The Historical Demography of Latin America: Sources, Techniques, Controversies, Yields

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What is distinctive in historical-demographic studies of Latin America is a difference which Latin America shares with areas like sub-Saharan Africa, namely, that history can be held to begin only with European recording. In Latin America prehistory thus comes at least to 1492 and in many regions into the eighteenth or even nineteenth centuries. Periods are considerably different from those of Europe, and techniques and conceptions that for Europe and the Middle East would be applied only to human occupations millennia old must be applied in Latin America to fairly recent ones. Since it is the advent of the Europeans that makes the first and perhaps most conspicuous difference, we are brought to a division into periods that is different from that used for Europe: prehistoric, protohistoric, and first European contact. To these follow two periods that parallel European experience: the eras of protostatistical recording and of systematic gathering of statistics.

There is little work that covers all or most of these periods in a single study. Attempts to estimate world population at various points in time do include all of America, and give global estimates for America, sometimes with some kind of regional breakdown. For the end of the eighteenth century and later, they are based upon reporting that gives a reasonable basis for global figures; for earlier periods, they are more apt to be based upon simple speculation or some theory of symmetry. The one study, which does cover Latin America from 1492 to roughly the present is Angel Rosenblat's attempt to estimate the Indian population and other racial components for all of America in 1492, 1570, 1650, 1800, and 1940. His estimates are much challenged at both ends of the time span: for the earliest point because of discarding so much testimony and pushing figures sharply downward; for the latest point because of the inherent difficulty, after centuries of steady interbreeding, in assigning any validity to racial groupings in census counts. Most demographic studies of Latin America have tended to cluster at the two ends of Rosenblat's time span. Anthropological, geographical, and historical studies have tended to concentrate upon the question of numbers at the time of European entrance into the New World. The discussion has seldom gotten beyond estimates of numbers. Straight demographic study of Latin America, as of Europe and the United States, has tended to analyze the most recent censuses and compendia of vital statistics. Its aim has been to know the present and predict the future; historical inquiry is seldom part of the plan.

Regional studies have tended to follow the same pattern, and are in addition extraordinarily fragmentary and scattered. Most have tended to be a chapter or a few paragraphs in a more general historical essay. There are, however, two notable regional works that are both histories of population from the sixteenth to the twentieth century and illuminating guides to sources. They are Rodolfo Barón Castro on the population of El Salvador and Nicolás Besio Moreno on the population of Buenos Aires, the latter attempting to arrive at estimates for crude birth, marriage, and death rates as well as mere numbers. Most recently, there has appeared a survey of materials and historico-demographic work for Argentina (Sánchez-Albornoz and Torrado), which is a model of the kind of guides we need but badly lack for other countries.

1. The Prehistoric Eras

Prehistory may be defined as the long corridors of time that stretch from the earliest entrance of man into America until just before European-brought disturbances, direct and indirect, began to alter Indian culture and population. The span of time is at the very least fifteen to twenty thousand years, is often stated as thirty to fifty thousand, and may well be more, for the tendency of study in past decades has been to give greater antiquity to man's presence in America. Professor MacNeish's studies and his paper in this

symposium give an excellent idea of the long stretch of time and the range of cultures. Understandably, most studies of prehistoric populations tend to concentrate upon the eras of sedentary and denser settlement, that is, since the beginning of the first millennium B.C. Estimates of prehistoric population in America are based essentially upon examinations of the nature and extent of human occupation and land use. The techniques and conceptions brought to the study are drawn from a wide range of fields: anthropology and especially archaeology in its widest sense; geology and stratigraphic analysis; geography with its attention to climate, soils, land forms, land use, and erosian; botany and zoology, with their attention to complexes of biota and changes in them; and even chemistry. On the basis of techniques used, scholars working on prehistoric human population in America may be divided very roughly into two groups. On the one hand, are the biogeographers and palaeobiologists; on the other hand are the anthropologists and archaeologists. We may indicate briefly the techniques of both groups in a listing of kinds of problems and conceptions used to arrive at estimates of human population:

a) Studies of complexes of biota and changes in them. Central to what one might call succession studies is the conception that complexes of plants and animals will tend to reach certain compositions of species in given conditions of soil and climate, and that certain kinds of failure to do so, or changes in the complexes, indicate disturbance by man. At best, the scholar can judge the technology and even the relative density of the human use of the soil and biota that sets up the kind of disturbance found.

