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The Indian Census Dilemma: Investigating Explanations for the Sex Ratio Between 1881 and 1931

A recent revival of interest in India's 'masculine' sex ratios and possible reasons for this very Indian phenomenon continues a long-standing debate. Since the 1840s interested persons have sought to explain the reportedly low proportion of women to men in India compared to Europe (c.f. Kaye, 1853; Walker, 1856; Visaria, 1968; Miller, 1981; Dyson and Moore, 1983). Modern demographers, sociologists and historians have access to enormous amounts of statistical, censal and survey data compiled over the last hundred years. They also possess advanced techniques for hypothesis-testing.But we found to our surprise that there is very little to distinguish recent from earlier conceptions of the issues at stake, the way these should be investigate and the factors principally responsible for the 'masculine' sex ratio. We fund, too, that almost invariant emphasis is placed on 'getting the facts right/and then trying to "explain them although self evidently one needs at theory 'interpretation' in order to know which facts matter and should be selected,.

Our in this paper is to demonstrate that the reasons advanced by generation after generation of scholars and administrators to explain India's deficit o women have hardly changed since 1881-1901 when the debate's parameters were established although social conditions have changed very greatly. Because modern writers seem remarkableably unaware of why they approach the sex ratio problem in the Way they do, we hope this critical scrutiny will stimulate a general reassessment of the assumptions enshrined in the debate and perhaps facility

itate progress towards formulating an alternative approach- Perhaps, too, such an alternative will also be-more attuned to present-day realities in a rapidly changing society.

In any case, the administrators of the early censuses possessed few of the methodological and theoretical advantages of contemporary commentators and were especially lacking in knowledge of Indian society. When they took charge of census operations at 'base camp' in New Delhi or a Presidency station, (Bombay, for example), they were in a position closely analogous jto that of a traveller visiting an alien land, Mapless, the visitor might rely at first on directions he recalls for locating his house and street in his home town, and so he Would extrapolate from these to the place where he was at the moment.
he would discover .he:was lost and might then become very disoriented. Even if be had the good fortune to come across a native map, this would not help him because the names, spatial alignments and local script would be alien. Like our visitor, census officials initially tried to extrapolate thier own experience to the task in hand. Finding this did not work and becoming 'lost' they consequently emphasised the differences between India and Europe, cling* ing meanwhile to their home territory map, which they hoped might help them decipher the'seemingly unintelligible features of the Indian situation. This they then proceeded to do by focussing on the differences between Indian and European sex ratios.

In what follows we use the terms adopted by census reporters in order to convey how these men went about making their map or guide to India's 'masculine' sex ratios. Colourful terms like 'dilemma' that express so vividly how they perceived the phenomenon are theirs, not ours; Dracup and Sorley, for example, used the word 'dilemma' in their 1931 Bombav Presidency Report when comparing sex ratios in the 1921 and 193l,Censuses wıth crude birth and death rates./193J.-:yol. VIII,PtI(BP) : 132). Though some people today might argue/ that such terms are much 'speculations' as the 'explanations' these early writers advanced, we shall retain their word 'explanation' so as to impart tiie census reporters viewpoint

We do not intend in this paper to present our explanation of why the All-India census returns from 1881-1931, as today, persistently recorded low numbers of women compared to men.Rather, we are seeking to unravel the principal parameters of the debate these early reports created in order to demonstrate that modern writers are using the very mappredecessors fashioned.

Enumeration Anxieties

The authors of the early All-India and Bombay Presidency reports especially those published between 1881-1901, were overwhelming preoccupied with the accuracy of the censal returns. Serious-minded IndianCivil Services officers, they

TABLE 1—SEX RATIOS FROM SELECTED CENSUSES 1881-1981

Regionl/State	Population enumerated *in 1981 (000s)*	Sex Ratio (males per 100 females) 1901	1961	1981
South				
Kerala	25,403	99	98	97
Tamil Nadu	48,297	96	101	102
Andhra Pradesh	53,404	101	102	103
Karnataka	37,043	102	104	104
Maharashtra	62,694	102	107	107
North				
Gujarat	33,961	105	106	106
Rajasthan	34,103	110	110	109
Uttar Pradesh	110,858	107	110	113
Madhya Pradesh	52,132	101	105	106
Punjab	16,670	120	117	113
Haryana	12,851	116	116	114
East				
Bihar	69,823	95	101	106
West Bengal	54,486	106	114	110
Orissa	26,272	96	100	102
All India	683,810	103	106	107

SOURCE : Dyson and Moore 1983, p. 38.
Note : The above are district-level sex ratios of the population below age ten, in order to minimize the sex-selective influence of migration.

knew very well the importance New Delhi attached to accurate census data as a rational basis for responsible government (Barrier, 1981 : viii). Concern about the adequacy of the data was especially pronounced in respect to women. Baines and Plowden who respectively wrote the 1881 Bombay Presidency and All-India Reports believed they could not formulate any explanation for the death of

women recorded in census figures (noted as being particularly acute in the northern provinces), until they knew for certain whether or not the 'missing' women were actually present in the population.

