
The normal state

Until Broussais, the pathological state obeyed laws completely different from those governing the normal state, so that observation of one could decide nothing for the other. Broussais established that the phenomena of disease are of essentially the same kind as those of health, from which they differed only in intensity.

The collective organism, because of its greater degree of complexity, is liable to problems more serious, varied and frequent than those of the individual organism. I do not hesitate to state that Broussais's principle must be extended in that direction, and I have often applied it there to confirm or perfect sociological laws. But those who would apply the analysis of Revolutions to the Positive study of Society must pass through the logical training given by the simpler phenomena of Biology.*¹

Normality is like determinism, both timeless and dated, an idea that in some sense has been with us always, but which can in a moment adopt a completely new form of life. As a word, 'determinism' came into use in the 1780s, and assumed its present most common meaning in the 1850s. As a word, 'normal' is much older, but it acquired its present most common meaning only in the 1820s. Now although the two words are conspirators in the taming of chance, they enter in very different ways. The normal was one of a pair. Its opposite was the pathological and for a short time its domain was chiefly medical. Then it moved into the sphere of – almost everything. People, behaviour, states of affairs, diplomatic relations, molecules: all these may be normal or abnormal. The word became indispensable because it created a way to be 'objective' about human beings. The word is also like a faithful retainer, a voice from the past. It uses a power as old as Aristotle to bridge the fact/value distinction, whispering in your ear that what is normal is also all right. But also, in the

* Auguste Comte, in the first volume of his *Système de politique positive* (1851). Broussais was used in chapter 10 to illustrate the first statistical tests of medical treatment. Georges Canguilhem, to whom the present discussion is indebted, calls Broussais's principle (and its physiological trappings) a 'thesis whose fortune certainly owed more to the personality of the author than to the coherence of his text'.

events to be described, it became a soothsayer, teller of the future, of progress and ends. Normality is a vastly more important idea than determinism, but they are not unrelated. A story of the erosion of determinism is also an account of the invention of normalcy.

'Normal' bears the stamp of the nineteenth century and its conception of progress, just as 'human nature' is engraved with the hallmark of the Enlightenment. We no longer ask, in all seriousness, what is human nature? Instead we talk about normal people. We ask, is this behaviour normal? Is it normal for an eight-year-old girl to ...? Research foundations are awash with funds for finding out what is normal. Rare is the patron who wants someone to investigate human nature. We have almost forgotten how to take human nature seriously. When a man is corrupt or careless, we say, 'Oh, that's human nature.' 'You can't go against human nature,' we mutter, indifferently.

When was the last great debate involving human nature? 1829. In those days a controversy in part about human nature could thrust a young man into prominence, create his career at a stroke, seat him in a powerful legislature, and leave him in a position to be one of the handful of most widely known intellectuals for the rest of his prodigious life. I refer to Macaulay's celebrated assault on James Mill. Of course I exaggerate. Macaulay had a lot going for him, and his opinions about human nature were only one of his vehicles. My point is that they could be such a vehicle at all.

Mill and Macaulay faced off, Macaulay in the pages of the *Edinburgh Review*, Mill in the *Westminster Review*.² Macaulay thundered at Mill because he ventured to speak about human nature without ever considering what people actually do. Mill's *Essay on Government* for the *Supplement* to the fifth edition of the *Encyclopaedia Britannica* was published repeatedly in various pamphlets and books in the early 1820s.³ This utilitarian tract was met by fiery eloquence:

Mr Mill [wrote Macaulay] is an Aristotelian of the fifteenth century, born out of due season. We have here an elaborate treatise on Government, from which, but for two or three passing allusions, it would not appear that any governments actually existed among men. Certain propensities of Human Nature are assumed; and from these premises the whole science of Politics is synthetically deduced!⁴

Mill: 'from what else [but human nature] *should* it be deduced?'⁵

This debate, conducted in the great reviews of the day, was a focus of opinion for a decade. It is almost inconceivable that the same thing should happen today. Or is it? One thinks of E.O. Wilson *On Human Nature*.⁶ The great sociobiology debate also began in one of the great reviews.⁷ Some idea of human nature is deep, not in human nature, but in our memories, a spark ready to kindle yet another new morality or meta-

physics. I cannot so blithely say that it has been smothered by the idea of normality.

