

Past and future research—brief observations

Data sets and analysis relating to regional demography in late-imperial China

The last project that I did of relevance to our present project was on historical demography in a part of eastern China from the mid-18th century to the mid-19th. Essentially, age-specific rates of natality, first marriage, and mortality. It collected from original sources a moderately large file of data by historical standards, consisting of about 20,000 cases each with 31 fields each that could be filled, though the average from memory is that the actual number filled per case would have been nearer to around a mean of 15. Hence somewhat scrappy. One of the hardest parts was thus working with a measure of incomplete and to some degree biased or, at best, unsystematic, coverage, both of which problems are common for historical datasets. The basic lesson to be drawn was an old one: intense attention needs to be paid regarding the effects of the practical and conceptual systems for the collection of the data, which do *not* speak in most cases for themselves, and, at the next stage, wariness regarding the appearance of beguiling but ultimately phantasmagoric patterns that are not really there, but the products of inappropriate methods of analysis, including first and foremost the use of excessively small subsamples resulting from untenably fine disaggregation (for example, in this project, by *both* county *and/or* by a short sub-period as well as the basic one of years of *age*). Cross-checking results by means of multiple linked pathways of analysis, and accepting only basically *coherent complexes* of outcomes, were essential. We interlinked the specific patterns we found in a way that was somewhat like trying to find the most relatively stable geodesic (Buckminster Fuller) dome that could be put together from our independent bits and pieces. Data should rarely, if ever, be thought of as meaningfully separable from the methods available for analyzing them, and at times one has to take one's courage in one's hands and throw out some blocks of scrappy data as unfit for purpose. We survived this ordeal mainly with the help of analytical modelling, broadly drawn from the logit-based methods pioneered by Bill Brass for the UN, but requiring the construction of a new model life table (a wearying task) as it is questionable whether existing model life tables based mainly on 20th-century data are appropriate for an earlier historical period. In the end I also had to do the PERL programming, rather than the far more qualified professional we had hired, because he did not really understand what we were doing, and, to be fair to him, what we wanted to do also kept shifting quite rapidly in the early part of the analysis as we little-by-little reconceptualized it, which he found infuriating. I sympathized, but there was no option at times but to shift. Programming lock-in is a non-trivial danger. Subsequent checking through an independent, somewhat later, set of data for a small but central part of the rural areas in the region we had studied, that were located by lucky happenstance and the kindness of a colleague, confirmed the basic patterns that we had found, to our slightly surprised but relieved relief. Lookout needs always to be kept for such ways of coming at a problem in another

way, or so-to-speak obliquely: it can transform a plausible but ultimately unproven answer into a heavyweight likelihood.

Personal current work

I have moved over the last three years to putting more and more time in on one-person project on an aspect of the history of European plant science. Note, 'plant science' and not 'botany', though botany in the traditional Ray/Linnaean sense of plant description and taxonomic classification is an indispensable component of it. More specifically, it is the translation into English (now done, though still needing revision and additional annotation) of R. J. Camerarius's *De sexu plantarum epistola* [Letter on the sexuality of plants](1694) which established the basic modality of the sexual reproduction of flowering plants, and setting the intellectual process in a wide-ranging context of precursors, inspirers, opponents, and alternatives, going back, though briefly, to the pre-Socratics, Aristotle, and Theophrastus, but focussing mainly on the 17th century. What interests me as essentially a friendly outsider to the world of historical Indian Ocean cultures and societies is whether or not there was anything in them in late premodern times that can be called 'plant science' rather than 'botany' (which clearly existed in some at least to a non-trivial degree), and if so, where, when, what, in whose minds, and why?

Mark Elvin

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