

Book Reviews

UNIVERSITY AFFAIRS

British Universities

Purpose and Prospects. By Sir Sydney Caine. Pp. 272. (Bodley Head: London, Sydney and Toronto, June 1969.) 42s.

SIR SYDNEY CAINE graduated at the London School of Economics, served in the Colonial Service and eventually became Financial Secretary to the Government of Hong Kong. He was for a brief time Vice-Chancellor of the University of Singapore and finally was for ten years the Director of the London School of Economics. It was his retirement which led to the appointment of Dr Walter Adams, and thus in some sense precipitated the worst outbursts at the London School of Economics.

Sir Sydney's career has thus not been devoted to scholarship; he has been an administrator and this has enabled him to look with a somewhat detached eye at scholars. It is bold of him to take up the pen. His opening chapter indeed prepares one for the worst; he manages, in the first two pages, to produce a number of statistics on students which are open to misinterpretation. He then goes on to a series of assertions about the past which are certainly challengeable. For example, "it is hard to recall", he says, before 1914, "any active participation by dons in public affairs, either as government servants, or as advisers, or members of committees of enquiry". It may have escaped Sir Sydney's notice that Mr Gladstone was Member of Parliament for Oxford University, and that the Duke of Wellington died with the Report of a Royal Commission on university affairs by his bed, but he ought to know that some of Alfred Marshall's best work was done for committees; Keynes on India comes to mind; not to speak of ecclesiastics. He goes on to say that "it is hard to think of any novel or play written before 1920 (or even later) which centres on a university community". Surely even Sir Sydney has heard of *Charley's Aunt*, not to speak of E. M. Foster and William Wordsworth, both of whom preceded Lord Snow. (The ambiguity, of course, lies in the ugly verb "centre".)

Sir Sydney reviews the nature and objects of the universities. He believes that over-specialization is evil; that there is no clear line between the university and non-university institutions; he feels that there may well be strong arguments for part-time education; and there is a strong case for people who wish to study without taking a degree. He argues that the universities are centres of research, though they have not always been so, and that the growth of research has often threatened the importance of teaching, and that there is no strong evidence that the research effort brushes off in some sense into the teaching.

In discussing student malaise, Sir Sydney's views are, of course, bound to be interesting. He deals fairly abruptly (and probably justly so) with many of the reasons that have been given for the student revolts. He points out that the physical conditions in British universities have improved in the past few years, that the pupil-teacher ratio has not deteriorated, that probably more people than before are interested in the students, and that many of the arguments produced by the student radicals are rationalizations for a deeper discontent, that there is no common cause of the widespread student unrest, but rather a spirit of imitativeness which has spread throughout universities. He sees the student malaise as part of a wider erosion of values.

The values which are implicit in Sir Sydney's arguments are traditional values, though it seems to me that Sir Sydney, by identifying modern art with corruption, and corruption with the disruption of the orderly running of the London School of Economics, makes too easy a transition from non-representational art to Robin Blackburn. If it were all as simple as this, Stalin, as a strong supporter of representational art, would have been proved right long since.

In two important chapters, Sir Sydney deals with the government of the universities and the relationship of the universities to the government. He argues for a new system of finance, in which the universities are less dependent on the government, by finding new ways of financing themselves—partly by student loans, partly by private finance—and suggests that this would enable them to professionalize their administration. This, in turn, would enable the teachers to concentrate on teaching and the universities to be run far more efficiently and effectively.

This then is a wide-ranging book, written by a man of a decade and a half's experience in university life, with considerable intelligence. But it is in another way an awe-inspiring book, because it is written with a bluff self-confidence by one who was for ten years head of the institution which is widely regarded as urgently in need of reform. He shows no symptoms at all of self-criticism. It is this self-assurance which ultimately, and perhaps unfairly, gives the book a tone which is unattractive.

JOHN VAIZEY

COMPUTER MINDS

Machine Intelligence 4

Edited by Bernard Meltzer and Donald Michie. Pp. viii + 508. (Edinburgh University Press: Edinburgh, March 1969.) 100s.

THE publisher's blurb inside the dust cover claims that "the proceedings of the Fourth Machine Intelligence Workshop held in Edinburgh mark some significant new advances. Most notable perhaps is the long-predicted arrival of mathematical logic and its mechanization at the centre of the machine intelligence arena". Ignoring the invited comparison with Mohammed and the mountain, this is no idle boast. This volume does indeed show that some very significant developments are beginning to take place, and will reward study by anybody who is concerned to know what the future will hold for mathematics and for computers. The day when the mathematician's ivory tower will be superseded by modern workshops, powered by hardware from the electronics engineer and software from the logician, seems much nearer now than it did a couple of years ago.

Rapid improvements are being made in existing types of mechanizable proof procedures, illustrated here especially by contributions from Prawitz and from Loveland, but the most significant work in this section is undoubtedly that of J. A. Robinson, who has for several years set the pace in this field. Robinson here describes a whole new system of logic, formulated with the use of computers in mind. More than that, he shows how the system could be used in a computer in a conversational mode, to harness the analytical power of the machine closely to the intuition of a man. Based largely on the lambda-calculus, Robinson's formulation has some interesting features. Functions of more than one variable are dispensed with, so that $f(x,y)$ is represented by a function $g(x)$ the value of which is a function h such that $h(y) = f(x,y)$. More significantly, both universal and existential quantifiers are absent as elementary concepts; instead they are constructed using a particular type of elementary "choice" function. Using this system, Robinson's proposed proof procedure is based on a way of