THE PLACE OF LATIN AMERICA IN WORLD DEMOGRAPHIC HISTORY

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The parts of the Western hemisphere lying south of the United States demonstrate that economic development does not necessarily occur when vast new lands are opened up for exploitation. The Caribbean and Central and South American region as a whole comprises an area some 12 times the size of Southern Europe. At the time of colonization, this area, relatively free from densely settled native populations, was fabulously rich in untapped resources. Here could have been created a society with a level of living as high as any known. Here, on a grand scale, the New World could have proved itself really new in terms of human welfare. But now, some four centuries after the start of colonization, the peoples in these areas are distinguished by their poverty rather than by their wealth. This circumstance is all the more tragic since the opportunity to exploit relatively vacant lands of such size, richness, and convenience will not come again.

The lesson of Latin America is worth emphasizing, because there are still those—especially in the region itself—who view the settlement of empty lands as the solution to economic and demographic problems. There are still those who attribute the prosperity of the United States and Canada, of Australia and New Zealand, to their "abundant natural resources."

The inaccuracy of such "new-lands" reasoning can be shown by comparing Latin America with the rest of the world. In 1958, among the world's nations for which data were obtainable,[1] 28 Latin American countries and territories had together approximately 20.9 per cent of the territory, 10.3 per cent of the population, and only 6.5 per cent of the gross domestic product of the grand total.[2] When the United States is omitted from the world total, on the ground that it dominates the world scene, the share of Latin America in territory rises to 23.6 per cent, its share of population to 11.4 per cent, and its share of gross domestic product to 11.9 per cent. It seems, therefore, that Latin America's richness in land does not make it rich economically.

Similar conclusions can be reached by comparing the situation in Latin American countries with those of the old countries from which colonists predominantly came. Despite their new and abundant lands, the Latin American countries are generally inferior to the latter nations in economic level. In 1958, for instance, the per capita gross domestic product of Portugal (U.S. $212) was exceeded by 19 of the 28 Latin American countries and territories on our list, but the figure for Spain (U.S. $324) was exceeded by only 11, and that of Italy (U.S. $493) by only two. In terms of averages the comparison runs as follows:[3]

	Per Capita Product in 1958
28 Latin American countries and territories	$295
3 Old countries (Italy, Portugal, Spain)	407

Except for Venezuela, even the more promising Latin American countries have generally failed to outdistance the homelands. Brazil's per capita income ($252 in 1958) is not impressively better than Portugal's ($212); Argentina's figure of $476 and Chile's figure of $352 are both better than that of Spain ($324) but worse than that of Italy ($493). On the average the "new lands" of Middle and South America have brought less wealth to their peoples than have the "old lands" of the mother countries.

Comparison with other newly settled lands is even more instructive. Australia, for instance, is similar to Argentina in geography, lateness of settlement, economic base; yet its per capita income is two and one half times as high. New Zealand can be compared with Chile in its natural endowment, but its per capita income is more than three and one

half times greater. It looks as though the decisive factor has not been the abundance of natural resources or the ratio of resources to people. Rather, it has been the institutional system by which the people were organized and the resources were utilized.

ECONOMIC BACKWARDNESS AND REGIONAL POPULATION GROWTH

Whatever the factors are that have prevented economic development in Latin America to an extent commensurate with the region's abundant natural resources, they must bear some relation—as cause or as effect—to the demographic history of the region. At the grossest level, the failure to achieve a satisfactory rate of economic development was probably responsible for the predominantly slow population growth in Latin America until around 1900. However, population growth up to that date differed profoundly in various periods.

During the first 175 years of colonization, for example, the population of the Latin American region as a whole declined. The immigration of Europeans and Africans was hardly strong enough to compensate for the decimation of the native Indians, who were originally numerous in Central Mexico and the Andean plateaus. The population of 64 towns in Central Mexico fell at an average rate of –3.8 per cent per year between 1550 and 1570.[4] The estimated population of the whole Central Mexican area apparently fell continually from about 1500 until well into the 17th century, after which a slow increase began.[5] The history seems to have been roughly similar in the Andean regions.[6]

Even in regions where the native Indian population was small to begin with, as in much of the Caribbean, the early growth of population was slow. After 300 years of colonization, for example, the British Caribbean still had (in 1841–44) only some 864,000 people[7]—a figure achieved more by the importation of slaves than by natural increase. The white population of Jamaica was estimated at 4,500 in 1658 and at 25,000 in 1787.[8] Although the estimated slave population rose from 1,400 at the earlier of these dates to 211,000 at the later one, the rise, slow enough in itself, was entirely due to importation, because the average annual excess of deaths over births among slaves was normally between 2 and 4 per cent during this long period.[9] Puerto Rico, with only 45,000 inhabitants in 1765, some two centuries after settlement began, also had a very slow early growth that was similarly

due to slave importation rather than to white immigration or natural increase.[10] The loss of population for Latin America as a whole was extremely severe in the early stages of colonization. It was greatest where the Indian population was most numerous, and it was overcome mainly in areas where native Indians were few and where sugar or other plantation crops permitted the wholesale importation of slaves. The early loss was due largely to factors over which the colonizing countries had little control. When aboriginal populations are engulfed and disorganized by invading Europeans, they invariably suffer extremely high death rates from new diseases, alcohol, warfare, violence, displacement, and exposure. The same fate met the African slaves who, though more accustomed to the diseases and vices of the Old World, were transported from their old surroundings into completely new ones. The European colonists themselves had great difficulty adjusting to the rigors of new and often hostile environments. The holocaust was extreme in the Latin American region, both because colonization came early and because it derived from southern Europe where health conditions were probably slightly worse, the level of living being somewhat lower than in northwest Europe.

Although population loss for the region as a whole appears to have been stemmed around 1675, the rate of growth rose only very slowly after that. It is doubtful that, from 1700 to 1750, the region's rate of increase was as great as that of the whole world outside of the Western Hemisphere. After 1750 it picked up; but if the estimates for 1750 to 1900 are roughly true, then, as Table 1 shows, the population of Central and South America always grew more slowly than that of the U.S.A.-Canada. Indeed, according to the estimates, the population of Northern America increased about 14 times from 1800 to 1900, whereas that of Latin America rose about three times. The only explanation of this slower growth is to be found in the economic stagnation of the region, for by this time the pecularities of early colonization were over.[11]

Clearly, Latin America's reputation as having close to the world's fastest growing population has been earned recently. Only since 1920 has the region's human multiplication exceeded that of U.S.A.-Canada. It was the fact of faster growth through the 19th century that enabled Northern America, though starting (owing to later colonization and fewer aborigines) with probably less than a third the number in Latin America in 1800, to have about 30 per cent more people in 1920.

TABLE 1. POPULATION GROWTH IN NORTHERN AMERICA, LATIN AMERICA, AND THE REST OF THE WORLD, 1750–1960 PROJECTED TO 2000

	Population (millions)			*Average Annual Per Cent Growth In Prior Period*		
Dates	*Northern America*	*Latin America*	*Rest of World*	*Northern America*	*Latin America*	*Rest of World*
1750	1.3	11.1	648			
1800	5.7	18.9	811	3.0	1.1	0.5
1850	26	33	1,039	3.0	1.1	0.5
1900	81	63	1,407	2.3	1.3	0.6
1920	117	91	1,603	1.9	1.9	0.7
1930	135	109	1,771	1.4	1.8	1.0
1940	146	131	1,972	.8	1.9	1.1
1950	167	162	2,181	1.4	2.1	1.0
1960	199	206	2,590	1.8	2.4	1.7
Projected:						
1970	225	265	2,990	1.2	2.6	1.5
1980	254	349	3,617	1.2	2.8	1.9
1990	283	455	4,402	1.1	2.7	2.0
2000	312	592	5,376	1.0	2.7	2.0

Sources: Estimates through 1900 from A. M. Carr-Saunders, WORLD POPULATION, Oxford, Clarendon Press, 1936, p. 42. Estimates for 1920 through 1960 from United Nations, DEMOGRAPHIC YEARBOOK 1961, Table 2. Projections are the medium ones from United Nations, THE FUTURE GROWTH OF WORLD POPULATION, New York, 1958, pp. 69–71.