In his All-India Report on the 1881 Census, Plowden recalled that the 1865 Census returns for the North-West Provinces indicated a sex ratio of 864 women per 1000 men (1881 : Vol. I, AT : 52). Plowden illustrates how different were the Indian compared to European sex ratio figures at the time. Percentages of men in a hundred of both sexes ran from 48.7 in England and Wales, and 49.0 in Germany to 53.6 in India (1881 : ibid). Closing his examination of the figures for the North-West Provinces in the 1871-72 Census, Plowden argues :

> After a careful study of the facts presented by these provinces, contrasted with those for European countries, I can come to no other conclusion that this, that whatever may be the influence of climate upon the proportion of the sexes, and that such influence do exist we may accept as a fact, the great and abnormal excess of males over females in this country is attributable to the social habits of the people, which, inducing very early marriages, the difference in age between husbands and wives being always relatively greater than in Europe, tend to permit a wider play to the physiological laws which are traced in the influence of the ages of the parents on the sexes of their progency. (1881 : *ibid:* our emphasis)

He concludes that either the disparity between the sexes noted at each successive enumeration in the North-West Provinces was a fact and due mainly to female infanticide and a general disregard of female life, or that it was not wholly or partly a fact but due to concealment, and defective enumeration, of females.

In this regard Plowden is impressed by Surgeon-Major Cornish's campaign prior to the 1881 Census in Madras Presidency to greatly reduce the concealment of women, which administrators believed had marred the effectiveness of the 1871-2 Census. In his Madras Presidency Report of 1872 Cornish argues that he had greatly increased the returns for women by more efficient enumeration and therefore the returned proportions of the sexes should be the litmus test of the general accuracy of censal data (quoted in 1881 : Vol. I, AI : 54). When the sex ratio approaches the European norm then we know enumeration has been systematic and the data adequate, a view point advanced by Baines in respect to the sex returns in Bombay Presidency during the 1871-2 Census (quoted in 1881 : Vol. I, AI : 58-60). Plowden concludes that there is much to be said for this line of argument especially since the 1881 Census records an increased number of women per 1000 men compared to the 1871-2 figures, which is greater than the increase in the figures for men. He notes, however, that physical circumstances connected with marriage, climate and perhaps food i.e. 'social habits') may also be salient factors in determining Indian sex ratios

and need to be investigated (1881 : Vol. I, AI : 77).

Concern over enumeration extended in particular to anxiety about the returns for certain age groups, especially younger women. Even allowing for the change from the ten-yearly age intervals adopted in the previous census to the five-yearly interval used in the 1881 Census, allowing too for the especial impact of famine during 1872-81 on men and the young, Barnes found a 'deficiency' of women in the 12-15 age range and an 'excess' in the 20-24 year old group. These were due, he believed, to an understating of ages on the part of the females counted in the 10 -14 year old category (1881 : Vol. I, BP : 66). Whatever problems these returns posed for reliable life expectancy calculations and estimated mortality rates by sex (both shape sex ratio differentials as does sex at birth), Baines detected a 'deficiency' of women at the ages when child marriage, poor midwifery care, dietary neglect and the like rendered them very susceptible to disease and death.

Although the 1881 and 1891 All-India and Bombay Presidency Reports pay most attention to enumeration matters, the part played by 'sociait habits' (Plowden's phase, See quote above) in shaping differential sex ratios is considered. The 1891 Census recorded a surplus of women over men in the Bengal and Madras Presidencies, and Upper Burma, but the role of social habits in these favourable figures is somewhat obscure since Bengal with the North-West Provinces, Sind and the United Provinces, had returned the highest deficits of women in earliear censuses (and would continue to do so in the future; see Dyson and Moore, 1983).

Accurate Returns

In his Report on the 1891 Census in the Bombay Presidency, Drew reminds us that European sex ratios are assumed to be the norm to which the Indian figures should approximate. He observes :

> (it) has been the fashion to judge the accuracy of the Indian census by the nearness with which the female total approaches that of the males. (1891 : Vol. VII, BP : 29)

This assumption rests on the theory of concealment of women. However, Drew feels that as men travel more, are out of work more, they are more likely to escape enumeration. Drew considers that concealment of women might have been a reason for the very large preponderance of males at the first census, but he feels that errors in enumeration are more often due to faults of the enumerator and those above him and would thus apply to both sexes.