b) Archaeological techniques and approaches. These include: 1) estimates based upon measurements of sites, counts of houses, and their size; 2) estimates from labor needed to erect monuments or to provide surplus; 3) studies based upon stratigraphic analysis; 4) determination of density and nature of human occupation through chemical analysis; 5) determinations of technology and diet.

c) Estimates by geographers based upon studies of resources and technology. Geographers in particular give special emphasis to the study of food resources available within a given area with its special land forms, soils, and climate, due attention being given to the prevailing technology and probably levels of consumption. An estimate of population may be made through these considerations in one of two terms, either (1) at a density that is found to exist by studying what are presumed to be similar populations at the present day or at a time when records give us reasonably firm statements of numbers, or (2) on the theory that human population will tend over time to build up to and even pass the available food supply. Perhaps the most illustrative series of estimates by a geographer, basically at densities for similar populations at the present day, is by Karl Sapper for the population of the New World just before the beginning of European disturbance.

2. Protohistoric Population

Protohistoric populations in America may be defined as those Indian groups which underwent change through European influences that reached them through other Indian tribes or through perhaps unrecorded, perhaps fairly infrequest European landings, incursions, and explorations. The concept of a protohistoric period postulates the possibility and even probability that massive alteration of population took place once Europeans appeared in America even if only as traders or casual explorers, and that epidemics, territorial pressures and reshufflings, and changes in technology set loose by the Europeans travelled far in advance of their actual presence. The meaning of the

concept is not that scholars can estimate population for a protohistoric population, or that there are special techniques appropriate to such a period, but rather that the first recorded European statements on Indian populations must be looked at in terms of this concept. At issue is the validity of many statements, admittedly the earliest on number, as the basis for estimates of number and decisions on the nature of society and technology for Indians in many regions of America as undisturbed prehistoric or pre-Columbian populations, climax populations if one may use the phrase. Thus our earliest evidence on Indian number for the Mojos region is of 1680 although European expeditions had penetrated the region and there had been a good deal of intercourse with Europeans during the century previous. Even for the Inca empire our surviving reports of the last Inca counts of population do not give us an undisturbed people since the counts were made after a massive European epidemic of European origin had devastated the empire. The concept of protohistoric period places in issue most of the attempts to estimate the pre-Columbian population of temperate North America, especially by Mooney and Kroeber, and those for large parts of Latin America.

3. Period of Initial European Contact

The first years in which Europeans met Indian populations previously isolated from Old World influences varied, of course, from region to region throughout America. That the contact, whether in the form of conquest, warfare, or merely exploration and trade, set up rapid and far-reaching changes in Indian societies is, on the whole, agreed. On the other hand, whether those far-reaching changes were reflected in equally far-reaching changes in Indian numbers, initially at least in massive decline, is hotly debated. The evidence and the methods of analysis are subject to much dispute as to credibility and validity. The kinds of evidence that become available with the beginning of European contact vary greatly with region and with time. The major addition, of course, is written material, historical evidence in the classical sense of the term. Written materials are far more abundant, in general, for the regions of dense, sedentary Indian occupation, especially wherever in succeeding centuries enough Indian population was present to support a substantial European upper class.

Historical materials include: 1) descriptions and estimates by Europeans; 2) native statements of number; 3) fiscal materials; 4) missionary and church reports; 5) later recording of native tradition; memories of first European explorers, conquerors, and missionaries; and searching of native resources.