If Latin American population growth, relative to industrializing New World countries, was retarded prior to World War I because of economic and political problems, how are we to explain the region's much faster increase since then? Is it due to an economic performance superior to that of the highly industrial countries—or, for that matter, superior to that of virtually the rest of the world? The answer appears to be negative, and it underlines the fact that there is no known "law" by which economic change and population change are compelled to move in a fixed relationship. It appears that the two opposite long-run population trends—the slower growth prior to World War I in relation to New World industrial countries, and the faster growth since then—are intimately connected with the same relative economic backwardness.

This thesis receives confirmation when we realize that it applies not only to Latin America but to other nonindustrial areas as well. Since World War I, for example, virtually all of the world's backward regions have experienced an accelerating population growth, whereas the industrial countries have experienced a fluctuating but generally slower increase. The essential data are shown in Table 2. If we summarize that table, showing the change over the whole period, we see that being a "new" region and being "nonindustrialized" have both contributed to rapidity of population growth since 1920:

	Population (Millions)		*Per Cent*
	1920	*1960*	*Change*
Industrialized regions	564	800	41.8
Nonindustrialized	1,247	2,196	76.1
Old regions	1,253	2,066	64.9
New regions	558	957	71.5

Latin America's pre-eminence in population growth since 1920 has been due to its having both of the growth-producing characteristics. It is unquestionably a "new" region in the sense of having been opened up to European exploitation only in modern times without much competition from indigenous peoples or cultures. It is also a predominantly agrarian area. It thus stands at the opposite extreme from northwest and central Europe, having grown in population more than five times as fast as that region:

	Population (Millions)		*Per Cent*
	1920	*1960*	*Change*
Latin America	91	206	126.4
Central and Northwestern Europe	227	281	23.8

One can see in Table 2 an augury of the future. Among the nonindustrial areas, it is the more crowded and less European that formerly showed the slower growth. Now, however, these same areas are beginning to exhibit a rapid population increase rivaling that of Latin America. There was less difference between growth in Latin America and either Africa or Asia in 1950–60 than there was in 1920–30. In other words, acknowledging that Latin American countries are gen-

TABLE 2. POPULATION GROWTH IN INDUSTRIAL AND NONINDUSTRIAL, OLD AND NEW, REGIONS, 1920–1980

	1920	*1930*	*1940*	*1950*	*1960*	*1980*[5]
Industrialized Regions						
Old[1]						
Population	227	242	255	261	281	321
% increase per decade		6.6	5.4	2.4	7.7	6.8
New[2]						
Population (millions)	337	383	418	441	519	692
% increase		13.6	9.1	5.5	17.7	15.6
Nonindustrialized Regions						
Old[3]						
Population	1,026	1,137	1,283	1,447	1,785	2,563
% increase		10.8	12.9	12.8	23.4	19.8
New[4]						
Population	221	253	293	351	438	645
% increase		14.5	15.8	19.8	24.8	21.4
Latin America						
Population	(91)	(109)	(131)	(162)	(206)	(349)
% increase		19.8	20.2	23.7	27.2	30.2
Rest						
Population	(130)	(144)	(162)	(189)	(232)	(296)
% increase		10.8	12.5	16.7	22.8	12.9

Sources: DEMOGRAPHIC YEARBOOK, United Nations, 1961, Table 2; *ibid.*, 1960, Table 4; *Population and Vital Statistics Report*, July 1, 1963; FUTURE GROWTH OF WORLD POPULATION, United Nations, 1958, pp. 71–75.

[1] Northwest and Central Europe.

[2] U.S.A.-Canada, Australia-New Zealand, Japan, U.S.S.R.

[3] Asia (except Japan), Egypt, Southern Europe.

[4] Africa (except Egypt); Central, South, and Caribbean America, Oceania (except Australia-New Zealand).

[5] The projections used are those designated as "medium." Percentage increase between 1960 and 1980 is given on a per decade basis, for comparability with previous percentages.

erally in the upper levels of development among the nonindustrial countries generally, we see that the association between population growth and economic backwardness is getting stronger. In the next few decades it is conceivable that Latin America will yield the leadership in human multiplication to Africa and Asia. She apparently has already done this in the case of the Muslim parts of those two continents.

Our conclusions, based on broad regions, gain greater precision when tested with nations as units. For instance, the contention of the British economist, Colin Clark, that rapid population growth induces national progress,[12] can be investigated, at least with reference to recent years. The Clark thesis acquires some plausibility from the association between human increase and industrialization in the past, when the European peoples outstripped the rest of the world demographically as well as economically, expanding over half the globe. It gains further plausibility from the tendency of population growth, in industrialized countries today, to fluctuate with business conditions. But in 34 underdeveloped countries, for which we can get data on both population growth and economic gain during the 1950's, the correlation between the two variables is –.2.

As for the Latin American nations themselves, they gained in per capita gross domestic product at an average rate of 2.0 per cent per year from 1945 to 1959. Since their population grew by 2.5 per cent per year, the two trends appear to be closely related. However, prosperity was concentrated in the first part of the period, when the world demand for primary products from this region was brisk. In 1954–59

TABLE 3. POPULATION GROWTH AND GAIN IN PER CAPITA GROSS DOMESTIC PRODUCT, LATIN AMERICAN COUNTRIES, 1945–1959

Class Limits in % Annual Increase in GDP per Capita	*1945–1959*			*1954–1959*		
	Number of Countries	*Average Annual % Gain in GDP per Capita*	*Average Annual % Growth in Population*	*Number of Countries*	*Average Annual % Gain in GDP per Capita*	*Average Annual % Growth in Population*
3.0+	7	3.6	3.0	3	4.7	2.8
2.5 – 2.9	1	2.9	2.9	2	2.6	3.0
2.0 – 2.4	3	2.0	2.1	1	2.1	3.3
1.5 – 1.9	—	—	—	1	1.7	3.5
1.0 – 1.4	3	1.2	2.6	2	1.0	2.4
under 1.0	6	0.3	2.2	11	–1.1	2.6

Source[8] United Nations, Economic Commission for Latin America, *Economic Bulletin for Latin America*, VII, 221, October, 1962.

the gain in GDP per person dropped to 1.3 per cent annually, but population growth *rose* to 2.7 per cent.[13] One gets the impression that the region's population now goes on growing independently of economic loss or gain. This conclusion is buttressed by looking at a cross-tabulation of the two variables. In Table 3, the countries with the highest economic gain tended to have a somewhat higher rate of population growth over the whole 1945–59 period, but for the years from 1954 to 1959 there was no discernible relationship.

The figures just discussed concern the *rate* of change in both population and economic level, regardless of the nation's stage of development. If now we continue to look at the rate of population change but take as our economic reference the stage reached rather than the trend, we find scarcely any more connection. For instance, grouping 25 Latin American countries and territories according to their per capita income in 1958 and their population growth from 1940 to 1960, we find the following:

Class Boundaries According to 1958 Per Capita GDP[14]	*Number of Countries*	*Average Per Cent Growth in Population 1940 to 1960*[15]
350 or over	8	54.1
200–349	10	63.7
Under 200	7	58.2

It appears that the wealthiest and poorest countries tend to have slightly less population growth than the others within the region, but the differences are small. Since the wealthier countries get more immigration, the differences would doubtless be greater if natural increase alone were used instead of total population growth. The wealthy group is composed of some nouveau-riche nations which have, so to speak, more human proliferation than befits their unaccustomed economic status. Thus Venezuela, with the highest per capita income in Latin America, gained 80.8 per cent in population between 1940 and 1960, and Trinidad-Tobago, the second highest in income, gained 73.5 per cent. The three nations traditionally standing high in degree of economic level reached—Argentina, Chile, and Uruguay—have together an average of 42.8 per cent gain in population during the 20 years mentioned. The remainder of the eight nations deemed wealthiest according to 1958 GDP, show an average population gain of 60.9 per

cent, which is still below that of the middle-income countries. There is a suggestion in these data that the most economically advanced countries in Latin America have begun to restrain their population increase to a slight extent, and that some of the poorest ones, probably because of high mortality, have not yet reached their most rapid phase of growth.

The preceding consideration of population growth and economic phenomena thus indicates that Latin America is not peculiar in its demographic behavior but conforms to principles that fit the rest of the world. Prior to World War I it was the industrialized countries that grew most rapidly in population, while the nonindustrial ones, including Latin America, lagged. Since World War I the relation between industrial and nonindustrial countries with respect to population growth has reversed itself throughout the world. So, Latin America's population has grown more rapidly, as have other nonindustrial regions. Further, New World countries generally have shown more rapid population growth than old countries, and Latin America has exhibited this tendency pre-eminently. Finally, among nonindustrial countries throughout the world today, it is impossible to find much relationship between economic improvement and population growth, and this is what we find in Latin America, although here, as elsewhere, the very poorest countries still seem to lag in population growth slightly behind the middle rank of underdeveloped nations.