But despite Wilson's ironic title, the phrase 'human nature' was not integral to the sociology debate, whereas normal behaviour regularly appeared as a key concept. It was quite the opposite in 1829–30. Macaulay observed that 'it is the grossest ignorance of human nature to suppose that another man calculates the chances differently from us, merely because he does what, in his place, we should not do'.⁸ He then recited the most extravagant choices. Mill responded by quoting Macaulay in full. He urged that strange tastes may be corrected by education. 'A given Greenlander may not be persuaded out of his train oil; but it might be possible to lay the foundations for persuading some future Greenlander, that claret is the better of the two.'⁹ We have no difficulty understanding the issues, nor in recognizing Mill's bland utilitarian self-confidence in his own values, but something was absent. Today someone would at once start talking about normal tastes and deviant excesses, a conception that simply did not occur in this debate, filled as it was with monsters such as Caligula rather than deviations from the mean. That was hardly possible then, for the word 'normal' had not yet acquired its present sense. It did that exactly when these final fireworks of 'human nature' splashed across the sky. The first meaning of 'normal' given in any current English dictionary is something like 'usual, regular, common, typical'. The *OED* says that this usage became current after 1840, and gives 1828 for its first citation of 'normal or typical'. That was in a work of natural history alluding to French writers.¹⁰

It is indeed to the French that we must look. Americans know the odd expression 'normal school' for a teachers' college. The first *Ecole normale* was established by a decree of 7 brumaire, year III of the Revolution. The neologism was explained in a speech 5 days before, on 28 October 1794: such schools should be 'le type et règle de toutes les autres'. The speaker was Joseph Lakanal, the man who, between 1793 and 1795, had the power to enact many of the plans for education conceived by Condorcet. It was not education, however, that furnished the modern sense of the word 'normal', but the study of life, as the *OED* citation suggests. Biology and medicine did the trick, abetted by Auguste Comte's radical extension of the idea, and Balzac's popularization of the word in satirizing the doctors. The original site of the modern sense of the word 'normal' was, as in my epigraph, the phrase 'normal state' (of an organism, paired with 'pathological state').

But let us start with older senses of 'normal'. The word entered modern European languages as soon as geometry was expressed in the vernacular. It meant perpendicular, at right angles, orthogonal. *Norma* is Latin,

meaning a T-square. Normal and orthogonal are synonyms in geometry; normal and ortho- go together as Latin to Greek. Norm/ortho has thereby a great power. On the one hand the words are descriptive. A line may be orthogonal or normal (at right angles to the tangent of a circle, say) or not. That is a description of the line. But the evaluative 'right' lurks in the background of right angles. It is just a fact that an angle is a right angle, but it is also a 'right' angle, a good one. Orthodontists straighten the teeth of children; they make the crooked straight. But they also put the teeth right, make them better. Orthopaedic surgeons straighten bones. Orthopsychiatry is the study of mental disorders chiefly in children. It aims at making the child – normal. The orthodox conform to certain standards, which used to be a good thing.

One can, then, use the word 'normal' to say how things are, but also to say how they ought to be. The magic of the word is that we can use it to do both things at once. The norm may be what is usual or typical, yet our most powerful ethical constraints are also called norms. According to the *Dictionary*, the word 'norm' in this sense of the stern moralists is even more recent than the use of 'normal' to mean usual or typical.

Nothing is more commonplace than the distinction between fact and value. From the beginning of our language the word 'normal' has been dancing and prancing all over it. Moralists seldom notice that. The word 'normal' is like that baneful Californian shrub, poison oak, which assumes whatever form resembles the environment. Now it is a creeper, crawling close to the earth, now a pleasant round bush five metres high, now a vine encircling a madrone and then trailing from a branch 40 metres above the ground; now it is red, now it is green, now it is leafless but the sap is running and itching to attack. It has been said of Emile Durkheim, whose idea of normal and pathological societies is the topic of my next chapter, that he tried to achieve 'the closure between the "is" and the "ought" . . . in terms of his distinction between the "normal" and the "pathological".' 'No aspect of Durkheim's writings has been more universally rejected than his notion of normality and pathology, and rightly so.'¹¹ Rejected in specifics, yes. But for much of the century before Durkheim, and ever since, we have regularly used 'normal' to close the gap between 'is' and 'ought'. Wrongly so, perhaps, but that is what the concept of normality does for us.

