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## Age and Empire in the Indian Census, 1871–1931

Historians have long since learned to tread carefully when using certain categories of census data to arrive at conclusions about the past. To cite specific studies of nineteenth-century British census returns, the categories of “the household,” women’s work, farm labor, and the more general social classification of occupations have recently been the subject of critical discussion. Such work has revealed many census categories to be prone, in the past, to ideological manipulation or short-sightedness (for example, the failure to count the piecework performed by a housebound woman as an “occupation”). Many of these studies have come in the form of “how-to” guides, which provide historians with technical advice about making the most out of a problematic fund of empirical evidence. Others have moved from discussing such flawed evidence to draw more general conclusions about the necessarily contingent nature of many kinds of statistical category. These latter efforts offer useful historical perspective on census categories that remain controversial in the present day, such as race or ethnicity—since, in today’s world, as in the past, being counted incorrectly in a census can have important sociopolitical consequences.<sup>1</sup>

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1 On the household, see Brian Cooper, “Essays on the Economics of the Family,” unpub. Ph.D. diss. (Harvard University, 1997). On women’s work, see Edward Higgs, “Women, Occupations and Work in the Nineteenth Century Censuses,” *History Workshop Journal*, XXIII (1987), 59–80. On farm labor, see *idem*, “Occupational Censuses and the Agricultural Workforce in Victorian England and Wales,” *Economic History Review*, XLVIII (1995), 700–717. On occupations, see Simon R. S. Szreter, “The Genesis of the Registrar-General’s Social Classification of Occupations,” *British Journal of Sociology*, XXXV (1984), 522–546. Ian Hackling, *The Taming of Chance* (Cambridge, 1990); Libby Schweber, “The Assertion of Disciplinary Claims in Demographic and Vital Statistics: France and England, 1830–1885,” unpub. Ph.D. diss. (Princeton University, 1996); William Alonso and Paul Starr (eds.), *The Politics of Numbers* (New York, 1987).

When historians of the census (and historians who use census data) turn from ideologically charged categories to the more prosaic category of age returns, they tend to assume a much higher degree of reliability. In the context of American and European censuses, the assumption that historians can trust reported-age returns would appear to be warranted. By the mid-nineteenth century, for instance, the category of “age” in the British census had settled down into a transparent record of longevity. By that time, most people knew how old they were, and it was possible to correct for the ignorant guesses of those who did not by referring to accurate public registries of birth and death. The case is more complicated for the United States in the nineteenth century: Raw age returns for blacks were allotted only five different ranges (as opposed to twelve for whites), and census officials labored under constant suspicions of political corruption. However, numeracy (at least among whites) improved dramatically between 1790 and 1850, and by 1860, several reforms were in place to secure a useful record of vital statistics.<sup>2</sup>

This article treats the more problematic case of age returns in the British-administered census of India. The cause of the difficulty was simple, and obvious to the actuaries who were charged by the British state to make sense of the incoming stream of recorded ages. The vast majority of Indians either did not know, or (in the case of upper-caste Brahmans) did not care to, reveal how old they were, at least not in a manner approaching the precision that Western census officials had come to expect from their subjects. “The ignorance or carelessness of even native gentlemen of position and education in regard to their ages is a notorious fact,” claimed O’Donnell, the Bengal census superintendent, in 1871, “and even when they know them accurately, so strong is the force of habitual forms of expression, that it is doubtful if they would state them accurately.” To demonstrate this point, British census officials from the 1880s onward repeatedly produced tables showing large spikes in age for every multiple of five years, and statistically implausible age distributions for adolescent girls and the elderly. Adding to the problem, resources

2 Margo J. Anderson, *The American Census: A Social History* (New Haven, 1988), 30–31, 52. On the status of age returns, and the related subject of birth and death registration, prior to the “modern” British census as performed by the General Registrar’s Office starting in 1841, see David V. Glass, *Numbering the People: The Eighteenth-Century Population Controversy and the Development of the Census in Britain* (Farnborough, 1973).

for accurate birth and death registration were minimal at best in most parts of British India, and hence were of little avail in correcting for reporting errors. Moreover, since successive waves of famine and disease had created much larger “natural” spikes in Indian mortality than in their Western counterparts, actuaries lacked the luxury of mapping their age returns onto a “normal” distribution curve.<sup>3</sup>

The response of actuaries to the challenge of inadequate Indian age returns between the Bengali census of 1871 and the final British-administered all-India census of 1931 was not very different from the recent critical work of historians and demographers about such unstable census-data categories as “occupation” or “race.” As much as possible, they made do with what they had, all the while preaching caution about the shaky empirical foundation on which their charts and graphs were built. These efforts resulted in a series of ingenious technical innovations designed to discover order amid the apparent chaos of random guesses by an innumerate people.

Like many recent historians of the census, however, the actuaries who worked for the Indian census did more than try to make the best of a bad situation. They also questioned the wisdom of trying to impose on the Indian people a category—in this case, age—that worked well in a Western context but did not easily translate into useful data when exported abroad. In short, they realized that even so putatively “universal” a category might be impossible to determine accurately in a culture that lacked certain assumptions about time, and in a state that lacked the resources to record the dates of births and deaths.

Besides recovering an important incident in the history of statistics, this article contributes to three different sorts of scholarship about India: social history, which has tended to take for granted the reliability of Indian age returns; anthropology and postcolonial theory, which have critically analyzed the place of British census enumerations in colonial rule; and feminist history, which has observed some of the same tensions between “indigenous” categories of thought and “Western” responses to them. More to the point, the history of Indian age returns tests the assumption that census figures for mortality and longevity can

3 Charles J. O'Donnell, *Report . . . [on] the Lower Provinces of Bengal and Their Feudatories (Census of India, 1891)* (London, 1891), III, 164.

serve as an unproblematic demographic backdrop for more arguable findings concerning caste, occupation, and poverty. The actuaries who constructed tables for the Indian census were the first to admit that there are clear limits to what the Indian age returns prior to 1940 can reveal about such related social phenomena as famine, epidemic disease, fertility, and marriage patterns. Furthermore, historians who rely on the published census results need to be aware of the different “smoothing” devices that actuaries imposed on the raw age returns, some of which were methodologically more sound than others.<sup>4</sup>

The actuaries’ cultural response to the shortcomings of their data informs a different sort of historical literature, one that examines the connections between census taking and imperial “governmentality.” Anderson, for instance, has identified the “new demographic topography” wrought by European censuses, which informed the way that nations and empires “organized the new educational, juridical, public-health, police, and immigration bureaucracies” of the nineteenth century. With some modifications, this claim has also appeared in a number of studies more specifically devoted to the Indian censuses of 1871 to 1931. The enumeration of Indians by caste has been presented as a central category of colonial “objectification” alongside education, philology, and legal reform, and accurate age returns—in combination with the related project of birth and death registration—have been credited with a crucial role in building up the bureaucratic edifice of public health in British India. The evidence provided in this article suggests that such accounts risk overstating the capacity of British census officials to control their subjects through the mere act of counting them. If age, seemingly one of the most straightforward features of the census, posed the serious difficulties of biased reports and independent verification, concepts like “objectification” are of especially dubious value in more controversial categories like caste and ethnicity.<sup>5</sup>

4 A classic example of unwarranted assumption occurs in Amartya Sen, *Poverty and Famines: An Essay on Entitlement and Deprivation* (Oxford, 1981), which critically evaluates official statistics on productivity and wages for various Indian and African famines but spends little time analyzing the relevant vital statistics. See also the contributions to N. Gerald Barrier (ed.), *The Census in British India: New Perspectives* (New Delhi, 1981).

