

## IMPENDING PROBLEMS OF EUGENICS <sup>1</sup>

By Professor IRVING FISHER

YALE UNIVERSITY

I feel a double sense of my unworthiness of the honor which you have bestowed upon me by electing me president of this association. On the one hand, I feel that eugenics is incomparably the most important concern of the human race and, on the other, I am painfully aware of the fact that I can bring to you no original contribution. All that I can hope to do is to point out from my viewpoint as a student of economics, and to some extent of hygiene, the opportunities which would seem to mark out some of the paths which eugenists should explore more fully.

My main thought is that there is now a golden opportunity for eugenists to "gear in," so to speak, with the great world of events. It was the dream of Galton that eugenics should not forever remain academic but that, being the vital concern of us all, it should become a sort of religion. Hitherto eugenics has been largely studied "microscopically," that is, by special technical laboratory investigations. The next step is to study it more "telescopically," that is by observations of the general facts of human history.

I do not mean, of course, that eugenists should drop their study of the inheritance of finger prints or of the inheritance of musical capacity, eye defects, skeleton abnormalities and twinning. The work of Pearson in London and of Davenport here and of their co-workers and colleagues everywhere must go on uninterrupted. But in addition to all these, steps should be taken to organize a study of the eugenics or dysgenics of such historical events as war, immigration, colonization, prohibition, hygiene, birth control, feminism, capitalism, industrialism, democracy, socialism, bolshevism, population growth, urbanization and diminishing returns in agriculture.

It is interesting to observe in passing that these historical occurrences are due in large part to the inventions and discoveries of civilization, including especially those of rapid transportation, military science, hygienic knowledge and devices for birth control. These inventions are generally regarded as landmarks of progress. They have, thus far, undoubtedly caused progress in *economic* well-being and permitted an ever increasing *number of people* to subsist in a given area.

<sup>1</sup> Address of the president of the Eugenics Research Association, Cold Spring Harbor, June 24.

Mechanical inventions, particularly those which abridge distance, have given us more and more room for expansion and we have mistaken this progressive conquest of nature for a progressive improvement in ourselves. A few years ago the then president of the American Economic Association cited the increase of population as the best obtainable criterion of "progress."

But the eugenicist is interested in the quality of human beings rather than their quantity, and one of the great problems to be seriously considered, is whether our boasted "progress" is not an illusion and whether after all the human race, in spite of its rapid multiplication and its increase in per capita wealth, may not be deteriorating. The discovery that this is the case would doubtless surprise and shock the country just as did the discovery that one man out of every three in our army draft was unfit. The common opinion is undoubtedly that we have made great progress and are making great progress now. The same opinion was held, so historians tell us, just before the downfall of Rome and of other civilizations which have failed.

We know that affluence often ruins men and women, and history has at least produced a strong suspicion that it was the cause, or a cause, of ruin of many civilizations now dead. As Goldsmith says:

Ill fares the land to hastening ills a prey,  
Where wealth accumulates, and men decay.

The economist has shown that wealth accumulates. The eugenicist may show that men decay. Dr. Pearce Bailey states that in the army examinations mental defectives amounted to two thirds of one per cent. and he concluded that a greater proportion existed in the general population.

The statistics of the feeble-minded, insane, criminals, epileptics, inebriates, diseased, blind, deaf, deformed and dependent classes are not reassuring, even though we keep up our courage by noting that the increasing institutionalization of these classes gives the appearance of an increase which in actual fact may be non-existent because institutionalization makes it possible to collect these statistics.

In Massachusetts thirty-five per cent. of the state income goes in support of state institutions and Mr. Laughlin, the secretary of this association, who compiled the government report on defectives, delinquents and dependents, estimates that seventy-five per cent. of the inmates have bad heredity. The cost of maintaining these institutions in the United States in 1915 was eighty-one millions of dollars. This takes no account of the town and county care, while all the official costs fail to take into account the cost to families and associates, the keeping back of school children by the backward children, the cost from fires of pyro-maniacs, the cost from thievery of kleptomaniacs, the cost from crime, vice, etc., of paranoiacs, maniacs and paretics and the loss of

services of able men and women drained away from other use to take care of the defectives, delinquents and dependents.

I believe that any one who has worked in these statistics with the sincere desire to get the truth has an uneasy feeling that degeneracy may be really increasing and increasing fast. Several competent students in eugenics and related fields have already reached strong convictions on the subject.

As I write, I find Professor William McDougall's new book, "Is America Safe for Democracy?" in which he says: "As I watch the American nation speeding gaily, with invincible optimism, down the road to destruction, I seem to be contemplating the greatest tragedy in the history of mankind." Research should make our conclusions on this subject beyond question. A great load of degeneracy is certainly upon us, whether it be true or not that it is increasing in weight. It is incumbent upon us to reduce it. The first step is to measure it.