POPULATION DYNAMICS IN LATIN AMERICA

An understanding of the relation between economic change and population growth requires, of course, a knowledge of the specific mechanisms by which the two are connected. To get such knowledge for Latin America, let us turn now to the comparative history of fertility, mortality, and natural increase in the region.

With respect to fertility, it appears that extremely high rates characterized the countries of the region in the late 19th century and probably before; that high rates still characterize all but the most developed of the nations; and that there is nevertheless evidence of responsiveness of fertility to both long-run and short-run economic changes. These features have seldom been fully appreciated, not only because of the tendency of analysts and commentators to evade historical study of

Latin American demography, but also because of the reliance either on recorded births or on child-woman ratios for evidence. Birth registration varies in completeness from country to country and from time to time, and child-woman ratios are influenced both by undernumeration of children and by variations in childhood mortality.

Our approach to the determination of birth rates is more comprehensive. It is to recognize explicitly that there are, at bottom, only three independent sources of information on fertility—the census enumerations, the official registration system, and special sample surveys; to utilize each of these sources as fully as possible as a check on the other two; and to exploit the corrected data from all three sources for the purpose of understanding the actual reproduction rates in the countries of the region. Our methods necessarily differ from one country to another, depending on the availability of data. In general, however, we start with census data. One approach is to run the various age groups at a census back to the number of births that must have occurred to give rise to these groups. This can be done by applying reverse survival rates or by adding the registered deaths by age. The procedure is superior to taking child-woman ratios as indices of fertility, because all age groups (not just the 0–5 or the 0–9 groups) are utilized; thus we obtain estimates of births for several decades from one census, and get several estimates for a single decade from different censuses. The children 0–9 in a census taken in 1890, for instance, will yield an estimate of births from 1880 to 1890, but so will the persons aged 10–19 in a census taken in 1900. However, this technique must often be abandoned or independently checked, because it assumes that accurate life tables or registered deaths-by-age are available. When, as usually happens, such accuracy cannot be guaranteed, we use the reported deaths only to get a first approximation. If they are reported by age, we add the deaths under age 5 to the population age 5 at the census to arrive at a first estimate of births. If deaths are not reported by age, we assume that the proportion of all deaths which occur under age 5 is similar to that known under roughly comparable situations. With this ratio and with the natural increase derived from intercensal growth corrected for net migration, we can calculate births independently of the accuracy of death registration.[16] The first estimates thus obtained can be checked for consistency with the registered births, with cohort history in subsequent censuses, and with the registered natural increase. Once a final estimate of the number of births is obtained, various indices of fertility

can be computed for the period of time covered. Since our work of estimating vital rates for Latin America is complex and is still in its early stages, we must emphasize that the results given here are tentative and are subject to revision as further progress is made.

In a description of our findings Argentina is a good place to begin, because that country became urbanized and semi-industrialized ahead of others in the region. As could be expected from this development, Argentina showed a dramatic drop in its birth rate (Table 4). The

TABLE 4. ESTIMATED AND REGISTERED BIRTHS AND BIRTH RATES, ARGENTINA, 1860–1959

	Mean Annual Births			*Births per 1,000 Population*		*Births per 1,000 Women aged 15–44*	
Period	*Registered*[1]	*Estimated*	*% Registered*	*Registered*	*Estimated*	*Registered*	*Estimated*
1860–64	n.a.	69,000			46.8		215
1865–69	n.a.	77,400			46.7		215
1870–74	n.a.	87,800			46.2		212
1875–79	n.a.	99,200			45.6		209
1880–84	n.a.	112,000			45.0		206[2]
1885–89	n.a.	130,200			44.6		204[2]
1890–94	n.a.	159,400			42.9		196[2]
1895–99	n.a.	179,400			42.4		193[2]
1900–04	172,199	201,200	86	35.1	41.0	161	188
1905–09	209,655	237,000	88	35.4	40.0	163	184
1910–14	272,193	294,200	93	37.3	40.3	172	186
1915–19	280,201	302,800	93	33.5	36.1	153	165
1920–24	300,910	325,000	93	31.8	34.3	143	154
1925–29	328,381	354,400	93	30.0	32.4	133	144
1930–34	332,426	355,400	94	27.0	28.9	118	126
1935–39	322,896	345,000	94	24.1	25.7	104	110
1940–44	351,499	374,800	94	24.1	25.7	102	109
1945–49	401,209	401,209	100	25.2	25.2	105	105
1950–54	449,308	449,308	100	25.4	25.4	107	107
1955–59	469,634	469,634	100	24.1	24.1	103	103

[1] Argentina, *Informe Demográfico de la Rêpublica Argentina*, 1944–54, (Dirección Nacional de Estadistica y Censos: 1956), p. 12; United Nations, DEMOGRAPHIC YEARBOOK, 1961, Table 6; 1959, Table 9; 1961, Table 6.

[2] Women aged 15–19 and 40–44 estimated for 1895 and 1914 census by assuming same ratio to 10–19 and 40–49 age groups, respectively, as in 1947 census. Mid-period female population then estimated by interpolation for 1890–94 and 1895–99, and for 1880–84 and 1885–89 by assuming same ratio to total population as in 1895 census. These ratios should be regarded as highly approximate and are, as other figures in the table, subject to revision with further information.

crude rate was around 45 in the 1880's, an extremely high rate for a population of European origin but in line with a rate of 50 to 57 estimated for the United States some 50 years earlier.[17] The decline in Argentina was gradual up to World War I, rapid after that until the bottom was reached in the depression, after which there was virtual stability. The trend is even more marked if the ratio of estimated births to women aged 15–44 rather than to the total population is taken as the index of fertility, shown in the last column of Table 4. In 50 years the Argentine birth performance dropped by more than half. This decline is falsely minimized by reliance on the registered births, because registration improved over time.

Reference has already been made to the similarity between Argentina and Australia. Does this similarity extend to the demography of the two countries? The answer is "yes," with some differences. As Table 5 shows, Australia's birth rate appears always to have been somewhat lower than Argentina's; the secular decline began earlier and was more pronounced, and the postwar recovery was greater. But the general pattern of change was similar. One gets the impression that the Australian birth rate has been more subject to control but that analogous economic and social circumstances have had roughly comparable effects. If allowance is made for the difference in *level* but similarity of *type* of economy, the comparison of the two countries with respect to fertility becomes understandable. Actually, as Table 6 indicates, the similarity of the two countries is greater for population growth than for fertility. Indeed, the rate of population growth from equal population sizes was amazingly similar up to 1890. The lower fertility in Australia was accompanied in this period by a higher rate of net immigration and, to a lesser extent, by a lower death rate than Argentina had. From about 1890 to 1945 Argentina had the greater immigration and its population grew twice as fast as Australia's, but Australia took the lead again from 1945 to today.

A question of interest is, what led the Argentines to lower their birth rate? Evidently the same factors that led other developing countries to do so, including Spain, Portugal, and Italy. For instance, Argentina became one of the most urbanized countries in the world. In 1947, 44 per cent of its people lived in metropolitan areas of 100,000 or more population, which compares with the figures for even the most highly industrialized nations.[18] The limitation of births apparently began in the cities. By taking the provinces according to their degree of urbaniza-

TABLE 5. BIRTHS PER 1000 POPULATION, ARGENTINA AND AUSTRALIA

Dates	*Argentina* Rate	*Australia*[1] Rate
1860–64	46.8	42.4
1865–69	46.7	39.6
1870–74	46.2	37.0
1875–79	45.6	35.5
1880–84	45.0	35.2
1885–89	44.6	35.2
1890–94	42.9	32.4
1895–99	42.4	27.7
1900–04	41.0	26.4
1905–09	40.0	26.7
1910–14	40.3	27.8
1915–19	36.1	25.4
1920–24	34.3	23.9
1925–29	32.4	21.0
1930–34	28.9	17.0
1935–39	25.7	17.5
1940–44	25.7	20.3
1945–49	25.2	23.4
1950–54	25.4	22.9
1955–59	24.1	22.6

[1] The rates for Australia are for periods one year later than for Argentina, e.g., 1861–65, etc.

