Skeletons in the cupboard

C.K. Brain

Bones of Contention: Controversies in the Search for Human Origins. By Roger Lewin. *Simon & Schuster: 1987. Pp. 348. \$19.95.*

"THERE are only two kinds of science", a colleague remarked to me recently, "good science and bad science". What, one wonders, are the hallmarks of each? Surely, objectivity — the drawing of conclusions unmodulated by conscious or unconscious bias — would be a criterion of "good" science. But when such a criterion is applied to palaeoanthropology, as is so compellingly done by Roger Lewin in his new book, one is forced to concede that this discipline still has a greater than usual amount of evolving to do on its road to objectivity.

Palaeoanthropology is a popular subject, with many people eager to know something of their origins and the course that their ancestors followed during their emergence from the animal world. Roger Lewin, who graduated in biochemistry from Liverpool University, worked as an editor at *New Scientist* and is currently editor of research news at *Science*, has been caught up in the excitement of palaeoanthropology for some time. He is often seen at international meetings concerned with early man and has co-authored two best-selling books, *Origins* and *People of the Lake* with Richard Leakey.

His present book is about "controversies in the search for human origins" and, in presenting these, Lewin has made use of private letters, published papers and interviews with the personalities involved. He reports on events which, at the time, generated a good deal of acrimony, yet he does so with impartiality and even-handedness to expose the roots of each dispute. The result is an enthralling narrative of people catapulted into prominence by their fossil finds and of their passionate attitudes towards their subject. But Lewin goes beyond personalities: he documents the state of a science in transition as its proponents struggle to dissociate their subconscious and emotional responses from the dictates of their intellects.

The controversies Lewin has chosen to investigate have been major issues in the annals of palaeoanthropology. He deals at length with the rejection of the Taung child by the anthropological community of the day because it did not conform to what an ancestral hominid was expected to have looked like, nor had it lived on the right continent. He writes of the initial acceptance of *Ramapithecus* as the earliest of all hominids and then

describes the motives behind its dismissal. He discusses the preoccupation of Louis and Richard Leakey with their search for the earliest representative of the genus *Homo*, and how this obsession eventually led to a remarkable dispute about the inferred ages of fossil sequences from the Omo Valley and Koobi Fora, centring on the antiquity of the 1470 *Homo* skull and on the KBS Tuff which was its age marker. Finally, Lewin documents the extraordinary events leading to the naming of Lucy and her clan, and the furore which the designation *Australopithecus afarensis* unleashed.

Palaeoanthropology is not the only branch of science to generate controversy, but it is remarkable for the amount it generates and for the intensity of emotional involvement that is shown by its

Cause of controversy — R.A. Dart with the Taung skull.

participants. It is this emotional involvement that leads to a breakdown in objectivity and a deterioration in the quality of the science. Why should emotions be so much in evidence? The underlying reasons that emerge from Lewin's book are human frailty at the individual level and community influences that operate subconsciously on the investigator.

The human frailties manifested by palaeoanthropologists are surely no different to those to be found among researchers in other branches of science, but their focus is greatly sharpened. The reason is that palaeoanthropology is a highly visible discipline where a single discovery can make its finder famous overnight. The stakes are high but spectacular fossils are hard to find: Louis and Mary Leakey searched East Africa for over 30 years before the first really important hominid skull came into their hands. So it is understandable that finders of significant fossils should wish to make the most of them, to ensure that they are seen as being on the direct lineage to modern man and are the oldest representatives of this

prestigious line ever discovered. Furthermore, there is a strong temptation to give the fossil a new name to which that of the describer will be linked in perpetuity.

Such expectations are understandable and provide a spur and motivation during the exhausting and unproductive labour which generally precedes the exciting discoveries. But they do mean that the finder becomes emotionally involved with the fossil which in turn emerges as an extension of the finder's ego, sensitive and vulnerable. The outcome is predictable and examples of it may be perceived throughout the history of palaeoanthropology.

But there are other and more subtle influences that affect the objectivity of palaeoanthropologists, and Lewin draws attention to them in the book. He airs some little-known conclusions reached recently by Misia Landau, who sees many writers on human evolution as storytellers, subconsciously moulding their information into the format of the hero myth, so universally present in folk tales. Elements of the evolution myth are these: the ancestral hominid, our humble hero, starts in the stable environment of the evergreen forest; climatic change expels him from this security and he is forced to embark on a hazardous journey during which he overcomes many trials by developing bipedalism and intelligence; his ultimate triumph is the achievement of humanity. "There is a final irony", says Landau:

Again and again we hear how a hero, having accomplished great deeds, succumbs to pride or hubris and is destroyed. In many narratives of human evolution there is a similar sense that man may be doomed, that although civilization evolved as a means of protecting man from nature, it is now his greatest threat.

Are we, in our writings, unwittingly constrained by such universal narratives that rise from some dim, collective unconscious?

Finally, Lewin reminds us that the way palaeoanthropologists write about their subject is inevitably influenced by humanity's image of itself at that particular moment. Such communal human images, like fashions, change with time. Once it was fashionable to see our earliest ancestors as bloodthirsty killers, now it is not. The way we write tells us as much about ourselves as about our fossil subjects.

Lewin ends his book with the prediction that, in the study of human origins, there will always be bones of contention. But my impression is that, as a result of this exposé of the human frailties eroding the discipline of palaeoanthropology, a new trend to objectivity may yet be set in motion. Roger Lewin may have contributed more to the evolution of a science than he had dared to hope. □

C. K. Brain is Director of the Transvaal Museum, PO Box 413, Pretoria 0001, South Africa.