The normal is average. We also use the word 'mean' for the average of a Normal distribution. What in English became the average man is in French *l'homme moyen*, institutionalized by Quetelet. Doesn't this idea of the mean go back to Aristotle? Yes, but beware. The mean is almost as playful as the normal. The idea of a mean or intermediate (that's a description) which is excellent (an evaluation) is one of the most familiar of Aristotle's

teachings. He did not have the is/ought hangups inculcated by Hume. The golden mean (as the phrase is commonly understood) is golden (good) and lies (as a matter of fact) between extremes. Aristotle was subtle and careful. He wrote, 'Virtue is a mean between two vices, one of excess and one of deficiency.'¹² Then something less easy to construe: 'As far as its substance and the account stating its essence are concerned, virtue is a mean; but as far as the best and the good are concerned, it is an extremity.'

Aristotle explicitly restricted the application of the concept of a mean, because it is an excellence that contrasts with excess or deficiency. Not all mid-points are means. Spite and adultery, he taught, are in themselves base, and not base because of excess or deficiency. Hence they admit of no mean. The same is true for excellences such as temperance and courage. As I read Aristotle, intellectual powers such as intelligence cannot be characterized by a mean, precisely because they are virtues. His conception of the mean is thus radically different from that of a century that defines degree of intelligence by a Normal distribution with a mean scaled at 100.

That does not imply that Greek notions have had no effect on the idea of the normal. They have, and nowhere is this more plain than in the case of medicine. It is an old idea that health is a mean between excesses and deficiencies, between heat and cold, for example. Health as the mean – no mere average, but not unconnected to the modes and medians distinguished by later statisticians – was part of the old medicine. On it was superimposed the idea of pathological organs. The concept of the pathological sounds, at first hearing, as old as illness itself, but it underwent a substantial mutation a little before 1800. Disease became an attribute not of the whole body but of individual organs. Pathology became the study of unhealthy organs rather than sick people. One could investigate them in part by the chemistry of the secretions of living beings – urine, for example. For the pathologist the normal came into being as the inverse of this concept. Something was normal when it was not associated with a pathological organ. Thus far the normal would be secondary, defined as the opposite of the primary notion, the pathological. But then what Comte called the great 'principle' of Broussais turned this around. The pathological was defined as deviation from the normal. All variation was characterized in terms of variation from the normal state. In Comte's opinion, Broussais's principle was the completion of a principle of continuity that Comte attributed to d'Alembert (he might better have chosen Leibniz). Note the two parts of this 'principle': (a) pathology is not different in kind from the normal; 'nature makes no jumps' but passes from the normal to the pathological continuously. (b) The normal is the centre from which deviation departs.

Of course there were ever so many nonmedical routes to the normal.

The industrializing world demanded standardization. We recall Babbage and the constants of nature and art, as enumerated in chapter 7. He hardly distinguished standards of art that are imposed by engineers from constants and norms that are to be recorded from nature. Nor is the role of quartermasters during the Napoleonic campaigns to be forgotten. They ordered and moved vast quantities of stores in order to feed and equip prodigious numbers of men and animals. They needed standardized units of everything to run their shows efficiently. Modules had not yet been invented, but were a twinkle in the eye of every keen staff officer. Nor need one wait for revolution or Napoleon. Canguilhem remarks that 'The article on "gun-carriage" in the *Encyclopédie* of Diderot and d'Alembert, revised by the Royal Artillery Corps, admirably sets forth the motifs of normalization of work in arsenals . . . Here we have the thing without the word.'¹³

The new martial arts and crafts made warfare increasingly a matter of machines that cried out for standards. Finlaison, the National Actuary of chapter 6 who doubted that there was a quantum of sickness, made his mark running naval dockyards. He turned them from financial catastrophes into cost-efficient enterprises. He imposed standardization, normalization – and wrongly thought that you could not do that with sickness. He failed to see what the next generation, that of William Farr and the like, would do with disease. Do I seem to be hopping haphazardly from ships of the line to the sickness of labourers? It was Finlaison himself who changed jobs by way of promotion from manager of HM Dockyards to directing the national health and its correlate, the national debt acquired by improvidently selling annuities.