The mere existence of historical materials seems to increase rather than solve controversy. In general, the testimony of European firstcomers, fiscal evidence, missionary and church reporting, and native testimony and tradition indicate figures which are very much higher than the population in later years. The tendency of many scholars has been to reject such evidence. Of a piece with the attitude of many scholars are two more rules of thumb of considerable currency today, namely, 1) that all European explorers upon coming into contact with other peoples over-estimate their numbers, usually by substantial margins, and 2) that since sixteenth and seventeenth century Europeans were characterized by a relative lack of statistical sophistication, they could not count large numbers or handle fairly complex governmental administration and finance with reasonable accuracy.

The challenges to the validity of all historical material on early native numbers do not go unanswered. Other scholars point out that the idea

of universal exaggeration demands such unanimity cutting across all animosity and partisan affiliation and across generations and regions that credence in the reporting requires less faith than does disbelief. Furthermore, whatever their lack of sophistication in our kinds of statistics, Europeans of the sixteenth and seventeenth centuries were able to conduct business and government so that they can hardly be accused with any justice of not being able to count. It is absurd to think that a tribute assessment at the time it was made meant merely a hyperbolic desire for delivery and that the justice setting amounts and times and the official or encomendero supposed to receive payment did not expect delivery of the items in the quantities and at the times specified.

The differences in approach to the materials on Indian numbers at the close of the fifteenth century, say on the eve of the coming of the Europeans, show up very quickly in the range of estimates for America as a whole. The highest has been 300 millions; the lowest, 8.4 millions. In our century, when one might expect that more careful study might moderate the divergence, it has been brought down at its upper limit to perhaps 100 millions but remains the same at the lower limit. A brief review of the more serious estimates in this century will give some idea of the differences of opinion. Spinden, who knew the Mayan area well, postulated 40-50 millions for all of America in 1492 and a peak of 50-75 millions around the year 1200 A.D. Rivet in 1924 arrived at a similar figure of 40-50 millions for 1492, but after very considerable criticism of his estimate, reduced it in 1952 to 15.5 millions. Two of the most impressive and careful statements were by the famous German scholar, Karl Sapper. In 1924, on the basis of technology, resources, and comparative examination of extent and densities of human occupation, he estimated 40-60 millions for 1492, of whom 12-15 millions were in Mexico, an equal number in the Andean area, and 5-6 millions in Central America. In 1935, under the impact of Kroeber's and Mooney's calculations for temperate North America, Sapper dropped all estimates for temperate North and South America, on the admission that he knew little about either, and carefully reexamined his calculations for tropical America. He shaved down his estimates for most regions and drastically reduced his figure for the West Indies, but nevertheless, arrived at a calculation of 31 millions. The lowest estimates came in the 1930's. Kroeber, who knew temperate North America well, revised calculations for temperate North America by James Mooney and added rough calculations of density of settlement to arrive at a total of 8.4 millions, with Meso-America and the Incan empire each assigned 3.0 millions. In a thoughtful discussion, Kroeber pointed out that there was little evidence for any decision, that accordingly he deliberately had chosen low estimates, and invited careful regional study that might provide better answers. At approximately the same time Angel Rosenblat prepared his study. His estimate for all of America in 1492 is 13.385 millions. More recently, as detailed regional study has tended to support higher estimates, new estimates for America as a whole have exceeded the higher figures postulated early in this century. In 1962, in an admittedly hasty and general estimate extending proportions based on central Mexico to the rest of America, I suggested that we might well find in the end that the population in 1492 was upwards of 100 millions. The anthropologist, Henry Dobyns, applying an average proportion of decline for populations that did survive, has recently come to an estimate of 90-112 millions.

