A Reasonable Outcome

The Politics of Earthquake Prediction. RICHARD STUART OLSON, with Bruno Podesta and Joanne M. Nigg. Princeton University Press, Princeton, NJ, 1989. xii, 187 pp. $19.95.

An American scientist predicts a natural disaster in the Third World: the destruction by a massive earthquake of Lima, Peru. If this book were popular fiction, it would no doubt feature the struggle of the young scientist against scientific and bureaucratic obscurantism, political efforts to quash his enthusiasm, triumphant recognition of his virtuous rectitude, and a heroic effort to save a city that the First World was all too ready to see buried in rubble.

But the story is true, and the lessons quite different. A U.S. Bureau of Mines scientist, convinced in the mid-1970s that his laboratory work on fracturing of rocks was relevant to earthquakes, predicted a devastating earthquake off the coast of Peru, to take place in June–July 1981. The prediction was given an open hearing before a prestigious scientific panel in January 1981 and rejected. The earthquake did not occur, but the widely publicized prediction brought high-level political consciousness of the potential consequences, some improvement in Peru's emergency preparedness, and an upgrade of its seismic detection network. A government-ordered evacuation of Lima was avoided, though some voluntary evacuation occurred. Relations between the United States and Peru were not seriously damaged.

This relatively benign outcome was not the result of scientific objectivity and bureaucratic devotion to the public good. At the time, a fiasco seemed likely. Passions ran high. Puzzlingly absent from this account are the personality conflicts. Particularly clear are the bureaucratic passions: of the U.S. Bureau of Mines, Geological Survey, Agency for International Development, and State Department and the Peruvian Geophysical Institute. Each had its own interests at stake and was prepared to defend them. Just as important are the scientific passions: "real" seismologists lined up against an intruder to their field, a Peruvian geophysicist used the prediction to strengthen his underfunded institute, one of the supporters of the prediction abandoned his colleague in midstream. News coverage, both in Peru and in the United States, amplified and distorted the entire affair.

What, then, accounts for how matters came out? The authors do not address this question. They are much more concerned with what went wrong than with what went right. This is especially true of their account of what they regard as the heterodox theory that led to the prediction and of its treatment by the scientific panel, an account that unfortunately lacks any detailed description of the scientific merits of the dispute. The book opens with the claim that Thomas Kuhn's paradigm shifts are somehow relevant, a theme it focuses on periodically, but it closes with the admission that the theory involved did not represent a major paradigm shift but lay well within the realm of plate tectonics.

The concluding view seems much more on the mark. The matter seems to have nothing to do with Kuhn. The scientific panel that examined the prediction may have been biased against our young hero, and it certainly started from a skeptical point of view. But it gave him a fair, and lengthy, hearing. And it came to a correct conclusion, five months or so before the predicted earthquake failed to materialize. Anything but a tough, doubting, scientific examination would have been foolhardy under the highly publicized circumstances, with the destruction of a major city at stake.

This suggests to me a moral of the story. The scientists and bureaucrats involved were unquestionably self-interested and a good deal less than objective. But the very plurality of conflicting interests involved, the public attention and risk of public disgrace, ensured that the result was a reasonable one. The authors bemoan the "political" nature of the controversy, as if only scientific objectivity can lead to correct results. Would it not be better to laud the politics? There is merit in a pluralistic system that provides a hearing for opposing views and threatens consequences to those who are wrong. That is what keeps both scientists and bureaucrats on the straight and narrow.

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Views from Chicago

Memoirs of an Unregulated Economist. GEORGE J. STIGLER. Basic Books, New York, 1988. xii, 228 pp. + plates. $17.95.

This book provides both information and pleasure, and not to economists alone. Readers unassociated with Stigler's discipline will find it a delightful means to learn some of the subjects economists like to investigate and some of the ways in which they think about them. Still, it is important to warn the general reader that Stigler's writing is unrepresentative of the practitioners of the field in a number of ways. His enthusiasm for the accomplishments of economics is somewhat greater than the norm. His conclusions, the set of writings by others that elicit his approbation, and even his research methods are all to some degree colored by his membership in the "Chicago school." And, above all, the attractiveness of his writing is far from typical.

Much of the book is built upon an autobiographical foundation. But, as for many of us academics, this by itself is hardly enough. Nothing in Stigler's life story constitutes the stuff of drama—not even anything comparable to the one exciting incident in the life of Adam Smith, a kidnapping by gypsies as a child. Thus, Stigler makes this the engrossing book it is by means much like Kirkpatrick's in his biography of Domenico Scarlatti (about whom extremely little is known)—by devoting most of the little volume to many other interesting subjects. Thus, we are offered essays on the economics of monopoly, on the determinants of the behavior of governmental regulatory agencies, on empirical research in economics, on university politics, and on a variety of other subjects. On each, the reader is instructed on the logic of the Chicago analysis of the subject and is offered a variety of ancillary insights.

The Chicago school, of which Stigler is justly proud, offers a good deal more than the political conservatism that is widely considered to be its hallmark. It is characterized by the brilliance and cleverness of its leaders as well as many of their followers, by considerable inventiveness in the subjects it has selected for investigation, and by a choice of research methods and assumptions that sometimes differ considerably from those adopted by the rest of the profession. Thus, it has provided pioneering studies on the economics of race discrimination and divorce, on the role of education interpreted as an act of investment in oneself (investment in "human capital"), and on the possibility that government policy can be undermined by the public's expectations about its consequences.