

Kyle Harper. *The Fate of Rome: Climate, Disease, and the End of an Empire.* The Princeton History of the Ancient World Series. Princeton: Princeton University Press, 2017. Maps. 440 pp. \$35.00, cloth, ISBN 978-0-691-16683-4.

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The Fate of Rome is the book every scholar wants to write once during his or her career. It proffers a groundbreaking, in retrospect obvious, reorientation to (late) Roman history. It argues that climate and disease were not sideshows in the Roman Empire's final centuries but formative, unpredictable mechanisms integral to its decline. By putting climate and epidemic into conversation with what we know of late Roman history, Kyle Harper postures natural history as a *sine qua non* of reading Rome's staggering end between Marcus Aurelius and Muhammad.

Harper is not the only contemporary scholar to broach the questions this book does. Research has emerged on plague and disease as they relate to the fall of Rome. It is now a little more than a decade since Lester Little's conference-based edited volume, *Plague and the End of Antiquity: The Pandemic of 541-750* (2006), addressed the dearth of scholarship surrounding the first appearance of the Black Death. A year later William Rosen's book, *Justinian's Flea: Plague, Empire, and the Birth of Europe* (2007), popularized the issues dealt with in Little's much more diverse earlier volume. Importantly, Rosen puts forward the argument that plague was the decisive factor in Rome's fall, a line of reasoning picked up by Harper with vigor. Such studies have not evolved into

an epidemic of scholarly inquiry, though major disagreements perdure concerning, for example, the value of literary sources in writing a history of disease in late antiquity or the relative severity of the Antonine Plague. Much more common in recent years have been more far-reaching treatments of epidemic and disease from various perspectives. Harper does not reinvent the wheel within such scholarship but does provide a valuable distillation of some of it. More important is Harper's integration of such discussions with the study of weather and ecology in late antiquity. Climatological considerations of the Roman Empire's fall are not scholarly novelties of Harper's either: the late Roman economy or its demography have been considered for some time. But the sustained, responsible, scientifically robust treatment of Harper, along with his ambitious scope—*al* of the Roman Empire's gradual fall, from the second century CE onward—make Harper's treatment qualitatively distinct from anything that has emerged heretofore. Harper does enter established scholarly discussions. But the breadth, detail, and interconnectedness of his study signal its identity as a new *kind* of work: one that combines macro- and microscopic views of human and extrahuman forces as necessarily complementary

factors in the infamous fall of the world's greatest empire.

Chapter 1 presents Harper's premise: Rome, unrivaled in extent, political ingenuity, and social complexity, created an artificially connected Mediterranean world. This matrix interacted fatefully with the natural world from the reign of Marcus Aurelius onward. Harper notes that "most histories of Rome's fall have been built on the giant, tacit assumption that the environment was a stable, inert backdrop to the story" (p. 13). Not so. The Roman Empire, flourishing in the stable, interglacial Holocene (begun circa twelve thousand years ago) was, "in planetary perspective, lucky," until that luck ran out (p. 14). Harper maps Rome's fall in climatic relief, over three periods: the Roman Climate Optimum (RCO)—circa 200 BC-AD 150; the Roman Transitional Period—circa AD 150-450; and the Late Antique Little Ice Age—circa AD 450-700. On this schematic, Harper calls for us to understand "the Roman world, through and through, as an ecological context for microorganisms," grasping Rome's sociopolitical "fall" as always, everywhere in conversation with the natural world (and vice versa) (p. 17).

Chapter 2 outlines what Edward Gibbon famously called "the happiest age" (in his well-known *The History of the Decline and Fall of the Roman Empire*, published in six volumes between 1776 and 1789): namely, the mid-second century AD, which Gibbon considered particularly fortuitous in terms of the empire's human and climatic contexts. This era of Galen and Aelius Aristides, at the empire's population apogee, "had an ally beyond anything the Romans could have imagined: the phase of Holocene climate that was the background of their expansion" (pp. 39-40). In terms of temperature, rainfall, and lack of volcanic eruptions (for example), this was a blessed age, whose prosperity was minted by climate combined with a versatile and resilient imperial administrative apparatus. On Harper's telling, this environmental utopia was to end with the Antonine Plague.

