THE REGIONAL APPROACH TO THE STUDY OF HIGH FERTILITY[1]

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THE regional approach to the study of high fertility has proved at the hands of our social demographers one of the happiest of scientific unions, that between statistics and geography. By the use of quantitative measures, notably the ratio of infants to 1,000 women of child-bearing age, it has delimited areas of excess fertility and furnished the rates of net replacement in terms of the operation of present mortality and fertility schedules over a generation. These studies indicate that the main areas of high replacement ratios tend to coincide with areas of high economic density, measured in terms of the relation of population to effective use of resources. The main areas are found to be the Southern Appalachians, certain tenancy areas of the Cotton Belt, and certain subsistence areas of the Southern coastal and tidewater subregions.

Roughly the two main approaches to the study of regional fertility differentials may be regarded as statistical and cultural. In the brief space at our disposal we may locate extra fertility in the Southeast[2] and show the extent to which the statistical approach has served to differentiate the region from the Nation. The second part of the paper may well be devoted to consideration of the cultural content of the high fertility complex.

PART I—DEMOGRAPHIC ASPECTS

Students of population are interested in the extent to which the

[1] A contribution from the Study of the Southern People, a project of the Institute for Research in Social Science of the University of North Carolina. All statistical computations are by Nadia Danilevsky, statistical assistant of the Institute. This paper was read in substantially its present form at the Nineteenth Annual Conference of the Milbank Memorial Fund.

[2] The delineation of the Southeast follows that developed by Howard W. Odum in SOUTHERN REGIONS OF THE UNITED STATES. Chapel Hill, University of North Carolina Press, 1936.

Southeast's high birth rate can be related to special conditions of the area, the extent to which the decline in fertility from 1920 to 1930 is due to changes in these conditions, and the effect that mortality now has on potential births. In addition we have calculated the region's comparative prolificacy rates, its schedule of marriage expectation, and the degree to which changes during the 1930's were due to migration and natural increase.

FACTORS IN THE SOUTH'S EXTRA FERTILITY

What is responsible for the Southeast's extra fertility? Do the people of the region have a higher birth rate because they are more rural, because they are younger, or because of their racial composition? To the extent that Southern fertility is found not to depend on these factors, it must be due simply to the tendency of women of given ages to have more children, that is to higher age-specific fertility.

When all factors affecting fertility in the Southeast are held as in the Nation, it simply means that we must assume that the population of the Nation has shrunk to the size of the Southeast, keeping all its specific birth rates unchanged. If in 1930 these four factors had been the same in the region as in the Nation, births in the Southeast (Table 1) would have been reduced by 82,760—a decrease of 14.6 per cent. National ratios in the distribution of races would reduce total Southern births by only .5 per cent; in rural-urban residence,[3] by 2.5 per cent; in age, 3.2 per cent. Age-specific fertility is thus responsible for a reduction of 47,691 births or 8.4 per cent of the total number. Thus it can be seen that over half of the area's extra fertility is simply due to the tendency of women in the region—irrespective of race, rurality, or of age difference—to have more children. Given the race, the rural-urban, and the age distribution characteristic of the Nation, births in the Southeast would be reduced only 6.2 per

[3] Urban population is here defined as in the Vital Statistics reports as population in cities of 10,000 or over.

Item	Total		White		Colored	
	Number	Per Cent	Number	Per Cent	Number	Per Cent
Actual Number of Births in the Southeast	567,434	100.00	391,026	100.00	176,408	100.00
Estimated Number of Births (4 Factors as in U. S.)	484,674	85.42	428,131	109.49	56,543	32.05
Reduction in Number of Births Due to 4 Factors: Total	−82,760	−14.58	37,105	9.49	−119,865	−67.95
1. Age-Specific Fertility Rates as in U. S.	−47,691	−8.40	−39,329	−10.06	−8,362	−4.74
2. Urban-Rural Distribution as in U. S.	−14,088	−2.48	−14,106	−3.61	18	0.01
3. Age Composition as in U. S.	−17,847	−3.15	−14,625	−3.74	−3,222	−1.83
4. Race Composition as in U. S.	−3,134	−0.55	105,165	26.89	−108,299	−61.39

Table 1. Comparative importance of factors reducing the number of births in the Southeast under the assumption of conditions as in the United States in 1930.
Number of births not corrected for under-registration. Urban population includes cities of 10,000 inhabitants and over; rural—the rest of the population. Population of United States as for the Registration Area of 1930.
Source: United States Birth, Stillbirth, and Infant Mortality Statistics, 1930, Tables I and IV. Statistical Abstract of the United States, 1937, Table 11.

cent. This higher specific fertility may be taken as an index of the lag in the practice of family limitation in the region.

