought and from the Anglo-American tradition—both of which are rooted in the premises of social contract theory.' The Enlightenment thinkers already differed from the Anglophone tradition in that they

refused to accept the antinomy between natural man and artificial society; in the view of 18th-century thinkers like Voltaire or Hume, humanity itself is a product of family and society, and human nature is therefore social (Seidman, 1983: 22-3).

St. Simon, Comte and the later sociologists on the European continent developed their ideas on this premise. They were *modernisers respectful of the existing order*, and thus paved the way for what I have called a managerial perspective, once a rentier class had begun to leave day-to-day dealings with the workers in the real economy to a specialised cadre.

Comte's positive sociology is based on the notion that science could replace religion as the foundation of an orderly society. He eventually broke with St. Simon, shifting from a technocratic to a theoretically conservative position; in Seidman's words (1983: 55), 'philosophical conservatism entered into the mainstream of French sociology by means of Comte'. The liberal idea of the isolated individual in pursuit of self-interest, was unacceptable to the continental tradition. Comte instead stresses the notion of society as a totality, a unity of many parts that cannot be reduced to subjective drives. In the context of the restoration, conservatism left its enduring imprint on the positivist enterprise: it is (Seidman claims in the passage quoted above) 'manifested in sociology's abiding interest in, and underlying advocacy of, social order and stability, hierarchy, religion and moral order, social control, anti-utopianism, and an ethic of obedience and resignation'.

What St. Simon and Comte inserted into the conservative trend was their belief in science and the loss of confidence in religion as the force able to ensure social cohesion. In this respect they both, with different accents, sought to combine the tradition of French rationalism with a flexible, empirical approach (cf. Turner, 1990).

Rationalism and Empiricism

Reuten (1993: 64) characterises positivism as an anti-metaphysical alliance between rationalism and empiricism. In Comte however there is still a strong dose of metaphysics: it comes in the form of a *philosophy of history*

which somehow towers over the sphere of daily life, guiding it from an unspecified higher plane. Comte's positivism is an unreflected idealism, concerned with 'spirit' and its mutations in the course of historical evolution.

Comte argued that a new era of philosophical inquiry was dawning in his life-time, based on the investigation of the laws of nature. After religious thinking and metaphysics (as a class of philosophical systems), it was this positive branch of philosophy that would allow the rational ordering of society. Comte uses an organic metaphor of growth that he applies both to individual life-spans and to historical societies. His *law of the three stages* through which society passes (theological-military, metaphysical, positive-scientific) is not a rigid periodisation though.

'In actual fact,' he writes in his *Sociology*, 'the theological philosophy has never been truly universal, not even in our initial, individual or social childhood.' Certain phenomena were always understood in terms of plain natural laws—he quotes Adam Smith that there has never been a god of gravity (Comte, 1971: 195-6).

Hence there has always existed a niche of 'positive' knowledge. But only in Comte's own era,

> the laws of nature were finally revealed in forms that were numerous and varied enough to allow the human spirit to capture, in principle, the necessary existence of analogous laws relating to all possible phenomena, however remote their actual discovery still might be (Ibid.: 197).

Comte's *rationalism*, the idea that humanity inserts its conception of an orderly society into the material world it faces, as we saw had been pioneered in France by Descartes. In its Cartesian form, rationalism is based on the idea that thinking is an active process that instils order into the world (which it can do because there exists an inborn reason that all people share). Comte echoes this when he writes that 'according to the fundamental laws of human nature, the development of the species as well as the individual must, after sufficient previous training of all our abilities, give preference, spontaneously and to an ever greater degree, to reason over imagination' (Comte, 1971: 195). This is not the rationality of

the individual mind, it is an objective rationality that resides in the nature of things and makes itself felt by investigating the world as it is, empirically.

Empiricism as we saw is a British tradition that sees knowledge as the result of the registration of signals which reach the mind through the senses. Locke, Berkeley, and Hume were the main proponents of this view. Clearly the 'registration' process involved here must itself be a narrowly circumscribed procedure if we are to speak of real knowledge. Comte speaks in this connection of the 'meticulous rationality of the methods of the scientific spirit, applied to the most directly accessible target', which he contrasts with the frivolous pursuit of revealing impenetrable mysteries (Comte, 1971: 199).

Positivism, then, is rationality plus empiricism against metaphysics (including religion). It brings together the empirical confirmation of the spirit's conception of reality, with the active application of its insights to society. It is, writes Comte (1971: 199), 'the tendency to develop the means of our reason either to predict the phenomena of nature or to modify them through our intervention, which is the characteristic feature of the positive philosophy'. This will culminate, through a persistent exposure of the fruitless emptiness of theological and metaphysical representations, in the 'inevitable, *complete systematisation of the positive spirit*' (Ibid.: 200, emphasis added).

Comte's metaphysical philosophy of history however still works against this claim. In the words of Benton (1977: 30, emphasis added),

> All Comte's analyses… point to the same imperative. The foundation of scientific sociology is an urgent political, as well as intellectual necessity. But by what method is such a science to be achieved and by what criteria is success to be measured? ... To answer these questions Comte propounds a general theory of the nature and development of scientific knowledge. In one important respect this theory breaks with classical empiricism. *For Comte the "knowing subject" is not the solitary individual but the "human spirit".*

This, Benton argues, means that he adopts a metaphysical starting point, even though Comte then applies this to the history of science. The larger

philosophy of history, in which the social organism supposedly 'grows' to maturity and then reveals its inherent rationality, likewise can be seen as a breach of some of Comte's own claims.