The idea of norms and standards must have been irresistible, but our modern usage of the very word 'normal' evolved in a medical context. This mattered. Standards are standards, and are met or not met. There is no continuous passage away from the norm – or if there is, it is to be corrected, the contractor reprimanded, the workman dismissed. The idea of continuous deviation from the normal came from pathology, as interpreted by Auguste Comte. His biomedical hero was F.-J.-V. Broussais, to whom he attributed what he called 'the law of variability'.¹⁴ He made it a basis for social science and it became part of his political agenda.

As we have seen in chapter 10, Broussais was the 'physiologist', the radical proponent of the new organic theory of disease. The task of physiological medicine is to determine how 'excitation can deviate from the normal state and constitute an abnormal or diseased state'.¹⁵ But a diseased state simply is an irritated tissue or organ, which is nothing other than 'a normal excitation that has been transformed by an excess'.¹⁶ When one is sick, some irritant has made natural 'phenomena more or less

pronounced than they are in the normal state'.¹⁷ Broussais's sentences here sound ordinary enough (unlike some strange ones I quoted in chapter 10). We do not notice that the word 'normal' is being used here, in this way, for pretty well the first time.

Balzac often made fun of Broussais.¹⁸ I believe that it may be through Balzac that Broussais's technical term 'normal state' – denoting the noninflamed, nonirritated state of an organ or a tissue – entered common language. Historical dictionaries of the French language commonly attribute the first general usage of 'normal' meaning 'typical' to Balzac or to Comte, always embedded in the phrase 'normal state'. Thus, in *Eugénie Grandet* of 1833, Mlle d'Aubrion had a nose that was too long, big at the end, and which was 'yellowish in the normal state, but completely red after dinner, a sort of plant-like phenomenon'.¹⁹ A nose, an organ, was *flavescent* (the medical-sounding adjective that Balzac appears to have invented for just this sentence). The symptoms are precisely of the sort studied by Broussais. In due course, for example in *La Cousine Bette* of 1847, the 'normal state' would be given a more general usage, as when laziness is called the normal state of artists.²⁰

Broussais's 'normal state' might have made its way into language unattended, but it was the enthusiasm of Comte that gave it elevation and status. The idea that the pathological is not radically different from the normal, but only an extension of the variation proper to a 'normal organism', was, he wrote, an 'eminently philosophical principle whose definitive establishment we owe to the bold and persevering genius of our illustrious fellow citizen, Broussais'.²¹ The important point was that all the characteristics of a thing were defined relative to the normal state. Explicitly: 'The law of Broussais subordinates all modifications to the normal state.'²² Broussais wrote of physiology, but his principle must be extended to 'intellectual and moral functions' – and then, as my epigraph continues, to the whole study of society.

Those sentences, with their rapt admiration for Broussais, were published in 1851, by which time, if the doctor was remembered at all by the public, it was as a conceited curmudgeon. Comte did not know Broussais specially well; his good friend in the physiological school of medicine was the much more reputable and far less mercurial Blainville, protégé of Cuvier and successor to Lamarck.²³ (We need hardly mention that the Lamarckian model of evolution by continuous variation also hovers in the background of Broussais's principle.)

Why was Comte so loyal to Broussais? It is well known how on 2 April 1826 he commenced, with some fanfare, the course of lectures intended to be the exposition of all knowledge preparatory to the new positive age: the lectures that became the *Cours de philosophie positive*. He broke down.