Certain conceptions and kinds of methods ought to be mentioned, either because they give rise to considerable objection or because they offer new techniques of analysis that in the end will furnish sounder means of arriving at estimates:

a) Estimates derived by application of data on density of occupation for one region to estimates for another. If technology, resources, and kind

of occupation are similar in the two regions, the method would seem valid. The major use of the method to date, however, has been to apply conceptions and data derived from study of temperate North America to Latin America. Another application of the method is a kind of good neighbor policy in historical demography which automatically accords approximately equal postulated populations for the sedentary Indians of either Meso-America or Mexico and those of the Inca empire. Such application would seem to require further study.

b) Examination of data with attention to the ideas of protohistory and a European-induced pandemic.

c) The treatment of numerical statements which seem accurate but are not complete. For areas such as Meso-America, where European occupation occurred simultaneously with first European contact, there are available fairly early counts of a fiscal nature that are usually conceded to be of reasonable accuracy. The problem with finding total population on the basis of such a document lies in the varied categories used to enumerate the population (tributaries, heads of families, total persons, persons over three or four years of age), the exclusion of classes exempt from tribute, and the failure to achieve complete territorial coverage. The necessary adjustments to arrive at an estimate of total population are complicated and give rise to substantial objection at virtually all points. The problems here are closely parallel to those of European demographic history.

d) Use of the bi-chronic method. Since so much of the documentary evidence is fragmentary, arriving at an estimate for the entire area under study requires use of proportion, that is, applying the proportion that the area for which evidence is available bore to the remainder of the region at the nearest time or times for which there is fuller coverage.

e) Extrapolation from later counts. This category has within it the ironic fact that extrapolation is used both by advocates of high and low estimates but very differently. Rosenblat's low estimates of population for 1492 are based mostly upon a compilation of the population of Spanish America formed in the early 1570's by the Spanish royal cosmographer-general, Juan López de Velasco. Rosenblat has projected these figures backward with slight adjustment to 1492. Another and quite different use of calculation from later counts has been made in recent years by finding pairs of counts of town populations, one count being earlier and the other later. The scholar can compute the coefficient of change from one count to the other for each town and arrive at an average for the region. If the data available constitute a reasonable and unbiased sample as to number of towns, territorial coverage, and temporal coverage, the coefficient is applicable to the entire region. It is applicable, moreover, to the time span in which evidence indicates that the same trend obtained, and may be used for calculation of total population at any point in the period of that trend from a single good fix on total number such as the central Mexican tribute counts of the 1560's. The method has great usefulness in settling questions over interpretation of social systems, extent of exemptions, and so forth when what is at issue is a change in the fiscal system, for coefficients of change can be calculated by examining separately each term of years in which the fiscal system used a uniform system. (One can calculate on change in quantity of tribute assessed as well as counts of people.)

In the past thirty-five years careful regional studies have begun to supply detailed examination of evidence. One might mention for the northwest of Mexico and for California, the studies of Sauer, Cook, and Aschmann; for central Mexico, the studies of Sauer, Cook, Simpson, and Borah; for Yucatan, a

number including the recent paper by J. Eric Thompson; for Colombia, the work of Juan Friede; and for the Amazon basin, the studies of William Denevan. For Peru, the publication of much new material, especially on the provinces of Chucuito and Huanuco, is making available by far the most detailed and inclusive reporting, which can be the basis for historical-demographic study going far beyond mere determination of total number of persons. Clearly most of the work using substantial masses of historical evidence, careful application of historical methods of verification, and statistical analysis has been done thus far on central and northwest Mexico.

