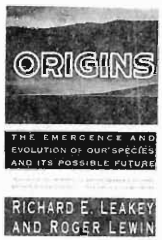
# Origins: The Emergence and Evolution of Our Species and its Possible Future

*Partha P Majumder*




*Origins: The Emergence and Evolution of Our Species and its Possible Future*
Richard E Leakey and Roger Lewin
Penguin Books, New York. 1977
255 pages. US$ 11.95

"There is an inescapable and persistent element of excitement in the search for the origins of humanity ... because there appears to be a universal curiosity about our past ... it is not mere idle curiosity because, without doubt, the key to our future lies in a true understanding of what sort of animal we are". These lines are from the opening page of the book under review. Even though the book was written two decades ago, it is a very authentic account of the origins of man. ("As a convenience of style we use the word man and the term mankind to refer to human beings without distinction to gender", to quote the authors.) Except for some minor modifications, the paradigm of human origins described, and strongly justified with supporting archaeological evidence, remains valid even today. The descriptions provided are scientifically accurate – Richard Leakey and his parents, Louis and Mary Leakey, have discovered some of the most convincing evidence to support the current paradigm of human origins. The flow of the book is smooth – co-author Roger Lewin's vast experience with *New Scientist* must have been a key factor.

The book comprises two themes: the origin of man from an ape-like stock and the evolution of man to a social animal. Both themes are given roughly equal weightage and are dealt with very carefully. If evolution, both biological and social, is viewed as an experiment, it has already been conducted and cannot be repeated. Extrapolation from fossil and contemporary evidence is necessary to reconstruct the various stages of evolution. Obviously, Leakey and Lewin have had to resort to exercises in extrapolation. I personally think that they have dealt with biological evolution in a much more convincing manner than social evolution.

The authors take the reader on a guided tour of fossil-rich places of the world, primarily Africa, during which one learns that the ancestral line that led to modern man stretches back at least five million years. The genus *Homo* (modern man belongs to this genus and to the subspecies *sapiens sapiens*) did not evolve from *Australopithecus*, as was generally believed, but they both shared a common ancestor - *Ramapithecus*, who first appeared at least twelve million years ago and lived in Europe, Asia and Africa. There appears to have been an initial evolutionary diversification into several species of *Australopithecus* and *Homo*, but about three-quarters of a million years ago, there may have been a drastic pruning, as one is left with *Homo erectus* only. Diversification and pruning appears to have happened only in Africa. Thus, the authors argue that Africa is the cradle of mankind. "We have no good answer to the question why *Ramapithecus* gave rise to *Homo* and the australopithecines

in Africa, beyond saying that some kind of ecological change offered new niches to be filled by hominid-like creatures, so we cannot be firm about why the same basic stock did not give issue to the same descendants in other parts of the world," the authors state. The step from *erectus* to *sapiens* occurred about half a million years ago, and the refinement to *sapiens sapiens* perhaps fifty thousand years ago.

It is not clear whether the authors support the *multiregional theory* or the *out-of-Africa theory* of human evolution. It seems to me that Leakey and Lewin favour the multiregional theory because on page 78 they state "*Homo erectus* crossed the thin strip of land that joins Africa to Asia, thus beginning mankind's present domination of the world." However, there is now compelling genetic and paleontological evidence in support of the out-of-Africa theory. Of course, twenty years have elapsed since the publication of this book; Leakey and Lewin may have modified their views.

The authors then provide evidence and argument to discuss the origin of bipedality and upright walking. Stating that "because of its mechanics, upright walking is less efficient than four-legged locomotion," the authors list a few factors that have been the major forces (positive Darwinian selective forces) in the evolution of bipedality.

*Ramapithecus, Australopithecus and Homo* walked upright. What were the major behavioral differences between the australopithecines and *Homo? Homo* established home bases and shared their food. The authors provide some archaeological and ethno-archaeological evidence to justify this claim. In the transition from *Homo erectus* to *Homo sapiens sapiens* language was surely central. Agriculture was also of paramount importance. Social evolution implied establishment of a base camp, division of labour and the ensuing cooperation. Societies were formed which were dependent on hunting and gathering. Grouping of individuals into bands resulted in social dominance. The near-universal social dominance of males over females, the authors argue, resulted from division of labour. They then discuss various other phenomena–incest taboos, aggression, war, exogamy, meat-eating habit, intelligence, etc, on a much softer ground. They state that the view of many prominent ethologists (Konrad Lorenz, Niko Tinbergen and others) that humans are innately aggressive is wrong. They also make several forceful statements against biological determinism.

The final chapter 'Mankind in Prospective', is a fine emotional essay on many of the maladies – of the present human society. The last two sentences of the book have touched me greatly: "We are One People, and we can all strive for one aim: the peaceful and equitable survival of humanity. To have arrived on this earth as the product of a biological accident, only to depart through human arrogance, would be the ultimate irony."

**Partha P Majumder, Anthropology and Human Genetics Unit, ISI, Calcutta 700 035, India**