

CW COMPLEXES

The Topology of CW Complexes

By A. B. Lundell and S. Weingram. (The University Series in Higher Mathematics.) Pp. vii+216. (Van Nostrand Reinhold: New York and London, January 1970.) 117s.

IN 1946 J. H. C. Whitehead introduced the concept of a CW complex in an address to the American Mathematical Society at Princeton. With the benefit of hindsight it is clear that Whitehead had contributed an important new weapon to the mathematical armoury. Among the many important properties of CW complexes are the following: (1) the CW topology is the "right" topology to give to a cell complex in order to remove pathologies in the infinite case; (2) CW complexes can have relatively few cells (this is an advantage when calculating homology groups); and (3) the theory of simple homology type can be tidied up by the algebraic nature of CW complexes.

Unfortunately Whitehead, writing in the stone age of topology, is a little inaccessible to the present day reader. This has been remedied by the publication of this excellent book. In a transparent and readable fashion the authors explain in chapters one and two the geometry of CW complexes and the properties of various constructions possible with a CW complex. In chapter three the relationships of CW complexes with ss complexes are investigated and the Milnor realization of an ss complex is given. In chapter four the Whitehead theorems on the homotopy type of a CW complex are studied, and the final chapter is about the homology of CW complexes.

This book, in spite of its excessive price, is well worth having.

ROGER FENN

TAKE-OVER TYCOONS

Merger Mania

By William Davis. Pp. 262+16 plates. (Constable: London, June 1970.) 35s.

WILLIAM DAVIS is the editor of *Punch*, so this is a light-hearted look at take-over bids. Mr Davis has also been financial editor of the *Guardian*, and together this must make him uniquely qualified to produce a readable account of the phenomenon which has most characterized the business world of the past ten years or so. His book is pitched at a readership outside the business world and at people who may have found themselves to be pawns in merger deals—the employees of firms which have been taken over, and small shareholders. Naturally Mr Davis has tended to concentrate on personalities, people such as Joe Hyman in the textile industry, Rupert Murdoch in newspapers, Arnold Weinstock of GEC-AEI-English Electric, and Saul Steinberg in computer leasing. Individual deals are described, beginning with Charles Clore's rise to fame in the property business, and including the ICI-Courtaulds affair of 1961 which has become part of the folklore of the take-over business.

Even if the book is not as revealing as the "behind the scenes" promise on the dust jacket suggests, or the tycoons quite as colourful as the blurb writer would have us believe, Mr Davis has nevertheless achieved an intelligible account of a worrying phenomenon. He stresses the annoying way in which merged firms do not immediately live up to expectations, and the deficiencies of the City's take-over code, which tends to forget that the people employed by the warring firms may need protection. Mr Davis says he plans to write more books about the business world—one hopes he will.

EDWARD PHILLIPS

Short Notices

Frames of Mind. By Liam Hudson. Pp. 162. (Penguin: Harmondsworth, June 1970.) 5s.

If you are better at conventional IQ tests than at "open-ended" tests such as thinking of likely (and unlikely) uses for a brick, you are a converger; if not, you are a diverger. In his earlier *Contrary Imaginations*, Professor Hudson found that young convergers tend to be emotionally inhibited and often become scientists, while divergers are more spontaneous and lean towards arts subjects. *Frames of Mind*—a reprint of the 1968 Methuen hardback—broadens the view of this polarity in personality types to explore "the crystallization of two contrasting ways of life", with an underlying concern for the way in which different views of one's own personality can direct mental growth and social habits along different lines. This phenomenological approach is solidly based on experiment, although the book conveys less of the sense of excitement and fresh discovery that characterized its predecessor. It does not, however, dispel the disturbing implication that science may attract the unimaginative and pedestrian more strongly than the brilliant and fluent.

The Pill on Trial. By Paul Vaughan. Pp. 232. (Weidenfeld and Nicolson: London, June 1970.) 36s.

IN spite of the hint of sensation in the title, which sounds more like a publisher's invention than the author's, *The Pill on Trial* is an excellent piece of reporting, accurate but as little dull as the subject permits, sober but amusingly written, and admirably detached from the many special interests that are involved in the affairs of the fraught tablet. The story of how the pill was conceived, particularly the botany expeditions of Professor Russell Marker and the birth of Syntex-to-be in Mexico City, is unrivalled among the case histories of invention, and Mr Vaughan has done it justice in the telling. The meat of the book, the significance and biochemistry of steroid side effects, is not the most fascinating aspect of contemporary medicine, but has probably been made as palatable as it could be. Mr Vaughan has covered many of the side issues, as well as the side effects, of the pill, such as population and the positions struck by the Pope and other Catholics. Little, however, is said about the sociological effects of the pill, which is a regrettable omission from this readable and otherwise comprehensive survey.

Biological Studies of the English Lakes. By T. T. Macan. Pp. xvi+260+9 plates. (Longman: London, June 1970.) 80s.

WITH nineteen lakes contained in an area with a radius of less than 15 miles, the English Lake District has been and is still a mecca for limnologists. It was on the shores of the largest lake, Windermere, that work started in the 1930s in Britain's first freshwater research laboratory which, after a period in a Victorian folly, moved, in 1950, to more spacious headquarters in the Ferry House. With 35 years' association with the laboratory behind him, Dr Macan is well qualified to write this summary of the biology of the lakes which, conveniently for limnologists, fall into a series from very unproductive lakes (Ennerdale) to productive lakes (Windermere and Esthwaite Water). The laboratory's staff have been broadminded, so that the book contains a good deal of physics and chemistry. For some reason the botanists and zoologists have tended in the past to team up with their physical colleagues rather than with their other halves, but, as Dr Macan explains, there are now hopeful signs that in the neglected field of prey and predator relations, for example, members of the two biological disciplines may at last be putting their heads together. This book is likely to be heavy going for the unfamiliar, but it should prove a useful review for students and for research workers.