4. The Period of Protostatistical Recording

Initial European contact, if it meant rapid European conquest was followed by early implantation of European systems of civil and religious administration; if conquest came later, such implantation was delayed. The beginning of the period of protostatistical recording, then, in some regions was as early as the middle of the sixteenth century. Its end came after the middle of the nineteenth century with the adoption of an organized system of civil registration of vital statistics and census taking in the new fashion of Europe. Within the three centuries of this period at its longest, one may distinguish three sub-periods: a) From the middle of the sixteenth century to perhaps 1770, the implantation of European systems of church records and reporting and the recording and reporting of the civil government through fiscal counts, military counts, and occasional attempts to determine numbers in the population although without a carefully organized census in our terms; b) the last decades of the colonial regime, from 1770 to 1810, a sub-period characterized by massive overhaul of the administration, the institution of much more careful administration of existing systems of recording, the beginning of census taking, and development of a reporting system to a central authority in each colony and in the empire that provided remarkably good statistics; c) the first decades of independent regimes in Latin America, a sub-period characterized by sporadic and largely ineffectual attempts to continue older forms of reporting, to harness them for the needs of the new states, and the eventual realization that entirely new forms and organizations would be needed.

Once the protostatistical European systems of civil and religious reporting were implanted, they begin to yield a wide variety of data which can be used for demographic study. The materials available resemble, although with substantial regional variations, those found for western European countries at the same time. As is also true for the western European materials, examination is just beginning to probe the kinds of treatment possible and the extent to which the materials will yield answers.

The kinds of materials of interest for demographic history in this period may be outlined as follows:

a) Church reporting.

1. Parish records. In much of Latin America the registers were kept in two sets, one for Indians, and the other for non-Indians; in some regions, there were three sets, a third being kept to segregate the Negroes and people of mixed color from both Indians and Europeans. Few registers of the sixteenth century survive, but for many parishes relatively good series have survived with a start in the seventeenth or early eighteenth century. As in Europe, the registers vary widely in the care with which they were kept, but many are excellent. The use of parish registers that has been made in France and England--family reconstruction--is undoubtedly possible for periods

and areas of Latin America, but is difficult for the Indians of central Mexico because they tended to use only a few surnames.

2. Church counts. The clergy of Latin America reported on numbers at irregular intervals. Bishops during their incumbency were charged with the pastoral visit of their dioceses, and the best executed of such inspections have left us careful discussions of the state of the churched and the parishioners, including records of counts of the population made for the bishop's information and records of the numbers of people confirmed or listed as of age of confession.

b) Civil Reporting.

1. Fiscal counts. Perhaps the most useful sub-category of fiscal count is the tribute count of Spanish America, a count of the Indians of age to pay royal tribute, carried out in various districts and in later years checked against the parish registers to insure accuracy. The head tax of the period of independence supplied an equivalent form of listing that covered all of the adult males.

2. Counts for other administrative purposes, such as enrollment of males for militia duty and listing of whites and non-Indians for verification of right to residence.

3. Censuses, which appeared in the middle decades of the eighteenth century. A series of experiments carried out with use of civil and religious authorities and testing kinds of information wanted for administrative purposes slowly perfected the technique in more than a half century. In 1776-1777 the royal Spanish and Portuguese governments ordered general censuses in their American possessions, those in Spanish America being carried out through the bishops, with the parish priests the reporting agents. Perhaps because of church discipline, the results, where they survive, include some of the best counts taken. In Mexico, another series of good counts, one of general population and another of non-Indians (technically for military information but an excellent report on all ages and sexes of non-Indians) was carried out in 1793 by the famous Viceroy Revillagigedo II. With the coming of independence, the census became a necessary instrument for determining apportionment of representation in the new national and regional legislatures, but governments trying to develop staff and administrative technique were able to carry out only local or incomplete ones.

5. The Age of Systematic Gathering of Statistics

Perhaps the Age of the New Reporting would be more accurate. The attempt to provide national demographic reporting in accordance with the new ideas and systems evolved in Europe embraces essentially the institution of country-wide civil registration of vital statistics and the holding of censuses in accordance with the new conception of a systematic, country-wide count made on a uniform basis and within a period of days, or at most weeks. In the second half of the nineteenth century virtually every country of Latin America adopted both systems. Implementation, however, and completeness and accuracy of coverage vary widely from country to country and even vary by period within each country.

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