suggests the expected roughly concurrent development with what we see in the Near East. It would require a truly compelling argument to overcome all this; and neither Gimbutas' wishful thinking about hordes of mounted Indo-Europeans thundering across the steppes and into Europe, Asia Minor, Iran, and India nor the ambiguous circumstantial argumentation which D. discusses and rightly dismisses (pp. 20–30) will ever compel anything.

That said, while I accept D.'s main thesis, I have reservations in detail. He advances (pp. 99–122) the argument that the development of the metal bit (specifically: the bit with a metal mouthpiece) first enabled riders to control their mounts sufficiently so that non-awkward riding became possible. While this appears to me chronologically and aprioristically plausible, I have no means of judging how much control a rider has using a bit with a cross-piece made of other material (say, wood or leather). Moreover, the Plains Indians skilfully rode horses and fought from them *without any bit at all*. D. knows this, of course, and advances a clever counter-argument: the Plains Indians, he notes, had observed Spanish colonists riding and thus knew 'good riding' by example. In other words, once people saw that it could be done, they could do it even by a different method: but, as in the story of Columbus' egg, first they had to see it done—and the real trick lay in figuring out how to do it the first time. For D., the real trick in this concrete case came with the development of the bit with a metal mouthpiece in the closing centuries of the second millennium. I am willing to believe, but, as the saying goes, I still need help with my unbelief.

Minor matters: Shalmaneser III's inscriptions show that cavalry was already significant in some quarters in the ninth century B.C. (so I would be less adamant than D. in insisting on the eighth); I persist in thinking that the Cimmerians did originate in the north Pontic region (D. misunderstands the situation in my view); in my opinion the development of hoplite warfare actually encouraged the eventual development of cavalry in most of Greece—hoplites out of formation were helpless, and cavalry was useful in breaking hoplite formations up by attacking from the sides or from the rear (once hoplite warfare was 'set', as it were, one worked at developing ways to crack the phalanx—cavalry and light troops were particularly useful in this).

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W.M.D.?

A. MAYOR: *Greek Fire, Poison Arrows and Scorpion Bombs. Biological and Chemical Warfare in the Ancient World*. Pp. 319, maps, ills. Woodstock, NY, New York, and London: Overlook Duckworth, 2003. Cased, US$27.95, Can$42, £20. ISBN: 1-58567-348-X (US), 0-7156-3257-4 (UK).

This is the kind of book that should confound those who question whether the study of the ancient world has any 'relevance' for the present day. At the same time it induces a certain awe in the conventional classicist, whose footsteps follow the trodden paths of scholarship, by reason of its impressive range of reference. Adrienne Mayor is described on the jacket flap as 'a classical folklorist who specializes in the early history of science'. Truly, there are not many of those about. Not the least of the book's virtues is its demonstration of the narrow demarcations, even in the

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present day, between folklore and fact, between science and science fiction. Who would have believed that modern military strategists might replicate the defence of the city of Hatra by a swarm of trained flying scorpions (p. 182)? Even Alexander the Great would have been hard put to it to dream up the cyborg bees that, M. tells us, form part of the Pentagon's arsenal of 'vivisystems' (pp. 186–7).

Those who do not know history, it has been said, are condemned to repeat it. The main argument of the book is to demolish the idea of the honourableness of ancient warfare. Weapons of mass destruction, it is supposed, are the invention of the twentieth century and betoken a new approach to warfare. Instead of setting out to defeat the enemy, one aims to destroy him. The competitive *agon* of ancient warfare becomes a mission to destroy an opponent characterized as simply evil, Superman versus the Joker. One of my tutors once described a Greek battle as resembling a game of rugby: the two sides marched on to the field, savaged each other for a bit until the victory was assured, and then marched away to celebrate or mourn as was fitting. This book shows that ancient warfare was every bit as vicious and unscrupulous as warfare in the nuclear age; only the scale was generally smaller. And it was not just the 'other side' who came up with the dirty tricks.

M. begins from the legend of Medea's gift of a poisoned cloak to Glauke, and the poisoned robe that destroyed the hero Herakles. One draws in the breath and mutters that this is just mythology: but M. has news for us. She has discovered that togas, because of the lime dust used to bleach them, did sometimes spontaneously combust (p. 225). Furthermore, the naphtha discovered by Alexander's troops in Babylonia, the powers of which he tested on a young slave (who shrivelled up in agony before the curious onlookers), was well known centuries before that: M. has found evidence of worship of the oil wells of Baku in the sixth century B.C.