Sources: Argentina estimates from Table 4. Australia: Commonwealth Bureau of Census and Statistics, YEARBOOKS OF THE COMMONWEALTH OF AUSTRALIA.

TABLE 6. COMPARISON OF ARGENTINE AND AUSTRALIAN POPULATION GROWTH

	Population Growth				
Dates	*Argentina Population (000's)*	*Annual % Increase*	Dates	*Australia Population (000's)*	*Annual % Increase*
1810	405	—	1811	12	—
1830	575	1.8	1831	76	9.7
1850	870	2.1	1851	438	9.2
1869	1,769	3.7	1871	1,701	7.0
1895	3,857	3.0	1891	3,241	3.3
1914	7,770	3.7	1911	4,455	1.6
1930	11,188	2.4	1933	6,630	2.1
1947	15,801	2.1	1947	7,579	1.0
1961	20,206	1.8	1961	10,508	2.4

Sources: For Argentina, 1810–1895: Alejandro Bunge, UNA NUEVA ARGENTINA, Buenos Aires, Guillermo Kraft, 1940, p. 96. For Australia, 1810–1895: W. D. Borrie, POPULATION TRENDS AND POLICIES, Sydney, Australasia Publishing Co., 1948, p. 38. For later dates, both countries, DEMOGRAPHIC YEARBOOK, United Nations, 1960, Table 6, and *Population and Vital Statistics Report,* July 1, 1963. The Argentine data are all adjusted to January 1 of the year mentioned.

tion and the size of their child-woman ratios at censuses, we find that there was virtually no relationship between the two variables in 1869 and 1895, but a strong negative relationship in 1947.[19] This negative association between urbanization and reproduction prevails in other Latin American countries, as we shall see. It by no means fully explains the decline of fertility in Argentina. We need to know the specific influences brought by city residence, the concrete means by which fertility is controlled, and the influence of other socio-economic factors, such as income and education. But the role of urbanization, like the general similarity between Argentine and Australian demographic trends, strongly suggests that Latin American countries respond to economic conditions in much the same way that other European populations do, including the English-speaking populations of the New World.

Turning now to another relatively advanced country—Chile—we find it to be demographically less evolved than Argentina but moving in the same direction. The trend, as in the Argentine case, is obscured when the registered birth rate is used as an index, because birth registration has pursued an apparently erratic course, and since 1951 the number has been inflated by an upward adjustment amounting in 1951 to 8.8 per cent and 5 per cent for 1952, 1953, and 1954.[20] Perhaps because of inaccuracy in registration, the Chilean government estimated the births for 1920 to 1950 on the basis of censuses and mortality during the years preceding each census.[21] This appears to resemble our own method, and we get a similar trend after 1920, but, as Table 7 shows, our figures are somewhat different. Our estimates show an over-all declining trend, with the result that, despite the baby boom of the 1950's the Chilean fertility ratio was only 82 per cent as high in 1950–60 as it was in 1900–04.

In the case of Costa Rica, we find our estimates of births are close to those registered. Unless contrary evidence shows up, we must accept the registered rates as essentially accurate, which means accepting the reality of a very high birth rate which since 1905 has never averaged less than 43 per 1,000 population in any five-year period. The rate has shown no trend, though there was a slight lowering during the late Depression and the war years and a slight rise during the 1950's. The high reproduction rate in Costa Rica is shown by the fact that a continuance of the 1961 age-specific fertility rates would yield approximately 7.29 children per woman. This is achieved with a median age at marriage

TABLE 7. OFFICIAL AND PROVISIONALLY ESTIMATED BIRTH RATES: CHILE, COLOMBIA, MEXICO, AND COSTA RICA

Dates	Births per 1000 Population: Based on Official Data[1]				Births per 1000 Population: Estimates by IPUR				Estimated Births per 1000 Women, 15–44			
	Chile	*Colombia*	*Mexico*	*Costa Rica*	*Chile*	*Colombia*	*Mexico*	*Costa Rica*	*Chile*	*Colombia*	*Mexico*	*Costa Rica*
1900–04	36.2	n.a.	33.2	38.2	44.7	43.0	46.5	46.9	195	179	189	203
1905–09	38.0	n.a.	33.0	43.6	44.6	44.0	46.0	48.2	192	183	188	209
1910–14	38.7	n.a.	n.a.	46.9	44.4	44.1	43.2	48.9	189	184	178	213
1915–19	39.6	27.7	n.a.	44.9	43.3	44.1	40.6	44.7	183	183	164	195
1920–24	39.1	26.8	n.a.	43.3	42.2	44.6	45.3	44.9	177	188	181	197
1925–29	41.3	30.0	33.3	46.7	43.8	44.9	44.3	46.2	183	192	180	203
1930–34	34.7	30.4	44.1	45.7	38.0	43.3	44.1	44.6	158	187	179	197
1935–39	34.0	30.8	43.5	45.0	36.9	42.6	43.5	43.3	155	187	185	192
1940–44	32.4	32.6	44.2	44.9	37.5	42.4	43.8	42.8	158	187	190	191
1945–49	34.9	33.9	44.4	43.3	36.5	43.4	44.5	42.7	156	193	196	192
1950–54	33.8	37.4	44.9	44.9	36.2	44.0	45.0	45.0	156	197	202	203
1955–59	35.5	42.4	45.9	47.6	36.7	45.0	45.8	45.3	163	202	213	205

[1] In some instances, official rates given here do not agree with those published elsewhere, because we used our own population estimates to calculate rates based on officially reported births as well as those based on births estimated by us.

(consensual or legal) that appears to be about 20 years for girls (Table 8), or about the same as in the United States. If the age at marriage rose to the level exhibited by Portugal in 1950, the total fertility would drop to something like 6.36. It would drop more than this if births to single women were simultaneously eliminated. In 1961, some 22 per cent of births were reported as being to single mothers, and it is not known how many of these mothers were actually living in consensual unions. If we assume that only 12 per cent of the births were to truly single women, that these are eliminated, and that the Portuguese age-at-marriage schedule applied to all unions in Costa Rica, the total fertility would be reduced to about 5.60.

The absence of an upward trend in Costa Rica is interesting, because, owing to the very rapid decline in mortality there, as in most other countries of the region,[22] we might expect an increase in the birth rate due to better health, which would reduce sterility and spontaneous abortions. The fact that such a trend has not occurred (apart from slight fluctuations due to changing economic conditions) suggests that the social forces acting counter to reproduction are, in a country like Costa Rica, virtually sufficient to balance the influence of improved health.[23]

Mexico has sometimes also been cited as a country showing a rise in fertility in recent years, but, except for obviously defective birth registration in the 1920's, neither the reported birth rate nor our esti-

TABLE 8. DISTRIBUTION OF MARRIAGES BY AGE AT MARRIAGE, FEMALES, COSTA RICA

Age	*Consensual or Legal Marriage, 1946–50*[1] %	*First Legal Marriage, 1957*[2] %
Under 20	46.0	43.9
20–24	33.7	33.3
25–29	13.2	13.3
30–34	4.7	4.9
35–49	2.4	4.6
Total under 50	100.0	100.0

[1] Derived by applying survivorship rates to population married, consensually or legally, according to census of 1950. The difference between actual and expected number at each age group above the 15–19 group is taken as the number marrying at the pivotal age. The method represents only an approximation.

[2] DEMOGRAPHIC YEARBOOK, United Nations, 1958, pp. 436–437.

mated rate bears this out (Table 7). What does appear to be true is that Mexico is in the same position as Colombia, Costa Rica, and many other Latin American countries in having a persistently high birth rate in the face of rapidly lowered mortality. The recorded birth rate in Mexico from 1920 to 1959 averaged 44.5 per 1,000 population, as did our estimated rate over the same period. The average estimated crude birth rate from 1900 to 1919 is 44.1.

Recalling that the richest and the poorest countries of Latin America tend to have the least rapid population growth, one can now visualize why this is so. The richest ones, despite a very low mortality and considerable immigration, nevertheless tend to have a relatively low fertility. The poorest ones, on the other hand, have high birth rates but also still somewhat high death rates. It is the middle-range countries like Costa Rica and Mexico that are exhibiting the highest growth rates. These countries have made remarkable progress in mortality control in comparison to their economic stage, and have not yet had time to generate the forces compelling a reduced fertility. They are competing for the world's top honors in sheer human multiplication.

