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The Antonine Plague returns

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ELIO LO CASCIO (a cura di), *L'IMPATTO DELLA "PESTE ANTONINA"* (Pragmateiai. Collana di studi e testi per la storia economica, sociale e amministrativa del mondo antico, vol. 22; Edipuglia, Bari 2012). Pp. 370, figs. ISBN 978-88-7228-638-8. EUR. 70.

The 13 papers and two "interventi conclusivi" published here come from the fifth (held in 2008) in a series of "Incontri capresi di storia dell'economia antica". Lo Cascio organized the meeting, as his introduction tells us, out of recognition that the topic (about which he has written before) had (after a period of latency) become a major focus of scholarly discussion, a feeling that the recent scholarship on the Justinianic plague had made the subject even more timely, and a sense that divergent opinions on the Antonine plague were to a considerable degree markers for deeper divisions in the study of the Roman economy. This volume preserves the disagreements and gives the reader a good sense of the range of views to be found today among the informed; it does not look for consensus. Nonetheless, it seems to me that some elements of a quasi-synthesis begin to emerge. The most interesting of these, in my view, is the sense that the whole question of the impact of the plague needs to be reformulated.

The volume is rich and stimulating, and it will be possible to highlight only a fraction of the interesting observations. It is generally well produced (if with too many typographical errors); one could only wish that the authors had done more in the printed versions to connect their arguments with those of the other contributors: only occasionally does one have any sense that the colloquium itself had a significant impact upon the contents.

The introduction traces the historiography of the subject, from the pre-1960 general view that the plague had serious effects, through J. P. Gilliam's (1961) minimalist attack on the solidity of the evidence,[1] R. P. Duncan-Jones's (1996) enumeration of documentary evidence that might be taken to show serious effects,[2] Y. Zelener's mathematical modeling of the effects of smallpox,[3] and a host of more recent contributions.[4] Lo Cascio also points out how the debate on the plague has been affected by historians' affection for neo-Malthusian or anti-Malthusian appreciations of the Roman economy — i.e., whether there was real *per capita* economic growth or only a decline in the *per capita* income as GDP grew more slowly than population (P. Malanimo's article here restates the classical economic analysis in presenting the Black Death).

That the Antonine plague was smallpox seems to be accepted by all of the contributors (C. Bruun remarks explicitly that discussion at the conference banished doubt on this point). Mostly it seems to be considered that smallpox was a new arrival in the Mediterranean in the 2nd c., or at any rate not much earlier (see especially the articles of B. Rossignol and Zelener), but I. Andorlini remarks that paleopathology has helped to establish "con buona probabilità" its presence in Egypt as early as the 12th c. B.C. (late New Kingdom, reign of Rameses V). As it is generally acknowledged that the impact of smallpox on a previously unexposed population is far more severe than on one with some degree of immunity (Zelener, M. Livi-Bacci), this is potentially a matter of great significance.

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1 J. P. Gilliam, "The plague under Marcus Aurelius," *AJPh* 82 (1961) 225-51.

2 R. P. Duncan-Jones, "The impact of the Antonine Plague," *JRA* 9 (1996) 108-36.

3 Y. Zelener, *Smallpox and the disintegration of the Roman economy after 165 AD (*Diss. Columbia Univ., 2003).

4 Which include, just to mention those in the present journal: R. S. Bagnall, "P.Oxy. 4527 and the Antonine plague in Egypt: death or flight?," *JRA* 13 (2000) 288-92; W. Scheidel, "A model of demographic and economic change in Roman Egypt after the Antonine plague," *JRA* 15 (2002) 97-114; R. S. Bagnall, "The effects of plague: model and evidence," *JRA* 15 (2002) 114-20; J. Greenberg, "Plagued by doubt: reconsidering the impact of a mortality crisis in the 2nd c. A.D.," *JRA* 16 (2003) 413-25; C. Bruun, "The Antonine plague in Rome and Ostia," *JRA* 16 (2003) 426-34; C. P. Jones, "Ten dedications 'To the gods and goddesses' and the Antonine Plague," *JRA* 18 (2005) 293-301; C. P. Jones, "Addendum to *JRA* 18: Cosa and the Antonine plague?," *JRA* 19 (2006) 368.