REGIONAL PROLIFICACY RATES

Extra fertility of the Southeast can be shown by the computation of prolificacy rates after the methods devised by Lotka and Burks and developed by Whelpton and Jackson.[4] Table 2 indicates for the Nation and the Southeast the percentage distribution of wives by the number of births according to current fertility and life tables. In

[4] *See* Whelpton, P. K. and Jackson, Nelle E.: Prolificacy Distribution of White Wives According to Fertility Tables for the Registration Area. *Human Biology*, February, 1940, xii, No. 1, pp. 35-58.

Number of Births	1919–1921		1929–1931	
	United States	Southeast	United States	Southeast
0	12.0	9.5	23.1	19.1
1	20.6	14.1	20.0	17.8
2	17.7	14.0	19.4	17.8
3	13.8	13.4	12.1	10.7
4	10.2	8.8	7.7	8.0
5	6.8	7.7	4.9	6.0
6	5.0	6.9	3.6	4.7
7	3.8	6.3	2.4	3.9
8	3.1	5.3	2.0	3.3
9	2.3	4.9	1.5	3.2
10 and Over	4.7	9.1	3.3	5.5

Table 2. Prolificacy rates of white wives in the United States and the Southeast, 1919-1921 and 1929-1931.

Note: Prolificacy rates give the percentage distribution of wives by number of births according to current fertility, marital status, and life tables. Prolificacy rates for the United States computed by P. K. Whelpton. All births corrected for under-registration. Only legitimate births are taken into account. The Southeastern rates for 1929–1931 computed on the basis of the order of births in 1930.

Source: "Prolificacy Distribution of White Wives According to Fertility Tables for Registration Area," by P. K. Whelpton and N. E. Jackson. *Human Biology*, XII, February, 1940, p. 54. Sources given in Table 3.

1930 we find the Nation led in the proportion of white wives with three children or less. Only 65.4 per cent of white wives in the South had three births or less as compared to 74.6 per cent in the Nation. Both areas showed great increase from 1920 to 1930 in the proportion of small families, the largest increase being in the zero order of births. In 1930, 23.1 per cent of the wives in the Nation and 19.1 per cent of those in the Southeast had no births. In the proportion with six or more births, the region has 20.6 per cent of its white wives as compared to 12.8 for the Nation.

Comparison of prolificacy distribution as between white and colored women in the Southeast (Table 3) is made difficult by the high percentage of Negro illegitimacy, reaching about 13 per cent of all births in 1930. Illegitimate births are largest among first-order births, but with these counted a much larger proportion of Negro wives are found to have one or no children. Table 3 shows that 27 per cent of Negro women have no births as compared to 19 per cent

of white women, while 28.8 per cent Negroes have one birth as compared to 17.8 per cent of white women.

Number of Births	1919–1921	1929–1931
0	18.1	27.0
1	29.7	28.8
2	9.0	10.9
3	6.7	6.2
4	7.0	4.2
5	4.8	4.2
6	4.3	3.8
7	4.0	2.9
8	4.3	2.9
9	2.7	1.8
10 and Over	9.4	7.3

Table 3. Prolificacy rates of colored wives according to current fertility and life tables in the Southeast, 1919-1921 and 1929-1931.

Note: Life tables computed on the assumption of 100,000 new-born girls. All births corrected for under-registration. For white and colored wives all births (legitimate and illegitimate) are taken into account. Order of births is computed for colored as of 1920 and 1930.

Source: United States Birth, Stillbirth, and Infant Mortality Statistics, 1930, p. 243, Table 7; p. 232, Table 6; p. 15, Table Q. United States Birth Statistics, 1919, 1920, 1921: Tables 7 and 8. Sources quoted in Table 1, 37 (Age-specific fertility rates by color) and Table 23 (Abridged Life Tables, 1929–1931, Southeast). United States Life Tables, 1930, prepared by the Bureau of the Census, Tables IV B and IV D.