Even so we can now see that the subjective rationality that is involved in positivism (and which in the early versions is still immersed in a metaphysical philosophy of history and quasi-Hegelian notions of collective spirit), differs from that discussed in connection to Rational Choice in the last chapter.

In theories of Rational Choice, the action taken by the subject is based on choice. Choices are rational by definition (following one's self-interest is rational); on this axiom, a deductive system with a strong prescriptive aspect is then erected. The prescriptive aspect lends Rational Choice its dogmatic side; it may be compared to religion (or any other ideology).

Positivism however is based on knowledge that has been gained through *investigation*. There is no preconceived notion on which the entire system turns, there is only method and empirical facts. This turns sociology into what Therborn calls 'an investigative instead of a dogmatic guardian of the ideological community' on which social cohesion is premised (Therborn, 1976: 224-5).

Both approaches are about discipline, but the one (micro-economics and Rational Choice) is rigid and doctrinaire, the other (positivist sociology) is flexible, it can adjust to changing circumstances. They operate of course in a complementary rather than adversarial fashion, because the imposition of discipline that they are concerned with, is part of a hierarchy in which the principles of liberalism and property occupy the high ground whilst management is an auxiliary, executive force that does not challenge these principles but rather is concerned with their practical consequences.

2. TOWARDS A SCIENCE OF SOCIAL CONTROL

In the course of the 19th century the need to control a growing industrial working class exposed to socialist agitation and Marxist ideas, required a flexible answer. Sociology now established itself definitively as the branch

of knowledge able to provide it. Whilst economics mutated into an axiomatic doctrine of free choice, sociology was meant to take the pulse of society to assess whether reform was in order. The growth of sociology as a descriptive science of social change, statistics, and of (neo-) positive method have continued into the present; there is constant pressure on academic social science establishments to take all three on board as a single package, pressure backed up by funding policy. This may be seen as an attempt of contemporary society to instrumentalise academic work and training for the maintenance of the key structures of that society intact in a flexible, non-dogmatic way (cf. Giddens, 1976).

In Britain, sociology did not establish itself until after the Second World War; here economics and religion, empire and charity worked to impart social discipline. In the late-industrialising countries on the other hand—both the United States and the continental European countries—these tasks fell to the academic discipline of sociology already at the turn of the 20th century. 'American sociologists… like the Durkheimians of the Third French Republic and the German sociologists around the *Verein für Sozialpolitik*, were engaged in an effort to secure the national identity in the face of political and industrial transformation' (Ross, 1991: 255). Let us first look at Durkheim, since he like few others exemplifies the progressive, non-dogmatic and adaptive sociology of this period.

Durkheim's Reformism

The role of Émile DURKHEIM (1858-1917) must be viewed against the background of the French Third Republic that emerged from the collapse of the imperial adventure of Napoleon III and was constructed on the ruins of the Paris Commune of 1870-71. The workers' revolt in the closing stages of the Franco-Prussian war and its bloody suppression by the combined armies of defeated France and victorious Germany, left a legacy of bitterness. But whilst the ruling classes on both sides of the Rhine drew together in fear and vengeance, thus cutting off a reformist

approach until much later, Durkheim believed that *a compromise between the bourgeoisie and the workers was possible.*

To this end Durkheim sought to work out 'a reconciliation of the liberal and revolutionary traditions—to synthesize individualism and community, liberty and equality, pluralism and solidarity, collectivism and decentralized community autonomy, and economic progress and democratic planning' (Seidman, 1983: 151). His lifelong friendship with the historic leader of the French Socialist party, Jean Jaurès, leaves no doubt as to where he looked for the forces who could realise this aim.

In *The Division of Labour* (originally of 1893), Durkheim argues that in modern society, the 'mechanical solidarity' that traditionally held communities together, is replaced by the *organic solidarity* created by the division of labour. 'Whereas the previous type implies that individuals resemble each other, this type presumes their difference' (Durkheim, 1964: 131). That people nevertheless feel a sense of belonging, is via the attachment of the individual to their role in society. However, this is conditional on a sense that their contribution is properly recognised and rewarded; *inequality* in other words must be reined in.

> Society is forced to reduce [the disparity that comes about through birth] as far as possible by assisting in various ways those who find themselves in a disadvantageous position and by aiding them to overcome it. It thus shows that it feels obliged to leave free space for all merits and that it regards as unjust any inferiority which is not personally merited (Durkheim, 1964: 379).

Durkheim conforms much more closely to the profile of a managerial thinker than Comte, whom he reproached for his conservatism. 'Durkheim formulated a doctrine that was responsive to the needs and critical disposition of the working classes, *yet in accord with the tradition of moral idealism among the democratic middle class*', Seidman concludes (1983: 177, emphasis added).

Marxism did not have much hold on the French working class until the 1930s. French workers were radical and militant, but little given to abstract theory; they were influenced by the democratic traditions of the French revolution, by the cooperative movement and syndicalism.

Durkheim's acquaintance with Marx's work dated from a period when his own ideas had already taken shape, so for him there was little reason to engage with Marxist thought either (Seidman, 1983: 147). Neither did he have to develop a method that would distinguish him from historical materialism, as Weber would (cf. Chapter 4).

What was and remains alive in the French democratic tradition, however, is the *critique of liberalism*. Here the organic, social-historical view dominant on the continent confronts the atomistic, social contract perspective prevalent in the Anglophone world. French liberalism never achieved hegemony, hemmed in as it was between the democratic and egalitarian traditions of the French Revolution and a militant Catholic conservatism.