The lecture for 12 April was cancelled. In uncontrollable depression, he consigned himself to the care of Esquirol, who released him on 2 December with a docket, 'Not cured'. He got better, despite concerted attempts by his family and friends.^{*24} The lectures resumed on 4 January 1829, and the learned world did not spite him. In attendance were Broussais, Blainville, Fourier, Navier and Poinsoy, not to mention his alienist, Esquirol.²⁵

The one intellectual achievement of his convalescence was a short review of Broussais's *De l'irritation et de la folie*, published in mid-August 1828.²⁶ When Comte reprinted it in 1853, he noted that it had been written while recovering from his 'cerebral attack' (an attack on an organ, not the mind), saying that 'the insight gained through my personal experience was utilized in this review of the memorable work in which Broussais worthily combatted the metaphysical influence'.²⁷

Comte valued Broussais for several reasons. One was as ally against the 'metaphysical influence', i.e. Germanic importations with claims to a spiritual psychology. A powerful force for evil (as seen by Comte) was Victor Cousin, neo-Kantian, neo-Platonist, neo-royalist, a man all in favour of things spiritual. In May 1828 Cousin had completed a threateningly successful course of lectures on the new philosophy, and Broussais's book was in part an onslaught upon it.

The opposition to Cousin was a curious alliance of materialists who might, in 1828, have been characterized by their enemies as the mad Comte, the sadistic Broussais and the last of the doddering *idéologues* – none other than Daunou, who began my chapter 5 inaugurating moral science, who had preached the sermon for those who died attacking the Bastille. In 1828 he was denouncing Cousin as a theosophical gnostic, who would corrupt the republic into reaction and would 'plunge the human race into darkness'.²⁸ After the Revolution of 1830, he was, with that same splendid oratory, denouncing the young professors who had 'seconded the violence' of 'despotic governments'.²⁹

A more personal element in Comte's lifelong dedication to Broussais was the explanation of his own breakdown in material terms. He had been sometimes violent, sometimes silent in the slough of despond, but all that

* Once again, a standard tale may be repeated on grounds of verisimilitude rather than proven truth. The populist theocratic priest Félicité de Lamennais convinced Comte's mother that her son should endure a religious marriage ceremony to his wretched first wife. This farce was duly performed, although the groom was 'raving mad' at the time. Not that Esquirol's asylum was better: Comte wrote that had Broussais studied asylums himself,

he would have been convinced that, despite the promises of their directors, the entire intellectual and moral portion of the treatment is in fact abandoned to the arbitrary action of subordinates and rough agents, whose conduct almost always aggravates the malady that they should be trying to cure.

was just variation from his normal state produced by irritation and inflammation of the tissues. It was not his *fault*. We use variation from the normal today in order to relieve a sense of responsibility. Comte seized upon normality because it possessed that saving virtue.

Cured, he translated normality to the social sphere. Hitherto pathology 'had persisted in representing the majority of important diseases as independent of any change in the normal state of the organs'. Broussais made it a matter of degree. What was true of Comte's depression – it was a deviation from the norm caused by perturbation – would henceforth be true of social illness too. But when Comte moved normality to the political sphere, he effected another twist. The normal ceased to be the ordinary healthy state; it became the purified state to which we should strive, and to which our energies are tending. In short, progress and the normal state became inextricably linked. Consider that eminently political science, biology. Impressed by Bichat's physiology, and deploring recent trends, Comte wrote around 1850 that 'Biology is now less close to its normal state than it was at the beginning of the century.'³⁰ The normal state of biology was what it ought to be, and what with enough progress it would achieve. 'Progress is nothing but the development of order: it is an analysis of the normal state.'

Positivism did not, in Comte's late years, direct us to an existing norm, and certainly not to an average. It was the only politically viable road to the 'true normal state'. 'The positive spirit [is] the only possible basis for a resolution of the intellectual and moral anarchy that above all characterizes the great crisis of our time . . . The positive school was gradually prepared, during the revolutionary struggle of the past three centuries, to constitute as much as is possible the true normal state of all the classes and elements' of knowledge and of society.³¹

Comte thus expressed and to some extent invented a fundamental tension in the idea of the normal – the normal as existing average, and the normal as figure of perfection to which we may progress. This is an even richer source of hidden power than the fact/value ambiguity that had always been present in the idea of the normal. The tension makes itself felt in different ways. If we think ahead to sociology and to statistics, in the modern comprehension of those terms – that is, if we think ahead to the work encrusted around names such as Durkheim and Galton – we feel the tension acutely.