MARRIAGE EXPECTATION

High fertility of a population, as often pointed out, is accompanied by a greater frequency of marriage and younger age of marriage. Our calculations (Table 4) indicate that women in the Southeast have a high rate of expectation of marriage to speak in terms of the life table. At survival and first marriage rates prevailing in the region in 1930 we estimate that at birth 83.3 per cent of white females will live to be married. Similar calculations for Negroes give a percentage of 77.9. These ratios are low partly because of the toll that mortality takes before these females reach nuptial age. At its highest point, age 10 for whites and 15 for colored, the rate is 90.8 per cent first marriage expectancy for whites and 88.5 per cent for colored. After this age the rate diminishes until few of the women left single at age 45 can look forward to marriage. According to our calculations, 17.9 per cent of the single colored women of 45 and 3.2 per cent of the white women will marry. Marriage expectancy rates for the national population have not yet been calculated.

THE DECLINE IN BIRTHS 1920-1930

Following the method developed by Thompson and Whelpton,

Age x	Female Survivors at Age x (1)	Percentage Married at Age x (2)	Number Married Survivors at Age x (3)	Number Deaths Among Married During Interval x to $x+5$ (4)	Number First Marriages During Interval x to $x+5$ (5)	Cumulative Number Marriages to Age x (6)	Number Single Survivors at Age x (7)	Marriage Expectation at Age x (8)
0	100,000	0	0	0	0	83,301	100,000	83.3
5	92,975	0	0	0	0	83,301	92,975	89.6
10	92,273	0	0	0	0	83,301	92,273	90.3
15	91,751	0	0	186	42,032	83,301	91,751	90.8
20	90,772	46.10	41,846	933	26,549	41,269	45,926	84.3
25	89,236	75.60	67,462	1,417	9,726	14,720	21,774	67.6
30	87,505	86.59	75,771	1,807	3,398	4,994	11,734	42.6
35	85,473	90.51	77,362	2,050	930	1,596	8,111	19.7
40	83,224	91.61	76,242	2,386	465	666	6,982	9.5
45	80,626	92.18	74,321	2,813	201	201	6,305	3.2
50	77,582	92.43	71,709					

Table 4. Marriage expectation table for white women in the Southeast, according to marital status as of 1930 and mortality rates of 1929-1931.
SOURCE: FIFTEENTH CENSUS OF THE UNITED STATES, 1930, Population, II, Chap. 11, Tables 9, 17, 18, 19; Chap. 10, Table 28. All sources necessary for the computation of life tables for the Southeast.

we have attempted to measure the influence of factors related to the decline in births in the Southeast from 1920 to 1930 (Table 5). Statistically these factors can be segregated by race, age-sex composition, rural-urban residence, and specific fertility. The decline in age-specific fertility was found to be of much greater importance than all other changes in population composition. The 641,689 births occurring in 1929-1931 amounted to 88.1 per cent of the births in 1918-1921. Twelve per cent of the births, however, were due to the increase in the numbers of the population of 1930 over 1920. Changes in age-sex composition were actually favorable to a slight increase of 2.2 per cent in births while changes in rural-urban distribution accounted for a loss of only 1.6 per cent. Thus for the total population of the Southeast, the decline in specific fertility accounted for a loss of 180,803 births, a decline of 28.8 per cent from the 1918-1921 level.

For the total population, changes in race composition accounted for practically no differences. For the white population considered

separately it meant a gain of 4.3 per cent in births, for the colored a loss of 8.6 per cent. Change in rural-urban distribution meant slight losses in births—1.5 per cent for the white and 1.9 per cent for the colored. The change in age-sex distribution favored increased births for both races, 2.4 per cent among the white and 1.8 per cent among

Table 5. Actual difference in number of births by color and its component parts due to change of various factors from 1920 to 1930 in the Southeast.

Item	Total		White		Colored	
	Number	Per Cent	Number	Per Cent	Number	Per Cent
Number of Births in 1918–1921[1]	729,083	100.0	490,667	100.0	238,416	100.0
Number of Births in 1929–1931[1]	641,689	88.1	441,360	90.0	200,329	84.0
Actual Change in No. of Births from 1920 to 1930 (5 Factors as of 1930)	−87,394	−11.9	−49,307	−10.0	−38,087	−16.0
1. Due to Size of Population as of 1930	89,021	12.2	59,910	12.2	29,111	12.2
2. Due to Age-Specific Fertility Rates as of 1929–1931	−180,803	−28.8	−134,324	−27.4	−46,479	−19.5
3. Due to Age and Sex Composition as of 1930	15,848	2.2	11,605	2.4	4,243	1.8
4. Due to Urban-Rural Distribution as of 1930[2]	−11,859	−1.6	−7,401	−1.5	−4,458	−1.9
5. Due to Race Composition as of 1930	399	0.05	20,903	4.3	−20,504	−8.6

[1] Number of births in 1929–1931 and in 1918–1921 corrected for under-registration by Whelpton's method.