Durkheim sees two strands in the liberal tradition, a Lockean and a Kantian. The Lockean strand is exemplified in liberal economics and tends 'towards a materialistic metaphysic, a naturalistic pleasure-pain psychology, an instrumentalist view of social action, and a notion of happiness as the highest moral and social end' (Seidman, 1983: 162). The subjectivism of Lockean liberalism, Durkheim writes, prevents that we come to objective conclusions. The axiom of the autonomous actor of liberal ontology, in his view was not so much a real logical premise, but a 'matter of faith'. A deductive system built around such a premise (as micro-economics and Rational Choice today), cannot engage with the real world.

> Given the notion of an absolutely autonomous individual, depending only on himself, without historical antecedents, without a social milieu, how should he conduct himself either in his economic relations or in his moral life? Such is the question which they pose themselves and which they seek to resolve by reasoning (quoted in Seidman, 1983: 163-4).

To found a true social science, one must *liberate liberalism from the axiomatic premise that gives it an ideological status*. Instead of an a priori deductive foundation, it must be empirical and practical, but also inspired by an ethical conviction. This situates Durkheim in the tradition of the *subjective idealism* of Kant (cf. Chapter 4). This ethical approach, which assumes that change depends on whether people can be *convinced*, on

moral grounds, to do the right thing, has historically been very influential in Social Democracy.

Anglophone Sociology Between Evolutionary Liberalism and Discipline

Within the heartland of Lockean liberalism, meanwhile, Britain itself differed greatly from North America as far as the adoption of sociology goes. Throughout the 19th century, subjectivist economics and religion remained the dominant ideational forces in the mother country (Gammon, 2007). The one British social thinker of this era who is classed as a sociologist, Herbert Spencer (1820-1903), was an autodidact engineer and radical opponent of state intervention. In many ways, Hayek's ideas about the 'serfdom' the would result once the states interferes with the free market, are echoes of Spencer (cf. 'The Coming Slavery', a chapter title from *The Man Versus the State* of 1884, or 'From Freedom to Bondage', an essay of 1891). Spencer situated his radical liberalism within a theory of society as a self-regulating organism (an evolutionary determinism that was later reformulated as systems theory, cf. Chapter 6). Indeed terms like 'survival of the fittest', often ascribed to Darwin, were actually coined by Spencer (Spencer, 1982: 109; cf. Löwy, 2004: 99).

  Such ideas became much more popular across the Atlantic than in Britain itself. In North America, the westward expansion of the 'Frontier' and the rapid succession of new waves of immigrants populating the society established in its wake (to which we return in Chapter 5), multiplied the 'social problems' that sociology is supposed to regulate. In the United States in the 1860s and 1870s, 'the harmony between science and religion declared by virtually all segments of Protestant Christianity proved increasingly difficult to maintain' (Ross, 1991: 54). The theories of Spencer and Comte instead fostered a new confidence in the 'facts' and 'laws' that underlie positivist thinking. After the turn of the century, *reform* become the order of the day, and this again is what sociology is meant to guide. Unlike Durkheim's France or Weber's Germany, however, the social reformers in the US had more room for manoeuvre because the labour movement too was in a state of constant flow and reorganisation

because of mass immigration; its ability to establish itself as a social force represented in the state, was accordingly much less than in Europe.

American social scientists therefore could become a guiding force in the reform movement that sought to control the transition of a landed society governed by gentlemanly self-regulation, to an urban, industrial society of large-scale organisations. Sociology in the United States had many connections with socially conscious Protestantism; Albion Small (1854-1926), the first chair in the field, closed his courses with a prayer in which he claimed that sociology was a force in establishing God's Kingdom on earth (Ross, 1991: 123-4). The real conflict in society, Small argued, was not between capital and labour but 'between those willing to rethink and hence "socialize" social problems and those unwilling to change' (quoted in ibid.: 225).

Certainly the social scientists, like the economists, had to actively take a stand against socialism. In the US, socialism against the background of racism and immigration could be dismissed as 'un-American' and countered by appeals to patriotism. This did not fundamentally depart from the flexible, managerial perspective typical of sociology everywhere. To quote Small again, 'in the Hegelian idiom, conventionality is the thesis, Socialism is the antithesis, Sociology is the synthesis' (quoted in Ross, 1991: 126). A colleague of Small's, F.H. Giddings, claimed that 'it is through the mediation of society that survival of the fit becomes the survival of the best' (quoted in ibid.: 220).

As sociologists followed in the footsteps of economists in setting up a professional organisation (with the same effects of fostering abstract, academic discourse and the marginalisation of radical opinion as a means of gaining social respectability), rivalry between the disciplines increased. This goes to the heart of my thesis: *after economics had been recast as an axiomatic system of subjective choice, sociology followed* (often studying the same topics) *by developing a flexible, empirical orientation to society using a fundamentally different method.*

Yet for all the harsh words between them and the mockery of each other's terminology and methods, there was, as Ross puts it (1991: 223), 'a

de facto truce. With the marginalist neoclassical paradigm taking hold, and the historical impulse in economics largely tamed, sociology was not much of a threat to the economists.'

The empirical study of social problems was not yet a narrow disciplinary undertaking: one project at the University of Chicago, a research programme on urban conditions led by Small and his colleagues, obtained the collaboration of the philosopher, John Dewey (we will meet him again in Chapter 5 as one of the founders of pragmatism), the social psychologist, George Herbert Mead, of Charles Merriam, the founding father of empirical political science.