Drew recalls earlier discussions of the inaccuracy of birth and death registration and offers four likely reasons :

(i) absolute omission of persons from enumeration;
(ii) wilful misrepresentation of age (though Drew does not believe this to be as important as it is usually held to be);
(iii) uncertainty on the part of respondents and enumerators, a tendency to round figures off;
(iv) complete ignorance which the enumerator may correct to a great extent if individuals are seen by him, though in the case of those least seen by the enumerator (i.e. women) there will be a greater percentage of error. (1891 : Vol. VII, BP: 51-2).

However, when the Bombay census age results were *tested* in a sample area for accuracy 'the general correctness of the returns is most remarkable' (1891 : Vol. VII, BP : 58). The test did not show that accuracy is more prevalent in respect to one sex or at one age, apart from those recorded as 60 years old and more. The general tendency was to slightly increase ages for males up to thirty years and for females up to 37 years, and to overstate ages thereafter.

Having tested in a sample area the Bombay Presidency census age results for accuracy, Drew then adopts another strategy and reasons out what can be expected; that is,

> the proportion of females to males *at each period* should remain constant for different enumeration, unless there has been a marked change in the habits of the people that would affect one sex only. (1891 : Vol. VII, Pt I, BP : 67; his emphasis)

But he expects a different proportion of the sexes at different age periods, 'because the ages most fatal to life are not the same' (1891 : ibid.).

On the basis of the foregoing rigorous examination of the evidence, Drew concludes that fluctuations in vital registration statistics indicate inaccurate registration is not the sole cause of the unequal sex ratio at birth; here he is in agreement with Baines (1891 : AI : 251). If inaccurate registration were the sole cause, the sex ratio would become less 'masculine* year by year as registration improved. In a word, the inequality of male and female births is a social fact for both Baines and Drew. Female infants, however, are physiologically more robust; so for a few years their numbers increase relatively to male infants (1891 : Vol. VII, Pt I, BP : 73). Thereafter, social habits account for the decline in the numbers of females in the 10-15 age group. Those women who are strong enough to survive are indeed stronger than the men, cohorts of whom gradually decline in numbers from the age of 20 years.

Drew has, to his own satisfaction, validated the accuracy of trends in the census figures (i.e. sex ratios at certain age periods, sex ratios in vital registration statistics), and does not accept that women are concealed more than men

other than one class (unmarried females) in one age group 10-14 years. India's population figures are accepted as different from Europe's. Neverthelss, Drew is more concerned to validate his statistics by logical argument and testing than to offer detailed social or other reasons for why these figures are different.

And, according to figures shown in Table 28 of his Report (1891 : Vol. VII, BP : 67) Drew finds a very great similarity between the Bombay Presidency sex ratios in 1881 and 1891. Only famine districts vary markedly as famine is less deadly to women and more men emigrate at such times. He states, "The probable conclusion would be that by 1881 the true proportions of the two sexes had been reached, and that both that and the 1891 enumeration were as correct for females as for males (1891 : ibid.) at least as regards the Bombay Presidency proper and abutting Native States.

Drew also discusses a breakdown of the sex ratio by religion which tends to support his assessment of the general reliability of the sex ratio figures; that is, comparing Hindu and Moslem sex ratios, the proportions are in very nearly the same serial order through the age periods; so there is nothing to indicate special concealment of women at a particular age. The fall in the sex ratio for the 10-14 year age group is constant and so one can only conclude that ages are misreportcd for this age period or girls are not counted. He feels that any concealment of women is only in the 5-14 age group and for unmarried girls only. Otherwise, it would be difficult to account for the increased returns in the 15-19 and 20-24 year age groups as there is no evidence that women's ages are more incorrectly recorded in these groups that men's (1891 : Vol. VII, Pt I, BP : 71).

'Social Habits' and Social Change

The All-India Report of 1901 by Risley and Gait sets fourth the returns for the first time in the light of economic and social changes that were especially marked in districts linked to the industrialising economies of Bombay and Calcutta. From 1891 India entered an era of great industrial development (1901 : Vol. I, Pt I, AI : 86), a feature that is also emphasised by Gait in his All-India Report for 1911. Notwithstanding these trends famine still dogged people's lives; in the Bombay Presidency, it was estimated that the population decreased by 1.5 million during 1891-1901 due to frequent outbreaks of famine and plague (1901 : Vol. IX, Pt I, BP ; 2-3).