[2] Urban includes cities of 10,000 inhabitants and over; rural—remaining population.

NOTE: Method adapted from Thompson and Whelpton, POPULATION TRENDS IN THE UNITED STATES, p. 283.

SOURCE: National Resources Committee, October 1937, POPULATION STATISTICS, STATE DATA, pp. 3 and 7; FOURTEENTH CENSUS OF THE UNITED STATES: 1920, Population, Vol. II, Chapter 3, Table 13; Vol. III, Table 10: FIFTEENTH CENSUS OF THE UNITED STATES: 1930, Population, Vol. II, Chapter 10, Table 24; Vol. III, Table 12: UNITED STATES BIRTH, STILLBIRTH, AND INFANT MORTALITY STATISTICS: 1918–1921 and 1929–1931.

the colored population. For the whites the decline in age-specific fertility accounted for the greater loss in births, a decline of 27.4 per cent as compared to a loss of 19.5 per cent of the Negro births as of 1920. Negroes suffered a greater loss of potential births, 16 per cent as compared to 10 per cent among whites. Part of their losses can be laid to interregional migration since they lost 8.6 per cent of 1920 births by changes in race distribution in contrast to a 4.3 per cent gain among white groups.

Several conclusions emerge from this analysis. It is true that specific fertility irrespective of race, residence, and age-sex composition accounts for higher reproduction in the Southeast. The Southeast appears to have a fertility differential in excess of what can be accounted for by other measurable demographic and social characteristics. The calculation of specific fertility by income status, if it were possible, might account for much of this disparity. It is also shown that the decline in specific fertility is more important than all other changes in reducing reproduction in the region from 1920 to 1930. The figures indicate, as we shall see later, that the process continued in the period 1930-1940.

THE EFFECT OF MORTALITY ON BIRTH RATES IN THE SOUTHEAST 1920 AND 1930

What is the effect of deaths of mothers, actual and potential, on births in the Southeast? The loss in potential births because of mortality among women in the child-bearing ages, 15 to 50, is very small, falling under 1 per cent of all births for the period 1929-1931. The great losses in births thus come from the deaths of women before age 15, largely infant mortality. Table 6 shows that according to the fertility and mortality rates of 1929-1931, the annual differences in births caused by the deaths of white women from birth to age 50 was 59,030—equal to a loss of 13.4 per cent of annual births in the actual population of 1930. For 1918-1921, the loss was much greater, 104,139, or 21.2 per cent of actual births. Deaths of colored women

Period and Age Group	White		Colored	
	Actual No. Births	No. Births Lost	Actual No. Births	No. Births Lost
1929–1931				
15–19	63,545	6,086	47,373	7,750
20–24	133,909	14,812	63,751	13,486
25–29	107,722	14,190	40,505	11,199
30–34	70,504	11,022	24,630	8,771
35–39	47,177	8,760	17,808	8,045
40–44	16,763	3,700	5,347	3,074
45–50	1,740	460	915	676
Total	*441,360*	*59,030*	*200,329*	*53,001*
1918–1921				
15–19	58,674	8,474	48,486	11,196
20–24	140,329	23,836	73,615	22,388
25–29	122,014	25,026	51,019	20,316
30–34	84,896	20,880	30,267	15,509
35–39	61,107	17,781	25,456	16,358
40–44	21,303	7,230	7,807	6,204
45–50	2,344	912	1,766	1,765
Total	*490,667*	*104,139*	*238,416*	*93,736*

Table 6. Actual number of births and yearly number of births lost due to mortality of women from birth to the end of the reproductive period in the Southeast, 1929-1931 and 1918-1921.

Source: National Resources Committee, Population Statistics, State Data, pp. 3 and 7; Fourteenth Census of the United States: 1920, Population, Vol. II, Chapter 3, Table 13; Fifteenth Census of the United States: 1930, Population, Vol. II, Chapter 10, Table 24; United States Mortality Statistics: 1929, 1930, 1931; Mary Gover, Mortality Among Southern Negroes Since 1920, *Public Health Bulletin* No. 235, p. 8; Lorimer, Frank and Osborn, Frederick: Dynamics of Population, Appendix B, p. 356.

exact a much greater toll—26.5 per cent of annual births in 1929-1931 and 39.3 per cent in 1918-1921.

