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An Urban Population from Roman Upper Egypt

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One of the most elusive aspects of the demography of Roman Egypt—the ancient society for which we have the best documentary data—has been the extent to which the results of the analysis of the census declarations from Middle Egypt (Bagnall and Frier 1994) can be considered typical of other parts of Egypt, let alone other provinces of the Roman Empire. The data explored in this chapter, coming from a papyrus edited after the appearance of Bagnall and Frier's (1994) work, may make a contribution to understanding some of the ways in which the population characteristics of Roman Egypt differed not only between urban and rural areas but also between different regions of Egypt, particularly different cities.

The study of the demography of the ancient Mediterranean world was long marked by a lack of methodological rigor, either in devising models or in assessing the ancient evidence. These deficiencies were scathingly catalogued in Tim Parkin's (1992) book on the subject. In recent years there have been substantial advances concerning both evidence and models. An excellent and detailed summary of this work can be found in Scheidel (2001b). There has been an enormous amount of critical work on the value of the ancient sources, the most salient element of which has been a more realistic valuation of the limits of our largest single body of evidence, the ages given on gravestones (see generally Parkin 1992:5–19). There is now a consensus that the ages in gravestones do not, in general, provide a pattern recognizable in any historical population and that commemoration therefore must be affected by one sort of bias or another. It has, to be sure, been argued that the patterns displayed by some bodies of inscriptions may be consistent with a population exhibiting catastrophic mortality (see Paine and Storey 1999, this volume). Although such catastrophes certainly occurred, most notably with the plague under Marcus Aurelius (Bagnall 2002; Duncan-Jones 1996; Scheidel 2002), this argument does not seem to me capable of explaining the persistence of distortion in population structures through a body of material ex-

tending over a long period of time. Nonetheless, it is certainly true that the various epigraphic data sets deserve individual valuation and examination. Scheidel (2001a), following up earlier work by Shaw (1996) and himself (1996, 1998), has used Egyptian funerary epigraphy to try to make the case for regional variation in the causes of death underlying seasonal patterns of mortality, although he rejects most other uses of the inscriptions for basic demographic questions.

Demographic modeling based on the more widespread and nuanced application of life tables to the ancient evidence has been even more central to the discussions of the last decade. In particular, it has been possible to show that the Egyptian census declarations on papyrus, which date to the period from Augustus to the mid-third century CE, reveal a population with mortality and fertility characteristics broadly consistent with those of the Coale-Demeny Model West tables with life expectancy at birth in the low twenties, probably between 22 and 25 (Bagnall and Frier 1994). Scheidel (2001a) has strongly reinforced the concerns expressed in our study of the census data about the extent to which any particular model life table derived from modern evidence is a fair representation of ancient (or even modern) high-mortality populations beset by endemic diseases. The problem is particularly acute in accounting for infant mortality, as very young children are poorly represented in both gravestones and the census data. Scheidel's work has, however, neither shown conclusively that the endemic diseases he discusses would collectively alter the models in a particular fashion nor provided a basis on which to construct a model more faithful to ancient realities.

The Egyptian census returns come partly from rural villages and partly from regional urban centers. There is thus an inherent possibility that these data can shed some light on the question of the demography of the rural/urban continuum. (This potential is, however, seriously limited in its range by the absence of any returns from Egypt's one very large city, Alexandria.) The data are not, however, so abundant as to allow for as much deepening of the analysis as one might wish. Because the number of published returns as of 1994, when Bruce Frier and I published our book on the demography of Roman Egypt, was only about 300, and the number of known individuals only about 1,100, the data become less and less robust the more one breaks them out into subsets. For this reason it was difficult for us either to distinguish between the demographic characteristics of the cities and those of the villages or to have a high level of confidence in those differences that could be discerned. In the case of mortality, it seemed from the data from Middle Egypt that there was, perhaps surprisingly, little if any difference between urban and rural rates (Bagnall and Frier 1994:164). Scheidel (2001a) has argued that our data do support such a difference.

