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## ECONOMIC FACTORS IN EUGENICS

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**A**LTHOUGH eugenics is perhaps the newest of all the sciences, it has already become one of the topics of the day. And this is well, for no science was ever founded which promises to do so much for the improvement of mankind. Sir Francis Galton defined eugenics as "the study of agencies under social control, that may improve or impair the racial qualities of future generations, either physically or mentally." Such a broad definition evidently makes eugenics include a large part of sociology.

The object of the present essay is not to review or multiply the sad facts concerning the diminishing birth rate among the better members of all civilized communities and the unrestricted propagation of the inferior and unfit. All intelligent people are familiar with these lamentable facts. In America, indeed, popular education concerning the latter evil has so far progressed that two states, viz., Indiana and California, have already passed laws which provide, under proper control, for the sterilization of confirmed rapists, criminals, idiots and imbeciles in the state institutions. The same states and also New Jersey have acts, which provide that no marriage license shall be issued when either party is imbecile, epileptic or insane. A similar act on the statute books of Michigan provides that "no person, who has been afflicted with syphilis or gonorrhoea, and has not been cured of the same, shall be capable of contracting a marriage." Ex-president Roosevelt and others have also aroused Americans somewhat to the need of positive work against race suicide, and several societies have been formed to encourage marriage, and to promote all influences which tend to raise the birth rate. One western state in a fit of enthusiasm actually passed a law which put a tax on all bachelors who should not marry within a certain period of grace!

The present writer will not concern himself with these laudable endeavors in the cause of eugenics, but will rather aim to present the social conditions in a new light; namely, to show that their basic causes are chiefly economic, and hence that remedial measures, if they are to succeed, must also be chiefly economic. In order to do this I shall take up some of the leading problems of eugenics, and point out their economic factors. In making this analysis I wish to warn the reader against misunderstanding. When I mention only the economic factors

in a problem, I do not mean thereby that these factors are the only ones, not always indeed that they are the most important ones. I shall often take it for granted that the reader is familiar with the other factors of a biological or ethical nature.

I shall begin my presentation with a discussion of birth rates. The falling birth rate in all civilized countries is one of the chief anxieties of social students and statesmen. In France it has sunk so low that, in spite of the low death rate of 22, the births from 1893 to 1902 exceeded the deaths by only 1.2 per thousand annually. Even in 1850-60 France had the low birth rate of 26, and it has fallen steadily ever since, until it has now reached the figure 21, and in some departments there are three deaths for every two births. Whereas a century ago the population of France formed one quarter of that of the world's civilized powers, and she lorded it over the Germanic nations, now her population has fallen to seven per cent., and she has almost lost her place among the great powers of Europe. Between the two ten-year periods mentioned above the birth rate has also fallen in England from 33 to 30, in Italy from 38 to 35, while in Austria it has risen from 37 to 38. The birth rate has also fallen greatly in the United States in recent decades, especially in New England among the native population. Whereas at the beginning of the nineteenth century the population of the United States was doubling every 22 to 23 years, in the last 20 years it has increased only a trifle over 40 per cent., and the increase of 21 per cent. for the last decade was the smallest on record. Most striking is the stationary population of the great agricultural states of the middle west; here the increase for the whole decade was only 6 to 7 per cent., and Iowa showed an actual decrease. The three rural New England states showed a gain of but 5 per cent. Only in the sparsely settled far-western states was the increase over 50 per cent., undoubtedly due chiefly to immigration. California, for instance, increased her population in the last decade by 60 per cent., but the birth rate for recent years has hardly exceeded the low death rate of 15 by a larger margin than that in France herself. In the New England states also the death rate for 1900 among the native whites actually exceeded the birth rate by 1.5 per thousand. Here race suicide was even worse than in France. The birth rate of the foreign-born whites in New England, however, was nearly 45. This means nothing less than that the native American stock is dying out in New England, and is being replaced by foreign races from southern Europe.