It may be of interest to relate these calculations to the birth rate of the region. The actual birth rate in 1930 (with number of births averaged for the period 1929-1931) was 25.0. If none of the births had been lost, the rate would have been 29.4. In 1920 (births averaged for 1918-1921) the actual birth rate was 31.9 for the total population. If all mothers had been saved from death from age 0 to 50, the birth rate would have been 40.5 per thousand. It is evident that these contrasting figures combine the two trends of lowered mortality and lowered fertility from 1920 to 1930 in the Southeast.

These calculations lead us to significant conclusions. As the South becomes more like the Nation, its births will decline; but as health conditions improve, births would presumably rise. Contraception for the masses thus would become more important as an issue.

REGIONAL CHANGES, 1930-1940: MIGRATION VERSUS NATURAL INCREASE

It is now possible to apportion recent changes in population between the factors of migration and natural increase. Census figures (Table 7) indicate that from 1930 to 1940 the Southeast increased its population by 10.1 per cent—a rate which exceeded that of all other regions except the Far West. The Southeast's increase of 2,710,931 was the Nation's largest, making up over 30 per cent of the Nation's total natural increase.

The reduction of regional changes to their constituent elements of natural increase and migration shows what is happening in the Nation. Subtraction of the excess of births over deaths during the decade, 1930-1940, shows that the Far West was the only region to show an appreciable gain by migration, 15 per cent.

Table 7. Total change in population, natural increase, and migration movement during the decade, 1930-1940, in the United States and six regions.

Area	Total Change		Natural Increase		Migration Movement	
	Number	Rate[1]	Number	Rate[1]	Number	Rate[1]
United States	8,894,229	7.0	8,120,596	6.4	773,633	0.6
Northeast	1,940,298	5.0	1,746,995	4.5	193,303	0.5
Middle States	1,780,130	5.1	1,866,716	5.4	−86,586	−0.3
Southeast	2,710,931	10.1	2,750,392	10.2	−39,461	−0.1
Southwest	702,692	7.5	863,653	9.2	−160,961	−1.7
Northwest	25,938	0.4	635,269	8.6	−609,331	−8.2
Far West	1,558,018	17.2	228,539	2.5	1,329,479	14.7

[1]Average annual rate per 1,000 population.

Source: Sixteenth Census of the United States, 1940: Population, preliminary release of March 22, 1941, Series PH-3 (final data); Statistical Abstract of the United States: 1933, 1935, 1937, 1939; and Vital Statistics, *Special Reports*, Vol. 12, No. 9.

The major gains of every area except the Far West came from natural increase but no region topped the Southeast in this respect. She gained 2,750,392 new souls by the balance of births over deaths and lost only 39,461 by outward migration.

Shifting trends in birth and migration can be shown by comparison of these actual changes with the changes that were estimated by Thompson and Whelpton (Table 8) under the two assumptions of (1) no migration and (2) of migration as of 1920-1930. The pattern of interstate migration prevailing during the decade 1920-1930 did not carry over to 1940. The only region for which the "prediction" of migration was close is the Southwest with a loss of 189,000 "forecast" as against 161,000 actual loss. For the Far West actual immigration exceeded immigration assumed by 242,000, and the Northwest exceeded the out migration assumed by 161,000. Where the Northeast was assumed to gain 912,000, it gained only 193,000; where the Middle States were assumed to gain 318,000, they lost over 87,000. The Southeast fell below the out migration assumed from the 1920-1930 pattern by 1,667,000.

Equally significant are the regional contrasts shown in natural increase (Table 8). Areas of low fertility, Northeast, Middle States, and Far West, show greater gains in natural increase than was assumed. Areas of high fertility, the Northwest, Southwest, and Southeast, show much greater decline in natural increase than was expected in the Thompson-Whelpton forecasts. Had out migration reached the heights attained in 1920-1930, the Southeast was expected to show a natural increase of 3,105,000. Actual increase was only 2,750,000. Thus the expected average annual rate of natural increase of 11.8 per 1,000 fell to 10.2. In the Southwest the expected rate of 11.9 gave 9.2 as the actual rate; in the Far West the change from expected to actual rate was from 2.1 to 2.5; in the Northwest from 9.2 to 8.6. We may help to account for these changes by examining the assumptions underlying the Thompson-Whelpton estimates. Thompson and Whelpton assumed that in the

Table 8. Actual change in population during the decade 1930-1940 and estimated change under two assumptions in the United States and six regions. (Population in thousands.)