The sex ratio, by contrast, seemed clearly higher in cities than in villages, a finding that stood up to examination from a variety of angles such as free versus slave or adults only, and we concluded that the normal metropolitan sex ratio was probably in the range of 125 to 130, compared to a ratio much closer to 100 in

the villages (Bagnall and Frier 1994:95). Problems with both the census returns and the size of the database contributed to some diffidence in our treatment of these figures. Scheidel (2001a:160) has argued, with more confidence than the data warrant, that the city/village distinction and deficiencies in reporting males in villages explain all of the patterns in the data, without any need for recourse to positing a difference between male and female mortality, as Frier and I did. We would all agree, however, that the fact that the urban census returns in the database come from a period of more than two centuries and from more than one city made it impossible to have a clear idea of what a snapshot of a particular city at a given moment might look like.

An opportunity to remedy this deficiency has more recently been dangled before our eyes in the form of a papyrus roll found at Oxyrhynchos in Middle Egypt, excavated early in the twentieth century but only briefly described by the editors and not fully published until 1997 (Bagnall et al. 1997). This roll contained an enumeration of households, clearly extracted from census returns, for parts of a city. It was subsequently turned over and reused to copy the *Paeans* of the archaic Greek poet Pindar. Despite its archaeological provenance, it can be shown (by geographical and personal names used in it) to have been written in and to describe a city in Upper Egypt considerably to the south of the region from which most of our census declarations come. There are arguments in favor of both Ptolemais, a Greek city founded by Ptolemy I in the late fourth century BCE, and Lykopolis, an older regional center (or metropolis) in the same region. Because we have few published papyri from either city and little demographic information for the region where they were located, the register, even though very fragmentary, constitutes a substantial addition to our knowledge, and for our purposes here it does not matter greatly which city is in question. At the time of publication, we favored Ptolemais, but because recent study (especially Montevecchi 1998) and forthcoming new evidence (Clarysse and Thompson 2005) have strengthened the likelihood that the provenance is Lykopolis, I refer to it as Lykopolite in what follows.

The surviving fragments of the register record 63 households as they stood in the census of 89 CE. Of these, 36 are complete or nearly complete. We gain a total of 256 individuals for the database. As we examined the data, however, elation quickly turned to sobriety, for it became clear that these household listings were beset with numerous internal and external difficulties that render them less reliable than the Middle Egyptian returns. Because the right edges of fragments are often lost, the ages are preserved less often than in other documents, a problem exacerbated for males by the fact that their entries tended to be longer and extend farther to the right. The preserved ages, moreover, show a much higher degree of age rounding, coupled with an almost total absence of older ages, for which it is difficult to offer an explanation. It has been suggested (Storey and Paine 2002) that similar patterns in epigraphic evidence may point to catastrophic

mortality, but it is difficult to see that such an explanation would make sense of a difference between Upper Egypt and Middle Egypt. The households listed are all headed by males of an age such as to subject them to the poll tax, i.e., between 14 and 62. This is probably the result of an official practice of grouping households by type in the records. With no female-headed households, the register is thus unlikely to be typical of the entire population (see Bagnall et al. 1997:89–94; cf. also Scheidel 2001a:188 n. 2).

For all these reasons, the data of the Lykopolis register demand caution. All the same, it remains our largest single body of census material for one place and for Upper Egypt as a whole, particularly at a given date; it is also earlier than the main corpus of the declarations, which come from the second and third centuries. There are two possible areas of significance to this point: first, the census had not yet achieved its mature form at this point, and the problems we see in the data may reflect deficiencies in the first-century census, particularly in the enumeration of women (who were not taxed and therefore less critical for the census); second, it is possible that the continued development of the Roman period brought real changes to the demography of Egypt. The body of data in the Lykopolis register is not large enough to settle these questions, but it allows us to raise them in a far more concrete form. (Scheidel 2001a unfortunately ignores this chronological problem in using this document.)

