G. E. R. Lloyd, *The Ambitions of Curiosity: Understanding the World in Ancient Greece and China.* Cambridge: Cambridge University Press (Ideas in Context), 2002, xvi, 175 pp.

Lisa Raphals

[Lisa Raphals is Professor of Comparative Literature, Director of the Comparative Program in Ancient Civilizations, and cooperating faculty in the Philosophy Department at the University of California, Riverside. She received her Ph.D. from the University of Chicago in 1989. She is the author of Knowing Words: Wisdom and Cunning in the Classical Traditions of China and Greece *(Ithaca, 1992),* Sharing the Light: Representations of Women and Virtue in Early China *(Albany, 1998), and other studies, including "Skeptical Strategies in the Zhuangzi and Theaetetus" (*Philosophy East & West*), "Chinese and Greek Calculations and Categories" (*EASTM*), and "Thirteen Views of the Self in China" (*History of Philosophy Quarterly*). She is currently completing a study of prediction and divination in early China and Greece.]*

The *Ambitions of Curiosity* is one of a series of ground-breaking books in which Sir Geoffrey Lloyd has undertaken systematic comparisons of the social context and epistemology of the origins of science in early China and Greece. Other volumes addressed the nature of authority (*Adversaries and Authorities*, 1996 and (with Nathan Sivin) *The Way and the Word: Science and Medicine in Early China and Greece*, 2002), what we can learn form the ancient world on contemporary problems (*Ancient Worlds, Modern Reflections*, 2004; *The Delusions of Invulnerability*, 2005), and the unity or diversity of human perception, cognition and other aspects of mind (*Cognitive Variations*, 2007). This book addresses the origins of systematic inquiry.

It is immediately striking that Lloyd does not frame his problem as the history of science. Instead, he investigates the modes of inquiry of which science is a part, and arguably the most successful. What courses, he asks, did an interest in systematic inquiry take in ancient Greece and China? Who held this ambition, who carried it out these inquiries, and with what support or restrictions? Who benefited? The book draws on Lloyd's Isaiah Berlin lectures at Oxford in 2000. Each piece is self-contained, but he uses this format adroitly to present separate perspectives on "the ambitions of curiosity" in six chapters.

"Histories, Annals, Myths" examines the role of systematic inquiry in the origins of history and historiography. In both cultures, the creation of historical records was considered important. History arose out of politics and became a potentially subversive means to understand the present. But this mode of expertise developed in very different ways. In China it took the "official" route of court-sponsored history; in Greece it took an "unofficial" route within a climate of independence, debate and competition between peers. Official histories such

as the *Shiji* 史記 (Records of the Grand Historian) provided record-keeping and advice to the throne, including accounts of dynastic houses, chronological tables, technical treatises and didactic biography. This position offered the advantages of support and access to official records, but it also had its dangers, as Sima Qian's (c. 145-c. 86 BC) own history makes clear. It could be argued that this account neglects unofficial histories, including family records and other independent compilations. Yet the existence of many such documents does not undermine the force of the contrast between the existence of Chinese (or for that matter Babylonian) court-sponsored history and record-keeping and the lack of any such institution in Greece. With the exception of Alexandria under the Ptolemies, Greek historians and other technical experts had no official status or support. The recognition of expertise was thus subject to competition and persuasion. The history of Greek scholarship in any field thus becomes one of ongoing debate, competition, and often attack on competing specialists. But this very independence protected Greek historians and other masters of *techne* from government interference or constraint.