Item and Assumption	United States	North-east	Middle States	South-east	South-west	North-west	Far West	D. C.
Population, 1930	122,775	38,026	33,961	25,551	9,080	7,385	8,285	487
Population, 1930[1]	123,233	38,153	34,077	25,670	9,118	7,412	8,312	488
Population, 1940								
Actual	131,669	39,966	35,742	28,262	9,782	7,410	9,844	663
Est: No Migration	132,098	39,853	35,940	28,908	10,278	8,137	8,500	488
Est: With Migration	131,865	40,754	36,215	27,069	10,068	7,656	9,586	513
Total Change (1930–1940)								
Actual	8,894	1,940	1,780	2,711	703	26	1,558	174
Est: No Migration	8,865	1,700	1,863	3,238	1,160	725	188	0
Est: With Migration	8,632	2,601	2,138	1,399	950	244	1,274	25
Natural Increase (1930–1940)								
Actual	8,121	1,747	1,867	2,750	864	635	229	29
Est: No Migration	8,865	1,700	1,863	3,238	1,160	725	188	0
Est: With Migration	8,632	1,689	1,820	3,105	1,139	692	187	0
Gain or Loss Through Migration (1930–1940)								
Actual	774	193	−87	−39	−161	−609	1,329	145
Est: No Migration	0	0	0	0	0	0	0	0
Est: With Migration	0	912	318	−1,706	−189	−148	1,087	25
Average Yearly Rate of Change[2]								
Actual	7.0	5.0	5.1	10.1	7.5	0.4	17.2	30.3
Est: No Migration	6.9	4.4	5.3	11.9	12.0	9.3	2.2	0.0
Est: With Migration	6.8	6.6	6.1	5.3	9.9	3.2	14.2	5.1
Average Yearly Rate of Natural Increase[2]								
Actual	6.4	4.5	5.4	10.2	9.2	8.6	2.5	5.0
Est: No Migration	6.9	4.4	5.3	11.9	12.0	9.3	2.2	0.0
Est: With Migration	6.8	4.3	5.2	11.8	11.9	9.2	2.1	0.0
Average Yearly Rate of Migration[2]								
Actual	0.6	0.5	−0.3	−0.1	−1.7	−8.2	14.7	25.3
Est: No Migration	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Est: With Migration	0.0	2.3	0.9	−6.5	−2.0	−6.0	12.1	5.1

[1] Population as enumerated on April 1, 1930 corrected by adding an allowance of 4 per cent for under enumeration of children under 5. Since the forecasts of Thompson and Whelpton are based on this corrected figure, it has been used in computing changes in population predicted by them, while "actual" changes were computed on the basis of Census enumeration in 1930 and 1940. Some discrepancies in the last digits of totals are due to the rounding of figures in thousands.

[2] Annual rate per 1,000 population. Rate of natural increase computed on the assumption of equal increase per year, that is, the total increase during the decade was divided by 10 and related to the mid-value of populations in 1930 and in 1940. The total natural increase computed from January 1, 1930 to January 1, 1940, since final data for the three first months in 1940 were not available.

Source: Estimates of Future Population by States by W. Thompson and P. K. Whelpton, National Resources Board, December, 1934, mimeographed. Sources given in Table 7.

Nation as a whole the birth rate for five-year age periods would drop about 30 per cent from 1930 to 1960, and that by 1960 "the difference between the United States birth rate and that for the urban and rural population of each state would be only one-half as great as in 1930." Two trends seem evident from the 1940 figures: (1) in states of low fertility the birth rate is not falling as rapidly as assumed; (2) in states of high fertility births are falling at a higher rate than that assumed.

Part II—Cultural Studies

Many students no doubt feel that the statistical approach to the study of high regional fertility has stopped short of the level of scientific explanation needed for the understanding of the phenomena or the implementation of social policy. In contrast, however, cultural studies of the high fertility complex in folk regional areas are few and far between.[5] It is safe to say that none of the attempts yet published satisfy the criteria established by anthropology for cultural studies or those set up by social psychology for studies of motivation and attitudes.

Admitting the obvious difficulties faced by such studies, we may well discuss two unsolved problems of theory and method in this field. The first has to do with the involved relation of that culture complex known as the standard of living to the actual level of living as affected by the size of the family. Here we may well inquire as to what extent groups with excess fertility possess standards higher than their actual levels of living. The second unsolved problem is reached when we ask why standards do not go over into family limitation practices. This question should also be attacked as a

[5] A cooperative study of social and psychological factors affecting fertility among a selected native-white group in Indianapolis is now being made under the auspices of the Milbank Memorial Fund, with grants from the Carnegie Corporation of New York. A progress report was presented by P. K. Whelpton, field director of the investigation, at the Nineteenth Annual Conference of the Milbank Memorial Fund. For a summary of the report, *see:* Reed, Lowell J.: Research in Factors Influencing Fertility. *American Journal of Public Health,* September, 1941, xxxi, No. 9, pp. 984-985.

problem in the culture complex. It leads to a consideration of folk attitudes toward sex behavior in the marital relation.