AGE AT MARRIAGE IN LATIN AMERICA

Among the various means by which birth rates can be brought down is postponement of marriage.[24] This was certainly one of the means utilized in industrializing countries during the 19th century, especially in Japan and northwest Europe. The extreme case of Ireland seems to suggest that this is an adjustment that arises readily in a Roman Catholic country of European background. Comparative data show that it is an adjustment that arises in non-Catholic countries as well, if they are European.[25] But in any case we can surmise that if and when Latin American countries begin to reduce their fertility, postponement of marriage will probably figure more prominently in that reduction than was the case in other New World regions such as the United States, Australia, or New Zealand. Such an expectation can best be empirically tested by studying those Latin American countries where notable reduction in fertility has occurred. Some additional insight can be obtained by comparing the Latin American countries in general with similarly underdeveloped countries elsewhere, with respect both to age at marriage and nonmarriage.

Any effort to adduce empirical evidence, however, runs into the grave difficulty that the countries of Latin America have a variety of de facto unions in which reproduction occurs. In addition to legal marriage—i.e., unions authorized and recorded by the state—there are transient relationships of short or ephemeral duration, "consensual" unions having some durability, "polygynous concubinal" unions involving a married man and a concubine in a more or less durable menage, and "common-law" unions presumably of legal significance in British or American areas with a common-law tradition but seemingly having no legal force and thus being much like "consensual unions" in Latin areas. Such a variety of reproductive unions would offer no particular difficulty if statistics on them were obtained, but, as is well known, this is not the case. Obviously, the whole point of a nonlegal union is that it is not official and is not recorded. Accordingly, only legal marriages enter into the official vital statistics. Current marriage rates published in Latin American yearbooks and public health reports are thus worthless from a demographic point of view. In census-taking, however, it is possible to get information on nonlegal marriages, the couples involved being called "consensually" married or as living in "common-law" unions. The difficulty, of course, is that there is no clear line between one of these unions and a transient affair, or indeed any definition of what exactly constitutes a consensual union. Nor is there anything to prevent a person living in one of these unions from recording himself or herself as single, since in law this is the civil status. There is also the complication that a man may have two marital statuses—legally married and nonlegally married.[26] Not being able to judge the age at marriage from vital statistics (since only legal marriages are dealt with there), and not being able to do so with assurance from census returns on marital status, we are left with a minimum of information in Latin America on this important topic.

We can get some information on the marital age in Latin America by taking the persons "ever married" in the census, by age. This includes persons reported as married either consensually or legally, and those who are widowed, divorced, or separated. Unfortunately, however, it does not necessarily include those who have been in a consensual union but are not in one now because of the death of the mate or breakup of the union. These are apt to be reported as "single." The bias of this approach is to minimize the proportion ever married. In other words, the number reported as single is greater than the number

actually single or "never married." Since this distortion is presumably greater at advanced ages, and since the age at marriage is derived essentially by differencing the figures for successive ages, the tendency of this approach is to make the average age at marriage younger than it should be. For this reason, it is not worth while to compute the median age at marriage from such data for Latin American countries. But we can gain some knowledge by comparing countries and periods with respect to the proportion ever married early in life.

The data appear in Table 9. There the most significant finding, in my view, is that the Latin American countries differ more among themselves in the proportion ever married at young ages than they differ from other regions. The Spanish-speaking countries with the poorest economic development and with the largest Amerindian, African, or Asian communities rival African countries in the youthfulness of males who have married, but not in the youthfulness of females. On the other hand, the most highly developed Spanish-speaking countries follow a pattern very close to that of Europe. Curiously, the latter resemble old Europe more closely than they resemble the highly industrialized countries of the New World, such as the United States and Australia, where the age at marriage is considerably younger. The proportions for the non-Spanish-speaking Caribbean give a false idea, because the persons forming reproductive unions early in life there are frequently recorded as "single." Worth noting is the fact that no group of Latin American countries seems to approach underdeveloped Muslim, African, or Asian nations in youthfulness at marriage.

From these comparisons we can see that the age at marriage is a demographic variable which can alter with conditions in Latin America. To be sure, the statistics on "ever married" for this region understate the actuality, but the distortion, particularly at young ages, does not seem great enough to invalidate the conclusions. If the age at marriage is capable of rising in Latin America as economic maturity is reached, this appears to be more because of the region's European than because of its Catholic background. The last two lines of the table demonstrate, as already mentioned, that late marriage is a general European trait.[27]

Another approach to the age at marriage in Latin American countries uses another technique.[28] It consists in getting new marriages, whether legal or consensual, by taking the difference between the sur-

vivors from the married in an earlier age-interval and those at a successive age-interval. When this is done for women under age 50 in Costa Rica, using the 1950 census, one finds a median age at first marriage of

TABLE 9. PERCENTAGE "EVER MARRIED," AGED 15–19 AND 20–24

Group of Countries	*Number of Countries in Group*	*Mean Percentages*			
		Age 15–19		*Age 20–24*	
		Males	*Females*	*Males*	*Females*
Latin America	21	2.6	17.6	25.8	51.1
Spanish mixed[1]	9	3.7	23.6	33.8	60.2
Spanish, medium dev.[2]	6	2.7	18.0	23.9	51.4
Spanish, developed[3]	3	1.0	9.3	17.4	39.6
Non-Spanish Caribbean[4]	3	0.6	6.9	14.2	34.8
Muslim[5]	5	7.9	39.0	35.5	81.9
African (except Muslim)[6]	3	4.3	29.4	29.0	76.9
Asian[7]	4	3.0	26.2	27.6	74.0
Overseas N.W. European industrialized[8]	5	1.3	9.7	28.1	59.7
European	9	0.3	3.7	15.0	39.4
Catholic[9]	5	0.4	3.9	14.3	39.5
Non-Catholic[10]	4	0.3	3.6	15.9	39.3

[1] "Mixed" refers to the fact that these countries have large proportions of African, Amerindian, and/or East Indian people in their populations. On the whole they are either poorly developed or medium developed economically. The countries included: Bolivia, British Guiana, Cuba, Ecuador, Guatemala, Honduras, Panama, Puerto Rico, Trinidad-Tobago. All of these countries have more than 54.0 per cent of their women aged 20–24 "ever married."

[2] British Honduras, Colombia, Costa Rica, El Salvador, Nicaragua, Venezuela. None of these countries has less than 50.0 per cent or more than 54.0 per cent of their women aged 20–24 "ever married." In view of Venezuela's currently high per capita income, there may be some question about including Venezuela among the "medium developed" countries. However, the date of the Venezuelan data is 1950, and at that time the country had 53.2 per cent of its females aged 20–24 "ever married."

[3] Argentina, Chile, Paraguay. The last was included because evidently the enumeration included mainly the urban and more developed parts of the population. If Paraguay is excluded, the averages become 1.1, 7.4, 16.0, and 38.0—not markedly different from those for all three countries.

[4] Haiti, Barbados, St. Lucia.

[5] Algeria, Libya, Morocco, Tunisia, Turkey.

[6] Mozambique, Portuguese Guinea, South African Bantu.

[7] Ceylon, Mauritius, South African Asiatic, South Korea.

[8] Australia, Canada, New Zealand, South African whites, United States.

[9] Aust ria, Belgium, France, Italy, Portugal.

[10] Denmark, England-and-Wales, Norway, Switzerland.

Sources: DEMOGRAPHIC YEARBOOK, United Nations, 1958, Table 6; HONDURAS, DATOS PRELIMINARES DEL CENSO NACIONAL DE POBLACION, ABRIL, 1961, Tegucigalpa, 1962, pp. 3–4.

20.65, a low figure by European standards. This finding, which applies to the five years preceding the census, agrees rather well with the median age of 21.1 for registered first marriages (legal marriages only) in Costa Rica for 1957. The difference between the two medians accords with other data, indicating that the first consensual unions are formed at a younger average age than legal marriages. Furthermore, the average age of mothers at the birth of the first child in Costa Rica in recent years has been consistently close to 21, which suggests a marital age of 19 to 20 on the average.