Now is it merely a coincidence that the high birth rate among the native New Englanders began to fall rapidly after the years 1820-30, at the same time that large numbers of immigrants came from Europe? The late Francis A. Walker, superintendent of the census in 1870 and 1880, maintained that the great immigration during the last seventy years had undoubtedly been a direct cause of the fall in birth rate

among the native population, by means of the disastrous competition introduced. Indeed the arrival during the years from 1830 to 1840, of large numbers of Irish and German peasants who had a much lower standard of living, and so lowered the general level of wages, was nothing less than an economic disaster for our old American stock. They shrank from the inferior competition, and were naturally loth to bear children, who must compete in the labor market with these unwelcome invaders. There is overwhelming evidence that the birth rate in all countries has always been much affected by economic changes. Professor Richmond Mayo Smith, for example, says in his "Statistics and Sociology" that a sudden fall in the birth rate is the result of war or of commercial distress or of economic disaster. We have seen that the rapid immigration of European peasants about 1830 was truly an economic disaster for the native New Englanders; and there is no reason to doubt that these unfavorable economic conditions were responsible for the great fall in their birth rate. Benjamin Kidd has said in this connection: "The unwillingness of men to marry and bring up families in a state of life lower than that into which they themselves were born is one of the most powerful of known influences working to restrict the birth rate." The causal connection between this immigration into New England and the decline in the native birth rate is deduced especially from the fact that this decline appeared first and most markedly in those very states and counties into which the immigrants chiefly went.

This check in the increase of the native population was so effective that in 1850, in spite of the immigration of nearly two million persons during the preceding decade, our total population was only 0.03 per cent. more than it would have been from natural increase alone *at the former birth rate*. This check on the native increase has persisted, indeed strengthened, with the passing decades and the ever-increasing immigration of poorer and poorer stock from Europe and Asia; so that in the Report of the Industrial Commission in 1901 Mr. Walker maintained that "if there had been no immigration into this country during the past ninety years, the native element would long have filled the place the foreigners have usurped."

I shall consider the method of action of economic conditions on the birth rate during the latter half of the last century, together with their action at the present time. But I must explain at the outset that there is this important distinction between the two periods with regard to the operation of economic forces: namely, during the former period, when modern methods of limiting families were generally unknown, economic pressure produced an involuntary reduction of the number of children by postponing the age of marriage and by preventing many marriages altogether; while during recent years, as Neo-malthusianism

becomes more and more widespread, the economic factor produces not only this unintentional diminution of births, but also a *much larger intentional* prevention of children. Mr. Charles F. Emerick has indeed sought to prove, in THE POPULAR SCIENCE MONTHLY for January, 1911, that our modern small families and low birth rates are due almost wholly to the practise of Neo-malthusianism among married couples. But it is a biological fact that women marrying at thirty or older are less fertile than those who marry younger; and the reduced number of children usually resulting from such marriages is doubtless involuntary in many cases, and partly unintentional, at least, in the rest. The reader is accordingly requested to keep in mind in the following discussion that the economic factors mentioned may reduce the birth rate in either of these two ways or in both at once. The tremendous significance of the modern knowledge and use of "preventives," in making the birth rate much more dependent upon economic conditions than formerly, is evident.

Let us now analyze these economic factors somewhat. We might place them under five heads, as follows: (1) The increased uncertainty of a livelihood among the working people; (2) the great rise in the cost of living without a corresponding rise in wages and salaries; (3) the general ambition among Americans to give their children better food, better clothing, and especially better education than they had themselves, and so to enable them to rise in the social scale; (4) the general entrance of women into all occupations and professions; (5) the demand for luxuries, especially superfluities for children.

The first factor, uncertainty of livelihood, has increased *pari passu* with the concentration of ownership of land and other means of subsistence in fewer and fewer hands and the creation of a rapidly growing proletariat. Whereas up to the year 1820 only 5 per cent. or less of our population lived in cities of 8,000 or over, and the great majority were independent farmers, in 1910 no less than 33 per cent. lived in such cities, and probably three fourths of them are dependent upon their employer for their living. Even the farmers have lost the ownership of their land, largely by mortgaging it. They are then really working for the holder of the mortgage, and only obtain for themselves in the form of net profit, after paying their interest, a wage often smaller than that of the city worker in a store or a factory. It is not necessary to quote statistics as to the great number of men unemployed, and so without a living, in the United States even in good times and without strikes. The labor-market, at least for unskilled labor, is always congested, and during commercial crises, such as that of 1907, and great strikes, hundreds of thousands of working men and women are deprived of their livelihood for considerable periods. This sad state of things makes it extremely difficult or quite impossible for