STANDARDS OF LIVING

The point should be made early in the discussion that phenomena related to the standard of living and the pattern of fertility can be viewed from both the cultural and the individual point of view. Individual variations based on differences in intelligence and cultural participation should be expected, but within comparatively isolated folk, regional, and class groups there will be found modal attitudes that blanket these homogeneous communities. Homogeneity is likely to prevail in such areas because standards are limited in two ways: first, to what is known by communication; and second, to what is attainable by economic status. A tenant family will hardly be concerned with keeping up with the Joneses, (1) if there are no Joneses within their ken, or (2) if the Joneses they encounter have standards that are completely out of reach. Marriage in such folk groups is likely to be delayed only until the worker gains a competence equivalent to that of his peers, and fertility may be limited little or not at all.

The implications of the cultural point of view may be further explored. We have been told by practically every study in the field that contraceptives, including widely known folk methods, are only the means or mechanics of family limitation. The motivation to their use must come largely from the family's desire to attain or maintain a certain standard of living. Here we are concerned with groups on whom the ordinary prudential controls weigh so lightly that such means are but little used. Stix and Notestein rightly point out that "the situation will not be rapidly altered merely by making modern contraception available to populations that have not utilized the folkway methods at their disposal. There must also be the will to reduce fertility."[6]

[6] Stix, R. K. and Notestein, F. W.: CONTROLLED FERTILITY. Baltimore, The Williams and Wilkins Company, 1940, p. 152.

So far our analysis has shown the association of low levels of living with high fertility but it has not explained that association in terms of values and attitudes, that is, of the culture content of the standard of living of these groups. Thus the introduction of contraceptive practices involves the invasion of new values and the adoption of new attitudes—not merely the acceptance of an efficient technique.

The structure of prevailing attitude is to be found in the cultural content of the standard of living. If there exists the validity assumed in the distinction between the standard of living and the level of living, this distinction should be of value in determining why folk and other methods of family limitation are not more widely used.

The question involved may be posed in such fashion as to bring out the distinction between standards and actual levels of living. Is it possible, for example, that a people can be led to raise their standard of what they expect from life without having first experienced an increase in their actual levels of living? We so often see this accomplished by highly motivated individuals that we may feel it is unnecessary to ask the question about groups.

Such a question intimates that a group may glean a cultural definition of the situation from something other than cultural experience. The experiencing which conditions the motivation to raise standards would thus be vicarious and symbolic, deriving from verbal conditioning.

Concretely, the calculation of a standard versus a level of living is best carried on in a money economy by an informal process of balancing the books of a family budget. The subsistence areas of the Appalachians and the credit and "furnish" system of southern tenancy areas, it must be recalled, have largely remained outside the cash nexus of our money economy. This is especially true in relation to the economics of large families. Initial costs of child birth and prenatal care are met by the minimum services of midwives and neighborhood help. The system of cost accounting and anticipation

forced on the urban dweller is largely evaded and only gradually makes its appearance as the number of children increases in the rural household. Deferred payments and do-without enter largely into the lower level of living which creeps with less evident calculation upon the growing family in agrarian areas. Less is done for children in such culture areas, and more is expected from them in cooperative farm work and family labor—an evasion which the city dweller cannot make.

We may ask what, for example, does high-school education, slowly making its way among some of these groups, do for those in the lower levels? It is usually assumed that such acculturation operates to raise standards and lower fertility, and that these trends then go over into increased incomes and improved levels of living. We have many campaigns to raise the levels of living of groups. What would happen to a campaign which, making no attempt to increase incomes, attempted to raise a peoples' standards?

One of the techniques of revolution, it is pointed out, has been found in the attempt to raise a peoples' expectations and standards above any reasonable hope of immediate attainment. The resulting tension is then assumed to offer the motivation for revolt. In the economic field this would involve changes in the cultural definition of the situation based not on experienced reality but on vicarious and symbolic experience, founded on propaganda or education.