Additional knowledge of the marital age comes from special surveys. The 1947 fertility survey in Puerto Rico found the median age at first marriage was 19.1 for women and 23.8 for men on the island.[29] These figures refer to all types of unions. The study was designed by Paul K. Hatt and the writer to yield the ages at legal and consensual marriages separately, but the analysis was not carried out this way. From Hatt's Table 308 (p. 432) however, it is possible to compute that the average age at marriage for women who had never entered anything but a legal union was 19.9 years, and for women who had been in at least one nonlegal union, it was 18.7 years. Further, the analysis brought out that a later age at marriage was associated with a higher economic status; that the ideal age for women to marry (20.8 years old) was nearly two years later, and the ideal age for men (26.6) nearly three years later, than the actual age; and that the ideal age was greater the higher the socio-economic status of the person being interviewed.[30] These are all results which fit with the possibility that the age at marriage may rise with economic development in Latin America, just as was the case earlier in Northwest European history.

With future development, the role of religious dogma in the legal regulation of marriage in Latin America may be expected to decline in favor of secular values. If so, consensual unions and concubinage, which are ways of escaping the rigid ban on divorce, may diminish in ratio to legal marriage. For instance, the proportion of unions that are consensual has dropped spectacularly in Puerto Rico since 1940:

	Consensually Married as Percentage of Legally Married Among Persons Aged 25–34		
	1940	*1950*	*1960*
Males	41.9	30.3	15.8
Females	40.7	34.6	16.5

If the role of consensual unions diminishes, the age at marriage may be pushed up somewhat by virtue of this fact. However, from the standpoint of fertility, the rise in age at marriage due to a drop in the role of informal unions may be compensated by another factor. As is well known consensual unions are highly unstable. For instance, in the 1947 Puerto Rico survey, 14.1 per cent of the women whose unions were not legal were divorced or separated, whereas for those who had had legal unions alone, the figure was 6.7 per cent.[31] Judith Blake found, among a small sample of lower-class Jamaican women, that the average age at entry into the first union was 17; of 97 of these first unions on which she had information, only 12 ever became legal marriages, and 22 of the others lasted less than a year. About 60 per cent of the unions sufficiently stable to be called "common law" were dissolved.[32] She demonstrates that the instability of nonmarital unions is one of the factors tending to limit fertility in Jamaica.[33]

Obviously, however, a high proportion of nonlegal and unstable unions does not run counter to fertility in every way. While women may hold off forming another liaison because they fear having still more children whose father will desert them, the motivation of the men—released from parental responsibility by the informality of sexual unions—is not conducive to reproductive restraint. It may turn out on net balance, then, that a lessening role of consensual unions, especially in the Iberian parts of Latin America, will tend to reduce rather than to enhance fertility.

CONCLUSION

Our brief analysis indicates that the Latin American region as a whole shares the demographic characteristics of the less-developed countries generally at the present time. Its special features in comparison to the rest of the underdeveloped world arise mainly from the fact that its institutional structure is European and, secondarily, Latin European; from the fact that its geographical territory is new in terms of European settlement and hence is abundantly endowed with resources in ratio to population; and from the circumstance that, despite a fairly wide spectrum of development among the various countries, the region as a whole is better off economically than most underdeveloped areas.

In terms of these features one can comprehend the place of Latin America in contemporary world demography. The region's high birth rates, for example, are analogous to those in other underdeveloped areas. If they are slightly higher than those in India, it is probably because the South and Central American countries, like European society generally, exercise less restraint on remarriage of widows, have fewer ritualistic taboos on sex relations, and yet have more prosperity, less unemployment, better health and nutrition. If these countries, on the other hand, have slightly lower birth rates than Muslim countries, it is doubtless because, again in common with European society, their women marry later, more frequently fail to marry altogether, and enter the labor force more abundantly. But the difference in fertility between Latin America as a whole and other underdeveloped regions is negligible compared to the differences among the Latin American countries themselves. The more economically advanced countries of the region tend to have the lowest fertility. The Argentine birth rate, for example, was in 1961 less than half, and the Chilean rate only two thirds, of what it was in Costa Rica.

There seems to be little doubt that reproductive behavior in Latin America is responsive to economic development in much the same way as in Europe and Japan. This is borne out by the appearance in the region of certain familiar connections between social conditions and reproductive level. It will be recalled that the decline of the birth rate in Argentina was not uniform throughout the nation, but occurred first and mainly in the most urban provinces. An analysis of provincial data in 16 Latin American countries, including those with the highest birth rates, shows that, for dates around 1950, there is a negative association between the number of children per 1,000 women and the birth rate of each province. The average correlation in the 16 countries is $-.70$.[34] This suggests that as the South and Central American countries experience the social changes that are connected with urbanization, their fertility will tend to diminish, as has been the case in Argentina. In other words, the currently high level of fertility of the region in general is not unique, astounding, or unchangeable.

At the same time, it must be recognized that high birth rates at the present time are not identical in demographic significance to high birth rates in the past. The Latin American countries share with other underdeveloped nations the privilege of having lower death rates than the now industrialized nations had at a similar stage of economic

development; or, to put it differently, their death rates have been falling faster than death rates ever fell before. This circumstance, though common to the less-industrialized areas generally, is apparently especially true of Latin America. It may well be that the region has been particularly favored because, being European in language and culture, the transmission to it of modern medical techniques and trained medical personnel from highly industrialized countries is easier than it is for Asia and Africa.

In any case, it is the modern death rates coming prematurely with respect to economic development, together with birth rates that still for the most part remain high, that have given the region a rate of population growth scarcely equaled in the present world and never equaled before by any major region. This fast growth is relatively new, dating primarily from 1920 when the application of modern medicine became largely independent of local economic development. In the case of Latin America it has, curiously, been helped along by continued immigration. There is, of course, a tendency for free migrants to move in the direction of areas with higher levels of living. Thus Jamaicans migrate to Britain and the United States and there is a generally strong movement into the United States from the whole Latin American area. But, in addition, there is apparently another, weaker pull exercised by open spaces independently of the level of living. For instance, as we have seen, Italy has been in recent years more prosperous than most Latin American countries, yet there has continued to be a current of migration from Italy to South America. Southern and eastern Europe generally has supplied immigrants to the latter continent, and yet its level of living has generally been superior.

As for the future, it seems as if in certain ways the Latin American people are trying to repeat the history of the highly industrial countries. The urban middle classes are controlling their reproduction to some extent. Efforts to expand the economies are meeting with considerable success. Urbanization is going ahead rapidly; education is advancing. Yet, along with other difficulties, the special demographic problems confronting all underdeveloped areas are also strongly plaguing Latin America. The unprecedented population growth is getting in the way of economic development, at a time when individual and national aspirations are soaring without limit. This situation is helping to thwart, as have other difficulties in the past, the efficient exploitation

of the physical resources so abundantly available to the people of the region.

In a way, the natural abundance has been illusory. It has led to the attitude that discipline and organization, skill and technique, were hardly required. It has given an excuse for not taking runaway population growth seriously. The historical record demonstrates that the rich resources have not been used for economic development. They have been used, especially in recent decades, to maintain more people at a lagging level of life. Thus, as we have seen, the Old World countries, confined to their long-exploited national territories, have moved ahead just as fast economically, or faster. Japan, notoriously deficient in geological wealth, has gone through an entire industrial revolution, and has controlled its population to boot, while Latin America has dawdled. It is probably not too late for the latter region—at least a great part of it—to emulate Japan and northwest Europe. Whether it does so or not depends on how effectively it deals with problems peculiar to today's world, including rates of human multiplication that have a doubling period of 20 to 25 years. Economic progress is a function of the trained quality rather than the number of people. It is a function of the science and skill applied to resources rather than the abundance of those resources.

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[1] The chief exceptions are communist countries.

[2] Computed from YEARBOOK OF NATIONAL ACCOUNT STATISTICS, New York, the United Nations, 1962, Part D, Table 3; and from DEMOGRAPHIC YEARBOOK, New York, the United Nations, 1961, Tables 1 and 4.

[3] These are weighted averages, computed by dividing the total population of each group of countries into the total product. The unweighted averages are $294 and $343.

[4] Cook, Sherburne F., and Borah, Woodrow, The Rate of Population Change in Central Mexico, 1550–1570, *The Hispanic American Historical Review,* 37, 463–470, November, 1957.

