

lem is not open malice but repeated small episodes of frustration”.

Consequently, Tenner refuses to despair. He urges us, in effect, to expect the unexpected and to be more, not less, vigilant than our predecessors as we try to anticipate revenge effects and react to them when they do emerge. As he reminds us, Murphy’s law — “if anything can go wrong, it will” — was intended by its originator, a frustrated military engineer, as a plea for alertness and adaptation, not a resignation to forces beyond our control. (So much for the intended effects of that declaration.) Tenner in fact offers a positive corollary: “Sometimes things can go right only by first going very wrong”. This optimistic view of disasters has been documented in several books by the civil engineer Henry Petroski, whom Tenner cites.

Why Things Bite Back offers a much-needed healthy balance between contemporary technological utopian fantasies and neo-Luddite despair. This superb guide to our high-tech world deserves a wide readership. □

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Wishful thinking?

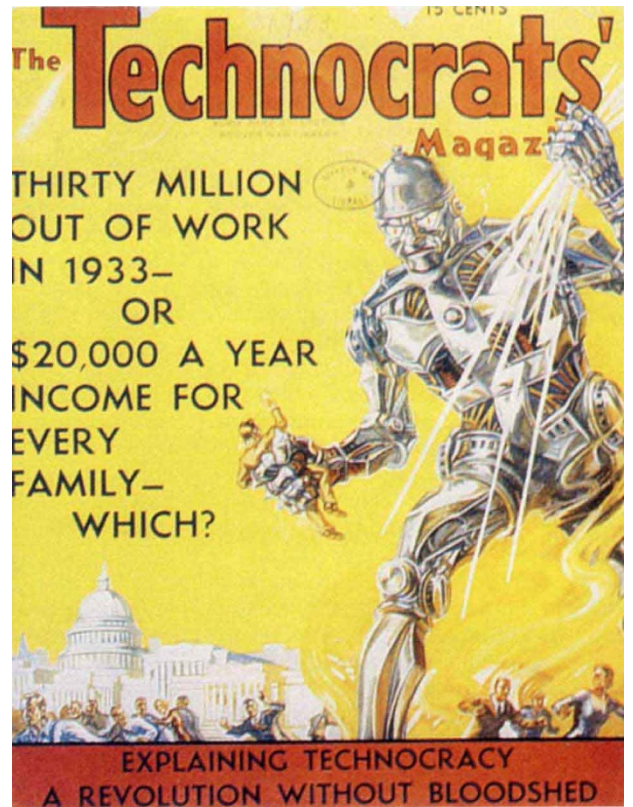
Massimo Piattelli-Palmarini

The Logic of Failure: Why Things Go Wrong and What We Can Do to Make Them Right. By Dietrich Dörner. Holt: 1996. Pp. 222. \$25.

MANY people, in many walks of life, are under the impression that things are not working as they should and that it is becoming more and more difficult to get some things, indeed anything, properly accomplished. Witness, for example, the hail of complaints in the international press about the dismal logistics and lapsed security of the Olympic Games in Atlanta. The problem, of course, is not to be found in the things themselves, but in the heads of the people who fail to carry them out. What has gone wrong? And what can be done about it?

Books on ‘why nothing works’ and ‘why we can’t think straight’ make up a new literary genre, with diverse, at times perceptive, contributions by mind-reformers, film stars, policy-makers, educators, experts in managerial decision-making and professional psychologists and anthropologists. Explanations and recommendations range from a needlessly elaborate rephrasing of the obvious to genuinely novel psychological discoveries. The latest example is Dietrich Dörner’s analysis of ‘decision traps’

VISIONS of the future as seen through the eyes of Americans earlier this century are explored by Joseph J. Corn and Brian Horrigan in *Yesterday’s Tomorrows*, now out in paperback. Although technology was invariably seen to advance rapidly, society and politics were not — as witness plans for anti-aircraft flying circular-saws and waterproof furniture to allow “the housewife of 2000 [to] do her daily cleaning with a hose”. Originally published in 1984 to accompany a Smithsonian exhibition, the book contains a wealth of visual material drawn from popular science magazines, world trade fairs, films, advertisements and so on. Johns Hopkins University Press, \$24.95, £20.50.



in complex situations. Dörner, a professor at the University of Bamberg and director of the cognitive anthropology project at the Max Plank Institute in Berlin, has impeccable credentials in this special branch of cognitive psycho-anthropology. And he graces us with the nicest title so far: “The Logic of Failure”. It reflects his belief that “people court failure in predictable ways” and that “failure does not strike like a bolt from the blue; it develops gradually according to its own logic”.

His lively treatise, accessible to the cultivated lay reader, capitalizes on real-life cases (such as the Chernobyl disaster) and refined *ad hoc* experiments. In the latter, both expert and naive subjects are asked to make decisions in fictional, yet perfectly plausible, model worlds. Computers are then used to simulate the web of interlocking consequences of these decisions in the years ahead. The decision-makers have the benefit of absolute dictatorial power in changing the variables of the model, and can instantly check, if they so wish, the long-term consequences of any of their actions. The rationale for the approach is straightforward: “By removing the constraints of the real world, we hoped to see how people think and act when they are entirely free to do as they wish... [and] to illuminate the psychological factors bearing on human planning and decision making”.

So just how much has been learned

about these factors through such experiments? Despite many stimulating examples and judicious reconstructions of some recurrent decision traps, I am sorry to say that no new deep psychological discoveries have been made. Given a moment’s reflection, most of us could predict what the faulty ingredients are likely to be: acting with insufficient reflection, short-sightedness in calculating consequences, becoming enamoured of our own predictions in the teeth of contradictory data, over-involvement with self-generated projects, excessive focus on small corners of a problem, neglect of early signals of impending catastrophe, and so on.

On these psychological mishaps, the book has, as one would expect, a lot to say; and what Dörner does say is lucid, well balanced, well supported and instructive, and invariably far more than just common sense. (I have witnessed top managers being fed with far lesser stuff on decision-making, in courses judged, to my amazement, to be quite successful.) But the reader will look in vain here for important insights comparable to those in other areas of the cognitive science of decision-making, such as the so-called ‘cognitive illusions’ pioneered by the findings of Daniel Kahneman and the late Amos Tversky. The academic discipline of ‘heuristics and biases’ that Kahneman and Tversky did so much to establish deals with deeply ingrained errors in decision-making under uncer-