Negatively, a lowering of actual levels of living should operate to restrict fertility in a way that the attempt to achieve a rising standard has not attained among folk groups. That this is no idle theory is indicated by the one example of Ireland. A dire famine that threatened, rather destroyed, subsistence for many has given that country the lowest marriage rate in the world. Ireland is the one country which followed Malthus' advice; namely, limitation of population increase by practice of "delayed marriage with moral restraint." Carr-Saunders has shown that from 1841 to 1926 the proportion of females aged 25 to 35 who were unmarried rose from 28 to 53 per

cent. For those who marry, age-specific fertility has fallen but little. What Ireland accomplished by following Malthus and the Catholic Church, other peoples do by family limitation when their standards are threatened. Yet the socially isolated mountain people, rural Negroes, and farm tenants who have not been led to adopt contraceptive practices by an urge to raise standards in a subsistence or a credit economy do accept family limitation when they migrate to cities. Any serious threat to their present low levels of living might also reduce fertility.

Studies by T. J. Woofter show that in 1930 there were just about twice as many youth in the farm population as are needed for replacement in agriculture. The surpluses of farm youth were greatest in the areas of lowest agricultural opportunity. If, in addition to the farm operators who will die in the next twenty years, every farmer who reaches 65 would retire, the farms they vacate would make room for only 2.7 million farmers. But during the same period, 6,000,000 boys now living on farms will have reached 20 years of age. If they tried to enter farming, there would be 225 young men competing for every 100 farms available. In the Southeast, these same calculations give 300 applicants for every 100 farms; in the Southern Appalachian, approximately 350 for every 100 farms.

In the expansive period of cotton culture, farm youth lacking capital and experience were able to enter marriage and agriculture at the same time on the low level of cropper tenancy. Today these openings are closed, and the displacement of farm tenants and the threatened disintegration of the system suggests certain comparisons with the situation of the Irish peasantry. Such drastic changes may operate to delay marriage and depress fertility at a faster rate than anticipated.

SEX ATTITUDES

Sex behavior has its motivations no less than economic behavior. Sex attitudes of the folk in the marital relation deserve more discus-

sion in this connection than they have yet received. One of the contributions of Margaret J. Hagood's study of farm tenant mothers was to show that among the folk this relation is not often discussed between husband and wife, and that moreover, there exists no scientific or objective terminology in which it can be discussed.[7]

Mrs. Hagood found that the general attitude of not wanting more children was unaccompanied by any general practices designed to prevent their conception. Of sixty-nine tenant farm mothers questioned only eight used contraceptives. Nevertheless thirty-seven out of forty-two expressed opinions favoring birth control. She found a common complaint that "doctors tell you not to have any more children but won't tell you nothing to do about it." Fourteen asked directly what to do.

This attitude on the part of farm mothers is one of hopeless resignation rather than one of either revolt or prudential control. Revolt would involve negative attitudes toward customary morality, toward religion, and toward their husbands to whom they acknowledge affection and duties. Prudential behavior would involve more control over marital relations than can be assumed of wives in the folk group.

Here we may be confronted by a masculine-feminine dichotomy which is not resolved by interaction in the marriage relation. In patriarchal cultures the consideration of these questions of family limitation may go by default, largely because of the unseen factors of masculine aggression and dominance in the sex relation. Folk methods of family limitation are not used and technical methods which depend upon the initiative of the wife are not introduced. Here we need a knowledge of the sex and fertility attitudes of husbands comparable to that of the mothers studied by Mrs. Hagood.

Masculine domination, however, is but a partial approach if we admit validity to the previous discussion of economic status and

[7] Hagood, Margaret J.: MOTHERS OF THE SOUTH. Chapel Hill, University of North Carolina Press, 1939, pp. 122-125.

standards of living. One would find, no doubt, that among husbands the conflict between prudential and hedonistic motives had given rise to a resignation involving rationalization similar to that of the wives. The uncovering of such attitudes, however, would be much more difficult.

It is now realized that the most optimistic assumption of the early birth-control movement was that of an ideal contraceptive that would place little or no restraint on the pleasure principle. We now realize that the libido will be subject to prudential restraint and that the motivation of this behavior among folk groups must come from economic pressures that represent the resolution of forces and motives engendered by desires for an improved level of living. Much has been said of the place of contraceptive clinics in the public-health program. I would also add that public-health programs devoted to the diffusion of better prenatal and obstetric care, if at all implemented in economic terms, would do much to raise standards and thus lower fertility among folk groups. The more care that is devoted to each child under the influence of rising standards, the fewer children the family in any cultural group is likely to have.