[5] Cook, Sherburne F., and Simpson, Lesley B., THE POPULATION OF CENTRAL MEXICO IN THE SIXTEENTH CENTURY, Berkeley, University of California Press, 1948. For 1519 the authors estimate the population of Central Mexico as being 10½ million, and they think it fell to a minimum of about 1½ million sometime in the latter half of the 17th century (*see* pp. 43–48). In a later work, THE INDIAN POPULATION OF CENTRAL MEXICO, 1531–1610, Berkeley, University of California Press, 1960, Cook and Borah utilize additional sources to document the decline of the aboriginal population during the 16th century as "one of the great catastrophes in the history of the human race" (p. 50). *See also* Kubler, George, Population Movements in Mexico, 1520–1600, *The Hispanic American Historical Review,* 22, 606–643, 1942.

[6] *See* Parsons, James J., ANTIOQUEÑO COLONIZATION IN WESTERN COLOMBIA, Berkeley, University of California Press, 1949, pp. 29–30, 34–35, 44–53; Kubler, George, The Quechua in the Colonial World, in HANDBOOK OF SOUTH AMERICAN INDIANS, Bureau of American Ethnography Bulletin 143, Vol. 2, pp. 334–340. The population of Peru in 1586 was estimated to have been about 1,103,000, certainly a third or less than it was under the Incas. In 1795 the population was less—851,000, according to a census of that year. *See* Kubler, George, THE INDIAN CASTE OF PERU, 1795–1940, Washington, D. C., The Smithsonian Institution, Institute of Social Anthropology, Publication No. 14, p. 64; Rowe, John H., INCA CULTURE AT THE TIME OF THE SPANISH CONQUEST, *ibid.,* pp. 84–85.

[7] Roberts, George W., THE POPULATION OF JAMAICA, Cambridge, Cambridge University Press, 1957, pp. 330–331.

[8] *Ibid.,* p. 33.

[9] *Ibid.*, pp. 36–37. "Rates of this magnitude attest to the severe mortality suffered by the slaves and presumably also to their low fertility."

[10] Janer, José, Population Growth in Puerto Rico and Its Relation to Time Changes in Vital Statistics, *Human Biology*, 17, 267–313, December, 1945.

[11] Statistical series for economic levels in Latin America do not go back far. However, in the first half of the 19th century, the wars of independence and the ensuing instabilities were hardly conducive to rapid economic growth. In the latter half of the century, economic improvement was still slow. Zimmerman calculates that from 1860 to 1913 the gain in per capita income for the Latin American region as a whole was .89 per cent per year. This rate, he finds, was exceeded by every region except Oceania, China, and Southeast Asia. (Zimmerman, L. J., The Distribution of World Income, 1860–1960, in ESSAYS IN UNBALANCED GROWTH, edited by Egbert de Vries, The Hague, Monton, 1962, p. 35.)

[12] Clark, Colin, Do Population and Freedom Go Together? *Fortune Magazine*, December, 1960.

[13] *Economic Bulletin for Latin America*, New York, the United Nations, Vol. 7, 221, October, 1962.

[14] YEARBOOK OF NATIONAL ACCOUNTS STATISTICS, New York, the United Nations, 1962, Part D, Table 3.

[15] DEMOGRAPHIC YEARBOOK, New York, the United Nations, 1960, Table 4.

[16] Given $S = B - aD$, and $I = B - D$, where "S" is the population age 5, "B" is births, "D" is deaths, "a" is the ratio of deaths under age 5 to all deaths, and "I" is the natural increase, we solve to get $B = (S - aI)/(1 - a)$.

The help of Andrew Collver in conducting the computations on which the fertility estimates are based is gratefully acknowledged. A member of the staff of International Population and Urban Research, he is engaged in an extensive study of fertility trends in Latin America. The results of this study, given in preliminary fashion here, will eventually appear in a separate publication.

[17] Bogue, Donald J., THE POPULATION OF THE UNITED STATES, New York, The Free Press of Glencoe, 1959, p. 291.

[18] The percentage in Australia was 55 (in 1947); in the United States, 56 (in 1950); in France, 34 (in 1954), and in Italy, 27 (in 1951). For comparative data, *see* Gibbs, Jack P., and Davis, Kingsley, Conventional versus Metropolitan Data in the International Study of Urbanization, *American Sociological Review*, 23, 504–514, October, 1958; also, Davis, Kingsley, and others, THE WORLD'S METROPOLITAN AREAS, Berkeley, University of California Press, 1959 (translated as LAS AREAS METROPOLITANAS DEL MUNDO, Mexico, D.F., Compania Editorial Continental, S.A., 1961).

[19] The correlation coefficient between percentage urban and the number of children 0–4 per 1,000 women aged 15–59 in the provinces and territories was:

1869	−.37	n = 15
1895	−.39	n = 24
1914	−.37	n = 25
1947	−.75	n = 24

[20] According to a footnote in DEMOGRAPHIC YEARBOOK, New York, United Nations, 1959, p. 209.

[21] *Ibid.*

[22] The recorded death rate fell from 18.3 per 100 in 1940–44 to 8.3 in 1960–62.

[23] It is quite possible that in some countries the balance has gone the other way. For instance, the birth rate in Jamaica has apparently risen substantially, and it may have done so in some other Caribbean areas. In addition to the effect of improved general health and control over those diseases that specifically affect fecundity (such as venereal disease), there are social factors, such as fuller

employment and the stabilization of marital unions, that may tend to increase fertility in some Caribbean and Central American areas.

[24] *See* Davis, Kingsley, and Blake, Judith, Social Structure and Fertility: An Analytic Framework, *Economic Development and Cultural Change,* 4, 211–235, April, 1956. Space does not allow consideration of other means than marital postponement and celibacy in this paper.

[25] *See* Table 9. This point will be discussed later.

[26] More women are generally recorded as legally married, and more are almost invariably recorded as consensually married, than men. For 20 Latin American countries for dates around 1950, the average excess of females per 100 males was 1.9 for legally married and 10.2 for consensually married. The greater excess in the consensual category may arise mainly from the fact that men involved in consensual unions prefer more strongly to record themselves as single, or to the tendency of concubines of married men to record themselves as consensually married, while the male partner records himself as legally married, or both. Actually, it may also be that a considerable number of consensually married women are recorded as legally married, since the person giving the information would not know the actual situation. This would, if it were a fact, help to account for the excess number of females in the legally married category. However, the latter situation, common in many regions, can be mostly accounted for by the tendency of husbands when away from home to be recorded as single.

[27] For further analysis of this point, *see* the writer's The Theory of Change and Response in Modern Demographic History, ***Population Index,*** 29, 345–366, October, 1963.

[28] Application of this technique to Latin American countries I owe to J. R. Rele, on the staff of International Population and Urban Research. He has given additional help in the analysis of marital status for this paper.

[29] Hatt, Paul K., BACKGROUNDS OF HUMAN FERTILITY IN PUERTO RICO, Princeton, N. J., Princeton University Press, 1952, p. 48.

[30] *Ibid.,* pp. 133–142, 267–272.

[31] *Ibid.,* p. 326.

[32] Blake, Judith, FAMILY STRUCTURE IN JAMAICA, New York, The Free Press of Glencoe, 1961, pp. 45–48, 178.

[33] *Ibid.,* pp. 246–250.

[34] The correlation coefficients for each country are as follows:

Brazil (1950)	−.80	Guatemala (1950)	−.74
Chile (1950)	−.67	Haiti (1950)	−.71
Costa Rica (1950)	−.89	Honduras (1952)	−.23
Cuba (1953)	−.92	Mexico (1950)	−.63
Dominican Rep. (1950)	−.77	Nicaragua (1950)	−.75
Ecuador (1950)	−.50	Panama (1950)	−.96
Bolivia (1950)	−.60	Peru (1940)	−.56
El Salvador (1950)	−.94	Venezuela (1950)	−.51

The work of correlating fertility and degree of urbanization by provinces is part of a larger study of differential fertility in Latin America being undertaken by our research office. David Heer and Elsa Schamis Turner have been mainly responsible for this research. The analysis will be published soon in another place.

Dr. Irene B. Taeuber: Kingsley Davis has made a notable preface for the conference. He has demonstrated three fundamental points. One, there is a Latin American region. Two, there are many diversities within this Latin American region. Three, Latin Americans respond to development or its absence as do other peoples on other continents or in other time periods.

The uniqueness of Latin America, in so far as there is a uniqueness, is in the explanation of social and economic factors, not the response of fertility and mortality to those factors. There are two questions for research: First, what are the explanations and associations of the high level of fertility? Second, what are the factors associated with the generation and persistence of the economic retardation, the resistant social structures, and the associated political instabilities?