The need to safeguard social development in terms of its essential structures fuelled the investigation of ways of moulding individual behaviour and ideas to conform to the social interest. E.A. Ross, the American sociologist, towards the end of the 19ᵗʰ century coined the notion of 'social control' as the principle involved and credited himself with having made a great new discovery in the field in doing so. Whereas J.S. Mill, who had used this term for the first time, still maintained that individual freedom should be prioritised against it, Ross and his colleagues placed social control in the foreground and made individual autonomy a subsidiary theme (Ross, 1991: 230, 237). Socio-psychological control of how individuals behaved emerged at a point when the liberal-capitalist order was being seriously contested. It was meant to securely anchor a normative order, Therborn's 'ideological community' (1976: 224) in which the liberal-capitalist values are central, and lend it the aura of science.

Controlling citizens was not a matter of policing them through external observation and coercion. Using public opinion surveys and studies and statistical studies of social trends, sociology rather worked to subtly direct individual actions into channels where they contributed to the maintenance of the existing order—without overtly restraining them except in case of extreme deviance. 'What society is struggling to accomplish,' wrote G. H. Mead, 'is to bring [the] social side of our conduct out so that it may, in some conscious way, become the element of control' (quoted in Ross, 1991: 248). The surveys simply allowed this control to be

adaptive and flexible, obscuring, as Ross puts it (1991: 248) 'just who was controlling whom.'

Unlike the axioms of micro-economics and Rational Choice, the sociological method is based on allowing people to have the illusion of self-government by continuous adjustment to their expressed preferences. But obviously, the registration of these preferences as objective knowledge, had to be governed by strict rules. This takes us to the second edition of the positivist enterprise.

3. THE NEO-POSITIVIST MUTATION

Positivism as a broader tendency was always incompatible with the axiomatic Rational Choice approach. Only in the early twentieth century, however, was the original positivism with its attendant philosophy of history (society/humanity *objectively* develops towards rationality) and reform programme (this should be used to get rid of reactionary ideas and social forces), narrowed down to method—*logical* or *neo*-positivism. Because this method is entirely concerned with the rules governing the making of meaningful statements, it abandons the philosophy of history and materialist associations of the older positivism. Whilst it tended to retain its progressive, 'left-of-centre' political associations, it now became a truly subjectivist, empiricist-agnostic approach which in its own way served to impose a particular ideological discipline on the social sciences.
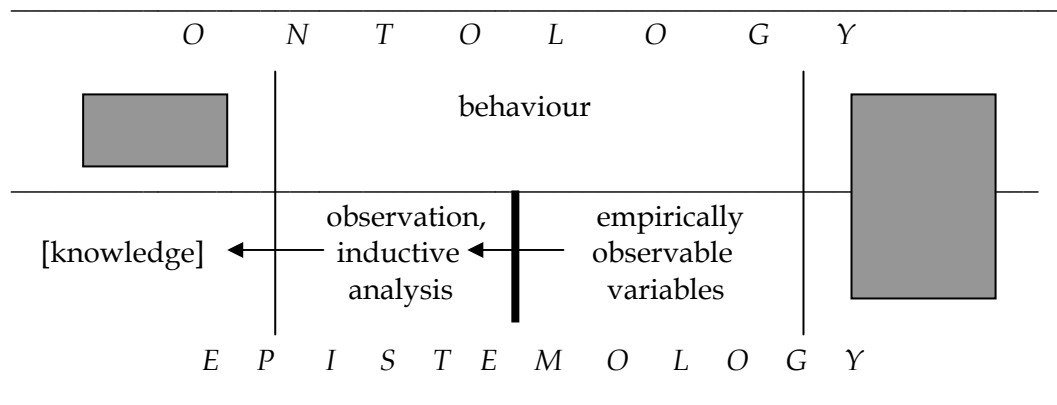
The Turn to Method

Around the turn of the 20th century, a new wave of 'cleaning up' the epistemological tradition by anchoring it more firmly in experimental /empirical science emerged. In the process, positivism left behind the aspect of objective rationality (there is something in historical humanity which pushes towards science becoming the criterion for the operation of society) to *subjective rationality* (it is in the subjective ordering of data for assessment that, if the proper scientific procedure is followed, 'positive' knowledge is obtained—or not). This mutation happened against the backdrop of great advances in natural science such as relativity theory, quantum physics, and other breakthroughs. Philosophers now felt the

need to generalise the epistemology on which, presumably, these successes had been based.

In Figure 3.1, the basic premises of the new positivist method are placed in a schematic form. The ontological premises are that empirically observable entities (what drives them, we do not know, hence the black box), display (observable) behaviour; again, as to the 'why' we are agnostic in principle (another black box). In terms of epistemology, on the other hand, there are very strict rules about formulating hypotheses (which have to be *empirical in form*, so e.g., 'God is good' is not a valid statement scientifically speaking) and testing. If variables are found to correlate significantly, this produces knowledge but all knowledge is provisional, dependent on further investigations. The ultimate truth is subject to the same black box as is the ontological essence of the world.

Figure 3.1. Neo-Positivism and Empirical Science

O   N   T   O   L   O   G   Y

behaviour

[knowledge] ← observation, inductive analysis ← empirically observable variables

*E   P   I   S   T   E   M   O   L   O   G   Y*

As with the original positivism, there was a strong element of bourgeois, modernistic rejection of antiquated values such as religion, nationalism, and militarism, but also, socialism. From all this the clinical world of scientific knowledge should be sharply distinguished. It is of some importance that Berlin and especially, Vienna, were the focal points of the 1920s positivist wave, because these were the capitals of dissolving empires, in which late-feudal society had collapsed and socialism was knocking on the door (Janik and Toulmin, 1973).