Regarding sex ratios, discrepancies between provinces and states were again noted (see Table 2) as were strikingly low returns for women, especially those in the 10-15 years old age group. There had however generally been a continuation of the gradual improvement in sex ratios recorded since 1881 (as shown in Table 3).

Risley and Gait assign the low returns for women at the 10-15 year age group firstly to inaccurate enumeration which helps account for the excess of females

TABLE 2—SELECTED SEX RATIOS BY PROVINCE AND STATE, 1901

Province, State	Number of Females to 1,000 Males in Actual Population		
	1901	1891	1881
India	963	958	954
Central Provinces	1031	996	982
Madras	1025	1020	1020
N-W Province and Punjab	852	851	843
United Provinces	937	930	925

SOURCE : From Subsidiary Tbl 1, 1901 : Vol. 1, Pt I (AI): 123.

TABLE 3—SEX RATIOS BY AGE CATEGORY (ALL INDIA)

Age Category	Sex Ratio (Number of females per WOO males)	
	1891	1901
0 - 4	1038	1028
5 -10	936	955
10-15	795	824
15-20	930	929
20-25	1071	1092
25-30	989	980
Total S. R,	958	963

SOURCE : From Subsidiary Tbl II, 1901 : Vol. I, Pt I (AI): 124.

in the 0-5 and 20-25 year age groups. Whereas unmarried females understate their age, married girls 10-15 years old commonly overstate their ages. Secondly, they point to increased mortality among females at puberty 'owing to functional derangement at this age and the evil effects of premature child-bearing' (1901 : Vol. I, Pt I, AI : 110-11). Thus, they emphasise both inaccuracy of data and the significance of social conditions.

Gait returns to the latter factor in his All-India Report of 1911. Whereas between 1891 and 1901 an 'improvement* in the proportion of women in the population was recorded, between 1901 and 1911 the ratio had again fallen to 954. This Gait attributes largely to the higher mortality of males during famines

which were severe in the decade 1891-1901 and less so by 1911 because of a more effective organisation of famine relief; while the plagues and epidemics of the decade of 1911 took a heavier toll of women (1911 : Vol. I, Ft I, AI: 211-12). To the impact of these disasters on the distribution of the sexes by age is added migration, increasingly important in an era of industrial change, public works projects and rail-road construction, commercial growth and increased wages (1911 : Vol. I, Pt I, AI: 57-8, 65 ff.). Gait states soberly :

> It follows from what has been said above that, in tracts where famine occurs periodically, there can be no such thing as a truly normal decade. The age constitution is changing constantly. (1911 : Vol. I, Pt I, AI : 151).

The Actuary, however, adopts the view that whatever the social conditions the age data are virtually useless. Ackland contrasts the accuracy of figures from European countries with the Indian data that are subject to 'characteristic peculiarities and anomalies' (1911 : Vol. I, Pt I, AI : 154). The peculiarities due to defective data are progressively diminishing but those arising from error or misstatements of age are not: people are especially prone to underestimate the age of women 9-14 years but to overstate the ages of those aged 15-19 years as well as the ages of both sexes after middle life. Ackland concludes that the age distribution in certain provinces is entirely untrustworthy. He says :

> any elaborate and detailed investigation of the female data, as recorded, would not be worth the trouble taken in making it, and would not be likely to produce results which could be considered as even approximately accurate. ... I have therefore adopted the plan, following previous Censuses, of taking the adjusted male numbers living as a baseline ... (1911 : Vol. I, Pt I, AI: 163-4; our emphasis)

Ackland does not take too much notice of variation in mortality rates in particular provinces or age groups but points to a well-marked and unmistakeable trend of higher female mortality rates in early years and after middle life, with lower female mortality rates in the intermediate years. But the anomalies in the female figures cannot be completely attributed to social habits nor to inaccurate age returns and variations in female as compared to male mortality rates. Rather, he considers the data do not allow for any definite conclusion.

Thus, from the Actuary's viewpoint the unreliability of the Indian figures is still a headache. What the Actuary is required to do has to be accomplished, when using Indian figures, by using a good deal of estimation and statistical rounding. The exercise, for Ackland, verges on the pointless.

Though Gait considers that for social reasons women's ages are inaccurately reported, he does not believe that enumeration is especially defective with

regard to women, if only because he cannot accept that $13^{1/2}$ million women (the number required to adjust the sex ratio to Western European standards) or any appreciable proportion of them, could be omitted. He cites as supporting evidence the fact that the deficiency of women between 10 to 20 years also occurs in provinces like Madras, where females outnumber males to a greater extent than in many countries of Western Europe, as well as in provinces where they are generally in deficit (1911 : Vol. I, Pt I, AI : 210-211). Gait concludes:

> The truth seems to be that the proportion of the sexes is never constant. Changes similar to those which have taken place in India occur also in Europe . . . Some conditions are more adverse to females and others to males; and the relative mortality varies accordingly . . . (1911: Vol. I, Pt I, AI: 212)

As in Western Europe, so in India, more males are born and in both continents there are marked local variations : *'every area under registration in India has its counterpart in Europe'* (1911 : Vol. I, Pt I, AI : 214; our emphasis).