One of the greatest ambitions of curiosity is the ambition to predict the future. "The Modalities of Prediction" focuses on two: interest in celestial phenomena and medical diagnosis by the pulses. Lloyd frames this inquiry in two ways: the tenacity of the human desire to read the future and the vexed relations between the history of divination and the historiography of science. The chapter begins with Mesopotamian divination and its antiquity, state sponsorship, practical goals, and the early use of conditional predictions in both medicine and the study of the heavens. These took the form: if X (a sign or omen) then Y (a result or expected outcome). Differences emerged between two styles: statements about good or bad fortune that result if a celestial event occurs, and predictions of celestial events themselves. The latter further stimulated the desire to know the future (pp. 27-28). This account provides a comparative context for Chinese divination, also closely connected to state patronage. Lloyd surveys the early origins of turtle shell and yarrow stalk divination, the transformation of the *Yijing* 易經 (Classic of Changes from a mantic text to a guide to the human condition, and the hermeneutic skills used in *Yijing* interpretation, including the use of prediction as a mode of advice or remonstrance toward rulers. Both Mesopotamia and China provide a strong contrast to Greek divination. Here Lloyd emphasizes its diversity, mixed attitudes toward diviners (combining respect for divination with attacks on particular diviners), the growth of new predictive techniques, especially in Hellenistic astronomy, and finally, the central importance of competition between practitioners or modes of prediction. Lloyd concludes that the ambition to predict is widespread and diverse, with multiple important social roles, and by no means a monopoly of science. Some predictions were non-causal connections, either purely symbolic or empirical conjunctions of events. These could not be tested empirically. Nonetheless, prediction did become more refined over time as "patterns of regularity" were discovered.

"The Numbers of Things" considers changing notions of mathematics, measurement and quantification. The problem here is that there is no uniformity in "what counts as "mathematics" in a given society, what modes of reasoning are cultivated, and with what aims" (p. 65). Lloyd argues that the distinctive feature of Greek Euclidean mathematics was axiomatic-deductive demonstration. Despite its advantage of incontrovertibility (given clear axioms and valid inferences), it is striking that no other ancient society developed this emphasis to the Greek degree. Chinese mathematicians, by contrast, interested themselves in a different goal: a mathematics unified by both its procedures and guiding cosmological principles.

"Applications and Applicabilities" turns to the practical arts of agriculture and military and civil engineering. Both civilizations produced technical literatures devoted to practical problems, but they differed in theoretical approach and political structures for implementing new ideas. Lloyd contrasts a Greek predilection for geometrical idealizations and Chinese interests in "the propensities of things" (*shi* 勢). Chinese engineers were less interested in "mastering" their materials than in exploiting their inherent predispositions (pp. 96-97). As a result, Chinese and Greek treatises emphasize different motifs.

"The Language of Learning" takes up the nature of technical language. Systematic inquiry strained ordinary language and introduced a new self-reflection on the adequacy (or possible adequacy) of language to express new knowledge. Two sets of terminology are studied: descriptions of the human body and of plants. Much Chinese terminological "fluency" was directed at effective persuasion of hierarchical superiors: rulers and their officials. Greek political life, by contrast, encouraged the skills of public debate, including logical and mathematical demonstration of philosophical and scientific arguments.

A recurring theme in all these studies is the importance and implications of state patronage of intellectual institutions. In "Individuals and Institutions" Lloyd uses the issue of state patronage of intellectual inquiry to reflect on the inherent tensions between state support and freedom of inquiry. Chinese rulers (like Mesopotamian kings) devoted substantial patronage to history, astronomy and other areas of inquiry. Their support provided employment, security, continuous written records and other advantages, but also led to restrictions. The Greek "marketplace of ideas" was independent, decentralized and largely unsupported. Lloyd concludes that society and politics profoundly affected modes of systematic inquiry into nature, but did not determine them in any simple way. He concludes with three recurring patterns. The first is the inherently destabilizing potential of inquiry itself (p. 143). The second, which he terms "the momentum effect", is the tendency of a successful mode of inquiry to develop its own momentum, including elaboration and new problems; an example is the casting of horoscopes. The "extrapolation trap" is the application of a method that is successful in one context to others where it may not fare so well. An example is Chinese Five Phases (*wuxing* 五 行) theory, which over-extended numeric relations to other domains where they did not apply.

Many of the arguments, comparisons and caveats of this book will be familiar to readers of Lloyd's other comparative studies. What distinguishes this volume is its fascinating focus on the most basic levels of human intellectual ambition, and the diverse ways in which they developed in the ancient world. As in his other comparative studies, Lloyd is finely attuned to the roles of social and political conditions and institutions, and the need to avoid generalizations about "civilizations" or other imagined communities. He persuasively shows that no society has a monopoly on innovation, and that in the ancient world there was no one cultural, institutional or ideological formula for success in understanding the world.