

detail: pluvials and interpluvials, ancient lake-levels, fossils, soils, palaeoclimatology and climatic changes. In the second part mesolithic and palaeolithic cultures are considered, first in Europe and the Near East, then Africa, and finally Asia.

Palaeontologists will be pleased to find that for faunistic reasons the Günz glaciation as well as the whole of the Red Crag of East Anglia are now included in the Lower Pleistocene—the Villafranchian. Two curves demonstrating the palaeotemperatures (Figs. 5 and 12) have been taken from Emiliana, whose dates, as Dr. Oakley remarks, are not generally accepted. I myself believe that the estimated age for the Günz glaciation of 260,000–300,000 years is too small (the date given by Ericson and Wollin in *The Deep and the Past* (1964) is 1,400,000). Leakey's Chellean skull from Olduvai, according to an improved dating by Curtis and Evernden, is now considered to be the same age as the *Pithecanthropus erectus* skulls from Java (500,000 years).

An important part of the book is the appendix. In the "Fossil Hominid Dating Tables" all known fossil hominids are listed according to group, country, site, date of discovery, name, stratigraphical and cultural and, if known, also the absolute data. Heidelberg Man is classified among the Pithecanthropinae; however, I am of the opinion that the name *Pithecanthropus* should be preserved, as Dubois gave a definition of the genus when describing the first specimen in 1894. The list of the Australopithecines to me seems open to discussion. *Meganthropus* from Java certainly does not belong here; I also think it premature to place '*Homo habilis*' from Olduvai here (this one name covers at least two different forms). It is regrettable that Dr. Leakey has already announced in the Press his new discoveries—even trying to give a new definition of the genus *Homo*—before making available a scientific description: it is, as yet, impossible to confirm or dispute his conclusions. From the list is missing the large upper molar from Olduvai, Bed II, attributed by Leakey (1958) to '*Homo* sp.', but which definitively has australopithecine affinities; it came from the same level as did Chellean handaxes and demonstrates the coexistence of Hominines and Australopithecines.

The foregoing should serve to demonstrate the broad base of Dr. Oakley's study, which indeed covers all modern aspects of dating our Pleistocene ancestors: tertiary deposits and possible human ancestors have been excluded. This readable book contains many tables and well-selected illustrations as well as maps and charts which make it easy for the reader to find his way through a great variety of subjects. But what makes the book especially valuable are the many illuminating notes and the extensive lists of modern references. The book presents an excellent review of the present state of affairs not only for the specialist but also for the interested layman.

G. H. R. VON KOENIGSWALD

LOOKING INTO THE FUTURE

The Conquest of the Material World

By John Nef. Pp. xii+408. (Chicago and London: The University of Chicago Press, 1964.) 8.95 dollars; 67s.

DR. J. NEF has devoted many years to the study of social history of industrialization from the earliest times, and he has thrown much fresh light on the factors that have been involved by his great learning and penetrating analysis. He is the founder and chairman of the Committee on Social Thought in the University of Chicago, and is the driving force behind the recently formed Centre for Human Understanding at Washington. The subject of its last international meeting was "The Building of Bridges of Understanding" between nations at different stages of development. Dr. Nef seems to have been

surprised that the questions uppermost in the minds of the emergent nations in Africa, Asia and Latin America were concerned with the industrialization of their countries—how fast should it proceed and how far should they retain their old traditions even if this involved slower achievement of the material wealth that they are all seeking.

In *The Conquest of the Material World*, Dr. Nef has collected a number of key essays relevant to these problems, several of them having been re-written. In them, he traces the development of our industrialized civilization in Western Europe, which Nature has endowed with such varied and abundant mineral resources. "The conquest of this underground wealth by the Western peoples has been inseparable from the unprecedented power obtained by men in recent centuries over the physical world." The early chapters deal with mining and metallurgy in medieval society, with industrial Europe at the time of the Reformation, with the growth of large-scale industry in Britain between 1540 and 1640, and the contrast between industrial growth in Britain and in France. Dr. Nef then comes to the heart of the matter in his studies of historical interrelationships, in which he relates novel developments in industry to other kinds of endeavour, religious, monetary, scientific and governmental. His aim is to bring these divers strands of history into a new unity that has hitherto been missed. This ends with an account of the influence of the political and industrial development in Britain and France on the drafting of the American Constitution. It omits, however, any detailed consideration of the quickening of the rate of change of the whole world economy due to the impetus given by the two great World Wars to the effort devoted to scientific research and development and to the desire for national independence.

In his epilogue, Dr. Nef looks into the future and states very clearly his own faith. He rejects the cyclic point of view of historians like Gobineau and Spengler, who regard history as the inevitable result of predictable forces.

He ranges himself with de Tocqueville against Gobineau in his belief "that the conquest of the material world has come out of human efforts never made before and out of a new hope in human nature which the future will either destroy or sustain". "What is my position?" he asks; "essentially this: the rise, particularly during the 17th and 18th Centuries in Europe, of a society transcending national and even European boundaries, putting the tender virtues in the foreground as ideals to be sought after, a society bent for a time on settling by limited warfare the issues that divide parts of it, a society open to all the societies of the world, cannot be accounted for without the attempts made to realize in the world something of the love emanating from Christ. . . . Men and women everywhere are now confronted with dangers and blessed with opportunities greater than any that existed in the times of Gobineau. The way in which they meet these dangers and opportunities depends not only on the scientific and technological knowledge they possess but upon the beliefs they hold. . . . It seems probable that the future of the human race rests with conduct based on higher ethical and aesthetic standards than have ever prevailed in either private or public relations. If this is so, how can we reject de Tocqueville's testimony concerning Christianity? . . . However dangerous dogmatism based on religious faith may be, it is less dangerous than dogmatism based on the extension of science to matters upon which science cannot legitimately pronounce. . . . Having conquered the material world, men and women have now the mission of making it a more decent place for human beings to live in. In order to do this, they will have to conquer themselves."

This is a challenging book by an idealist, that comes at an opportune moment for this troubled and divided world.

HAROLD HARTLEY