On the one hand there is the thought that the normal is what is right, so that talk of the normal is a splendid way of preserving or returning to the status quo. That's 'Durkheim'. On the other hand is the idea that the normal is only average, and so is something to be improved upon. That's

'Galton'. Durkheim called deviation from the norm pathology, while Galton saw excellence at one extreme of the Normal distribution.

'Galton' stands for improving averages, by whatever standards of value can be taken for granted. When it is a matter of living beings, that translates into eugenics. There we first focus on the Queteletian mean and then surpass it. 'Durkheim' harks back to the Aristotelian mean, for it is the ideal state of good health. For the conservative Durkheim, writing of normal and pathological states of society, the normal tends to be something from which we have fallen. For Comte's revolutionary positivism, it was something for which we should strive.

The tension in these aspects of the normal will not dissolve just by noting that there are two ideas, one of preservation, one of amelioration. The former carries within it fondness for origins, youthful good health, an ideal condition to which we should be restored. The latter lusts after teleology, of ends that we may choose for the perfection of ourselves or of the race. Two kinds of progress. Words have profound memories that oil our shrill and squeaky rhetoric. The normal stands indifferently for what is typical, the unenthusiastic objective average, but it also stands for what has been, good health, and for what shall be, our chosen destiny. That is why the benign and sterile-sounding word 'normal' has become one of the most powerful ideological tools of the twentieth century.

- 40 Emile Durkheim, 'Cours de science sociale: leçon d'ouverture', *Revue internationale de l'enseignement* 15 (1888): 33.
- 41 Durkheim, *Suicide*, 325, note 20 (translation revised).

19 The normal state

- 1 A. Comte, *Système de politique positive* (Paris, 1851): 1, 651, 652f. G. Canguilhem, *On the Normal and the Pathological* (1943, additions published 1966), trans. C.R. Fawcett, (Dordrecht, 1978): 22.
- 2 The essays about which the controversy was formed are collected in Jack Lively and John Rees (eds.), *Utilitarian Logic and Politics: James Mill's 'Essay on Government', Macaulay's Critique and the Ensuing Debate* (Oxford, 1978). Page references below are to this collection. As for the time frame, the sequence of essays was as follows. T.B. Macaulay, 'Mill's Essay on Government: Utilitarian Logic and Politics', *Edinburgh Review*, March 1829. James Mill, 'Greatest Happiness Principle', *Westminster Review*, July, 1829. Macaulay, 'Bentham's Defence of Mill', *Edinburgh Review*, June, 1829. Macaulay was here replying to an unsigned piece in the *Westminster*, which he mistakenly took to be by Bentham. Mill, 'Edinburgh Review and the "Greatest Happiness Principle"', *Westminster Review*, October 1829. Macaulay, 'Utilitarian Theory of Government and the "Greatest Happiness Principle"', *Edinburgh Review*, October 1829. Mill, 'Edinburgh Review and the "Greatest Happiness Principle"', *Westminster Review*, January 1830.
- 3 *Ibid.*, 51f.
- 4 *Ibid.*, 101.
- 5 *Ibid.*, 134.
- 6 E.O. Wilson, *On Human Nature* (Cambridge, Mass., 1978).
- 7 In *The New York Review of Books*, starting 1975, involving in addition to Wilson, R.C. Lewontin (the most active opponent), S.J. Gould, S. Hampshire, R. Hubbard, C.H. Waddington and others, collected in A. Caplan, *The Sociology Debate* (New York, 1978). For an overview, see Ullica Segerstrale, 'Colleagues in Conflict: An "in Vivo" Analysis of the Sociobiology Controversy', *Biology and Philosophy* 1 (1986): 53-87.
- 8 *Utilitarian Logic*, 118.
- 9 *Ibid.*, 234.
- 10 John Stark, *Elements of Natural History* (London, 1828): 2, 216.
- 11 A. Giddens (ed.), *Durkheim on Politics and the State* (Stanford, 1986): 26.
- 12 *Nicomachean Ethics*, 1107a.
- 13 Canguilhem, *On the Normal*, 150.
- 14 Comte, *Politique positive*, 2, 280.
- 15 F.-J.-V.-Broussais, *De l'irritation et de la folie* (Paris, 1828): 263.
- 16 *Ibid.*, 300.
- 17 *Ibid.*, 267.
- 18 See footnote on p. 82.
- 19 H. de Balzac, *Eugénie Grandet* (1833), in *La Comédie humaine* (13 vols., Paris, 1976-80) 3, 1182.
- 20 H. de Balzac, *La Cousine Bette* (1847), *Ibid.* 6, 201.
- 21 A. Comte, *Cours de philosophie positive*, 40th lecture, printed 1838, ed.