Neo- or logical positivism was a term later applied to the work of a circle of people working in Vienna. It meant to strip Comte's legacy of its remaining metaphysical elements and turn it into a formal method which puts a set of rigorously defined rules of investigation and conclusion in the hands of the thinking subject. As Neufeld puts it,

> The adjectival modifier "logical" in logical positivism indicates how this variant of positivism attempted to overcome the limitations of Comte's approach. What marked the work of the logical positivists was the central role played by symbolic logic, as developed by Russell and Frege. By means of symbolic logic this group of philosophers attempted to purge the last vestiges of metaphysics from the positivist legacy (for which they blamed, in large part, Comte himself) by providing a precise, formal rendering of the structure of science (Neufeld, 1995: 25).

Ernst Mach, professor of the Philosophy of the Inductive Sciences in Vienna and teacher of Albert Einstein, at the turn of the century became known for his claim that science is fundamentally the description of *experience*. A group of natural scientists and the economist, Otto Neurath, in 1907 began to meet regularly to discuss the implications of this position, bringing in the tradition of French positivism. After World War I, this 'Vienna Circle' succeeded in having Moritz Schlick appointed as Mach's successor (cf. *Epistemology and Modern Physics*, 1925). In the late 1920s and the early 30s, before they had to flee the Nazis, the work of the logical positivists became more programmatic and they set up their own journal, *Erkenntnis* (knowledge) (Passmore, 1967).
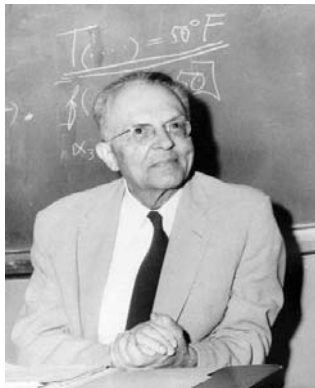
The aim of unifying science by taking *physics* as the model was central to the neo-positivist programme. As Rudolf Carnap (1891-1970), one of the Vienna Circle, put it, the language of physics should become the universal language of science. All scientific statements can be expressed in one language, with one method. Philosophy, he argues, does not represent a separate system of philosophical statements; rather the task of philosophy is the clearing up of the concepts and the statements of science. This suspends the distinction between philosophy and the sciences as separate spheres of

knowledge. Philosophy deals with two aspects of science (see also *Philosophical Foundations of Physics*, 1966)

- One, the empirical *content* of statements (sentences, *'Sätze'*). 'One observes, experiments, collects and elaborates the material of experience'.

- Secondly, the *form* of scientific statements. This concerns the statements of logic and mathematics, which are tautological and valid on the basis of form alone (i.e., when they do not break their own rules), and all other statements. These, to be meaningful, must express states of affairs in a way that allows them to be translated into the language of physics, that is, they must assign a value (or an interval on a scale or a probability distribution of values) to a set of coordinates defining the space-time position of the state of affairs they refer to (Carnap, 1931: 440, 463).

   Obviously very little can really be said on anything outside physics if a statement has to meet these criteria to be meaningful. To make the proposition 'the United States and Britain have gone to war with Iraq in 2003 because they were seeking to disarm the dictatorship of its weapons of mass destruction' meaningful according to Carnap's criteria (before we establish its truth or falsehood) means it has to be translatable into the language of physics, which leads to absurdity. The reason why this perspective gained so much resonance is because it attacked grotesque claims of metaphysical idealism, about the intentions, movement, and other supposed attributes of 'the Absolute' for instance; and because it had the prestige of the new physics (Einstein, Planck, Bohr) behind it.

   Carnap also radicalised the subjective aspect of the new positivism to the point where he reached the conclusion that a general law of science is not itself meaningful, only an individual statement can be (which may include the general law). His subjectivism even went so far as to imply that a statement is only true for the individual who has made the claim and verified it.

The aim of developing a formal criterion for meaningful statements, linking a statement to a state of affairs, therefore had to be moderated. From Ludwig WITTGENSTEIN (1889-1951), an eccentric member of the wealthiest business dynasty of Austria-Hungary, and with whom the Circle members were in frequent contact, the neo-positivists took the idea of the verifiability principle—*the meaning of a proposition is identical with the method of verifying it* (Passmore, 1967: 52).

So the meaningfulness of the statement about the purported motive of the Anglo-American invasion is supplied by identifying a strategy including the collection of documents which make it evident that this was indeed the case or not, perhaps with a set of CNN tapes added to give visual confirmation. If the war supposedly was motivated by five different sets of reasons, this would have to be broken down into five different statements, each of which with its own list of steps how to verify each separate statement—say, if the claim is that the war had five causes, five lists of verification procedures. Cumbersome but still possible. But the statement 'the meaning of a proposition is identical with the method of verifying it' itself was found to be *not* meaningful, Passmore notes, because it is not logic or mathematics and it cannot be applied to itself on its own criteria.