Two articles are devoted largely to source-criticism. That of A. Storchi Marino concerns the literary sources, which she looks at in detail, stratifying them chronologically and in terms of the information available to each. She concludes that the sources are generally better in quality than has often been claimed, and that the later sources are not worse than those contemporary with the plague: on the whole, they support the view that the plague was severe and had important consequences and, together, they mention many of the key areas of the empire, although not all at once. The article of Bruun, in contrast, looks at sources (especially epigraphic and archaeological, but also literary) that are not "about" the plague but might provide insights into its effects. As in his earlier articles[5] on epigraphic evidence claimed by some (particularly Duncan-Jones) to reveal the impact of plague, Bruun is a skeptic. Some of this evidence may be connected with the effects of plague, but much is poorly datable. The plague tends to lure scholars into connecting with it evidence that may have nothing to do with it, he argues, and he remains skeptical about the supposed catastrophic effects. Andorlini, following P. Schubert, is also cautious about our ability to find reflections of the plague in the everyday papyri. W. V. Harris, in his "intervento", points out that the undeniably serious outbreak of bubonic plague under Justinian has left few direct traces in the documentary sources (as A. Marcone notes); there is thus no reason to use a shortage of clear and direct epigraphical and papyrological evidence in the 2nd c. as an argument against the severity of the plague. I would agree with that.

The most obvious effect of an epidemic is that people die. But how many? Estimates have ranged from 1% to 30% or more; the difference matters a lot. Zelener reprises the model for which he argued in his 2003 dissertation, noting cogently that, just as density of population affects mortality rates, so does mortality, by diminishing density, affect future outbreaks. Nonetheless, he thinks that the range of possibilities is not terribly broad; he puts it in the 22-24% range for the initial outbreak. R. Paine and G. Storey, after arguing from what is admittedly rather soft evidence that the Alps served as a partial barrier to epidemic diseases until the Roman expansion, think that the Antonine outbreak of smallpox will have killed 30% or more. Similar arguments rage about the Justinianic epidemic, as A. Marcone notes, but that is agreed to have been bubonic plague rather than smallpox.

M. Livi Bacci's concluding "intervento" is an appeal for more agnosticism and less confidence than these (and many other) contributors display. To an outsider, he says, the Antonine plague just does not seem to offer enough evidence to establish any of the major parameters that affect mortality and long-term demographic impact. Although he does not refute Zelener's model head-on, he appears somewhat skeptical of its premises. He notes that, in the absence of other factors, plagues that create partial immunity, like smallpox, are typically followed by vigorous demographic rebounds after a couple of years, as the population experiences lower death rates (the vulnerable have died during the epidemic) and higher reproduction rates. He estimates that 30 years after the first outbreak a population might on reasonable assumptions have recovered to 90% of the pre-outbreak level.

Livi Bacci compares the Antonine epidemic to the devastation of the native population of the Americas after the arrival of the Europeans. He argues in favor of the view that disease did only part of the dirty work, with political, military, economic and social changes attendant on European imperial conquest being responsible for the different fates of native populations, some of which recovered but others did not. He thinks that the same is likely to be true, *mutatis mutandis*, with the Antonine plague. He does not doubt that the Roman empire encountered severe problems after A.D. 160, but he is skeptical that most of these can be attributed to smallpox.

Several other articles connect with this argument in various ways. Andorlini analyzes the Mendesian documentation from the reign of Marcus to show that it is simultaneously true that there had been population losses to a well-recognized plague and that this was secondary to the effects of brigandage, and both plague and brigandage in turn encouraged flight. Disentangling these strands does not seem possible, nor do we know for certain what produced the insurgency of the *Nikochitai*. Harris also notes the difficulty of separating out the range of

5 Cf. supra n.4.

phenomena that suggest serious trouble for the Roman economy after A.D. 160. He adduces the unreversed decline in Roman metal production and the weakening of the stratum of prosperous freedmen. He tends to look to the military problems the empire experienced in these decades for a major part of the stress load, rather than directly to the plague. But he is no optimist, and he is inclined to look at the plague with all its attendant problems as "the main cause of a transition from a highly sophisticated skill-rich economy to a much more run-of-the-mill pre-modern agrarian structure". He does not distinguish in that remark between West and East, and I find it hard to accept as an accurate description of the East in the 4th-6th c.

The economic side gets more extensive examination in a trio of papers, those of G. Kron, W. Jongman, and W. Scheidel. Kron is at pains to argue an optimistic view of the Roman economy and of human well-being under the Early Roman Empire. He brings a series of arguments from anthropometric data, infrastructure for water and sanitation, crowding, bathing, and so on to compare Rome favorably to European and American societies of the time of the Industrial Revolution. He believes on this basis that ancient life expectancy was much higher than most studies have proposed, with e0 (life expectancy at birth) in the 30s or 40s rather than 20s. He sees ancient societies as being more egalitarian, and with more political power in the hands of the citizens, than was the case in Early Modern settings. Such arguments might have some force for Athens or even Republican Rome, but, as Scheidel points out, it is hard to recognize Imperial Rome in this portrait. Most of the population lived in the countryside without the higher amenities of Rome or even those of smaller urban centres.