- M. Serres *et al.* (Paris, 1975): 695. The editors note that Broussais's principle 'to which Comte grants a disproportionate importance ... goes back to Brown, Bichat and Pinel'.
- 22 Comte, *Politique positive*, 2, 443.
- 23 For Blainville's own exposition of Broussais, see H.-M.D. de Blainville, *Histoire des sciences de l'organisation et de leur progrès comme bas de la philosophie* (Paris, 1845): 3; for his physiology, *Cours de physiologie générale et comparée* (Paris, 1833).
- 24 His comment on the asylum is at the end of his review of Broussais, *Politique positive*, 4, 472.
- 25 See e.g. Henri Gouhier, *La Philosophie de A. Comte* (Paris, 1987): 164.
- 26 In *Journal de France*, August 1828. Cf. Comte, *Politique positive*, 4: 468-73.
- 27 *Ibid.*, 465. He also said that his review 'will ever possess an historical interest since it roused the great biologist [Broussais] to the noble effort which produced, at the close of his admirable career, his just appreciation of the masterly conception of Gall, till then disregarded by him'. In fact Broussais gave the elegy at the grave of Gall in August 1828, the month that Comte's review appeared, and the later admiration of phrenology was well expressed on that occasion. F.-J.-V. Broussais, 'Discours prononcé par M. Broussais sur la Tombe du docteur Gall', *Revue encyclopédique* 39 (1828): 526-31.
- 28 P.-C.-F. Daunou, *Cours d'études historiques* (Paris, 1849): 20, 413.
- 29 Jean-François Braunstein, *Broussais et le matérialisme: médecine et philosophie au XIXe siècle* (Paris, 1986): 111-15. This book also develops the ramifications of the conflict long after Broussais's death in 1838.
- 30 Comte, *Politique positive*, 2, 569.
- 31 A. Comte, *Discours sur l'esprit positif* (Paris, 1844): 55f.

20 As real as cosmic forces

- 1 Emile Durkheim, 'Suicide et natalité: Étude de statistique morale', *Revue Philosophique* 26 (1886): 447. For his lecture topics, see Steven Lukes, *Emile Durkheim, His Life and Work* (London, 1973): 617.
- 2 Emile Durkheim, *De la division du travail social: étude sur l'organisation des sociétés supérieures* (Paris, 1893): i.
- 3 At greater length: we find a practice or a phenomenon *P* in a society. Members of the society may have practical reasons for continuing *P*. However they are unaware that *P* actually is a necessary condition for the preservation of the society. Moreover there is a sort of feedback effect, that is, when the strength of *P* diminishes, the society tends to fall apart, but in such a way as to reinforce *P*, so that the society does persist as an organic unity, and *P* is kept in place. See Jon Elster, *Explaining Technological Change: A Case Study in the Philosophy of Science* (Cambridge, 1983). He argues that functional explanations work in biology but not in sociology. The most lively advocate of functional explanations in sociology defends Durkheim: Mary Douglas, *How Institutions Think* (Syracuse, N.Y., 1986).
- 4 *Division*, 450. The French is stronger: 'elle devient du même coup la base de l'ordre moral'.
- 5 *Division du travail*, 33.