5 Benedict Anderson, *Imagined Communities: Reflections on the Origin and Spread of Nationalism* (London, 1992), 169; Bernard S. Cohn, *An Anthropologist among the Historians and Other Essays* (Delhi, 1987), 242, 224–230; David Inden, *Imagining India* (Oxford, 1990), 58–66; Mark

Recent work by feminist historians provides a useful context for the insight that the lack of precision in many census categories was apparent to Indian natives as well as colonial officials, and that it led to the census being used in ways that the British state had never envisioned. The age returns also had a direct bearing on many social issues, such as the prevention of child marriage and forced seclusion, that divided Indian women's rights groups and male-dominated nationalist organizations. Despite the best efforts of British officials to remain aloof from these issues, their commitment to constructing accurate age tables—and, even more directly, their decision to employ a native Indian actuary to consult for the 1931 census—established the framework for a highly charged political debate about the role of women in building an independent Indian state. Furthermore, the actuaries' ambivalent cultural response to Indian age returns, which wavered between respecting indigenous belief systems and advocating "modern" social reforms, replayed an ambivalence that went to the very heart of Indian nationalism in the 1930s.<sup>6</sup>

BRITISH ORIGINS OF INDIAN AGE RETURNS      The actuaries who were consulted to make sense of Indian age returns brought to their task the same assumptions about vitality that had long informed their work on British longevity. Once they had sorted through the age returns, they assumed it would be possible to identify regular laws, "smooth" apparent irregularities in the data by appealing to these laws, and chart progress from positive to preventive checks to population growth. All these premises served the actuaries well in their work for life insurance companies. By

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Harrison, *Public Health in British India: Anglo-Indian Preventive Medicine, 1859–1914* (Cambridge, 1994), 82. Roger Owen, in "The Population Census of 1917 and Its Relationship to Egypt's Three 19th Century Statistical Regimes," *Journal of Historical Sociology*, IX (1996), 457–472, similarly interprets the British-administered census of Egypt (1917) as an exercise in "governmentality" that assisted in defining the postcolonial Egyptian nation-state. Arjun Appadurai, "Number in the Colonial Imagination," in Carol A. Breckenridge and Peter van der Veer (eds.), *Orientalism and the Postcolonial Predicament: Perspectives on South Asia* (Philadelphia, 1993), 318–319, 331, similarly suggests that the category of "caste" in the Indian census provided an opportunity for indigenous self-identification that coexisted in tension with its "objectifying" features, contributing, as Benedict Anderson argues, to the communitarian origins of present-day Indian nationalism.

6 With regard to the unprecedented use of the census, see, for example, Geraldine Forbes, "The Indian Women's Movement: A Struggle for Women's Rights or National Liberation?" in Gail Minault (ed.), *The Extended Family: Women and Political Participation in India and Pakistan* (Delhi, 1981), 49–82, as well as the sources cited in notes 37–41.

1870, they had developed impressive methods of calculating premium tables on the basis of their policyholders' collective "experience." Such assumptions had also apparently been justified at the General Registrar's Office in the 1840s, where Farr used commercial actuaries' methods to turn English census returns into a powerful tool in public health policy. Statisticians had achieved similar progress toward identifying regular "laws of mortality" among civil servants and army officers in India, whose pension funds were the focus of constant actuarial attention between the 1830s and the 1870s.

To construct an accurate life table, it was necessary to possess reliable returns for either the reported age or the recorded numbers of births and deaths over successive time intervals—preferably both. At least one of these conditions was present in all existing English life tables. On the eve of the Indian census, the most recent collection of British vital statistics was the Institute of Actuaries' "Healthy Males" tables, computed from the select lives of twenty British life offices up to 1870. Although based on a limited amount of data, these tables were assumed to be accurate, since they were based on age figures reported by numerate middle-class customers and carefully tabulated death returns entered at the offices. Less accurate, but more comprehensive, were the "English Tables" derived by Farr at the General Registrar's Office from a combination of census returns and birth and death registration dating back to the 1830s. Finally, commercial actuaries who consulted for the East India Company produced a series of tables that traced the vitality of civil and military fund members and their families—most notably, Neison's tables for the Bengal Military Fund and Madras Civil Fund in the 1850s and Brown's Madras Military Fund table in 1863.<sup>7</sup>

7 Alborn, "A Calculating Profession: Victorian Actuaries among the Statisticians," *Science in Context*, VII (1994), 457–458; John Eyler, *Victorian Social Medicine: The Ideas and Influence of William Farr* (Baltimore, 1979), 66–76. The important place of age returns in the English census qualifies Appadurai's contrast ("Number in the Colonial Imagination," 317–318) between the Indian census' focus on ethnography and the English census' primary concern with territorial and occupational categories—a concern that prevailed only in the United Kingdom after 1900. See Edward Higgs, *Making Sense of the Census: The Manuscript Returns for England and Wales, 1801–1901* (London, 1989), 17. Francis G. P. Neison, *Report on the Bengal Military Fund* (London, 1854); *idem*, *Report on the Madras Civil Fund* (London, 1852); Samuel Brown and Peter Hardy, *Report on the Madras Military Fund, Containing New Tables of Mortality* (London, 1863).

In varying degrees, these models for tabulating vital statistics benefitted from conditions of numeracy and administrative rigor that later actuaries would find wanting among native-born Indians. Each person documented in the Healthy Males table had undergone a medical examination, and, in most cases, had been required to submit proof of age to his or her respective society. Although the accuracy of age returns in the English Tables was a matter of some dispute, Farr had the advantage of checking them against what was at the time Europe's most comprehensive set of birth and death records. Owing to the Births and Deaths Registration Act of 1836 (which rendered civil registration compulsory) and the Municipal Corporations Act of 1835 (which created an available class of official enumerators), Farr could rest easier than his predecessor, George Rickman, who had to make do with baptism and burial archives.<sup>8</sup>

A similar appreciation for accurate age returns evolved in the various Indian pension funds during the nineteenth century, with constant prodding from actuaries whose early reports bristled with complaints about "defective" or "carelessly treated" records. With support from the East India Company, they filled in the blanks by tracking down retirees and widows residing in Britain, and by comparing pension-fund data with military service registers.<sup>9</sup>

As age returns accumulated, it was possible for actuaries to infer progress in the more tangible sense of declining mortality over time—and in Farr's case, to use vital statistics as a means of effecting demographic change. Eyler has documented how Farr constructed a set of life tables in 1843, which corresponded to a typical "healthy district" with a mortality rate of 17 per 1,000, and then sought specific regional sources of disease in less healthy districts in order to bring England's overall mortality down to size.<sup>10</sup>

More commonly, comparative vital statistics were deployed as a form of commentary on general improvements in living

8 Alborn, "Calculating Profession," 460, 451–452; Higgs, *Making Sense of the Census*, 8. See also Richard Lawton, "Census Data for Urban Areas," in *idem* (ed.), *The Census and Social Structure* (London, 1978), 82–145.

9 Brown, *Report on the Madras Civil Fund, with Valuation* (London, 1866), 8, 32; Neison, *Report on the Bombay Provident Fund* (London, 1862), 11; *idem*, *Report on the Bengal Military Fund*, 2; Brown, "On the Rate of Mortality and Marriage amongst Europeans in India," *Journal of the Institute of Actuaries*, XI (1863), 8–9.

10 Eyler, *Victorian Social Medicine*, 76–84, 97–122.

conditions. Such was the case with the pension-fund reports, which revealed that the white man's burden in India (measured in terms of alarmingly high mortality rates) was growing lighter. Actuaries inferred from this fact that moral restraint, as illustrated by the funds themselves, was eroding the servants' prior vulnerability to vice and disease. As Neison observed in 1854, the funds had come to replace the prospect of plunder as "the charm which has so long recommended those services to the emulation of talented and ambitious British youths." Commenting on the accompanying improvement in pensioners' life expectancy, Brown and Hardy reported the "gratifying" result "that the high rate of mortality which formerly occurred in India was due to preventable causes, and that a great change for the better, owing to improvement in habits or better sanitary regulations, has for many years been going on."<sup>11</sup>

Life insurance, the English census, and Indian pension funds provided a wide range of conceptual tools for analyzing Indian census returns. These three contexts also produced the actuaries who were engaged to use those tools, and the forums where they made sense of their findings. Hardy, who wrote the first three actuarial reports for the Indian census, had previously worked for the British Empire Mutual Office, which had a large Indian business, and for a life office in Barbados; later he worked for the English and Scottish Law company (1893–1898) and for the Universal (1898–1901), as well as tutoring exam candidates for the Institute of Actuaries. When his other duties got in the way of continued consulting work for the India Office, his place was taken by Thomas Ackland, who had worked for twenty-five years at the Gresham Life Assurance Society before accepting a post as Actuarial Advisor to the Board of Trade in the 1890s.<sup>12</sup>