our working-men to marry young and support large families decently. They know what it means for a man with a family to lose his job and see his family starve and be evicted from their tenement; and a great many naturally refuse to subject the woman they love to the danger of such a fate, or to hang such a heavy burden about their own necks in the economic struggle. They postpone marriage until they have saved up a little capital to protect them against loss of employment; or, as often happens, they postpone marriage until it is too late, and never marry at all.

Next comes the great rise in the cost of living, which is a perennial source of complaint and perplexity to both rich and poor. This is a rather hackneyed subject, and I will not burden the reader with statistics of prices of the various food-stuffs and other necessities; but merely make two general comparisons. The United States Bureau of Labor computes each year an "index number" from the average prices of the most important commodities, which shows most accurately the general trend of prices. Now this "index number" rose from 90.4 in 1896 to 122.4 in 1906, a rise of 35.8 per cent. Supposing the same rate of advance since 1906, and it has probably rather accelerated, average prices as shown by the index number would be 54 per cent. higher in 1912 than they were sixteen years ago in 1896, just before the Spanish war. This means that on the average \$1.54 will now go no farther than a dollar did in 1896; and consequently, unless a family which received about \$500 a year in 1896 now gets at least \$770, it has actually become poorer, for it can really buy less commodities.

The second way of gauging the increased cost of living is by comparing reliable estimates made at different times in the same places of the yearly income absolutely necessary to support a family of two adults and three children, the "standard" or "average family." In 1902-3, for instance, a prominent official of one of the largest charities in New York City stated that about \$624 a year is necessary for a family of five in that city. The New York Bureau of Labor declared in 1902 that "\$520 a year is inadequate for city workmen." Robert Hunter, the well-known authority on social conditions in New York, states in "Poverty" that "while \$624 a year is probably not too high for New York City in view of the excessive rents, etc.," he considers only \$460 "essential to defray the expenses of an average family in the New England states, New York, Pennsylvania, Indiana, Ohio and Illinois." He wrote this in 1904. And now in 1911 the Sage Foundation of New York states: "Families having from \$900 to \$1,000 a year are able in general to get food enough to keep body and soul together, and clothing and shelter enough to meet the most urgent demands of decency." This was the result of an investigation among 391 families living in the New York tenements. This agrees very well

with the estimate of Professor R. C. Chapin, quoted by Professor Scott Nearing in his new book, "Wages in the United States," that "a New York family, consisting of man, wife and three children under fourteen, could maintain a normal standard at least so far as the physical man is concerned on an annual income of \$900." According to these estimates, then, the cost of living rose for New York City from \$624 in 1902-3 to about \$900 in 1911, a rise of no less than 44 per cent. The reader will notice that this figure is still higher than the increase of 36 per cent. arrived at above by comparing the index numbers for 1896 and 1906, although the latter period is longer.

But some people deny the great social and eugenic effect of this undeniable rise in prices, because they think that it has been accompanied by a corresponding rise in wages. This is a much discussed question, and wages vary so in different parts of America, and have risen at such varying rates in different trades, that it is impossible to obtain such accurate figures here as I have given for prices and the cost of living. Inasmuch as the majority of our wage-earners are still classed as unskilled, I will take a large class of them for comparison. In 1900 the Industrial Commission reported that the 150,000 trackmen working on the railroads received wages ranging on the average from 47.5 cents a day in the south to \$1.25 a day in the north. Not allowing for unemployment, these men had a yearly income of less than \$150 in the south and less than \$375 in the north. Nine years later the Interstate Commerce Commission reported that the 320,000 trackmen then employed on the American railroads received an average of \$1.38 a day, or \$414 a year. This is an increase above the average for the north of only 10 per cent. for the nine years, as compared with the rise of 44 per cent. above quoted in the cost of living in New York City from 1902 to 1911. In some few trades, to be sure, wages have risen much more, though hardly in any as much as has the cost of living; but space does not permit of detailed comparisons; a general estimate for unskilled workers at the beginning and the end of the last decade must here suffice. Robert Hunter, for example, wrote in 1904: "It is hardly to be doubted that the mass of unskilled workers in the north receive less than \$460 a year," and this must include more than half of all wage-earners. And Dr. Scott Nearing in the book already mentioned estimates that half the adult males of the United States are receiving less than \$500, and three quarters of them less than \$600 yearly. This lower-paid half of the total male workers must correspond fairly well with Mr. Hunter's "mass of unskilled workers," except that his estimate was confined to the north, where wages are higher than in the south. To compare the two estimates, then, quite fairly, we should probably increase the later one of Dr. Nearing's, which refers to the whole country, by about 10 per cent. to express the slightly higher

