

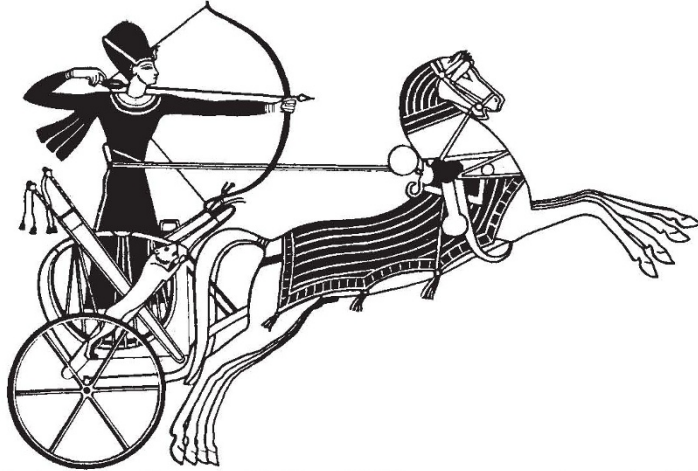
Neolithic battles

William H. McNeill

The Origins of War: From the Stone Age to Alexander the Great. By Arther Ferrill. *Thames & Hudson: 1985. Pp.240. Hbk £12.50, \$19.95; pbk £5.95, \$10.95.*

ARTHER Ferrill is a professor of ancient history at the University of Washington, Seattle, and in this book he advances two general propositions that are likely to surprise most readers, as they did me.

First, he describes a Neolithic "burst of organized warfare" in the Near East which, he argues, was "as important for the area as Alexander's conquest of Persia in the fourth century BC or the march of Islam in the seventh century AD" (pp. 27–28). New weaponry was part of this change: the bow, the sling, the dagger and the mace all start to appear in the archaeo-



logical record between 12000 and 8000 BC. Regular military formations (column and line) made the use of such weapons more effective, and elaborate fortifications had to be built to protect against organized attack — all before settled agriculture had become widespread. Indeed, Ferrill suggests that fixed residence, dictated by the need for protective walls, may have led to the development of fixed agriculture (p.29), without, however, pressing the point as to which came first.

Ferrill's second proposition is that classical Greek warfare was backward and technically deficient compared with the military techniques and command system of the Persian empire. That empire, heir to Bronze Age empires and to the even more impressive Assyrian techniques of waging war, added a navy to combined-arms warfare on land, and could in addition support both branches with an adequate logistical system. By comparison, the Greek style of hurly-burly duelling between aristocratic horsemen (who Ferrill says, dismounted to fight in the eighth century: hence Homer's chariot tactics!) and the unsupported charge of

the phalanx, which supplanted that form of warfare among the Greeks in the seventh century, were rudimentary indeed. Only in the second half of the fourth century BC, when Greek and Macedonian captains had learned the art of war from prolonged service as allies and mercenaries of the Persians, did Philip and Alexander successfully unite Greek-style heavy infantry with Persian combined arms — skirmishers, light and heavy cavalry, siege trains, a supply system and, not least, generalship capable of using all arms efficiently in mutual support. With that development, Ferrill claims, the art of war reached a plateau where it remained until after 1815. He supports the claim by refighting the battle of Waterloo with Alexander and his army in Napoleon's place, and concludes that the ancients might well have won, assuming some prior acclimatization to the noise of gunfire (pp.220–222).

Obviously, Ferrill's claim of Persian

Ramesses II in his war chariot at the Battle of Kadesh in 1285 BC: his lighter chariots and strategy gave him a tactical advantage against the Hittites. Ramesses' strategy and tactics showed a degree of military sophistication that was not seen in many later historical periods.

superiority in the fifth and fourth centuries requires him to explain away Greek victories on the plain of Marathon and at Plataea. His schematized accounts of the battles leave aside all the innumerable contested issues as to what actually happened. If Persian combined arms were so superior, why did they not prevail on these occasions? Ferrill's brief battle narratives simply do not show "that the Persians were defeated by their own mistakes", although he declares that this view "must surely be correct" (p.122).

Throughout, the author uses the style of an essayist, and simply asserts what must often be guesswork. He reaches for novelty of interpretation, and perhaps overreaches himself. But as long as one understands what treacherous ground he traverses, and how controversial most of his assertions are, the book makes good reading; and I, for one, was persuaded that the Neolithic "military revolution" in the Near East was as real and important as Ferrill says it was. □

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Good and the bad

John Crothers

The Encyclopaedia of Reptiles and Amphibians. Edited by Tim Halliday and Kraig Adler. **The Encyclopaedia of Insects.** Edited by Christopher O'Toole. *George Allen & Unwin/Facts on File:1986. Both: Pp.152. £15, \$22.50.*

THESE are the fifth and sixth volumes in the deservedly successful Unwin Animal Library. Previous titles have dealt with mammals (two volumes), birds and underwater life. The features uniting all these works are a systematic format, authoritative, concise text, and superb illustrations; all are beautifully produced and are a pleasure to read.

The Encyclopaedia of Reptiles and Amphibians must be the best book on herpetology currently available to the general reader — and there can be few professional zoologists working in related fields who will not welcome it onto their shelves. The extraordinary collection of colour photographs is augmented with quite excellent paintings. But, unlike many beautiful books, the text would stand on its own. It is arranged ordinarily, with a small box at the beginning of each section describing the main features of the order (or sub-order) concerned — the number of species, their distribution, habitats, size, colour, reproduction and longevity. There are also separate sections on parthenogenesis, shedding of lizard tails and so on.

I was initially surprised to find no mention — in the systematic part — of the influence of temperature on sex determination in crocodylians, but the topic is discussed earlier in the general introduction to reptiles. Unlike *The Encyclopaedia of Mammals*, this volume does not include an appendix listing species, genera and families, and giving both the scientific and colloquial names. But that is just about my only criticism.

By comparison, the volume on insects is disappointing. The title is misleading, as the work seeks to cover most of the terrestrial arthropods, and for some reason it has been decided that all these invertebrates only justify 143 pages of text (the same as amphibians and reptiles), against 895 for the mammals. The 9,000 species of reptiles and amphibians have an entire book to themselves but the 11,500 species of millipedes, centipedes and their allies are covered in just four pages of this one. Even the 300,000 known species of Coleoptera (beetles) are given only twelve. The result, inevitably, is a very much more superficial account. □

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