For the 1921 census, the India Office consulted its own salaried actuary, H. G. W. Meikle, whose father James had written extensively on "extra risks" in the colonies while working for the Scottish Provident life office. Both father and son also tabulated

11 Neison, *Report on the Bengal Military Fund*, 28; Brown and Hardy, *Report on the Madras Military Fund*, 7.

12 George Hardy, "Memoir: Sir George Francis Hardy," *Journal of the Institute of Actuaries*, LI (1915), 1–14; George Francis Hardy, "The Rates of Mortality among the Natives of India, as Deduced from the Recent Census Returns," *Journal of the Institute of Actuaries*, XXV (1885), 241; "Obituary: Mr. T. G. Ackland," *Journal of the Institute of Actuaries*, L (1915), 172–173.



vital statistics for the Oriental Government Security life office in Bombay, which had been founded by a Scotsman a half-century earlier on the scheme of charging the same rates for carefully selected native elites as for white policyholders. The consulting actuary in 1931 was Vaidyanathan, the Oriental's actuary, who had recently updated the Meikles' earlier record of his company's mortality experience. All of these actuaries contributed their findings to the Institute of Actuaries, where discussants invariably made comparisons to English census records and to recorded European mortality in India.<sup>13</sup>

OBSTACLES TO INDIAN STATISTICAL INQUIRY     Considering the vast ignorance of vital statistics that colonial officials displayed toward their "possessions" as late as 1870, it is ironic how concerned they were in later surveys that most Indians got their age wrong by a year or two. After the 1872 census in Bengal, Beverley, the provincial registrar, observed that "[t]he population of Bengal rose in one day from 42 to 67 millions," and quipped that "[t]he Lieutenant-Governor . . . suddenly found that he had unconsciously been the ruler of an additional population more than equal to that of the whole of England and Wales."<sup>14</sup>

The British soon got over being bemused at their prior ignorance, however, and turned instead to the more practical task of justifying the large expense of a decennial national census in India. The justification that most officials settled on, unsurprisingly, was that a census would allow them to perform their paternalistic tasks more efficiently. Armed with the Bengal census report, remarked Beverley, the India Office and its deputies were finally "acquainted with the real responsibilities of our position in

13 J. H. Hutton, "Report," *Census of India, 1931* (Delhi, 1933), I, xiv. On the Oriental, see D. M. Slater, *Rise and Progress of Native Life Assurance in India* (Bombay, 1895); L. S. Vaidyanathan, "Mortality of Indian Assured Lives," *Journal of the Institute of Actuaries*, LX (1929), 180–181, 213–216. For examples of findings contributed to the Institute of Actuaries, see Ackland, "On the Estimated Age-Distribution of the Indian Population," *Journal of the Institute of Actuaries*, XLVIII (1913), 400; Hardy, "The Rates of Mortality among the Natives of India," 241.

14 Although there were many enumerations and population estimates of Indian natives prior to 1870—both by East India Company officials and private civilians—none of them extended to the questions of longevity and age distribution. For examples of these early efforts to count natives prior to 1870, see Durgaprasad Bhattachary (ed.), *Report on the Population Estimates of India (Census of India 1961)* (New Delhi, 1961), I, III; Cohn, *Anthropologist among the Historians*, 231–238.

those provinces.” Chief among these duties, where population data were concerned, was famine relief. “By showing the true numbers of the people and their distribution in different parts of the country,” he claimed, “the census has enabled the Government to see where relief is needed and to what extent.”<sup>15</sup>

The more specific category of age returns, which had loomed so large in Farr’s administration of the census in England, offered fewer obvious justifications. Gait, the head of the 1911 census, suggested in 1913 that age statistics, in combination with other data, “throw light on certain social practices, such as early marriage and enforced widowhood, on the liability of certain infirmities at various periods of life and the like.” The capacity to relate high mortality to specific spots on the map, which had been so successful in British public health, was also cited as a potential benefit of accurate age returns. During the first fifty years of the census, however, this benefit remained more potential than actual, owing to the actuaries’ inability to discover among the Indians anything close to the lawlike regularities that Farr had discerned in England. Consequently, when actuaries were called in to make sense of the Indian age returns, they divided their time between complaining about the many obstacles in the way of useful data collection and doing their best to make meaningful generalizations in spite of the patently insufficient evidence.<sup>16</sup>

Readers of Indian census reports between 1871 and 1911 were treated to a steady diet of lamentations about the woefully inaccurate state of age returns. Baines, the 1901 census commissioner, after prefacing an article about Indian life tables with a brief discussion of European life expectancy, warned his audience that it was time “to leave the comparatively safe anchorage of Western Europe . . . where the material for the preparation of life-tables is provided by a combination of census and registration” and confront the “repulsive appearance” of unadjusted Indian data. Most often, these complaints about age returns were supported by thorough statistical evidence. Ackland arranged his data from the 1911 census according to “digit of age recorded in census,” and revealed that 56 percent of the reported ages ended in 0, 2,

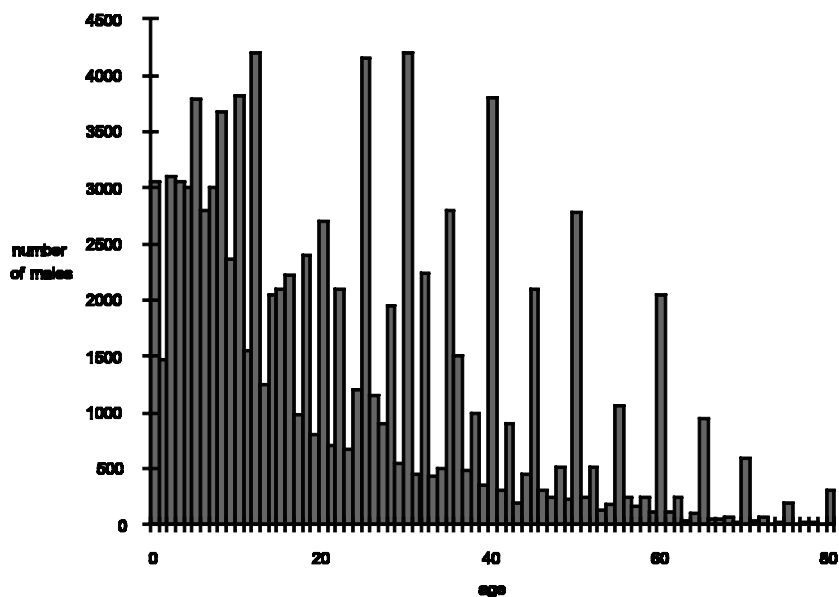
15 Henry Beverley, “The Census of Bengal,” *Journal of the Statistical Society of London*, XXXVII (1874), 69, 100, 70.