There are major elements of uncertainty and possibly many special historical factors in the high fertility in most of the Latin American countries. The population bases involved relatively limited migrants of European origin. In contrast with the northern part of the hemisphere, there were major indigenous populations. Moreover, the white Europeans of the Latin American countries were less predominantly labor and lower middle class than those who settled North America. Conquistadores, soldiers, and priests were relatively more numerous, farmers and artisans relatively less numerous. There was not the extermination of the natives which characterized much of the northern part of the hemisphere. Instead, there was a blending and intermingling of peoples and groups. Color and ethnic differences persist in Latin America, but they tend to be gradations along a continuum, not a dichotomy of white and nonwhite, of peoples of European and peoples of African origins.

I would suggest the area of cultural interrelations as one for demographic explorations. The persistently high levels of fertility may be associated with these relationships. In the Philippines and elsewhere in southeast Asia, as in the islands of the southwest Pacific, the overlay of the values of invading and powerful peoples led to reductions in the controls that were in the indigenous cultures but did not replace them by the controls prevalent in the superculture.

One of the most hopeful areas for research contributions to the explanations of fertility levels and differences involves the study of marriage, family, and legitimacy. This is a field appropriate for separate, co-operative, or joint research by anthropologists, sociologists, and demographers. There seems to be partial adjustment of sex codes, reproductive mores, and family institutions to the new orders, with marital instabilities, male irresponsibility, illegitimacy, and quasi-legitimacy. What are the origins, dynamics, and destinations of the processes?

In a larger research frame, research in other areas and among other peoples of other cultures and periods provides a base for objectivity and a source for hypotheses as to the analysis of the marital instabilities, the illegitimacy and the quasi-illegitimacy, and the specific roles and responsibilities of women in the moving Negro population of the United States.

I assume that the technical aspects of reverse survival of the age distributions of populations as a basis for evaluating historical trends in fertility will be considered in some detail later in these sessions.

Dr. Alberto Arca-Parró: I appreciate very much the opportunity given to me to comment on this very interesting paper, and I shall try to do it chronologically.

We have two different situations. One group of countries was discovered and founded by the Spaniards. Within this group are parts of the Americas where they already had important native civilizations, as in Mexico, Peru, Bolivia, and Ecuador, and parts of Colombia. On the other side of South America we have an enormous territory which was discovered by the Portuguese, and they faced an entirely different situation. In Mexico and Peru the colonists found wonderful, developed civilizations, with social administration and with power to use for their own benefit, which they did. They did not have to bring

large groups. That is why, as has been mentioned, there were few settlers. There was the possibility of using native foods and their social organizations, too. To my understanding, this setting of a feudal society at least for a very long time really has had an enormous impact on the growth of those countries. Until some 20 or 30 years ago, the classes of people who were in the ascendancy had developed their own social position in life and thought they had a right to enjoy the benefits of a high standard of living and the rest of the people would have to submit, as they had for years under a feudal society.

That is why we really did not mind or care so much about what was happening to the population in those countries until some 20 or 30 years ago, because 10 per cent of the population was enjoying a good standard of living and did not care about the rest. Just within the last 20 or 30 years, new concepts have arisen and people are awakening to new aspirations. Everybody wants better conditions of living. That is why we have the problem now and our population has grown so much within the last 20 years or so. References have been made so profusely in the newspapers that I do not need to repeat them. I should simply like to emphasize the existence of aspirations for new standards of living, for new professions, and the fact that nobody wants to stay just as he was years ago.

Latin America faces the enormous problem of having economic limitations, especially from the financial point of view, in setting up all the social services that are required for our enormous proportion of the school-age population. There is so much more to spend for schools, colleges and universities, hospitals, and social services than was the case 20 years ago.

It is really a complex of concepts and problems that we are facing now. Until 20 years ago, nobody in South America was really concerned about how we could produce more food. We were underfed, maybe, but people just accepted the situation. Now nobody wants to accept that situation. It is only in the past 20 years or so that, in some of the countries, the leaders have tried to increase productivity. Until 20 years ago, schools were producing good technicians for sugar cane and for cotton growing because those were the products that could be used for export. We claim that potatoes were discovered by the Spaniards in Peru, where they were highly developed during the days of the Incas. There are so many varieties that nobody thought we

should have technicians at the universities try to develop new methods to produce more potatoes or more corn.

In the past 20 years or so, things have changed and we are facing so many problems at once because of economic limitations and the enormous demand for social services. That is really the main problem we are trying to solve from different points of view in Latin America.

There are differences in the Latin American population, as I mentioned in the beginning, and we should differentiate the impact of the Spanish, the Portuguese, and the British colonies according to the kind of civilization that was found in each case. In one case a highly developed situation gave a chance for a feudal society, with social and political repercussions for a long time in South America.

Mr. George W. Roberts: I should like to ask Dr. Davis if he would comment further on the statement in his paper concerning the rising fertility which the 1960 census suggests. In the West Indies we have noted some rises in birth rates, although there has been, at the same time, a decline in the size of completed families. These movements seem closely associated with declines in the proportion of childless women, which have also been observed. I should like to know whether similar movements, especially in respect of childless women, have been found by Kingsley Davis in Latin America.

Dr. Forrest E. Linder: I should like to challenge one statement Kingsley Davis made and ask him to justify it a little better. He said that one of the major defects in the Latin American collection of basic demographic data is the unimaginative application of North American and European standards and concepts. It seems to me this statement ignores completely the tremendous amount of Latin American cooperation and work that has been done. Dr. Arca-Parró, our colleague, suggested the Census of the Americas in the early 1940s, and this has been followed by most intensive regional and international consultations on standards and methods, which have been continued into preparation for the censuses of 1960. If the United States and European standards and concepts were applied in Latin America, this application has been made, I believe, because the Latin Americans themselves thought that they were applicable.

Dr. Reed: Our time is getting on, and I shall ask Dr. Davis very briefly to answer the questions and to summarize.

Dr. Kingsley Davis: I have been most pleased with this discussion. I note that both Señor Arca-Parró and Dr. Taeuber were talking about a similar point. In certain of the countries which had strong indigenous populations, careful investigation of the ethnic diversity and the influence of this on the subsequent social structure, including the family structure, I think is a major point worth keeping in mind.

On the matter of whether Latin American countries are generally alike or dissimilar, I am the first to agree that they are very dissimilar. In fact, I would be bored to death with the area if they were all alike. You could study one and would not have to study the others. However, in this matter I am something of a pragmatist. When I am told of historical differences or general social differences, as a demographer I want to find out how they show up in the demography. I am sure some of these differences will show up, but I would encourage everybody not to be satisfied with the mere statement that the differences are there, but to find out how they show up in the dynamics of the society. Very frequently the differences are changing. The countries may be growing more similar or they may be growing more different in their demography.

One of the differences that I think exists is that between some of the non-Spanish Caribbean areas and the Spanish-speaking areas with reference to fertility, the point that Professor Roberts brought up. One of the questions my group has sought to answer is whether any of the apparent increases in fertility in the Spanish-speaking countries have been realities. So far, we cannot produce evidence of any substantial rise in fertility.

I take it that the situation is different in Jamaica where there has been an increase. Consequently, I cannot answer in detail the question raised. My guess is that there has not been in most of these countries much change, but this is just a guess so far.

With reference to Forrest Linder's point, I would like to use his very apt comment to state one of the great benefits demographers have reaped. The census program has been helped along by the United Nations, but also has been helped along mainly by the countries that have put those censuses into effect. We have a lot of valuable data as a result.

My remark about unimaginative census schedules arises out of my frustration in trying to get something on marital status in Latin America. Just deciding to ask, "Are you married consensually or legally?" and letting it go at that, is not adequate. Consensual unions, in my estimation, are not just like legal unions except that they are not legal. The differences are far more fundamental than that. At the present time I do not think we have adequate data on marital status. I think more sociological knowledge behind the construction of the question in the first place would have yielded information that we could now utilize and for which we have to depend mainly on special surveys.

I probably have generalized too much on that one thing. Another subject in which relatively little imagination has been used is the whole business of metropolitan delimitations. There are a lot of improvements possible. I did not mean to imply that people are negligent. I do think they should have had more demographers at work on the census plans—at least a higher ratio of demographers to general statisticians, if I may put it that way.