The book is structured around the main types of unconventional weapon used in antiquity, from arrows (characteristic of deceitful barbarians), to poison, disease, 'sweet sabotage', the use of animals, and the use of fire and smoke. The slide is smooth and slippery from conventional methods of combat to stratagems, from stratagems to ruses, from ruses to dirty tricks. A reading of Polyaenus makes clear that the great general was often a great trickster. Alexander (especially in the *Alexander Romance*) is a devotee of such tricks as tying torches to the tails of sheep to give the appearance of a great army by night, fighting elephants with red hot statues of warriors which burn their trunks, and disguising himself as a messenger. But historical accounts of other great generals furnish examples just as outrageous, from the use of pigs covered in burning pitch that the Megarians set against the war elephants of Antigonus Gonatas (p. 202) to Hannibal's trick of fixing lighted torches to the horns of cattle to rout the Romans (p. 188). If such tales are so good that, if not true, they would have had to have been invented (one wonders about the regular association of Megarians with pigs in funny stories), they are not impossible, and the modern examples M. quotes show that determined conquerors may still stop at nothing.

The range of reference is impressively wide, including not only the classical sources but ancient Indian literature and the medieval Arab world—though I missed a reference to the thirteenth-century 'Book of Ruses' (*Le livre des ruses: la stratégie politique des arabes* tr. René R. Khawam [Paris, 1976]), which not only includes many stories of Alexander and other historical generals from David to Khosrow Anushirvan, but also describes disguises, fire-tunics, copper horses, magic statues and talismans.

A fascinating chapter of M.'s book is devoted to poisons, and might become the standard basic treatment of poisons in antiquity: it ranges beyond the strictly strategic

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application of poisons (a doctor is suborned to poison a water supply, p. 102; a poisoned bull is delivered by Cnopus to the Erythraeans, who eat this variant on a Trojan horse and are themselves poisoned, p. 106) to a general account of Mithradates' work on poisons and their antidotes (which could be addictive, as Marcus Aurelius found, p. 152). Particularly intriguing are the suggestion that the Ark of the Covenant may have contained germs designed to destroy any who violated it (p. 128) and that the plague that afflicted Rome after Lucius Verus' campaign in Mesopotamia may have been deliberately planted (p. 132). Just as you begin to think credulity is being stretched too far, M. comes up with a direct and convincing parallel from Afghanistan in 2001 (p. 131).

Poison is also the key to the 'sweet stratagems' noted above, which range from the poisoned honey accidentally ingested by Xenophon's troops in Asia Minor (now known as *deli bal*, 'mad honey') to the lore of poison maidens. Surely these really are a stratagem too far? They seem to be the stuff of fiction, from Nathaniel Hawthorne's 'Rappacini's Daughter' to Louis L'Amour's *The Haunted Mesa*. Should we believe in the poison maiden sent by the Indian king to Alexander, or even the one sent to Chandragupta and cunningly thwarted by Kautilya, author of the great work on statecraft, the *Arthashastra*? Yet in 1494 the Spanish 'intentionally chased beautiful, infectious prostitutes into the French army camp' (pp. 142–3).

The book never loses sight of the moral issues at stake in these often colourful histories. On p. 253 the author refers to the 'tragic myopia afflicting those who resort to poison weapons' and gives some sobering statistics of irreversible environmental destruction caused by their use. Nuclear material buried under the Nevada desert will remain dangerous for 100,000 years. Perhaps those who repeat history are in fact doing so all too consciously, for experts have apparently suggested the deliberate dissemination of legends (akin to the Mummy's Curse) to deter people now and in centuries to come from approaching these sites (p. 256). One hopes that this book will not give these experts further fuel for devious disinformation. Every reader will come away sobered by the fertile inventiveness of those who set out, not just to defeat those with whom they disagree, but to destroy those whom they have conveniently decreed to be evil.

The book is beautifully written and free of misprints, though I did note a few solecisms which might be corrected in the next printing: 'criteria' as singular (p. 29); 'moral questions . . . is not' (p. 30); 'no compunctions' (p. 38); 'wreaked' (for 'wrought': p. 42); 'roust' (perhaps for 'oust': p. 56); 'lay' for 'lie' (p. 61); 'a potion . . . are' (p. 92). These did not detract from the pleasure I took in the book, which deserves to be very widely read.

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LIGHT ON THE DARK AGES

J. N. COLDSTREAM: *Geometric Greece 900–700 BC*, 2nd edn. Pp. 453, maps, ills. London and New York: Routledge, 2003 (first edition 1977). Paper, £19.99. ISBN: 0-415-29899-7 (0-415-29898-9 hbk).

When Anthony Snodgrass brought out a second edition of his *Dark Age of Greece*, the only addition was a short (and somewhat apologetic) introductory essay which touched on matters which affected his central argument, and briefly outlined how the

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