wage-level in the north. We then have \$460 for the wage index in 1904 and \$550 for the same in 1911; and find that this means a rise in average wages of 19 per cent. in the seven years. This rate would make an increase of 24.4 per cent. for the nine years, 1902-1911, in contrast to the increase of 44 per cent. for the cost of living in New York and 36 per cent. for the rise in average prices during the decade 1896 to 1906. I see no escape from the conclusion that *the cost of living has increased since 1896 at least 50 per cent. more than wages have risen.*

This great uncompensated rise in the cost of living means nothing less than progressive impoverishment of the mass of the American people; and is of the greatest possible injury to the welfare of the nation as well as to the racial qualities of its future citizens. Here we are only concerned with its effect upon the birth rate, which it tends strongly to reduce among the superior, foresighted part of the population, who feel the responsibility of bringing children into the world, and have the knowledge and self-restraint required for limiting offspring. The paupers, however, unless prevented by the state, will continue to breed as rapidly as ever; and the generally inferior, less industrious, ambitious, and provident part of the population will also restrict their births but little. The result is, for it is actually taking place now, that the percentage of the inferior and unfit steadily increases, while that of the superior and fit *pari passu* diminishes; and, *if this process of degeneration is not checked, the nation as a whole will become unfit and will succumb*, as most nations have done in history.

Dr. A. F. Tredgold in the *Eugenics Review* for April, 1911, gave the following fact in corroboration of the differential decline in the birth rate. He found the average number of children among 43 incompetent, parasitic working families was 7.4, while that among 91 thrifty, competent working-class families was 3.7 or just one half. Mr. Sidney Webb also found that among the members of the Hearts of Oak Benefit, which is composed of healthy, thrifty artisans of a superior type in England, the birth rate had declined by 52 per cent. from 1880 to 1904, which was nearly three times the decline for all England and Wales during this period. The same writer declares that both pauperism and degeneracy have undoubtedly increased in England since 1901. We have just reviewed the incontrovertible evidence that poverty has rapidly increased in America since 1896. Have we any reason for believing that degeneracy has not likewise increased for the same reasons as in England?

In regard to the ways in which this second economic factor works to reduce the birth rate it is only necessary to say that they are nearly the same that have been mentioned above for the first factor; namely, uncertainty of a livelihood. But the second is chiefly responsible for late marriages, sterile marriages resulting from venereal disease, failure

to marry at all, and intentional prevention of children. It is the shame of the twentieth century in the richest nation of the world, that for the great majority of Americans the big, happy, old-fashioned family of six to twelve children has become a luxury, which is absolutely beyond their means.

Our third factor in reducing the birth rate was the common ambition among our working and middle class people to give their children better advantages of all sorts, to enable them to rise in the social scale. This is surely the leading motive with a great many ambitious parents for intentionally limiting themselves to two or three children. They could afford to feed, clothe and shelter four to six children and send them to the public schools, but they could not give the boys a college education and a start in business or a profession, and send the girls to college or a finishing school, and also enable them to come out properly. Hence they have only two children, and try to give them all these social advantages. This motive for limiting births is probably the chief reason why immigrant families in the United States usually show a markedly lower birth rate in the second and third generations. In the old country escape from the working class was never dreamed of; but in democratic America they soon learned that thousands of other working people, foreign-born or of foreign-born parents, had raised themselves by industry, self denial, and prudence (usually combined with luck and shrewdness) to wealth and social position. What wonder that they aspire to do likewise, and that they find prudence absolutely demands a small family?

