

## Farewell to unreason

Paul R. Gross

**The Trouble With Science.** By Robin Dunbar. *Faber: 1995. Pp. 213. £14.99, \$22.95.*

ROBIN Dunbar, a psychologist and anthropologist at the University of Liverpool, England, bids us to remember not only that science is one among many products of the cognitive tool-set called 'reason', but also that "the human mind was not designed as a rational scientific mind". He provides evidence — the hammer among reason's tools — for both claims in this readable book. Not that the mind's *unreason* is despised: more often than not over the millennia it has actually been preferred. It has been advanced repeatedly, for instance, by literary scholars and social theorists, from Erasmus in the sixteenth century to modern (and postmodern) voices as various as those of Karl Marx, D. H. Lawrence, Adolf Hitler, Michel Foucault and, most recently, Václav Havel. Lawrence's "belief in the blood, the flesh, as being wiser than the intellect" has the same ancient source as Hitler's mauling of Hermann Rauschning that "*Es gibt keine Wahrheit!*".

Dunbar's "trouble with science" turns out to be one of several. He does not suggest, however, that science is anything other than the best device for getting at reality. On the contrary: he considers that the trouble-makers are detractors of science who seek to dominate opinion about science or nature, to control science policy or to deny altogether the possibility of truth. But this is no surprise: rationality, especially scientific rationality, has only recently provided any selective advantage over other modes of thinking. Evolution designed primate thought primarily for effective socialization, not for its ability to understand reality.

It has always been stylish to deny that empirical science has any particular distinction as a way of gaining knowledge about the world. And there are now certain benefits in rejecting the very possibility of distinguishing different kinds of knowledge (except, perhaps, for oneself). Irrationalism — including the trendy varieties espoused by post-positivists, some historians of science, the newer sociologists of knowledge and the prides of academic lions and lionesses doing well on identity politics — lies behind this rejection. Unfortunately, the denial is not immured in academic institutions: it titillates a public whose admiration for science when it seems useful or entertaining turns easily to dismissal or hatred when it is difficult or when myths are challenged.

Dunbar worries about the decline of

science education in the United Kingdom, where avoidance of science by the brightest students has reached scandalous proportions. In the United States, the situation is equally serious. Of course, some of the brightest students do study science; it is, for example, a requirement for admission to medical schools. But the scientific literacy of the rest — the majority — of students is of no real concern to the university. Worse still, they are taught by staff in other disciplines who are increasingly hostile to science. The scientific artlessness of graduates does harm: it has nothing to do with the funding of the Superconducting Super Collider or with the management of technology; it has everything to do with judging arguments — all arguments — and making informed decisions, whether about teaching and learning, patently false claims (such as 'alternative healing') or environmental threats, real and imagined.

Dunbar has written a strong but accessible defence of science. He has avoided technical detail and the safe self-indulgence of endnotes. (There is however an adequate and carefully selected bibliography.) Yet his points of evidence are not mere assertions; they support the merit of science as a way of finding out about the world and reveal the triviality of its fashionable dismissals. There is, in fact, a modern science — one that pre-dates the Enlightenment science invented by eighteenth-century Englishmen. The roots of this universal achievement are narrow but lie deep in human evolution. Science works by trying to find explanations, and it has always eventually succeeded — as its

record shows. Strong inference (as John Platt named it) is relatively new, whereas scientific inference, Dunbar argues, in general is not. Nor is it European, or white, or male or hegemonic. It is probably not limited to *Homo sapiens*. Negotiation creates the consensus (always temporary) of science on any question. But contrary to the belief of the socio-anthropologists of laboratory life, this negotiation is not about bandits apportioning booty. Rather, it is about what kind of evidence allows a definitive rejection or the temporary acceptance of explanations about nature.

Survival of our species, perhaps of all species, depends on our doing the best possible science and on the public's understanding of it. We seem unfortunately to be embarked on a reduction in that understanding. Dunbar's book, among others recently published or being written, is, I hope, a signal of a reaction to the systemic anti-science that has taken root, not only among the Old Right but also among the New Left. It deserves to be widely read — not least by journalists and the new academic critics of science — and to be made even more accessible by appearing in paperback as soon as possible (without the amusing misspellings). As regards science as a "way of knowing", Wittgenstein seems for once to have been clear as well as right: about that of which one cannot speak, one should shut up. □

Paul R. Gross is at the Centre for Advanced Studies, University Of Virginia, 444 Cabell Hall, Charlottesville, Virginia 22903, USA.

## The New York Review version

Walter Gratzer

**Hidden Histories of Science.** Edited by Robert B. Silvers. *New York Review of Books: 1995. Pp. 192. \$19.95.*

If you want to have it from the horse's mouth, attend to the words of Clerk Maxwell: one used, he said, to teach the corpuscular theory of light. Now one taught the wave theory; and that was because those who believed in the corpuscular theory had died. Scientists cleave to the common currency of their discipline as to a favourite pair of socks, discarded only with reluctance when they no longer keep out the draught: this is an inalienable feature of the scientific process. Nor can the pursuit of science be separated from tenacious, even passionate, commitment to ideas. From time to time historians of science discover anew that a certain intolerance to gross heterodoxy ensues and that it sometimes impedes the advance of knowledge. But does it not far more often repel folly and keep credulity at bay?

The relationship between entrenched orthodoxy and apostasy forms the broad theme of a collection of essays solicited from his stable of science reviewers by the editor of *The New York Review of Books*. And on scientists as the enemies of science Oliver Sacks generates the strongest, though not always the most informed, opinions. He recycles some of his earlier stories — good ones, to be sure — and draws on the fates of some scientific paranoiacs to point to a moral. Georg Cantor became "floridly psychotic" on account of his persecution by a mandarin of German mathematics, Felix Klein; Boltzmann was driven to suicide by the attacks on his *confrères*, and so on. But Boltzmann, a depressive certainly, was a full professor at 25, was summoned for an audience by the Emperor Franz Josef, attracted the adulation of the younger physicists and was generally held to have vanquished his intellectual opponents, such as Ostwald, by the time his confidence failed. The career of Chandrasekhar and the rise of