power and authority, one in which the process of decision-making does not descend in decrees from above but arises on the "shop floor" and percolates upwards, to reach (paradoxically) the desk of the individual who, de jure, is the boss of the institution. Prominent among the beliefs is a common purpose: to transmit, by teaching, the orthodoxy of the discipline and to generate, by research, a rigorously controlled system of dissent from orthodoxy. There is a mystique about this and there is intense lovalty to an institution that nurtures this mystique. But these communities of scholars have to come to terms with two often conflicting loyalties. On one hand their loyalty is to the discipline: what matters most to a physicist may be his status among other physicists, and this tempts him to put what he calls "my own work" before the interests of the university in which he serves. On the other hand their loyalty is to the institution and its corporate interests: what matters most may be the educational mission of the community, to produce (as the Oxford don, Mark Pattison, put it) "not a book but a man". "The culture of a discipline even includes idols", writes Clark. In the sociologist's office you see a picture of Max Weber on the wall. Yes, and in the office of a chemist who is also a tutor or a dean you see a picture of Magdalen quadrangle on the wall. It is symbolic of the splitpersonality that inhabits the academic mind. There are subtle differences among different countries in the emphasis given to these lovalties. An American would talk of belonging to the Yale Class of '24; a German would not state his university, but would say "I was a pupil of Heisenberg"; a graduate from Oxbridge does not even mention his university: he is called "a Clare man" or "a Wadham man".

An institution for the management of knowledge has to solve a very difficult problem in the management of its own members. The scholars are differentiated into dozens of disciplines and subdisciplines. Those in authority over them cannot possibly tell them what to do; yet someone has to allocate space, cut the financial cake into slices, provide the common services. And someone has to defend the university's interests against pressures from what is (shortsightedly) called "the outside world". Clark describes in detail the patterns of academic authority: the dictatorial professor who has the right of patronage (as is to be found in Italy): the collective control by committees of academics (as is to be found in Britain); the administrators who manage the university

Surface Physics

Dr J.E. Inglesfield asks us to point out that the title to his review of M. Prutton's *Surface Physics*, 2nd Edn (*Nature* **307**, 190; 1984) was chosen not by him but in the *Nature* office. No slight upon the book was intended by the title "Superficial science".

Editor, Nature.

as a sort of holding company for semiautonomous oligarchies of faculties or colleges (as in California); the limited delegated control under a system managed by the state, where the professors are civil servants (as in France). He sees good and bad in all these patterns and wisely refrains from committing himself to preferences among them.

Finally, Clark discusses change in institutions of higher education. Here, it seems, is another paradox: that they are notoriously the most exasperatingly conservative bodies and yet it is from them that the most revolutionary initiatives for changes in society come. Clark finds this puzzling, but I think the explanation may be quite simple. It is that the initiatives come from the "shop floor", from the research and writing of young people. The resistance comes from the people who have become enmeshed in the administrative network of the place or whose interests would be endangered by change. The obduracy of the University of London to reform itself is a local British example of this.

Clark's book is written with authority but I must add a warning that his conclusions are at a level of generalization which I found at times hard to follow. I am not a sociologist, so it is not for me to carp about the use of abstract latinized words which to the uninitiated may seem to be jargon. In writing this "layman's" review of it, I may have oversimplified some of Clark's subtle reasoning, but I hope I have made it clear that this is a book which, even if it isn't to be read for pleasure, is certainly to be studied for profit.

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Archaeology, A to Z

Colin Platt

The Macmillan Dictionary of Archaeology. Edited by Ruth D. Whitehouse. Macmillan, London: 1983. Pp.597. £25.

THE emergence of archaeology as an amalgam of several disciplines has been comparatively recent, dating back scarcely further than the 1960s. And it is this crossing of boundaries, still bewildering to many, that is the chief justification for Dr Whitehouse's new Dictionary. Handsomely presented in a generous layout, it has the enticing feel of a good work of reference: essential, of course, for instant instruction, but as well suited for a pleasurable browse. How many of us would have been aware, without such aid, that the earliest phase of the North Vietnamese Bronze Age is known to its students as "Go Bong"? On the very same page, we are cross-referred away from Gogo Falls, and are given a good, short account of the goat. Here is pleasure, stimulus and intelligence, all in one.

Nobody need have misgivings about the intended scope of this dictionary. Its field is the wide world; its timespan is four million years; its concern is with techniques as well as evidence. Nevertheless, what precisely were the principles, we are still bound to ask, that guided Ruth Whitehouse and her small team of subject editors in their selection of material for discussion in these pages? In the little she tells us on this fundamental matter, Dr Whitehouse is not reassuring. "I cannot claim", she confesses, "that coverage is even. . . . My own prejudices, and to a lesser extent those of my subject editors, have necessarily prevailed." One of these prejudices perhaps a considered principle, though we are not so informed — is that the best archaeologist is necessarily a dead one. Thus David Clarke (d. 1976), as one of the pioneers of the New Archaeology which itself gives purpose to this book, gets his entry. But Lewis Binford, very much more influential in the same field as Clarke precisely because he remains alive and active, does not. The editors have been spared embarrassing decisions, but only to the impoverishment of their text.

In the same way, other omissions would have been easier to accept if more trouble had been taken to explain them. Of course, this is a familiar game among critics of dictionaries, but so much the more reason to anticipate it. Why Repton and not Deerhurst? Why Krak des Chevaliers and not Sahyun? Why San Vincenzo al Volturno and not Monte Cassino? In each case, the answer seems to be that there have been excavations (or research programmes) on these sites known personally to one of the subject editors of this volume. And increasingly, as we come to follow through our individual specialisms, the Macmillan Dictionary of Archaeology begins to look narrowly based. Why, to go back to the general editor's opening apologia, do the compilers' prejudices, in a work of reference of this kind, "necessarily" have to prevail? They are a clannish group in which marital pairings and former scholarly cooperations are prominent. Could it be that there were just not enough of them from the start?

Fortunately, the preoccupations of Ruth Whitehouse's "team of international experts" are very likely to be those of the great mass of users of this dictionary. Nor is there any doubt that there is much of real value in these pages, clearly and professionally expressed. Mutton dressed as lamb, perhaps. But still good food. \Box

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