The same desire to give their children every possible advantage to enable them to keep their social position is perhaps much more operative among the middle class as a reason for limitation of children. The fear among middle-class parents of seeing their children sink into the proletariat is probably a stronger motive than the desire of the working-class parents to see their children rise out of it. Witness the fact that the birth rate among the professional class is only one half that of the industrial class.

We come now to the fourth economic factor in the birth rate: the entrance of women into all sorts of trades and professions, in short the whole modern woman's movement. This is extremely interesting in its relation to eugenics. Let us first consider the effect of the higher education of women. I can find no statistics to prove it, but most authorities, including Dr. J. W. Ballantyne, seem to agree that college women not only marry later, as a rule, but have smaller chances of marrying at all than their less educated sisters. Dr. Ballantyne has also pointed out that the higher education of women in America has had a distinct influence in diminishing the birth rate, and that the college-trained girl has certainly not been the mother of many children. As I have already stated, late marriages are always less fertile on the average

than early ones. But these college women, who marry late, not only have fewer children, but they also fail to bear the best children of which they were capable. For English students of eugenics have proved by extensive investigations that, when a woman bears her first child at about 25, and continues to bear at intervals of two years, the quality of the children usually improves up to the fifth or sixth, which is accordingly the best that she is capable of. But, if she bears her first-born at the age of 30 or more, all the children are usually inferior to what they might have been. It would actually seem as though nature, like a human artist, needed practise, before producing her best creations; and that women, who bear only two or three children, never give nature a chance to do her very best, but are content with her first attempts. It is evident that *all who have the cause of eugenics at heart must do all in their power to favor early as well as fruitful marriages among the better part of the population.* Sir Francis Galton laid emphasis upon this.

It should be mentioned in this connection that too close application to intellectual pursuits often causes neurasthenia and menstrual troubles in young women, which may contribute to sterility later or prevent marriage on account of poor health. Excessive indulgence in sports also frequently injures the nervous and reproductive systems.

Let us now consider the larger question of the effect upon number and quality of offspring produced by woman-labor. Here a few statistics will be necessary. In 1900, out of 23½ million women over sixteen years of age in the United States nearly five million, or about 21 per cent., were employed. Of these five million 44.5 per cent. were under twenty-five. The number of women at work had more than doubled since 1880. Women were represented in all but nine of the 303 occupations listed. In 1910, Dr. Nearing informs us, 60 per cent. of all the women-workers in the United States received less than \$325 a year. Now most of these women are employed solely or chiefly because they were able and willing to work for lower wages than men; so it is fair to say that they have underbid the men, and either displaced them or forced them to accept the same wretched pay. As a result, there are "textile towns" in New England, where the vast majority of the operatives are women and children, and the men stay at home and take care of the babies! Moreover, in the public schools throughout the land women-teachers have an overwhelming preponderance over men. It is difficult to determine what is the principal effect upon the birth rate of woman's employment outside the home. On the one hand, the reduction of the man's wages by woman's unfair competition postpones and prevents his marrying; and, on the other hand, the young woman by means of her occupation may be able to save up something to marry on, and young couples, relying on their both continuing to earn money, may marry

earlier than they otherwise could, and perhaps have more children. In England, at any rate, the birth rate is highest in those counties where we find the largest proportion of women employed in factories; namely, in the urban, industrial counties of Nottingham, Staffordshire and Durham. Here we also find large numbers of married women, who are under age—in Durham over 23 per cent.—and the highest infant mortality. The infants born to these working girls have the highest mortality from premature birth, deficient vitality and all congenital defects; and all these working mothers have such a high death rate from all causes among their neglected children, that the increase of births, which results from this employment of young women, is wholly undesirable and results in deterioration of the population.