Among possible reasons cited by Gait for the masculine sex ratio are these :

(i) desire for sons (especially among Rajputs);
(ii) abortion or infanticide or now, neglect, of female offspring;
(iii) early marriage and unskilful midwifery leading to excessive mortality among young mothers;
(iv) excessive hard work among the lower castes. This latter factor does not generally affect mortality rates, but conditions for upper caste women, who are locked away, makes them more susceptible to tuberculosis and similar diseases. (1911 : Vol. I, Pt I, AI : 215).

As before, Gait is disinclined to accept any one reason as being responsible for India's sex ratio but favours a combination of inaccuracy/mis-statement and social and material factors that make for ever changing sex ratios and mortality rates. This is not a very different picture from that of Western Europe, just that the conditions producing the changes vary from continent to continent. The Indian figures to Gait, then, are by 1911 not so problematical all.

The authors of the 1911 Bombay Presidency Report, though, think differently. To Mead and Macgregor there is still a dilemma which they cannot explain fully. The causes of male numerical predominance raised in earlier Census Reports are all accepted as having some influence to varying degrees but they are not convinced that they can pin-point empirically sound reasons for Indian sex ratios. There are too many anomalies among different castes, religions and regions.

From relatively normal conditions in 1917 there ensured during the following year a disastrous influenza epidemic and famine. After a second major

famine in 1920 the country as a whole entered a more prosperous period; improved medical care and public health measures eased pressure on mortality, though economic depression set in by the late 'twenties. Marten, the author of the 1921 All-India Report, lucidly states the way demographic indices reflect patterns of social stability and change enshrined in the social history and social institutions of India's various regions. He argues,'The Indian figures are the result of factors which differ essentially from those in Western countries' (1921 : Vol. I, Pt I, AI: 134); that is to say, higher birth rates are tempered by higher infant death rates, a lower expectation of life and greater fluctuations in the adult age categories owing to famine and epidemics. 'Each province probably has a more or less distinctive standard—the result of regional or racial influences—which persists through the change' [brought about by famines and epidemics] (1921 : ibid.). For Marten, then, India has legitimately different population figures to Western countries due not only to social factors but also to the material conditions of life there. He acknowledges, too, that there is a *non-global' Indian picture; in other words, regional differences are accurately recorded and are distinctive.

On the question of sex ratios the same acceptance of the individuality of the Indian figures is shown. Marten believes critics had impugned the accuracy of Indian statistics because the excess of males over females was in contrast to the Western European case. However, in actual fact the excess of women is more or less confined to certain countries of Western Europe, where it is largely due to migration and that 'the case is otherwise in Eastern Europe and in other parts of the world from which the figures of India do not greatly differ' (1921 : Vol. I, Pt I, AI: 140). If errors are the cause of the masculine sex ratio this should decrease at every census with the improvements in enumeration. But the sex ratio has actually risen in men's favour since 1901. He concludes :

> It may be accepted that the return of sex is on the whole accurate and that the proportions given represent the existing facts within the margin of error applicable to enumeration in general. (1921 : Vol. I, Pt I, AI: 141)

Considering the sex ratio further, Marten explores changes in the figures both from census to census (i.e. over time) and in different regions (i.e. through Space). First, since 1901 the proportion of female to all deaths has increased because famine, the major periodic male killer, has been curtailed by the perfection of famine relief. Secondly, the regional distribution of the sexes for the 1921 census conforms with that of previous censuses. Regions in which 'Mongolian' and 'Dravidan' race elements are strongest (i.e. Burma, Southern and Central India) have a sex ratio at birth more favourable to females than the 'Aryan-Semitic' regions of North and North-Western India. Finally, the sex ratio has become more markedly 'masculine' over the last twenty years throughout

India. Birth statistics suggest the female proportion born declined if anything, especially in the previous five years. This trend is attributed (as in the 1911 All-India Report) to the decline in famine mortality affecting males and to heavy female mortality due to plague and flu epidemics (1921 : Vol. I, Pt I, AI: 143-8).