16 Edward A. Gait, *Census of India, 1911* (Calcutta, 1913), I, 148. On Indian vital statistics and public health, see Harrison, *Public Health in British India*, 78–82.

or 5. In 1901, Gait represented similar findings with a bar graph showing “the actual number of males returned at each age” (Figure 1). Hutton, the census commissioner for 1931, disaggregated the Indians’ proclivity for “preferential digits” in charts, comparing male and female returns for Madras, and comparing reported Punjabi ages by sex and religion (figures 2–4).<sup>17</sup>

Actuaries were even more disappointed when they moved from the recorded age of Indians to registered births and deaths, which they needed in order to control for migration, as well as for “preferential digits.” The existing registration machinery in India, where village registrars had been legally required to record births only since 1869 and deaths since 1866, was too inefficient to provide anything approaching such a control. Baines estimated

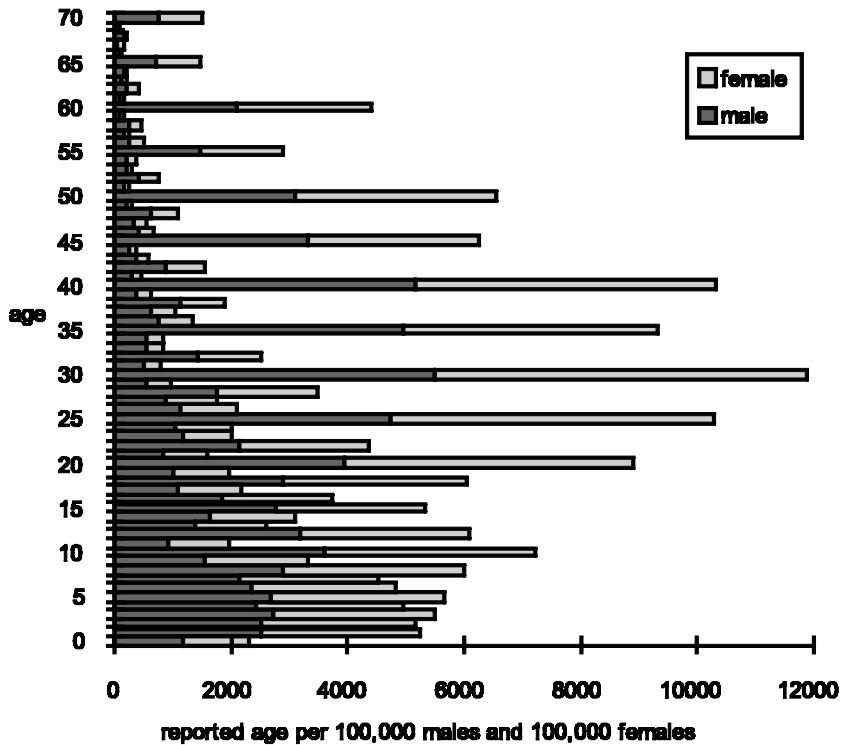
Fig. 1 Reported Age of Bengali Males at Each Age per 100,000 in the 1901 Indian Census



SOURCE Edward A. Gait, *General Report of the Census of India, 1901* (London, 1904), 472.

17 J. Athelstane Baines, “The Peradventures of an Indian Life-Table,” *Journal of the Royal Statistical Society*, LXXI (1908), 293, 306; Ackland, “Actuarial Report,” in *Census of India, 1911*, I, 156; Gait, *General Report of the Census of India, 1901* (London, 1904), 472; Hutton, “Report,” 84–85.

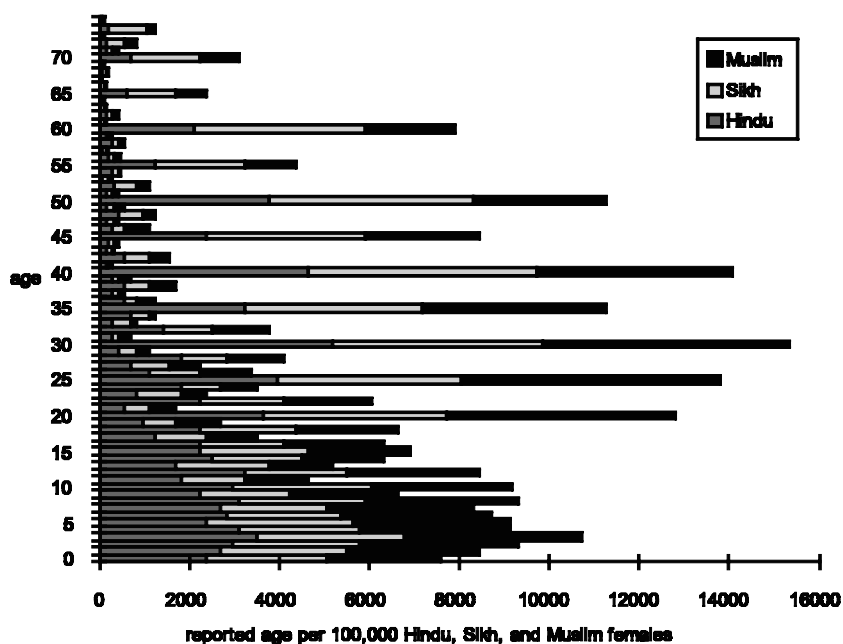
Fig. 2 Age Returns of 100,000 Males and 100,000 Females from Madras, 1931 Census



SOURCE J. H. Hutton, "Report," *Census of India, 1931* (Delhi, 1933), 84.

in 1901 that "[p]erhaps 60 per cent. of the births in some places [in India] escaped registration altogether; and the same might almost be said with regard to the deaths." A decade later, Ackland supplied data to suggest that an even higher proportion of Indian births and deaths was going uncounted. Whereas his comparison of birth and death records in Bombay Province between 1901 and 1911 yielded a decline in population of 217,469, census returns showed an increase of 1.1 million during the same period—a difference that could not be accounted for by immigration. He concluded that "the registers of births and deaths are at present practically useless for deducing rates of mortality." Nor was Vaidyanathan any more sanguine about the "records of vital occurrences" in 1931, which yielded 4.6 million fewer births during

Fig. 3 Age Distribution in the Punjab of 300,000 Women Consisting of 100,000 Hindus, 100,000 Sikhs, and 100,000 Muslims by Annual Age Periods as Returned at the Census of 1931.



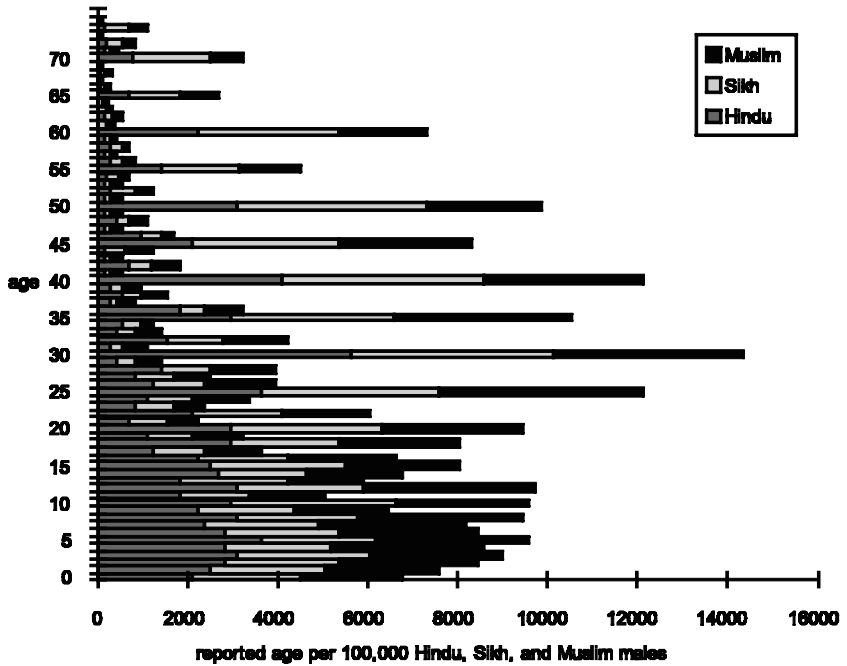
SOURCE J. H. Hutton, "Report," *Census of India, 1931* (Delhi, 1933), 85.

the preceding decade than the census figures had led him to expect.<sup>18</sup>

A final obstacle to the determination of "normal" mortality curves for India was the periodical occurrence of famine and epidemic disease, which affected the smoothness of the curve rather than the accuracy of the raw figures. In 1883, Hardy lamented the "violent fluctuations" produced by famine and cholera in India, which created "considerable difficulty in dealing with the age statistics." He contrasted this state of affairs with the

18 Hardy, "On the Rates of Mortality and the Mean Duration of Life in the Various Provinces as Deduced from the Age Statistics and Rates of Increase," *Report on the Census of British India . . . 1881* (London, 1883), I, 144. The Baines quotation appears in Frederick C. Danvers, "A Review of Indian Statistics," *Journal of the Royal Statistical Society*, LXIV (1901), 69; Ackland, "Actuarial Report," 158; Vaidyanathan, "Actuarial Report," in *Census of India, 1931*, I, 111. See also H. G. W. Meikle, *Report on the Age Distribution and Rates of Mortality Deduced from the Indian Census Returns of 1921 and Previous Enumerations* (Calcutta, 1926), 2.