The last factor in my list was the increased demand for luxuries. A great many young men of marriageable age in the business and professional classes postpone marriage year after year, and perhaps renounce it altogether, because of the false idea that they must provide a wife with a six-room house, two servants, cut glass, fine furniture, fine clothes, and all the other luxuries which she or her richer friends enjoy. In short he "must have at least five thousand a year." The same selfish refusal to give up any unnecessary creature comforts after marriage makes many women stifle their maternal instinct and spend their substance on automobiles instead of on children. Mr. Roosevelt's well-known sermons against race suicide as a selfish, unpatriotic shirking by modern women of their highest duty to the state indeed applies with fairness only to wealthy women, who deliberately barter their unborn children for luxury and freedom from maternal suffering and cares; but these rich women and their husbands, who are equally to blame, well deserve our ex-president's stern reproofs. In this modern growth of luxury the most dangerous feature from the eugenic point of view is the superfluity of things demanded for children by middle-class parents "in order to keep up with the procession," as the phrase is. This "keeping up with the procession" has an interesting sociological basis, which deserves mention here.

The phrase really means the attempt to equal one's neighbors and business acquaintances in all the externals of life, particularly in dress, in order to maintain or better one's social position. And the economic basis of this well-nigh universal endeavor to dress better than one can afford is the class struggle. The upper classes always feel that they must show their superiority by dressing more expensively or in some new style; while the lower classes as continually attempt to obliterate this class distinction by imitating their dress and manners.

The following quotation from a recent article in the Los Angeles *Times* shows what the modern standard of expenditure for boys and girls is in the middle class.

Girls cost three times as much as boys. The girl of twenty years ago was content with one party dress and a "good" hat. Calico dresses made on the family sewing-machine were good enough for ordinary wear. The first cause of the girl's higher cost is naturally clothes. *She must dress as the others dress.* The second cause is entertainment. The college girls try to outdo one another in costly luncheons. Only families in good circumstances can afford to send their children to college for the full four-year course. The cost of sending the girl to college can be figured thus: first year, \$1,250; second and third years, \$900 each; fourth year, \$1,000 and \$200 extra for traveling during vacations; total, \$4,250. The boy's expenses, on the other hand, will be \$700 per year with \$100 for vacations, a total of \$2,900. What is the cause of this phase of the high cost of living? The setting of costly standards by the rich, which the poor, the well-to-do and the near-rich try to imitate.

It is evident that if a family demands these luxurious standards for their children, they can hardly obtain them for more than two children even with five thousand a year. It would seem that "the simple life," which Pastor Wagner came from France to teach us a decade ago, has not yet been entered upon by any of us who have the means to live otherwise. Even the poor avoid simplicity as much as possible, witness the elaborate shirt-waists and "picture-hats" often worn by working-girls and the great sums spent on liquor and cigars by working men.

So much for the economic factors in the birth rate. Let us now consider the closely related subject of infant mortality. It is now generally agreed that the best single antidote to this national evil is breast-feeding for nine full months, or as long as possible, and that in this respect the poor infant fares better on the average than the well-to-do. In spite of this advantage, however, the infant death rate is much higher among the poor than among the wealthy. Dr. Fischer, of New York, for example, found that of 500 very poor women in that city 90 per cent. nursed their children over nine months, while of 500 prosperous mothers only 17 per cent. nursed for the same period. When we learn, however, that 154 of these rich infants were supplied with wet-nurses, we see that, after all, 48 per cent. of them were breast-fed.

German investigations do not show such a striking difference between the percentages nursed by poor and by rich mothers; and the figures quoted by Dr. Fischer are undoubtedly too low for the American middle-class and probably also too high for the average working-class. A doctor, who has delivered 300 women in a country town in California, informs me that only six of them failed to nurse. We must turn to Germany for reliable statistics on nursing in different economic classes. In the city of Barmen (population 150,000) in 1905 the following percentages of infants were being nursed in the four different classes, into which the parents were divided according to income:

I	II	III	IV
Income under \$375	\$375 to \$750	\$750 to \$1,500	Income over \$1,500
Nursed: 80.9 per cent.	68.7 per cent.	45.2 per cent.	47.3 per cent.