Marten's Report sets the tone for a new phase in the sex ratio debate. His emphasis is on Indian changes and what is revealed not only about Indian, unalteriog, social and material characteristics, but more significantly, about changes in the sex ratio and age distribution that show what is happening to India at any period. Sex ratios, then, reflect the nature and extent of social changes, the effects of relief works, epidemics, and so forth. India is viewed now in another framework than the Western European. In so far as India is India and is unique, her statistics are totally acceptable and do not requite justifying.

Marten himself is unconcerned about his commitment to the view that Indian demographic measurements should be assessed in the light of the Indian and not the European situation. His approach implies priority should be given to interpreting dynamically the figures attached to demographic categories rather than viewing them as static verities forever tacked onto a Euro-centric norm. Others, however, are less saaguine because they are *still* concerned about the reliability of the Indian figures.

The Appeal to 'Universal' Reasons

Reporting on the 1921 Census in Bombay Presidency, Sedgwick notes some people evinced scepticism about the returns, saying the Census roust be incomplete (1921 : Vol. VIII, Pt I, BP: iii-v). The 'subsidiary evidence' points, though, to the conclusion that omissions were not proportionately more numerous than in previous censuses. Explaining what he means by 'subsidiary evidence* Sedgwicfc invites his readers to ascertain for themselves whether or not the figures are reliable by 'finding whether they show rational changes from Census to Census (1921 : *ibid.).* This method of evaluation is far preferable to actuarial reports which conjure up tables based on age charts that are 'pure abstractions' fit 'only for the use of insurance companies' (1921 ; Vol. VIII, Pt I, BP: 83). Furthermore Sedgwick claims there are advantages in using and comparing uncorrected figures, though he himself does not actually do so systematically. Looking at the uncorrected returns for women he feels the 'deficit', which is especially pronounced in the 15-20 age group, springs partly from concealment of women and overstatement of their ages. By way of comparison the 'deficit' of males, especially in the 20-25 year old group, is due to understatement of age on the part of males aged 15-20 years while males aged 25 years and more overstate their age. In passing, Sedgwick notes males wish to avoid being categorised as youths and to be accepted as aduit men 'possibly in accordance with

the natural inclinations of Indian village life* (1921: Vol. VIII, Pt I, BP: 89-90).

Though Sedgwick gives some credence to social habits, he shares with his predecessors, Plowden and Baines, considerable concern for the accuracy of censal data, Sedgwick is especially preoccupied with the accuracy of the age returns by sex and thus proposes to distinguish categories of 'errors' with a view to shifting out the more 'serious' from the less 'serious' errors. Presumably this ingenious device was intended to assist the readers (e.g. Indian Civil Service officers heading departments in the states and New Delhi) formulate policies soundly based in demographic reality. Sedgwick itemises 'unknown errors'—these indicate that the data are probably wrong but we do not know in what way or why; 'compensatory errors'—e.g. the numbers of men recorded as women tend to compensate for women recorded as men; and 'cumulative' or 'non compensatory errors'—these include incidents when, for example, persons inform the enumerator they are Rajputs but are not actually Rajputs (1921 : Vol. VIII, Pt I, BP : iv-v).

In the attention he gives to enumeration problems compared to the role o social habits in shaping the 'deficiency' of women in the population, we see Sedgwick struggling to decide where to allocate explanatory priority. Enumeration problems are discussed in detail, as are social habits. In the latter respect Sedgwick is sufficiently modern that he can see there are many ways in which India is just different from Europe and that these social-cultural differences influence the distribution of the sexes by age as well as mortality and birth rates and thus the sex ratio. Sedgwick thus adopts what amounts to a culturally relative position in this regard and argues that rather than assuming India is an exception it is, as was pointed out in the 1911 All-India Report, the surplus of Western European women which is exceptional (1921: Vol. VIII, Pt I, BP: 102). And yet Sedgwick is dissatisfied, not quite convinced that India is the norm and Western Europe the exception, so he tries to resolve his explanatory dilemma by appealing to racial (i.e. universal) reasons for the demographic inequality of the sexes. Social habits and enumerations! defects recede into an explanatory backwater and are replaced by God-decreed forces, racial myths reciting the influence of climate, seasonal shifts, pigmentation and genetic factors on sex at birth (1921 : Vol. VIII, Pt I, BP : 103-6). Universal factors had figured prominently in early census reports. We have already emphasised the importance these early writers (visitors to an alien land) had attached to the European norm (the visitor's home territory 'map') in defining what should be the 'normal sex ratio in India. And here we find Sedgwick in 1921 returning to Europe to find a solution to his dilemma.