Fig. 4 Age Distribution in the Punjab of 300,000 Men Consisting of 100,000 Hindus, 100,000 Sikhs, and 100,000 Muslims by Annual Age Periods as Returned at the Census of 1931.



SOURCE J. H. Hutton, "Report," *Census of India, 1931* (Delhi, 1933), 85.

"practical uniformity of operation in the various influences affecting population" in Europe. Especially in the early years of the census, before much cumulative data had been generated, the regular occurrence of natural disasters foreclosed any attempt to determine whether or not "normal" life expectancy was increasing. In constructing a mortality table for the decade since 1891, Hardy ignored the 1901 census data, since it included the "quite abnormal period" of the 1896/97 famine and the Bombay plague, and instead used population estimates for the healthier interval of 1901 to 1905. Meikle calculated Indian life expectancy in 1926 by grouping together all five previous census findings instead of trusting in the 1921 census alone, which encompassed an influenza epidemic that killed 7 percent of the population. When Ackland

referred to “famines, plagues, malaria, etc.” as “permanent scars from old wounds,” he captured the actuaries’ general distaste for these natural departures from what might otherwise have been regular curves.<sup>19</sup>

DISCOVERING USEFUL DATA      Lacking reliable raw numbers and uniform demographic conditions, actuaries resorted to their own mathematical skill to remove what Baines referred to as the “naked deformity” of the unadjusted Indian age returns. In his analysis of the 1901 census, Hardy used known disturbances in “normal” mortality levels, caused by famines, as a baseline against which reporting errors would appear more clearly. As he observed in his 1905 census report, “during any period of severe famine the birth-rate is so much lowered as to lead us to expect at any future census a marked depression in the age curve” among the cohort of famine survivors. The famine of 1876/78 in Deccan, for instance, had produced population figures “considerably below the average” for the zero to five age range in the 1881 census and for the ten to fourteen range in 1891. The twenty to twenty-four range in 1901, in contrast, was only 10 percent below the “normal” curve, leading Hardy to conclude that “the gap caused by the depressed birth-rate prior to 1881 has been partly spread over the adjacent age groups as a result of inaccuracy in the age returns.” Besides catching subsequent errors in reporting, famine years could be used as aids to memory, as when enumerators in the United Provinces asked people to fix their age “with reference to well remembered events such as famines.” In effect, both of these techniques used the Indians’ mortal sin of overpopulation and its consequences to detect their venial sin of misreporting age.<sup>20</sup>

Another important conceptual tool that featured in all of Hardy’s tables was a “law of mortality,” recently developed by William Makeham, his fellow actuary, that purported (in Hardy’s words) “by means of four constants to give the numbers living according to any given mortality table as a function of the age for the whole of adult life.” Makeham’s Law combined a disease-specific component that produced an arithmetic increase in mor-

19 Hardy, “On the Rates of Mortality and the Mean Duration of Life,” 142–143; *idem*, *Memorandum on the Age Tables and Rates of Mortality of the Indian Census of 1901* (Calcutta, 1905), 2; Meikle, *Report* (1921), 1; Ackland, “Actuarial Report” (1911), 154.

20 Baines, “Peradventures,” 306; Hardy, *Memorandum*, 6; Meikle, *Report* (1921), 2–3.

tality over time with a geometrically decreasing “power to avoid death.” This “discovery,” as Hardy called it, had been tested on British vital statistics collected by the Institute of Actuaries, and had just been used to graduate the Institute’s “Healthy Male” tables. Hardy used this formula to smooth especially doubtful returns into shape, specifically those relating to the elderly and to marriageable women. In both cases, he derived constants from more trustworthy sections of the relevant life tables and then plugged them into the formula.<sup>21</sup>

A final “smoothing” strategy, adopted in the 1931 census, was to change the range of the quinary groups into which the Census Office allocated the raw age returns. Through 1921, the Indian census had followed the English model of converting the raw returns into thirteen quinary groups from age five to age sixty-nine, on the grounds that it would be too costly to publish aggregate figures for every age. Sample populations in each district were returned with individual ages, however, as in England. Ackland, in his 1913 actuarial report, recommended shifting these groups so that “the multiples of five were in the centre, instead of at the beginning, of each group,” to address the problem that so many reported ages ended in five or zero. After the next census, Meikle returned to the issue, suggesting alternating groups of three and seven years in the series (four to six, seven to thirteen, fourteen to sixteen . . . ) to compensate for what he called the “law of misstatement” of Indian age. His recommendation was carried out in the 1931 census, although with the unintended effect that only Madras and the Punjab returned any sample distributions for individual ages. Hence what Vaidyanathan gained on one side he lost on the other, still finding it necessary to use his “Actuarial microscope . . . rather very minutely” in order to “bring out the true or nearly true age curve from such irregular data.”<sup>22</sup>

If the internal logic of Indian age returns gave actuaries at least some resources to smooth a bumpy curve into shape, it was

21 William Makeham, “On the Law of Mortality,” *Assurance Magazine*, XIII (1865), 335; Hardy, “On the Rates of Mortality and the Mean Duration of Life,” 161–162. See Alborn, “A Calculating Profession,” 458–460.

22 Ackland, “Actuarial Report” (1911), 167; Meikle, *Report* (1921), 34–35. Meikle’s reason for grouping more years around numbers ending in zero was that the least-reported ages ended in nine and one. Vaidyanathan, “Actuarial Report” (1931), 108–109.



more challenging to derive useful conclusions from the even patchier set of Indian birth and death records. One possibility, even with existing records, was to use them as a guide to the relative vitality of different districts. The comparison of birth records was most useful in graduating tables skewed by famine, which produced abnormal peaks and valleys in the early ages. Hardy dealt with this problem by comparing the overall birthrate with that in those districts of each presidency that were least affected by the famine (Ganjam, Vizagapatam, Godaveri, South Carnara, and Malabar in Madras, for instance), and rating up the surrounding districts' longevity figures by recourse to Makeham's law. The only problem with this method, he noted with unintended irony, was that it produced skewed results for the famine regions "owing to the registering agency being absorbed in famine work." It was apparently impossible to count lives and save them simultaneously.<sup>23</sup>

Hardy also tried to identify sample populations where birth and death records were more reliable, and he used them to extrapolate national figures. The obvious choices in this regard were large cities, where a centralized municipal government enabled a more or less thorough enumeration of births and deaths. Many cities made for bad samples, however, because of their migrant populations. In both the port city of Bombay and the manufacturing center of Calcutta, "the component elements" of the populace were "largely foreign and abnormal." Madras, on the other hand, appeared to suffice, owing to "its comparative want of manufacturing and shipping industry"; it produced results that were "obviously nearer those for a normal Indian community." In addition to the Madras baseline, Hardy relied on a second source of uniquely accurate birth records that came even closer to embodying the police powers of the British state—the registry of the "proclaimed clans," which had been collected in the North-West Provinces since 1870 under an act for the prevention of female infanticide. Claiming "no reason for supposing that the rate of mortality among children differs greatly in different parts of India," he proceeded to use this data to calculate infant life expectancy as revealed in the census. He arrived at adult figures through the less complicated process of graduating a table, on the

23 Hardy, "On the Rates of Mortality and the Mean Duration of Life," 162–165, 149–150.

premise that adult mortality “varies but slowly and with tolerable uniformity.”<sup>24</sup>

Actuaries were justifiably proud of the ingenious lengths to which they went to earn their consulting fees, but they were also sorely aware of the empirical constraints on their expertise. Hardy couched his conclusions based on birth and death registration in the most cautious possible language, and other statisticians were more openly critical of his inferential leaps. In particular, they focused on the problematic case of the proclaimed clans, the statistics of which formed the bedrock for Hardy’s life tables. O’Donnell drew attention to their “unsatisfactory character . . . referring as they did mostly to a single caste, the Rajput, to a society, in which there were only 702,555 females to 1,084,540 males, and in which the recent action of the Government by preserving infant life had caused a great excess of female children over adult women.”