Chapter 3 covers the Antonine Plague, evidenced as early as AD 165. Harper understands a perfect storm in this plague's release, in which "the empire's fetid cities were petri dishes for low-level intestinal parasites" (p. 67). The empire's interconnectedness fostered ideal ecology for the plague, which Harper identifies as small pox, based on comparative examination of Galen's *Method of Medicine* (written in the early 170s CE) and modern clinical pathology of the *Variola major* virus. Here Harper accounts fully for the social, administrative, and epidemiological factors contributing to this outbreak, and surveys the predominant Roman response: an "outburst of Apolline religion" attested in epigraphy (like the recently published pewter amulet from Roman London) (p. 101). The chapter ends by discussing this plague's ramifications, which likely leveled 10-20 percent, or more, of the empire's overall population. The brunt of the needed recovery fell to Marcus Aurelius in the late 160s, who had to rebuild the army and restore a heavily taxed imperial treasury. One upshot of the epidemic, Harper argues, was the "hastened ... provincialization of the empire" (p. 117). Overall, "the Antonine Plague marks a turning point," in which "the course of Roman history was redirected by the chance conjunction of microbial evolution and human society" (p. 115).

Chapter 4 carries Harper's narrative momentum into the third century, where scholars have had no problem explaining the fiscal crisis as rooted in fighting and betrayal at the highest levels. Harper argues, however, that we must take account of drought and disease as major factors catalyzing the third-century empire's ordeal. He first explains how the RCO gave way before the Late Roman Transition, marked first by damning solar variability: "The sun weakened on the Romans" (p. 131). This meant ice accumulations, cooler winds, and—fatefully—less water. The Nile embodies the liquid lack of the 240s, which devastated the imperial economy. Combined with this was the so-called Plague of Cyprian, which Harper

avers “has fallen into complete oblivion among scholars of antiquity” (p. 137). This pandemic from the East, evidenced from 251, by all accounts defines a period of history of which accounts are scarce: we know the third-century AD world poorly. Harper identifies this plague not as smallpox but as (possibly) influenza or (more probably) a viral hemorrhagic fever. Coming mid-climate crisis, this plague precipitated twin Persian and Gothic threats, throwing the empire into chaos. Harper calls this chaos “a moment of truth” for ancient civic religion, anticipating Christian persecution but eventually facilitating its expansion (Gallienus stopped Christian persecution in AD 260). This defines one side of the era to which Harper sees the climatic chaos of the 250s–60s leading; the other was the rising tide of the “bar-racks emperors” like Aurelian (270-75), who effected an impressive imperial resurgence from the low demographic-economic tides of the 260s (p. 153).

Chapter 5 entertains a brief pause to contemplate the dynamism of fourth-century society and its fifth-century aftermath in the East. Following the monetary foibles of Diocletian and radical administrative restructurings of Constantine, the late empire regained a modicum of its former robustness. Simultaneously, epidemics within the empire were locally constrained, “the sun smiled on the age of restoration,” if briefly, and a zone of pressure flux known as the North Atlantic Oscillation (NAO) flickered precipitously auspicious (p. 168). For Harper, “the absence of a catastrophic morality event” headlines “the long fourth century” (p. 173). Thereafter, Harper tracks the collapse of the West along frontier lines where, he argues, climate played a decisive role. Thus, he casts the Hun invasion as partially “an environmental event,” driven by unusual drought and checked by the Huns’ “colliding with the indigenous disease ecology” (pp. 191, 196). The end of the fifth century witnessed a burgeoning East, with Rome’s diminished urban population finding it easier, as “locals,” to withstand homegrown pathogens; in

this they represented a destabilized yet extant West. All in all, Harper argues that “human actions [took] center stage” in the fourth and fifth centuries, with nature “about to reassume the protagonist’s role” (p. 198).

Chapter 6 discusses the first neglected outbreak of bubonic plague, preceding the Black Death of 1346-53 and the subsequent outbreak in Yunnan China in 1894. Harper explains how the black rat introduced the bacterium *Yersinia pestis* to humans on Egyptian shores in 541, and how that introduction marshalled an epidemic. *Y. pestis* enjoys versatile modes of transportation, not only on rats but also on fleas/lice, small mammals, and humans. Bacteria traveled from south-east Asia via the Indian Ocean to Constantinople, “a vortex for the world’s goods and people” (p. 200). The climate spontaneously facilitated this migration: the 530s-40s were the coldest decades of the late Holocene (!), and somehow—exactly how we do not know—this encouraged the plague. The Justinianic Age reacted variously to this perfect storm: for Procopius it was bad luck, for John the Cappadocian it was God’s vengeful wrath. The plague moved west, hit the eastern Mediterranean hard, and wreaked demographic havoc in body and crop. This plague was “a chain explosion that sounded for two centuries,” lasting until 749 and hitting Constantinople over a half dozen times (p. 235). It decimated the population. Then it ended, suddenly.