The tendency to highlight racial reasons for India's 'masculine1 sex ratio is even more evident in the All-India and Bombay Presidency Reports for 1931. Hutton, the author of the 1931 All-India Report, believes climatic factors and early cohabitation result in more male than female babies being born (1931 :

Vol. I, Pt I, AI: 195-8). Button is also convinced that racially and caste in-bred populations produce more males (1931 : *ibid.).* But he observes that in one or two districts a steady rise in the age of marriage due to improved education for females and a gradual displacement of 'primitive' methods of midwifery by 'modern and scientific methods', has brought about a decline in mortality rates among young mothers. In Cochin State, for instance, 'The gradual rise in the sex ratio is but the natural outcome of these improved conditions' (1931 : Vol. I, Pt I, AI: 202). (By 'rise' is meant an increase in the numbers of women per 1000 men.) The authors of the 1931 Bombay Presidency Report, too, argue that although the sex ratio continues to become more 'masculine' it is unlikely the sex ratio can fall below a certain minimum, but this will be reached when female numbers have declined so as to make it impossible 'for the stabilised sex-distribution to continue' (1931 : Vol. VIII, Pt I, BP : 137).

And yet in neither Report do we find the air of confidence that exudes from the pages of Marten's 1921 All-India Report. Dracup and Sorley, the authors of the 1931 Bombay Presidency Report, see all too clearly, as does Hutton, that the reasons reported over the decades believed accounted for India's dearth of women (and which we have categorised in our sub-headings as 'social habits', 'enumeration anxieties', 'universal reasons'), do not amount to either logically sound sociologically convincing explanations. Dracup and Sorley, for example, write of the need for 'remedies' to ameliorate what they call the 'dilemma' of India's uneven sex ratios (1931 : Vol. VIII, Pt I, BP : 132-4). Hutton writes as if aware he has little choice than to reiterate concern for accuracy *and* the need to attend to local conditions in accounting for the lack of women *and* the influential role of racial factors in giving rise to a very 'masculine' sex ratio at birth. Is Hutton, then, the first 'contemporary' contributor to the sex ratio debate?

Fall Circle

With the 1931 census reports we seem to have come full circle, back to the debate's initial point of departure in the propositions of Plowden, Baines and Cornish. In all of this the 1921 All-India Report stands out as representing a watershed : for in it Marten sees no need to substantiate his acceptance of the Indian situation as a fact no different in status from that of other countries. Is the Report by Marten and to some extent those of Drew (1893) and Gait *(1911)* before him an attempt to break the vicious circle, to abandon the census dilemma by insisting it was not one, and to embark on creating a new approach to these phenomena? Whatever the case, it is significant that Marten sees sex ratios as indicative of social and cultural changes in a population, not merely as expressing the determining role of specified 'habits' in accounting for the distribution of the population by sex and age. His position, then, is close to that of the substantivists or cultural relativists in other areas of enquiry of the social sciences,

whereas that of Hutton resembles the line of reasoning of the universalistically-inclined and Euro-centric formalists.

By 1921 the boundaries of the sex ratio debate have been fully drawn; thence-forth there will be no innovations of significance, as is amply evident in the 1931 reports, although Indian society continues to change. After 1921 no commentator will need to extrapolate from personal experience to guide himself through an unknown territory : *this* domain of enquiry is now fully charted and only one 'map', which goes through successive (decennial) editions, will be given out to the curious minded. The pull between Euro-centric perspectives and indigenous practices, between reasons we have categorised as universal and particular is embeded in the 'map's' centre—in the reasons advanced decennially in one report after another for India's deficit of women.

Central to this oscillating attention to factors identified by the writers as social habits, defective data, and racial factors, is a political fact that government organises censuses which are *its* tool for achieving a more efficient administration of resources and people. During the last part of the nineteenth century government required reliable census data on the physical distribution, social and religious composition and numerical size of the population in order to improve tax collection, prepare for military conscription and allocate elementary social services. Later, after the 1930s, political parties and regional factions increasingly used censal data for their immediate and highly political ends (Jones, 1981 : 73fT). Thereafter mensurational data are increasingly perceived as tools sectional groups can apply for political purposes. This is a new, more modern aspect of censal data which the early census administrators had believed should inform government about social developments and were to be interpreted in the light of a European norm. Later, in 1921, Marten understood that such data indicate the kind of changes taking place in Indian communities, changes that are uomistakeably Indian and should be interpreted in respect to Indian and not European practices.