Within a few years, Hardy’s choice of the clans would prove to be unwise in another way. In 1904, the British state stopped collecting records on Rajput births, apparently satisfied that infanticide was no longer a serious issue. As in the case of Madras registrars taking time off their jobs to help famine victims, the cessation of the “proclaimed clans” data pointed out the danger of relying on police powers that only incidentally produced useful vital statistics. Surveying such problems, Meikle concluded that “methods suitable for the graduation of the British Census age returns may be quite unsuitable for Indian Census returns.”<sup>25</sup>

Such considerations led some actuaries to question the logic of the Indian census itself, which had uncritically imported the English fashion for comprehensive enumeration into a context where the resulting numbers often lacked meaning. O’Donnell, for instance, urged the India Office to focus its resources on a few districts, allowing officials to learn how to count and residents to learn how to be counted under close supervision from the state. Citing the steep cost of nine lakhs (around £60,000) for compiling age sheets for more than 200 million Indians, he used his report on the 1891 Bengal census to call for an end to “the waste of

24 Baines, *Census of India 1891: A General Report* (London, 1893), 281; Hardy, “On the Rates of Mortality and the Mean Duration of Life,” 145.

25 O’Donnell, *Report* (1891), 165; Meikle, *Report* (1921), 6.

money,—I cannot call it anything else—paid away every ten years in compiling them.” Instead, he urged that local police officers pick a few villages at random and start asking the inhabitants their age every year instead of every ten years. He predicted, “[o]ur successors will then be able to judge when the time arrives that some idea of accuracy in regard to ages has grown up amongst the people, and then extend the compilation of statistics based on them.” O’Donnell was aware that such an investigation “would necessarily be inquisitorial,” but he hoped that “with tact and the aid of an educated and respected local zamindar it ought to be possible.” The result would be a “standard of age” that would be “worth a dozen times over all the age tables prepared up to now in British India.”<sup>26</sup>

INTERPRETING THE DATA: INDIGENOUS IGNORANCE OR SEEDS OF PROGRESS? O’Donnell’s suggestion for an “inquisitorial” collection of age returns for a few random districts never made it beyond volume three of the 1891 census report; nor did any district act on similar suggestions for the collection of closely monitored birth and death records in sample precincts that Hardy and each of his successors proposed as an alternative to the proclaimed clans data. The British government’s failure to comply with such requests left actuaries with two possible responses to the continuing flow of incorrigible information that they were expected to process. Either they could give up their civilizing mission, and assume that Indian incorrigibility made better data impossible to achieve, or they could hope that the modest educative facilities provided by the census would gradually create numerate Indians who cared as deeply about their ages as the actuaries themselves. Each response was apparent in their census reports, and each was linked to more general interpretations of Indian vital statistics that appeared alongside the actuaries’ tables and graphs. These interpretations posed the same Malthusian choice that had typified treatises on European life a century earlier. As Hardy put it in 1905, “the alternatives for the future are either a reduction in the birth-rate as a result of the spread of education and a gradual change of social customs, or . . . a continuance in future of such periods of famine, with

26 O’Donnell, *Report* (1891), 164.

their accompanying destruction of population, as have marked the past history of India.”<sup>27</sup>

The latter prediction accompanied ethnological assumptions that linked the Indians’ careless regard for age returns with the hard lessons of overpopulation. According to this diagnosis, Indians had a “peculiarly practical and realist outlook on life” that reflected their close harmony with natural events. Such views were apparent in Baines’ comment that the Indian population “moves in harmony with the season,” or in Hutton’s inclusion of the Indians’ preference for counting harvests instead of years on his list of their “curious methods of reckoning periods of time.” Similarly, this analysis allowed census officials to attribute perturbations in age returns during adolescence to the effect on Indians of “the advent of so pronounced a vital phenomenon as puberty.” Since teenaged males, for instance, allegedly desired “to appear either definitely as a boy or definitely as a man,” they often failed to state their actual age. In some cases, inferences of this sort could produce striking examples of cultural relativism, as when the Madras Census Superintendent suggested in 1931 that “to the Indian our application of age-limits to govern retirement and general insistence on birth certificates seem probably to show a defective and—to use a popular word in India—bureaucratic attitude towards life.”<sup>28</sup>

More often, however, actuaries carted out examples of peculiarly Indian conceptions of age only to disparage them as barbaric relics. Among other specifically Indian sources of conscious inaccuracy, Baines counted “widowers seeking to commend their qualifications to the parents of a suitably youthful bride” and Brahman girls in their late teens, reported as several years younger by a father who was “not . . . willing to acknowledge a dereliction of duty [that is, marrying off his daughter at an earlier age] which, according to Brahmanic precept, will consign him . . . to a special Hell, pending his reincarnation.” Gait posited that Hindu men incorrectly reported their age out of a belief that “a man’s age,

27 Hardy, *Memorandum*, 16; Ackland, “Actuarial Report” (1931), 167; Meikle, *Report* (1921), 36; Vaidyanathan, “Actuarial Report” (1931), 159–160. For the Malthusian population principle, see Thomas R. Malthus, *An Essay on the Principle of Population . . .* (New York, 1992; orig. pub. 1798). In *Memorandum*, Hardy mentioned the possibility of “a steady increase in the means of subsistence” (17), but both he and other actuaries devoted practically all their speculations to the other two options.

28 Baines, “Peradventures,” 299; Hutton, “Report,” 81–82, 91.

coupled with the *Rashi* (sign of the Zodiac), which is usually indicated by his true name, would give his enemies an opportunity of setting the forces of black magic against him.” Actuaries also equated inaccurate age returns with more basic forms of irrationality, as when Vaidyanathan contrasted the “sanity” of English age returns with the “idiosyncrasy” found in India. Such assumptions colored their view of native enumerators, who had to guess ages for people who gave no response or returned clearly incorrect figures. The head of the United Provinces census observed that “the guessing of the age of others is not the Indian’s strong point, even where he is educated and intelligent.” When he had his staff in Calcutta try to guess his age, “the estimates were seldom within five years of the truth and varied between 16 and 60.”<sup>29</sup>

The implicit standard in all such accounts was the “rational” Englishman who knew his birthday by heart, would never mistake a middle-aged actuary for a teenager, and (not coincidentally) was far less likely to die in a famine or an influenza epidemic. This parallel—between “irrational” conceptions of age and positive checks to population growth—became especially clear when actuaries moved from sharing their impressions to tabulating their results. For instance, Baines confirmed the cultural sources of inaccurate age returns by comparing the high proportion of decennial age estimates in India with increasingly flat distributions for Russians, American blacks, American whites, Germans, and Britons (Table 1). A few pages later, he charted age distribution data from six European countries alongside comparable data from the first three Indian censuses, the latter of which exhibited “remarkably high proportions of the young . . . as compared with the West.” To account for this large “output of children,” he returned to the same social and religious sources that he had associated with errors in age—including the caste system’s restriction of social aspirations “within decidedly narrow limits” (which removed an incentive to forestall marriage) and religious injunctions to marry young. The result was all too predictable from a

29 Baines, “Peradventures,” 296; Gait, *Census of India, 1911*, I, 147. Vaidyanathan, “Actuarial Report” (1931), 119–120; Meikle, *Report* (1921), 2. Compare Joseph Schwartzberg, “Sources and Types of Census Error,” in Barrier (ed.), *The Census in British India*, 41–60. In *Report* (1921), Meikle allowed that it was not the enumerators’ fault that they tended to return estimates in increments of five years, which was the main source of the spikes in reported age (3).

Table I Reported Ages Ending in 9, 0, and 1 per 1,000 of Total Population

YEAR OF AGE	ENGLAND AND WALES	GERMANY	UNITED STATES				RUSSIA		INDIA
			NATIVE WHITES		BLACKS		EUROPE	CENTRAL ASIA	
			1890	1900	1890	1900	1897	1897	
19	195	180	195	196	196	204	166	112	82
20	200	182	202	200	225	252	223	385	378
21	195	181	200	191	187	204	143	113	66
29	165	130	148	146	101	119	92	60	49
30	183	149	214	170	238	218	269	456	506
31	145	145	123	125	69	76	74	74	39
49	89	88	70	72	50	62	45	38	20
50	108	94	119	84	156	156	196	257	351
51	70	89	56	61	35	38	35	34	19
59	57	62	41	43	20	30	25	18	9
60	71	70	77	49	103	105	163	179	251
61	45	60	35	33	17	15	22	25	10

SOURCE J. Athelstane Baines, "The Peradventures of an Indian Life-Table," *Journal of the Royal Statistical Society*, LXXI (1908), 294.

