

## Healthy antidote

Harold Morowitz

**Uncommon Sense: The Heretical Nature of Science.** By Alan Cromer. *Oxford University Press: 1993. Pp. 240. \$23, £15.95 (hbk).*

*UNCOMMON Sense* is an exposition of naive realism that is uncommonly terse in providing justification for the many assertions that are made. Thus Cromer attacks Thomas Kuhn's view of scientific revolution, the egocentric epistemology of the Judaeo-Christian tradition, the search for extraterrestrial intelligence and much of the current teaching of science. The author also expounds Piagetian psychology, chaos, hominid evolution, classical Greece and Israel, Egyptian and Babylonian mathematics, Arab science, Aristotle, mystical India, bureaucratic China, mediaeval Europe, capitalism and so on. In such a presentation, depth must of necessity fall victim to breadth.

Cromer's brevity is a pity, for many of his attacks on what we might call the Baconian idols of our time are probably called for and certainly deserve discus-

sion. His assertion that science is the unique product of Athenian rationality as it came to fruition in the past three or four hundred years of Western European culture is sufficiently politically incorrect to merit careful study, but care is not rendered. For example, Cromer asserts: "It was the institution of free debate more than anything else, I believe, that set Greece above all other nations." This of course ignores the tradition of debate recorded in the Talmud, the origins of which go back to the time of Ezra, who may have been a contemporary of Plato. This was the work of those he describes as egocentric in their ways of knowing.

His assertion that Kuhn's revolutionary approach is applicable to a developing science but not to mature sciences is intriguing, but how do we know when a science is mature? Cromer would probably regard astrophysics as mature, but, after black holes, quasars and dark matter, who would be certain we don't have a few more revolutions ahead of us? Again, the subject needs more careful exposition.

The five-page section headed "Aristotle" deals almost entirely with mechanics and celestial mechanics. This ignores the one-third of Aristotle's writings devoted to biology. Indeed, most sections of this

book devoted to the nature of science tend to avoid biology completely. In contrast, the section on hominid evolution uncritically assumes the certainty of some results from the very immature and argumentative science of palaeontology.

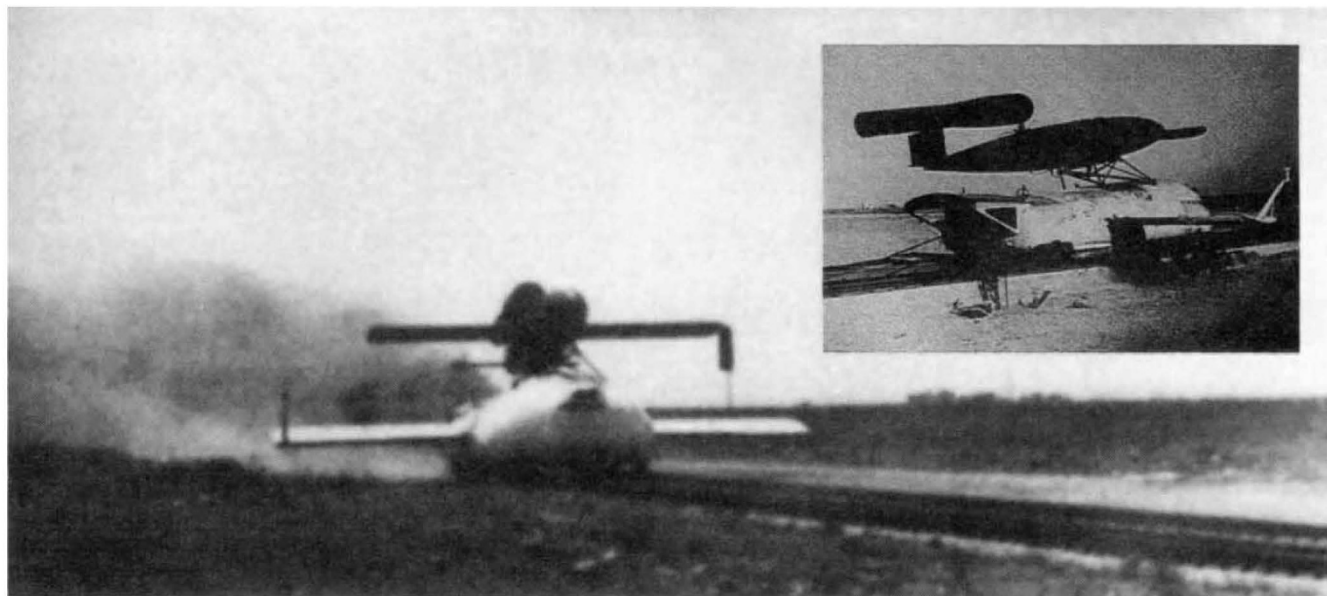
I suppose it is because I believe that Cromer is correct in some of his iconoclastic views that I find it disappointing that they are not pursued in a more scholarly fashion. In contrast, this book is a healthy antidote to all the deconstructing of the remarkable achievements of Western science that is going on in modern academic life. □

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### New in paperback

**The Ant and the Peacock** by Helena Cronin. Cambridge University Press, £12.95, \$19.95. For a review see *Nature* **356**, 623 (1992).

**The Creationists: the Evolution of Scientific Creationism** by Ronald L. Numbers. University of California Press, \$15. For a review see *Nature* **360**, 637 (1992).



ON the 28 March 1952 at Istres, near Marseilles, this rocket-powered sled reached an incredible 328 kilometres per hour, shattering the previous record for rail vehicles of 196 kilometres per hour set in 1937 by the Bugatti "Présidentiel". The sled, known as the SE 1910, was a French secret military machine "far ahead of its time" that was to be a reusable launch vehicle for heavy ground-to-ground type missiles. Plans were also made to use the sled to launch piloted aircraft. It is shown here with a V-1 rocket, developed by the Germans in the Second World War, attached for the purpose of testing.

What made this sled unique was a combined acceleration and deceleration system, making use of rockets (powered by liquid hydrogen peroxide and calcium permanganate) for braking as well as propulsion. As well as the braking rockets (retro rockets) there

were two other braking systems: disk brakes damped by pressurized oil and a 'skid' system in which skids were lowered onto the track and four 'jaws', incorporating friction material, gripped the track. (Interestingly, in 1981 this system was suggested, though not used, as an emergency braking system for the French high-speed train, the TGV.)

There were 52 tests, all apparently without mishap, before the programme was halted in 1953. By this time, missile technology had advanced to allow heavy loads to be launched under their own power and smaller missiles could be launched from aircraft. There was no longer a need for such launching sleds.

From *History of Rocketry and Astronautics* edited by Lloyd H. Cornett Jr. American Astronautical Society History Series, Volume 15, \$60 (hbk), \$40 (pbk).