Jongman, who rejects the notion that the Early Roman world was headed toward a Malthusian crash, sees it as having experienced real economic growth *per capita*. He thus has no use for Scheidel's view that the plague would have reduced population pressure on resources and left the survivors with higher incomes. He is, like Rossignol (see below), inclined to look to climate change and bad harvests for the triggers of plague and economic downturn.

Scheidel's article has three main sections, devoted seriatim to refuting Kron, Jongman, and me. In response to Kron, Scheidel argues that the low life-expectancy of Egypt may well have been more unfavorable than that in other regions, but only by a modest amount. He passes Kron's arguments in review and dismisses them as unlikely to be relevant to mortality in the face of smallpox (although he admits that health would have affected recovery). Perhaps most importantly, he emphasizes the likelihood of significant regional variation in the impact of plague. The anti-Jongman section is somewhat weaker, concluding that Jongman's evidence doesn't prove that the economy peaked before A.D. 160, but admitting that the contrary cannot be proven either. He does not seem to take account of Rossignol's point that even the freeing up of resources as a result of population decline in a plague does not mean that ordinary people would capture the resulting surplus; under the pressures of the military problems of the 160s and the severe strains on the state budget, one must expect a concerted attempt by the State to use all possible resources for its needs. (Harris does remark that any benefits for the survivors seem likely to have been outweighed by increased fiscal pressure and the destruction of human capital.) Finally, the anti-Bagnall section is in my view borderline defamatory, and a book review does not seem like the right place to display counter-polemics; I shall therefore pass over it.

The two papers which focus specifically on military manpower make relatively localized arguments rather than empire-wide ones. Th first is W. Eck's study, which starts out with the discharged veterans of *legio VII Claudia* in A.D. 195 (*CIL* III 14507). Enlisted in A.D. 169, this class is much more than twice the size one would expect under normal circumstances, showing that severe losses had occurred in the preceding years. He does not think that all of these can be attributed to extraordinary battle losses, although they may have played a part. The disappearance for some years of bronze diplomas, and their lower numbers even later, on the other hand, Eck thinks the result mainly of a shortage of metal, for which the plague could be only an indirect cause. C. P. Jones brings new evidence into the discussion with *SEG* 39.456 = *I.Thesp*. 37, in which he sees signs of manpower crisis in the enlistment with special privileges of a large group of young men at Thespiai.

To my mind, the single most rewarding article in the volume is that of Rossignol, who argues that the Roman crisis cannot be looked at in isolation, even if it remains so far difficult to contextualize it fully. He puts forth what he calls a multifactorial explanation or model, in which climatic deterioration, a (largely consequent) decline in food production, and epidemic illness are interconnected. We know too little, he thinks, to assess accurately the relative contributions of the different aspects of the crisis. He notes the regional variability (and absence of some regions) that we find in the sources, but he observes acutely that our sources come precisely from the areas where the plague is attested; if we had different sources, we might see things very differently. And he calls attention to the way in which the military challenges of the period may have contributed to the spread of plague and other problems. Harris is inclined to brush off the potential impact of climate, and still to treat agricultural decline as a product of pestilence; but this is to fail to appreciate adequately the strength of Rossignol's argument that there is not a linear string of causes and effects, but a network of them, with iterative feedback effects. And indeed Harris himself remarks that it was a complex crisis.

From that point of view, asking about the impact of plague is too simple a formulation. Whatever one may think about particular bits of documentary or archaeological evidence that may or may not be relevant, there does not seem to me to be any doubt that the Roman empire underwent a period of significant stress beginning in the 160s. One may well argue about the degree to which that stress is continuous with the problems that emerge in the 3rd c.; in the Severan period, after all, the documentation of many activities rebounds. But the crisis of the 160s does seem to me to have been acute enough to justify Harris's statement: "All this makes it remarkable that the Roman Empire continued to function as well as it did". If this volume serves to refocus attention on the broader set of challenges that the empire faced and survived, and to turn it away from the narrower question of the impact of plague, it will have served a highly useful purpose.

At the same time, it is hard not to take away also a sense of where more research is needed. Zelener flags the importance of getting "more precise genetic data on the historical evolution of both hosts and pathogens, as well as some functional identification between specific genes and the virulence and transmisison of particular strains". More broadly, however, it is hard not to be struck by the Kron–Scheidel confrontation. How do we assess human well-being in past populations, and what aspects of life are affected by what types of well-being or its opposite? The stark lack of common ground on these basic questions needs much more attention. There are, of course, value judgments encoded in many such measures, but these can be surfaced and the meaning of the measures clarified. In assessing the meaning of the complex network of causation and effect at stake in the crisis of the 160s, we would be well served by an equally complex sense of what measures are relevant to what, and how to assess them.

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