Malthusian perspective, an "abundant . . . supply of hostages to fortune" who were "inordinately sensitive to variations of the harvests."<sup>30</sup>

Some statisticians were content to conclude, along with Baines, that the consequent "ascents and deep chasms" in Indian mortality curves were "the result of forces beyond human control." But most at least offered a hint of the developmental model that had inhered in Malthus' population formula from its inception. The Bengal census commissioner in 1901, for instance, reported a declining birth rate in the wake of a recent famine, and optimistically inferred the use of birth control or abortion among laborers. Hutton, in his 1931 census report, similarly reported a decline in infant mortality after 1910 (from 20.5 percent to 18 percent) and hoped that recent legislation proscribing child marriage would improve female life expectancy. Even Baines implied that Indians might one day move beyond positive checks to population growth when he compared their habits to those of peasants "in England of yore."<sup>31</sup>

30 Baines, "Peradventures," 294, 305, 298.

31 Gait, *Census of India, 1901*, I, 480. Gait's diagnosis was only partly correct. Subsequent demographers have also linked famine with temporary amenorrhea among women. See John Bongaarts and Mead Cain, "Demographic Responses to Famine," in Kevin M. Cahill (ed.), *Famine* (Maryknoll, N.Y., 1982), 47-49. Hutton, "Report," 92-94; Baines, "Peradventures," 298-299.

Vaidyanathan was the strongest advocate of preventive checks in the Indian census. He began his analysis of Indian age returns with the premise that “the truth of the Malthusian proposition is established beyond doubt” and concluded by urging an aggressive campaign on behalf of birth control and against child marriage. The crucial bridge between his embrace of Malthus’ “horrid picture” and his advocacy of birth control was eugenics—specifically, “the poignant words of Francis Galton” (pioneer of the eugenics movement in Britain) that “[a] Nation ought to devote its best energies to . . . developing the Health and Vigour of the people.” Using this standard, he criticized his fellow Indians for their “lack of imagination . . . and the consequent *laissez faire* attitude of the people towards matters of vital importance.” His was an impatient interpretation of “traditional” Indian attitudes toward life. In Vaidyanathan’s mind, only the “bureaucratic” perspective could be “intelligently directed towards safeguarding the happiness of the future.” His report betrayed the influence not only of Galton and Karl Pearson (professor of eugenics at University College, London), but also that of more recent eugenicists like A. M. Carr-Saunders, who was responsible for introducing the notion of “standard of living” into the overpopulation debate.<sup>32</sup>

For Vaidyanathan, a eugenic standard was also a European standard, as measured in relative mortality rates. Citing results from earlier Indian censuses, as well as the 1931 data, he was especially alarmed at “the heavier mortality of females as compared with males . . . from about age 12 to about age 45”—clearly a problem for someone committed to breeding healthier Indians. In this matter, his native country lagged behind Britain and the United States, where female mortality for the comparable age range was “substantially lighter than male mortality.” He reasoned that these contrasting fates of women “from about the age of adolescence to the age when capacity for child-bearing may be expected to cease can naturally be traced to immature maternity if correct statistics are maintained according to age and cause of death.” Hence, he labelled the 1929 Child Marriage Restraint Act (otherwise known as the Sarda Act) a “noble piece of Legislation” and praised the recent appearance of “Baby-Week Exhibitions and

32 Vaidyanathan, “Actuarial Report” (1931), 146, 143–144, 148, 150–151. See also *idem*, “Mortality of Indian Assured Lives,” 180.

other propaganda relating to the proper bringing-up of children.” Vaidyanathan likewise embraced “Birth Control among families of poor economic status” as a vital remedy to high Indian mortality, helping to publicize a state-subsidized birth control clinic that had just opened in Bangalore.<sup>33</sup>

Vaidyanathan’s status as an Indian commercial actuary probably affected both the freedom with which he expressed his views and the elitism which those views implied. His relative freedom of expression contrasts with that of Hutton, who, as census commissioner, needed to balance his evident support of birth control with his concern to keep the census free from political controversy. Like Vaidyanathan, Hutton argued that “[w]hat is really wanted is fewer babies but better ones,” but he also needed to defend himself against nationalist critics who viewed birth control and child-marriage laws as the latest form of Western imperialism. Hence, in discussing his introduction of female fertility statistics into the census, he nervously tried to appease critics “who will conceive that they detect . . . the cloven slots of a considered cloacinity.” Vaidyanathan’s position at a Bombay life office, on the other hand, provided him with a eugenic standard that was Indian as opposed to Western. This standard was on display in a table showing a much higher life expectancy for his company’s middle-class Indian policyholders than for Indian men in general, and he used this data to demonstrate the close correlation between mortality and standard of living.<sup>34</sup>

Whether the context was Baines’ Malthusianism or Vaidyanathan’s eugenics, the terms of the debate about Indian vital statistics pointed to the same opposition between “society” and “nature.” By resigning themselves to the Indians’ “traditional”

33 *Idem*, “Actuarial Report” (1931), 156, 151. Vaidyanathan condemned purdah (that is, the forced seclusion of women) in the same way that he had criticized child marriage, by linking it to increased mortality rates in regions where he assumed it to be a prevalent practice (in this case, the largely Muslim Northwest Provinces) (158).

34 Hutton, “Report,” 97, xv. For an example of nationalist resistance to the Child Marriage Restraint Act of 1929, see Radha Krishna Sharma, *Nationalism, Social Reform and Indian Women* (New Delhi, 1981), 208. Many Indian nationalists were even more hesitant to support birth control, owing to Mohandas K. Gandhi’s opposition to contraception: See Barbara N. Ramusack, “Embattled Advocates: The Debate over Birth Control in India, 1920–40,” *Journal of Women’s History*, 1 (1989), 34–64, who confirms that Indian natives who advocated birth control were almost all, like Vaidyanathan, from the urban elite. Vaidyanathan, “Actuarial Report” (1931), 150–151. The tables on Indian policyholders’ mortality had earlier appeared in Vaidyanathan, “Mortality of Indian Assured Lives,” 200–210.



conceptions of time, and by relating those attitudes to the “natural” forces of famine and disease, statisticians like Baines effectively naturalized Indian culture—leaving Western society as an (implicitly unassailable) opposing force. Vaidyanathan, conversely, invited Indians to embrace a denaturalized conception of society, and he saw the census as a convenient lesson in this regard. Existing census data clearly taught the Malthusian moral that “nature is a relentless task-mistress and will always have her own way.” But instead of giving in to nature, Indians needed to submit themselves to the “purely . . . sociological reasons” that had allowed Europeans to escape cyclical population crises.<sup>35</sup>

Vaidyanathan assumed that once this transformation was underway, the perennial problem of inaccurate age reports would take care of itself. The major source of “deliberate mis-statements” of age, he observed, was “ignorance of the fact that the Census Analysis does not deal with individuals but only with groups.” If people only understood that “individuals are merged unidentifiably in the groups dealt with,” they would have no motive to lie about their age. Revealingly, he attributed their failure to comprehend this point to curable “psychological factors” rather than to unchanging cultural assumptions. The same motive lay behind Vaidyanathan’s more basic goal of getting Indians, finally, to start thinking about how old they were. Against the advice of enumerators, he insisted that future censuses require people to report their ages to the nearest month—not for actuarial purposes, but because “people’s minds should be set about thinking for a while instead of returning any age at random.” What worked for age returns in the census would, in theory, work for India more generally, in the form of eugenically induced improvements in the standard of living.<sup>36</sup>

Despite Hutton’s attempt to temper Vaidyanathan’s optimistic outbursts on behalf of social control, he could not prevent social reformers in both Britain and India from reading that message into the census figures on age and mortality. After 1931, age statistics, which earlier had been of interest only to actuaries and bureau-

35 Vaidyanathan, “Actuarial Report” (1931), 149, 108–109.

36 *Ibid.*, 121, 135–136.

crats, became a favorite text for debating the merits of Indian modernization. British social reformers joined Vaidyanathan in drawing explicit connections between mortality data and “backward” social habits. In the process, they publicized many of the actuaries’ long-standing complaints about the functioning of the British state in India, such as its imperfect birth records and its poor enforcement of social legislation. When these new complaints failed to alter imperial inertia, reformers responded in the same fashion as actuaries had done when their own suggestions had fallen on deaf ears. They either blamed the Indians themselves for failing to pay attention to the fatal effects of their traditional customs, or they sought ways of altering those customs with whatever means they had at their disposal.