It is noteworthy that the percentage nursed is slightly higher for the richest class than for class III., which corresponds to our middle class. Indeed poverty prevents a great many women from nursing successfully. It does this in two ways: (1) By depriving them of sufficient and suitable food, rest and general care, which causes their milk to fail in both quality and amount; (2) by forcing them to go out to work and give over their infants to foster mothers and cease entirely to nurse them. No doubt, however, many mothers are directly induced by poverty to nurse, because it seems to be the cheapest way. Indeed authors vary greatly in the importance they attribute to these two factors in preventing women from nursing. Dr. Spaether, for example, found that among the poor women visiting his clinic in Munich the necessity to earn money was the cause of not nursing in 20 per cent. of the married women and 52 per cent of the unmarried, while in 15 per cent. and 60 per cent., respectively, it was the cause of premature weaning. Dr. Keller found that, among 1,300 poor mothers in Vienna in 1908, two hundred and seventy-eight had not nursed at all; and, of these, 94 declared it was because they had to go out to work. Investigation revealed the fact, however, that sixty of them had received maternity insurance for four weeks, and hence were not really prevented by poverty from nursing during this period, at least. Their excuse was that it did not seem worth while to them to nurse an infant for such a short time, after which they must wean it, and have much distress in doing so.

What is the statistical effect of the employment of women in factories upon infant mortality? Dr. G. Newman in his excellent book on "Infant Mortality" shows that the death rate in England is higher in the manufacturing towns than elsewhere, and is highest in those places where the highest percentage of women of child-bearing age are employed in factories. Thus the average infant mortality for 1896 to 1905 among eight "textile towns," where on the average 43 per cent. of married women below the age of 35 were employed, was 182 per thousand; whereas the average rate among eight "non-textile" towns, where only 3.1 per cent. of this class of women were employed, was 150, that is, over one sixth less. The average infant death rate for all England then was 152. It hardly needs to be pointed out that the employment of mothers in factories in nearly all cases robs the infants of their mothers' milk and mothers' care, which results in their being improperly fed and often badly neglected, so that they either die or survive as the degenerate population, of which these mill-towns largely consist. This deplorable state of things, this persistent crime against humanity, is a necessary result of our heartless economic system, which gives these infants' fathers such a small proportion of the wealth they produce, that their mothers are forced to tear themselves away from their babes-

in-arms and let themselves also be exploited in the factory, so as to keep the wolf from the door. Does any society that is callous to such waste of human life deserve to be called civilized? Is this heartless and protracted starvation of infants by depriving them of their natural food much more worthy of a civilized and so-called Christian nation than was the deliberate exposure of infants to a more merciful death by the ancients? The United States is, alas! no less guilty of such undesigned "slaughter of the innocents" than Europe, possibly even more so, for we do not even provide our women factory workers with a month's maternity insurance, as is done by Austria, Germany and Spain.

I have no space in the present paper to consider the economic factors of other racial problems; much less to point out in detail what economic changes I think would aid most in "improving the racial qualities of future generations." I can not conclude, however, without stating my conviction that the most thorough-going economic measures are urgently demanded, and at the earliest possible moment, before the rapid degeneration of our people shall have brought us to the danger point.

Sir Francis Galton must have foreseen the need of economic reform when he said: "The economic burden of raising a family is such as to discourage many, whose qualities should be continued to other generations, and there can be no doubt that it would pay society to furnish ample means for the industry of child raising to those who are especially fitted to engage in it." The philanthropy of even our American millionaires would be hopelessly inadequate to furnish "ample means" to a quarter of the American families, "who are especially fitted to engage in child raising." Only the state, that is the nation, could foster practical eugenics on such a grand scale. There is no doubt whatever that state support of mothers and children would solve the race-suicide problem, and I see no reason to hope that anything else will. As an editorial in THE POPULAR SCIENCE MONTHLY recently said, "Children are no longer a financial asset to their parents, but they are this to the state and to the world; the state must ultimately pay for their birth and rearing." It is absurd to fear over population in America for centuries to come, since, as Professor Herbert Miller has ably shown in the same journal for December, 1911, the law of diminishing returns is obsolete and "the resources of production show no more signs of exhaustion than the heat of the sun." Finally, as soon as public opinion has been educated sufficiently to appreciate the justice as well as the desirability of such legislation, there seems to be no reason why an intelligent cooperative commonwealth could not or would not prevent the conspicuously unfit from marrying or reproducing at all, discourage the relatively unfit, and encourage the fit, in every way consistent with humanity.