What the neo-positivist movement did achieve (the *Encyclopaedia of Philosophy* in 1967 declared Logical Positivism itself dead!) was to revitalise academic empiricism in the English-speaking world. This was undertaken with gusto and great effect by A.J. Ayer (1910-1989) in the 1930s (although Karl Popper, cf. below, became even more of a household name after the war). All genuine propositions, writes Ayer, are either *analytical* statements (relations between ideas, such as logic or mathematics), or statements of *fact*. These are to be considered 'hypotheses, which can be probable but never certain'. The meaningfulness criterion in Ayer then runs,

> I require of an empirical hypothesis, not indeed that it should be conclusively verifiable, but that some possible sense-experience should be relevant to the determination of its truth or falsehood (Ayer, 1971: 41)

In contrast to Rational Choice theory in its various forms, there cannot be a rigid assumption that people act on the basis of interest maximising in a neo-positivist perspective. There can at best be a hypothesis that such is the case and that must then be tested in every individual case. As Ayer puts it (1971: 62), we have not freed ourselves from metaphysics to bring back deductive reasoning based on *first principles*, in which one claim if logically argued to follow from the other, but the first one is not itself tested. Hence the Rational Choice strand of subjective rationality discussed in the last chapter (and thus, neo-classical micro-economics), does not meet the criteria set by Ayer.

However, there is a strong structural similarity between the positivist epistemology and Rational Choice in that both assume a strict separation of subject and object. So just as the marginalist economists assumed a real world of atomistic subjects each making economic decisions on the basis of subjective valuations, or a player in a strategy game, the neo-positivist methodology proceeds from the isolated subject in its theory of knowledge.

The economic subject in real life engages in the economy by selectively introducing assets in order to maximise gain; the subject of knowledge engages in the world of facts by hypothesising about what may be related to what, and how; and then testing these hypotheses empirically. What the neo-positivists contribute is an increased suspicion of people's motives and emotions, which is why the procedure of making statements and the rules of their verification are so prominent. The rationality of the subject (in real life economics as much as in positivist epistemology) as it were has to be formally safeguarded from subjective values alien to scientific argument and observation. This is why the positivist canon emphasises so strongly that science has to be value-free.

The subject, then, is structurally separate from the object, and if there is no inborn rationality the subject can rely on, s/he can at least strive to adhere to the established rules of scientific observation of facts. With the

materialist counterpart of empiricism long forgotten and replaced by agnosticism, the world out there is seen as a random collection of events, from which facts are obtained by observation or experiment, which if confirmed, yields knowledge.

Managerial Flexibility as Academic Orthodoxy

If we look at neo-positivism in terms of the sociology of knowledge, it has often been observed that it fits particularly the society of Cold War class compromise, building on the managerial revolution, Fordism, and state intervention.

Ayer's *Language, Truth and Logic* was republished in 1946 and became the topic of intense debate in intellectual circles with the onset of the Cold War. The idea that statements that cannot be tested, are outside the purview of scientific concern and meaningless from that angle, was seen at the time as an expression of a managerial attitude to society oblivious of wider moral and ethical concerns. A review of Ayer's book in the late 1940s combined it with a review of James Burnham's *The Managerial Revolution*, and claimed that the philosopher's work might become the *Summa Theologia* of managerial society (a reference to the unquestioned authority Aquinas' late-mediaeval scholastic treatise).

In the same period, the writer, Iris Murdoch, also teaching at Oxford, claimed that his neo-positivism promoted the ethics of the Cold War by excluding systematic political theorizing from 'scientific' activity. The sanitised language of the neo-positivists simply did not allow arguments on a scale beyond minor adjustments (quoted in Hewison, 1981: 43-4).
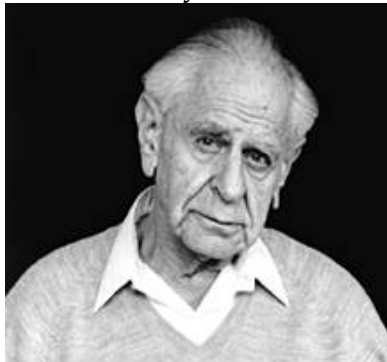
Karl POPPER (1902-'94) had been Hayek's comrade in arms in the battle against the encroaching state and participated in the founding session of the neoliberal Mont Pèlerin Society. But Popper did not subscribe to Hayek's axiomatics of choice. He was an empiricist, who held that no claims can be made about the world except in terms of

observables. So paradoxically Popper stands on the other side of the economics/ sociology divide.

Popper's *The Open Society and Its Enemies* of 1945, written in a coordinated effort with Hayek's *Road to Serfdom* published a year earlier, shared the rejection of the planning role of the state. It presented the thinking of Plato, Hegel and Marx as inherently threatening freedom, and argued that an 'open society' could only be constructed on liberal principles. Politically, Popper nevertheless belongs to the reformist tendency that is historically associated with positivism and sociology; in other words, to the managerial alternative and complement to Hayek's neoliberalism and Rational Choice. Popper distinguishes the piecemeal reforms of moderate socialists from the 'utopian' socialists who want to remake society (Benton, 1977: 38).

Popper's methodology was also based on the notion of step-by-step hypotheses. These must be formulated so that they are open to *falsification* (rather than verification); non-falsifiable claims are outside the realm of science, and are of a moral, religious, or aesthetic nature. Thus a fund of tested and non-falsified claims about the world can be built up, and science progresses by devising new tests (Popper' solution that we should not look for verification but for falsification was actually rejected by Ayer because 'a hypothesis cannot be conclusively refuted any more than it can be conclusively verified'—Ayer, 1971: 51).

Popper's method borrowed from the British positivist, Karl Pearson, in his *Grammar of Science* of 1892. In Pearson's view, facts, if properly (logically) ordered and handled, would provide the building blocks for 'the great building of knowledge'. Science should firmly reject any 'metaphysics', as well as 'personal feeling or class bias'. Pearson also pioneered the use of mathematics and statistics in the study of society (quoted in Ross, 1991: 157, cf. 228).

