

## BOOK REVIEWS

## Chinese puzzles

John Maddox

THE time has gone when people could bring conversation in the West to a halt by saying that they were just back from China. Indeed, the conversational gambit is dangerous, for there is as likely as not to be somebody in the gathering who can boast of having found a better hotel, or of having been allowed to visit Chinese Mongolia or Tibet. Yet China remains a puzzle, not only because mutual travelling is still only a trickle but because of language and the sheer strangeness of China as seen from the West and, no doubt, vice versa.

*Science in Contemporary China* is, in the circumstances, a welcome book even though its defects, sometimes serious and often irritating, also command attention. The book is a compilation of travellers' tales from the late 1970s brought back from China by 26 scholars of various disciplines, many of whom seem to have made two or three journeys under the auspices of the Committee on Scholarly Communication with the People's Republic of China, itself an offshoot of the National Academy of Sciences in Washington but funded, for this purpose, by the National Science Foundation. But since most of the contributions are well laced with handlists of laboratories, and the names of their directors, the book is likely to be most used as a kind of Baedeker — a guide by which intending travellers from the West can plan their journeys. That is not something to be scorned.

The most glaring flaw is that the book, according to its editors and Professor Walter Rosenblith, the chairman of the supervisory committee, is uneven. In many ways, that is an understatement. Some contributions are merely handlists. Others sensitively relate the condition of some discipline now (or in 1978 or 1979) with the great events of the Cultural Revolution — which then seems more than ever a calculated madness. A more forgivable defect of the book is that most of the journeys on which it is based were made in that dreadful period when the Cultural Revolution had come to an end but when Mao Zedong (according to the *pin-yin* transliteration) was still nominally in the saddle. Some travellers were plainly mystified by what was happening around them, at least until the changing scene was crystallized and made familiar by the great National Science Conference in Peking (sorry, Beijing) in March 1968.

Travellers to foreign lands must be wary of the three most obvious traps — those of generalizing from impressions, of writing patronizingly and of writing with stars in their eyes. This bunch of travellers has been

*Science in Contemporary China*. Edited by Leo A. Orleans with the assistance of Caroline Davidson. Pp. 599. ISBN 0-8047-1078-3. (Stanford University Press: 1981.) \$35.

reasonably circumspect. Now and again, first impressions enliven the separate catalogues of information — Leo Goldberg was obviously shocked to learn of the ups and downs of the Purple Mountain Observatory (Nanjing) from which the astronomers were driven after the Japanese occupation in 1937. The general first impression that Chinese researchers use less sophisticated equipment than their colleagues in the West has, however, been carefully confirmed; and there is a thorough account of what is being done by the Chinese Academy of Science to put things right.

For the most part, devotional prose has also been avoided. Fang Yi, the vice-premier with responsibility for science and technology in 1968, made a great impression on several of the travellers as did Deng Xiaoping (deputy premier at the same time) on the smaller number who had the luck to meet him. Some seem to have regarded the national plan announced in March 1978 as having the force of Mosaic tablets, but collectively the travellers have given a good account of how the plan is having to be matched against economic and social reality.

Now and again, the travellers have fallen into the trap of patronizing those whom they observed. The impression is heightened by the way in which China is so often called the PRC. One writer asks how it can be that the Chinese choose to lavish surgical skill on intricate operations when they have so few Western-style doctors per 10,000 population. Even, in an extended footnote, Joseph Needham (the author of the monumental *Science and Civilization in China*) is patronized because his book is not "philologically sound". But these are minor points.

For the rest, this Baedeker, based though it is on 26 snapshots of China, is full of absorbing information. Not merely can one learn that C.N. Yang (the field theoretician) is the son of K.C. Yang, who took a PhD in mathematics in Chicago in the 1920s, but that Chen Jingrun was the first to prove (in 1966) that, above a certain size, every even number can be written as the sum of a prime number and another which is either itself prime or the product of two prime numbers; that China is heavily committed to superconducting technology for reasons not readily understood; that

the commitment to high-energy physics derives from Mao's interest in the philosophical implications (but that the 50 GeV accelerator will not now be finished until 1985); that there is a project to synthesize a transfer-RNA molecule and it appears to be customary, when an active compound has been isolated from some traditional medicinal herb, to synthesize the pure chemical so as to avoid the associated side-effects. China's need of military electronic equipment is urgent. Computers still languish.

Collectively, the snapshot is clear. But what is happening to the people? The Cultural Revolution lasted for 15 years, almost a generation, and university posts were either not filled or filled with the wrong people. *Science in Contemporary China* records in several places that Chinese hosts were aware of the problems foolishly created, and that they were doing their best to put things right. How quickly, one must wonder, will they succeed?

Anecdotally, this book provides some evidence of change in the right direction. I was pleased to find in it the name (almost unrecognizable behind the *pin-yin*) of a graduate student at Manchester many years ago. He was so homesick that he travelled every other week to Liverpool for a decent meal in St George's Square. In 1953, he caught Mao's student boat back to China. We were surprised to learn that as an F-centre expert he planned to help with the "building of a dam"; only afterwards did we understand that it was a project to do with weapons. But when seen at the height of the Cultural Revolution, he was working as a kind of filing clerk at the Academy. Now, it seems, he has been rehabilitated, the head of a division of an institute in Beijing.

Only occasionally do the contributors have the time to reflect on what they describe, but Saunders Mac Lane (who writes about mathematics) does best. He gives an account of how his delegation chose to argue with their Chinese hosts about the virtues of mathematics — is it elegance ("beauty") or utility that matters most? The encounter was apparently rowdy, and the question unresolved. The reason seems to have been a difference of idiom — which is not merely a name for a pretty turn of words. What remains to be learned, from the West, about China is whether present puzzles will melt away with the passage of time or whether, on the other hand, the idiomatic gulf will prove to be unbridgeable. □

John Maddox is Editor of Nature.