Whatever the uses to which censal returns are put, the central thrust and parameters of the reasons advanced for India's 'masculine* sex ratio remained unchanged, as they do today. Dyson and Moore (1983 : 35) for example, offer a 'sociological model' of disparities in the sex ratio returns over the last hundred years between northern and southern India. Then Visaria (1968 : 24), and Miller (1981 : 165-8, 173), underscore the explanatory significance of social factors like diverging economic and kinship structures between north and south India but consider that definitional problems and under enumeration still constitute reasons for the deficiency of women in, for example, the 15-19 year old group, a deficiency which continues unchanged in contemporary census returns (Miller, 1981 : 171-3). Likewise Barrier (1981 : x-xi) stresses how distortions of data, and findings based on that data, affected the utility of the census for policy-makers and scholars researching aspects of Indian history. Schwartzberg

(1981 : 54) finds that the economic data on females are 'far more questionable than the corresponding data for males' so when making comparisons based on the census one should 'make those comparisons for the male population only', a device used from the earliest Census (see 1911 : Vol. I, Pt I, AI: 163-4) and which we have already discussed. Universal factors, too, still have a place in the contemporary debate; Miller (1980 : 102-3; 1981 : 159), and Dyson and Moore (1983 ; 47), clearly consider that genetic and climatic factors related to race play their part in reproducing a dearth of women in northern Indian communities.

Central to the debate today, as in the past—and to the emphasis ascribed by various writers to particular, local factors compared to universal conditions in shaping India's 'masculine' sex ratio—is the contradiction between two discourses. It is this contradiction, we believe, which explains why writers emphasise the role now of universal, now of particular factors. Experience suggests that the indigenous discourse, represented in the debate as "social habits', would be subordinated to the pretensions of imperialising thought which renders the individually unique to be no more than a manifestation of some universal entity or force. Still, one can attempt to avoid this by arguing, as some census reporters did, that the Indian sex ratios are Indian and have to be evaluated in the light of those historical and social contexts within which they function. This line of reasoning seems to get one off the horns of the sex ratio dilemma because invidious comparison between Indian and European figures is obviated when one insists on the importance of looking at the figures from an Indian perspective and thus paying attention to regional and sub-regional variations (vide Dyson and Moore 1983). But the All-India figures then become the norm, the universal standard against which trends similar to and different from the norm are evaluated. In this respect there is little to differentiate the arguments of Dyson and Moore, and Miller, from those of their predecessors Marten and Drew, authors of the 1921 All-India and 1891 Bombay Presidency Reports respectively, whose ideas we presented earlier. All are imprisoned within the debate's parameters, and arc committed willy-nilly to accounting fora dilemma.

Attempts to re-arrange the main pieces of the sex ratio puzzle in the light of current cross-disciplinary fads may diminish, but logically cannot eliminate, the discrepancy between Euro-centric, universalising thought, symbolised here through demographic categories and systems of notation, and indigenous traditions which are represented in the census reports by means of culturally relative categories like social habits. Evidently it is the tension between these discourses which reproduces the parameters of the debate and keeps generations of commentators travelling along the same track notwithstanding great changes in Indian society.

But keeping to the same track should not be interpreted to mean there is harmony between the discourses and the political regimes they signify. There

was, and will be, conflict until one of the two, the indigenous, is not just subordinated (that happened several generations ago), but more relevant today, is assimilated by the categories and values of a universalising process. Indeed, those who believe that contemporary writings on the matter 'solve* the puzzle are unwittingly helping to bring about just such an assimilation.

Modern writers and their predecessors write *explicitly* of the variety of factors and social conditions involved in shaping India's uneven sex ratio; today's commentators, in particular, state they are dealing with a complex and changing situation. But their findings about sex ratio disparities indicate these are basically unchanging. Is this discrepancy related to the fact that writers, today and yesterday, assume *implicitly* their real goal is to find a 'complete' explanation, i.e. one that is logically *and* sociologically satisfactory (Cf. Dyson and Moore, 1983 : 35)? Certainly it is when neither one type of factor (i.e. social habits), nor a combination of all three kinds of factors identified by ourselves, appear to generate a viable explanation that we detect signs of frustration. Authors vent this frustration by invoking god-decreed (i.e. racial) forces or by endlessly quibbling about the accuracy of the data.

It would seem that aiming for a complete explanation is ultimately counterproductive because to do so is to deny that alternative explanations and discourses exist and to deny, too, that 'masculine' sex ratios exist. For a 'complete' explanation reduces the phenomenon being investigated to other phenomena. Surely, as Poincare suggests, it is as logical to consider several explanations as one; each does different things and each is logically as relevant as the other in accounting for a phenomenon (Devereux, 1939 : 315). Perhaps, then, we should critically consider the logic at work in the sex ratio debate and marshall this logic against other logics. Accordingly a 'masculine' sex ratio could be interpreted in several ways and the terms of the debate or debates would vary as well.

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