Popper's arguments about the advance of science were also challenged by Thomas Kuhn in *The Structure of Scientific Revolutions.* Kuhn maintained that the great advances in science had never been made by way of the procedure described by Popper (step-by-step testing of

hypotheses within an established consensus about fundamentals, 'normal science'). Instead they result from creative departures from this consensus which establishes a new *paradigm*. The Popperian method, in other words, at best describes what happens when there are few breakthroughs and science so to speak is keeping on the established track (cf. on Kuhn, Urry, 1973).

But here precisely lay its attractiveness to Cold War social science in the West. If students could be trained to take the existing world view (and hence, the prevailing social order) for granted by teaching them never to step outside the bounds of the empirically evident and challenge the basic assumptions, their intellectual role could be made useful to preserving the existing order and yet develop that margin of investigative, empirical outlook necessary to keep that order flexible—the original aim of positivist sociology.

Behaviourism and IR Neo-Realism

The principal neo-positivist turn made in US social science was *behaviourism*. It built on Pavlov's experiments with conditioning the reflexes of animals. Behaviourism entered the social sciences through the work of the American psychologist, J.B. Watson, in the 1920s. Watson studied animal behaviour as a means of uncovering the laws of behaviour. For our purposes it is important to see that in behaviourism, we come to the opposite extreme of axiomatic rational choice: 'behaviour', Ross sums up its conclusions, 'was chiefly guided not by rational thought but by biological impulses combined with conditioning. Behaviourism promised the scientific control of life to a generation who felt their lives increasingly out of control' (1991: 312).

It was this notion of describing behaviour whilst completely abstracting from any inherent drives except biological and conditioned responses to stimuli, which also was taken up in the broader social sciences including international studies. In IR neo-realism as argued by Kenneth Waltz in his *Theory of International Politics* of 1979, prior attempts at an objective theory of IR as non-rigorous.

As we will see in Chapter 4, the original 'realism' of E.H. Carr a well as the cruder versions of realism in the United States such as Hans Morgenthau, all rely on some form of association or empathy with a particular state, its goals, its particular tradition, and its means of coercion or conviction. In order to make really sure that the subject is entirely divorced from the object of knowledge, so that no remaining attachments that may distort his/her views persist, the object must be described in terms of its objective properties only. Waltz does this by interpreting IR as an objective system, and yet, paradoxically, this is a subjectivist method.

Neo-realism is not a systems theory in the sense that it develops on account of an inherent objective rationality; about that we are agnostic. Waltz's concern is to be as parsimonious as possible concerning the motives on which states act. All that we can know about the system (which therefore is no more than a hand of cards placed on the table) is a) the nature of the international system as one of anarchy; b) the system is composed essentially of sovereign states; and c) these states in essence perform in the same manner, so what determines their actions is the distribution of capabilities across the system. The only structural property of the system we can safely assume to exist is the polarity between states which are relatively well endowed with capabilities and those who are not.

Strictly speaking, states in this perspective act according to their interests, which are however reduced to the barest minimum, survival. So one might also claim that Waltz's theory can be understood as a Rational Choice approach, including the game-theoretical representation of the interactions between states. Here we are reminded of a central claim of neoclassical economics, i.e., that it is deductive and axiomatic *and* empirical (cf. Lipsey, 1982). Yet this contradictory claim can only be maintained by remaining extremely vague about the extent of the rationality underlying the choices made by states, and refraining from actual research, so that the compound result is still an axiomatic, deductive approach first of all.

The Limits of Linguistic Correspondence

The question that remains is whether the highly restrictive scientific language prescribed by neo-positivist/Popperian methodology still makes meaningful claims possible.

Here Wittgenstein played a crucial role. Like Bertrand Russell, Wittgenstein began as an atomist, that is, there are only separate facts and every situation is a random collection of such facts. The problems really start when we rely on real language to get at these facts. Since language signs are arbitrary, how do we know that 'horse' really corresponds to the animal in non-linguistic existence? But then, the problems only really begin once we move to more complex propositions—science will not advance much by establishing the factual correspondence between a word and a thing.

Wittgenstein's initial solution for the problem of establishing the correspondence between an 'atomistic proposition' and a possible atomistic state of affairs, is to find a *structural similarity*, like the one between sheet music, a record, and the music we hear. Although completely different physically, they share the same set of elements (Nuchelmans, 1969: 114). However, he conceded that ultimately, the correspondence between language particles and non-linguistic states of affairs remains elusive. 'What can be shown, cannot be said', says thesis 4.1212 of Wittgenstein's *Tractatus Logico-Philosophicus*. If we read this in reverse order, the entire neo-positivist enterprise can go to the scrapheap.

In his later work in the period around World War II, after he had moved to Cambridge, Wittgenstein therefore rejected his earlier attempts to find unequivocal correspondence between a language proposition and a state of affairs. He now moved to a sort of language sociology, accepting that language is a living entity which people use apparently loosely, not concerned with whether statements are meaningful in the positivist sense.

Thus he established that a single word (a *signifier*, cf. our Chapter 10) usually denotes a range of different things and activities. Making out *what* is being signified, becomes very difficult because what is covered by the

word is rather a series of similarities and affinities. Thus the word 'game' can refer to a card game or a football match, etc.; and the more we focus on trying to pin down the essence of a game, the more the word proves elusive in its meaning which keeps expanding in all different directions. Wittgenstein proposed to call the commonalities among the signified realities captured by a single signifier, 'family resemblance'. Although not a single specific instance of a game contains the essence of what a game is, all share some (not all) of a definite number of characteristics which allows us to speak of a game (Nuchelmans, 1969: 12-4, basing himself on Wittgenstein's *Philosophical Investigations*).