I shall summarize briefly the most salient findings. First, the Lykopolis register is, in comparison to Middle Egyptian cities, dominated by conjugal families and to a lesser degree by extended families. These gains come largely at the expense of the multiple-family category, and they do not disappear when Lykopolis is compared only to Middle Egyptian urban returns filed by males of taxpaying age. The results are smaller average households than elsewhere in Egypt. We have tentatively attributed this difference to disparities in wealth. The Lykopolis register shows less than half the percentage of slaves in the population that we find in the Middle Egyptian *metropoleis* (7 percent vs. 14.6 percent).

Second, the Lykopolis register shows a population with an age structure significantly different from that of Middle Egypt, with an even greater underreporting of juveniles and an increasing shortfall compared to the model for age groups after age 30. These discrepancies give rise to complex problems of interpretation. It is likely that some part of the problem—at least the juveniles—is a matter of poor reporting, for up to age 14, boys were not taxable. But there are good grounds to believe that the adult age structure of Lykopolis was in fact somewhat younger than that elsewhere in Egypt. If we are right about Lykopolis being poorer than Middle Egypt, it is perhaps more likely that this is the result of higher mortality than that it represents a higher growth rate.

Third, the Lykopolis register has a sex ratio for adults of 137, higher than the 120.8 found in the Middle Egyptian cities. For free adults, Lykopolis has a ratio of 148.3, compared to 128. We are inclined to attribute this sex ratio to the

immigration of males from the villages in search of work. Scheidel (2001a:166–171) has argued against any role for immigration in explaining the shape of the data from the Lykopolis register and from other census declarations, although he believes that such immigration was substantial.

There are other aspects we might look at, but generally speaking the Lykopolis register does not significantly alter the picture of marriage and fertility found in the Middle Egyptian returns. In this regime, virtually all women marry eventually, the majority by age 20, but many are widowed or divorced at a relatively young age, and many of these do not remarry. Fertility is about 70 percent of the highest-known levels of natural fertility, well within a normal range for a pretransitional population. The distribution of births conforms to that found in populations that use no artificial means of birth control.

Now, from all these remarks, it will be evident that the Lykopolis register suffers from some significant limitations resulting in part from its early date, such as the haphazard registration of infants and children, and in part from its bureaucratic character, resulting in the omission of solitary females and families headed by widows. Because our data for children in the Middle Egyptian returns are also relatively poor, it is especially regrettable that the Lykopolis register does not help to fill this lacuna. But these deficiencies can to some degree be controlled, in part by focusing on adults and in part by using Middle Egyptian returns filed by male heads of household of taxpaying age as the control. This procedure has the evident drawback of reducing the size of the database and thus the statistical confidence level of the results, but it does allow us to rescue the Lykopolis data from the oblivion they might otherwise deserve.

In that light, Lykopolis appears to be a somewhat poorer cousin of the Middle Egyptian cities, with marriage and fertility patterns similar to those found elsewhere but probably a somewhat higher mortality rate, at least for females. The higher sex ratio in the free adult population also contributes to an overall impression of being like cities elsewhere in serving as a magnet for poor young males lacking opportunities in the villages, but the lower percentage of slaves suggests that when they got to the city they did not find as wealthy an economy as they may have hoped. These findings raise the question whether Upper Egypt was inherently poorer than areas farther north or just slower to develop economically under Roman rule than Middle Egypt—questions to which I can offer no answer at present. It is noteworthy, however, that a Demotic Egyptian population register from the Lykopolite *nome*, dating to the Ptolemaic period, shows similarities to some of the characteristics we find in the early Roman register I have been describing (Clarysse and Thompson 2005; Ptolemaic registers, unfortunately, lack ages, even though these were sometimes present in declarations [see Clarysse and Thompson 2002]). At least some of these patterns may thus have deep regional roots.

I venture one final speculation: the overall demographic regime of cities

throughout Roman Egypt was probably roughly similar, with a common tendency to attract immigration and thus a skewed age and sex structure. Local and regional differences in the economy, however, most likely created variations within this underlying regime, mainly in mortality and slavery. Diachronic change in the economy may also have contributed to local diversity, but to measure that we would need another census register or two. The evidence found or published in the last decade, apart from the Lykopolis register, consists of more individual declarations rather than such registers, but as long as excavations in Egypt continue, one may keep hoping.

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