Chapter 7 surveys the putative culprit of this end, the Late Antique Little Ice Age. Harper frames the sixth century by two opposing views of the nature: a paragon of order (for example, Neoplatonists) or a changing world about to end (for example, Leo the Great). Enter Cassiodorus, a winsome explainer of “nature’s predictable variability,” who, as Praetorian Prefect in Constantinople, brought scientific sense to, for example, the solar dimming of 536-37 (p. 252). As it turns out, two massive volcanic eruptions in 536 and 539-40 were what had blocked the sun. Harper employs

textual and natural records to describe the end of the sixth century: arid, cold, and plagued, the empire lost its ability to weather foreign threats, field an army, and maintain its economy. Interestingly enough, Harper's seventh and final chapter crescendos in a religious discussion. The climatologically facilitated collapse of Rome energized semi-nascent apocalypticism among Christians, even Jews, and then "the religious mission of Muhammad ... was a distinctive outgrowth of the apocalyptic fervor that set in with the arrival of pandemic plague and the ice age" (p. 284). Islam's place in "the fate of Rome" is actually quite connected to the naturalistic narrative of this book, as an eschatological religion. Harper marks the conquest of the eastern provinces in the 630s-40s as a suitable endpoint of the Roman Empire. A short epilogue draws the work's cohering themes into contemplation on the present day: our story, like the Roman story, is inseparable from the planet's story, and it is impossible to predict what will happen next. Appendices, "Femur Length Data from Historical Italian Populations" and "Amplification Events in the First Pandemic (AD 558-749)," precede endnotes and the bibliography.

The palatability, density, and diversity of data in this study is staggering. To those trained in *either* the physical sciences *or* the humanities/social sciences—that is, most scholars—such a study's interdisciplinarity is invaluable. Harper collides climatological, epidemiological, and biological data with the well-worn subdisciplines of history and classics: numismatics, ancient economics and demographics, and ancient literature. He also deftly treats authors usually cordoned off within specialized disciplines of early Christian studies, Byzantine studies, early Medieval studies, or classics. All sources are discussed responsibly, as are major historical and sociocultural issues. In addition, Harper routinely includes religious motivations and ideologies in his narrative, doing justice to a late Roman world less shy than ours to credit divine realities for real-world conditions. He records how "each of the great environmental

convulsions in the Roman Empire provoked unpredictable spiritual reverberations" (p. 249). This book is as valuable to scholars of religion as to anyone; no doubt it will be widely appreciated.

A few things this work does *not* do: it does not answer all questions regarding Rome's demise. Its explanatory power is not comprehensive. At any of the junctures Harper highlights, myriad theoretical arguments exist for how history could have taken another turn, or for *why* late imperial history took the turn it did. But this is a problem with history, not Harper's work: it is necessarily partial, flawed, and incomplete. Also, this book paints in broad strokes. While Harper's bibliography is robust, and in no way incomplete (as far as I can tell), in less than three hundred pages he moves from the Antonines to Islam. Such a survey comes with limitations: texts are treated selectively and with a minimum of context; historical developments are presented in their simplest form ("The Huns were armed climate refugees on horseback" [p. 192]). My point here is not to criticize Harper's excellent work but to clarify that this book, as a large-scale history, makes generalizations. Finally, the work picks up the self-assured torch of the so-called STEM fields, whose insistence that "we can know things, *for sure*," sometimes rings hollow against vast backdrops of time, space, and a growing planet full of data whose vast majority are unknown. Harper's apparent trust in the totalizing epistemic scheme of global evolution and its self-confident pronouncements about the surprisingly (or suspiciously?) knowable character of epiterrestrial development over the past thousands of millennia—with its attendant *assumption* of the ultimate meaninglessness of such macro-progression—is unlikely to cause a stir. This framework seems the one thing about which even scholars in the humanities care not to argue. However, for a work such as this, naming such a presupposition seems to me requisite in the name of full disclosure.

In the end, *The Fate of Rome* is nothing short of monumental. It expertly applies findings from the increasingly illuminating physical sciences to one of the most important and most contested issues in Western culture's history: the "fall of Rome." Harper's writing, research, structure, and presentation leave little to be desired. An important work need not be an excellent one—this is both. As time moves on, I predict an academic epidemic of borrowing from and building on the insights in this work to address the innumerable minutia of issues spanning the disciplines invested in late antiquity. As importantly, I foresee climatological and epidemiological factors playing a more prominent role in the future in scholarly discussions of the Roman Empire's fate, as well as causes and implications for its demise.

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