Language itself, Wittgenstein concluded in the end, is actually also a *game*. Words have meaning and effect because they function in the context of one or another language game. Their meaning and effect and the game itself usually can only be fully understood if we take into account the comprehensive *life-form* or culture of which it is a part (Nuchelmans, 1969: 178). But here we leave the strand of subjective rationality that is characteristic of neo-positivism and atomism, because we move towards interpreting separate elements (words, meanings) by referring to their function in a larger whole. In that perspective, the world by implication becomes knowable, potentially transparent (otherwise we would not be able to search for function etc.), at least as far as utterances and meanings are concerned. This selective opening up of the objective world, partially lifting the shroud of darkness, is what characterises hermeneutics, the strand we turn to in Chapter 4 (cf. the case for an 'interpretive' instead of a positivist approach in anthropology, Roscoe, 1995).

Hollis and Smith in their comparative study of the positivist and the interpretive approaches in IR argue that the reason why Wittgenstein's later ideas have not had much influence in international studies is because the specificity of a country's foreign policy like Islamist Iran (which could be interpreted as the expression of a *life form* in Wittgenstein's sense, and interpreted in terms of meaning defined by that life form) tends to be overridden by the workings of the international system: 'pressures emanating from the international system override the specifics of forms of life or ideology' (Hollis and Smith, 1991: 85).

Applying the Method

It is not easy to find research in any field of GPE, IR, macro-sociology or large-scale history, that really obeys the strictures of neo-positivism to the letter (cf. Neufeld, 1995). Often it is used as a means of disciplining our imagination, i.e., as a means of disqualifying other approaches, rather than to actually conduct research. But perhaps also for that reason, the rules are spelled out in great detail. Because the training given to most students is in the spirit of atomistic neo-positivism, these rules tend to conform to our intuitive sense that 'rigorous' research begins by strictly following them.

Another attractive side to neo-positivism is that the structure of the argument and the criteria of assessment (verification/falsification) *are the same for statements about nature* (the stars, subatomic particles, plants), *and for those concerning society*. That is common to all strands within this broader tradition, if not indeed what actually binds it together (Hempel, 1973: 10). Thus, the obvious successes of natural science lend plausibility to the use of the method also in the social sciences.

The first step in the procedure is the formulation of a *hypothesis*. If we think back of the criteria listed at the end of chapter 2, consistency and plausibility play a role here. But of course one should not shrink from posing a bold hypothesis if there are (empirically speaking) some indications that we may be on the right track. Carl Hempel gives examples of how deaths of women giving birth in a mid-19th century hospital were thought to be caused by the coming of a priest for the last rites, whose presence caused such fear that other patients weakened and died, too. But a small test turned out that this was not true, so the hypothesis was not further worked out. On the other hand, a hypothesis that something from dead bodies (the notion of micro-organisms was not yet available) spread to others, seemed to be corroborated by other facts, such as the circumstance that women who give birth in the street, had a greater chance of survival because there were no dead people around in the street as there were in hospital.

So this was taken as the hypothesis.

The second step (apart from simple experiments like sending a priest through the women's ward to check the plausibility of the hypothesis), is *testing*. Testing is not just a matter of checking the hypothesis against statistics or so. It begins with finding the *test implications* of the hypothesis. If we want the hypothesis H to be corroborated, the implications, 'I', follow. So H is, women die whilst giving birth because of infection in hospital; implication I, would be that if we take measures against infection, the number of deaths should go down. However, this can also be a coincidental connection which actually refers to other causes. So whilst we may say H is true, I holds (is also true). This can be extended by finding more test implications. So we get a range of observable indicators which corroborate H, $I_1, I_2...., I_n$, all hold (are true). (Hempel, 1973: 18-20). Of course, both the hypothesis and the test implications must have a form which satisfies the criterion of empirical observability: claiming something which one cannot verify/falsify in any way falls short of the criterion of positivism.

The third element, which should rule out coincidental generalisations, are *general laws* ('L'). Hempel says that all or most laws of science are probability laws, that is, they suggest that there is a certain likelihood that something will general have certain (general) consequences, dependent on *certain conditions*. (Hempel, 1973: 116-8). Here we may think back of the assumptions of economics and rational choice that are so often used as axioms.

Summing up, the procedure to follow in the positivist tradition begins with a hypothesis, its test implications, and verifies these; which then finally is complemented by identifying the general laws that are involved. For example,

- H: The reason why companies do not voluntarily adopt ecological standards, is that this runs against profitability criteria which decide their fate,

- I_1: companies that adopt ecological standards have lower profit rates, I_2: companies that adopt ecological standards go bankrupt

more often, and I$_n$, more corporations in the Fortune 500 are companies ignoring profitability criteria than companies observing them.

- L: the main general law involved is that profit is the condition for the ability to invest (high probability , assuming that ecological factors (air, fresh water, top soil) are public goods in conventional economics, so there is no incentive to unnecessarily turn them into cost factors reducing profitability.

This then provides a structure to a research paper. H, is proposed from exploratory reading; I, from the same, inferring possible test implications; whilst L is based on study of the laws of the relevant field (economics in this case). However, neoclassical economics precisely is organised around the axiom of individual rationality so that strictly speaking, its premises disqualify it as a theoretical framework for an empirical investigation.

What remains of the positivist enterprise is the notion that at some point, evidence has to corroborate any thesis concerning society. In the procedure described here, this evidence is the *final step*, the test that validates or invalidates the thesis (in other approaches, empirical data may enter at a different point in the analysis).