The leading case where age returns appeared as a central feature of Indian social reform in the 1930s concerned child marriage. Rathbone devoted a long chapter in her popular pamphlet, *Child Marriage: The Indian Minotaur* (1934), to the effects of the Sarda Act “as exposed by the 1931 Census Report.” In contrast to Hutton, who had cited figures to suggest that early marriages were on the decline and had endorsed the Sarda Act as a step in the right direction, Rathbone appealed to a different set of figures from Hutton’s report to reach opposite conclusions. Instead of pointing to a long-term decline in infant mortality, which Hutton had done, she reported that “[o]ne of the most significant and ominous facts revealed by the Census is that the proportion of females to males has steadily decreased since 1901.” She urged that this fact “should be specially noted by those light-hearted optimists who, relying on their observation of what is happening in cities and among the Indian intelligentsia, would have us believe that child marriage . . . [is] rapidly giving way before the forces of progress.” As for the Sarda Act, she claimed it had led to a rash of child marriages during the sixth-month grace period between its passage and its implementation—citing census data showing a 50 percent increase in wives under the age of fifteen and a fourfold increase in wives under five years old since 1921.<sup>37</sup>

37 Eleanor F. Rathbone, *Child Marriage: The Indian Minotaur; An Object-Lesson from the Past to the Future* (London, 1934), 60, 64–66, 46.

Rathbone opened her discussion of the 1931 census by commenting that it was “a pity that the unwieldy form and high price of the Census reports make them inaccessible to all but a few.” She then added that “perhaps, from the official point of view, it is not a pity”—implying that the census contained information that exposed what a poor job “Viceroys, I.C.S. men, [and] India Office men” were doing. She might have further mentioned that the inaccessibility of census reports was also not a pity from her own perspective, since a complete reading of them would have challenged her claim that Indians were incapable of solving their own problems without British help. The age returns that Rathbone had “selected but not dressed up” were, on her reading, a thoroughly *British* exposition of the damning effects of Indian custom. Despite her implicit departure from Hutton’s conclusions, she went out of her way to praise “Dr. Hutton and his colleagues” for exposing social problems with “frankness and readiness to admit unpleasant truths.” Moreover, despite quoting several of Vaidyanathan’s remarks about the higher mortality of Indian girls and women, she never mentioned him by name and omitted any reference to his praise of Indian efforts to address overpopulation. In contrast, long passages of her pamphlet were devoted to condemning those Indian “reactionaries who in other respects beside child marriage would plunge India back into barbarism if they get the chance.”<sup>38</sup>

Rathbone paired her reading of the census data with a stern rebuke of those who resigned Indians to the clutches of “natural” Malthusian population crises. Deaths of young wives in childbirth, she claimed, were “never ‘natural’ save in the sense that they are Nature’s vicarious punishment for disobedience—not the victim’s—to her laws.” This conclusion led her to call for a more stringent enforcement of the Sarda Act, which promised to replace Nature’s fatal punishment of innocent girls with a milder set of legal penalties. To that end, she followed the actuaries in calling for better birth records since, as she asked, “How can offences against the law be proved unless the age of the victims is known?” More extensively, she provided a long list of “future remedies . . . through the education of public opinion by methods old and

38 *Ibid.*, 60, 71, 108.

new,” which was intended to convince Indian women that rallying against child marriage was more important than “helping their men to free India from alien rule.”<sup>39</sup>

As several historians have noted, the choice between social reform and nationalism that appeared in Rathbone’s list of remedies—a choice that was even more stark in Katherine Mayo’s best-seller *Mother India* (New York, 1927)—was a leading assumption in British and American views about the Indian independence movement. For Indian social reformers, however, modernization and nationalism was a false dichotomy, set in place by imperialists to uphold British rule. As Rama Rau, an Indian feminist, wrote in her memoirs, recounting her first meeting with Rathbone in 1929, “educated Indian women were working in every province of their country to eradicate social evils and outmoded customs and prejudices, and we refused to accept the assertion that the removal of social evils in Indian society was the responsibility of the British.” She criticized Rathbone and other British feminists for sitting “in judgment on questions they could not comprehend fully,” adding that “progress had to take into account ancient traditional patterns that foreigners did not know or understand.”<sup>40</sup>

The debate between Rathbone and Rama Rau, and the parallel contrast between Vaidyanathan and Hutton, reveal how difficult it is to account for the significance of the Indian census by recourse to simple categories of gender or nationality. Rathbone, the British feminist, and Vaidyanathan, the Indian actuary, started from premises that could hardly have been further apart; yet they converged in their impatient disregard for Indian tradition as an obstacle to achieving properly “European” mortality rates. Rama Rau, a passionate advocate of nationalism and women’s rights, had little in common with Hutton, the cautious bureaucrat, but both allowed ample room for custom in charting a time table for reform. At another level, these differences—combined with

39 *Ibid.*, 26, 53, 94, 114. See also Rathbone’s private comment in 1930 revealing her distress regarding “all the wretched little brides who are likely to be sacrificed on the altar of India’s political aspiration during the next few years,” cited in Ramusack, “Women’s Organizations and Social Change: The Age-of-Marriage Issue in India,” in Naomi Black and Ann Baker Cottrell (eds.), *Women and World Change: Equity Issues in Development* (London, 1981), 209.

40 See Mrinalini Sinha, “Reading *Mother India*: Empire, Nation, and the Female Voice,” *Journal of Women’s History*, VI (1994); Dhanvanthi Rama Rau, *An Inheritance* (New York, 1977), 171–172. On the clash between Rama Rau and Rathbone, see Ramusack, “Women’s Organizations and Social Change,” 202–212.

an analysis of the process by which raw numbers are converted into census data—also reveal the inadequacy of concepts like “objectification” to explain the rise of new nation-states. The “objective” charts in the 1931 census appeared to demonstrate conclusively that Indians suffered the fatal consequences of overpopulation and child marriage, and that some amount of social control was needed to reverse the process. But the work that went into patching those charts together was not irrelevant to the wider question of social control: If the numbers themselves could not be trusted, where did that leave the “conclusive” demand for reform?

In the debate about the 1931 census, “modern” values of equality and governmentality vied with “traditional” values that were crucial for Indian nationalism precisely because of their perceived distance from ideologies of the West. Thus emerged the “central contradiction confronting Indian nationalism,” which Sinha has identified in the more general context of women’s rights: “to modernize indigenous society to keep pace with the West while at the same time to avow a unique and distinctive cultural identity for the nation.” This contradiction ran deeply enough to affect what would otherwise have merely been a technical debate about the reliability of Indian age returns. Although the actuaries involved did their best to stay out of political controversy, the very terms of the debate that they conducted led them into a thicket of political questions that were difficult, if not impossible, to answer. How could Britain govern a people who resisted the basic task of being counted? How could British census officials record the Indians’ ages when the state refused to foot the bill for providing more efficient birth and death registration or for teaching Indians how to translate their longevity into “Western” terms? In trying to answer these questions, the census officials came to realize that people, like statistics, could be manipulated—but only within limits. How constraining those limits were, both in the realm of age returns and age-old traditions, was the real question facing anyone who tried to reason from Indian vital statistics to social reform.<sup>41</sup>

41 Sinha, “Reading *Mother India*,” 6.

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