There are many startling evidences of racial decay. One is that the war has damaged the potential fatherhood of the race by destroying over seven million young men, medically selected for fighting but thereby prevented from breeding. In quantity the loss of seven million men by war is not great. If numbers were really our criterion of progress we could take comfort in the fact that the world as a whole to-day has undoubtedly more inhabitants than before the war. The gap made by the war has been more than filled. This was mostly outside of Europe. In a few years Europe itself will catch up.

But small as is the number of lives lost as a fraction of population, their loss may nevertheless be the loss of most of the good male germ plasm of the nations concerned, particularly in Europe. In the United States, of course, the war has been less injurious.

Herbert Spencer, David Starr Jordan, Vernon Kellogg and others have urged with convincing force this reason for believing that war, in general, is dysgenic.

Professor Roswell H. Johnson maintains that war may sometimes be eugenic, that it is always partly so, although he has no hesitation in concluding that the recent world war has left a big net dysgenic balance.

We all agree, I think, that the destruction of seven million picked young men in their prime is not only an irretrievable loss for this generation but for all succeeding generations—increasingly rather than otherwise. A little reflection will show the argument. In the first place, to apply the argument backward, let us consider that our parents were probably above the average of their generation. This is evidenced by the very fact that they were parents. None of them died in infancy; for if they had they could not have been parents. They all had enough vitality to have gone through childhood and enough vitality and at-

tractiveness to become married and to have children. To put their supposed superiority in figures, let us, to fix our ideas, assume that they constituted the upper *fifty* per cent. of their generation. The other half of the people in their generation have left no living descendants.

Our grandparents were, in turn, presumably a still more select class of the generation in which they lived, for they not only had the vitality to become parents but, in every single case they possessed the vitality to have had at least some children strong enough themselves to become parents. These grandparents, therefore, unlike our parents were not simply the upper fifty per cent. of their generation but, let us say, the upper *forty* per cent. Some of the remaining sixty per cent. had children but their progeny ceased there and did not last to the second generation. Likewise our great grandparents were still more select, forming, let us say, the upper *thirty* per cent. of their generation, the other seventy per cent. having no descendants surviving through three generations to the present day. And so the further back we go the more select must have been our ancestors, until when we reach one thousand years back it may be that (if there were only a Eugenics Record Office to tell us) we should find, say, but ten per cent. of that generation who had left any descendants in ours. Had that ten per cent. been medically selected out and commissioned to shoot each other to death none of us to-day would be here but instead there would be the descendants of inferior stock. And that would seem to be what must happen a thousand years hence. Europe will be inhabited by the descendants of second-rate men of to-day simply because they can not be descendants of those who now sleep in Flanders Fields.

But such pessimistic conclusions are apt to be rejected as too terrible to be believed. Hope and optimism spring eternal in the human breast. Jeremiahs and Cassandras are always unpopular. If the eugenic argument against war is fallacious it should be disproved, while if it is correct it should be fortified by further research.

During the next decade there should be a wealth of statistical material on this subject, which should enable us not only to demonstrate further the truth but to bring the truth, whatever it be, home to the men and, more particularly, to the women of all lands.

It may be, of course, that the bad results of the war in other countries will be neutralized by some counterbalancing good results. It is one of the fundamental laws of human behavior to react so to an evil as to convert it into a good. We did not have safety at sea until the *Titanic* disaster had opened our eyes to the need. New York City did not have a good health department until afflicted by an epidemic. We have still reason to hope that the world war and the prospect of another, tenfold more horrible, as portrayed in Will Irwin's book "The Next War," may supply the needed stimulus to organize the

nations into an "association," or a league, or *the* league, to abolish war or at least to minimize, localize and control it.

And I have the further hope that the results of the eugenic research in this field, may in the not distant future, give so great an impetus to eugenics as a great social movement as ultimately to neutralize the dysgenic effect of the great war.

If nothing of the sort happens and there should be lacking the brains and energy to accomplish at least some of these things, then surely the dark ages lie ahead of us. The Nordic race will, as Madison Grant says, vanish or lose its dominance if, in fact, the whole human race does not sink so low as to become the prey, as H. G. Wells imagines, of some less degenerate animal!

With this thought in view we should perhaps shudder as well as laugh at the reflections of Clarence Day in his entertaining phantasy "This Simian World," where he observes what a different place this world would be if its masters, instead of being the descendants of anthropoid apes, were the descendants of lions or elephants, or other types of the animal kingdom!

But the obvious direct effect of war in destroying so much of the best germ plasm from which our race would otherwise be largely bred is by no means the only possible dysgenic effect of the war. Hrdlicka thinks that the roar of artillery and the other excitements of battle may make such an impression on the nervous system of soldiers as to affect injuriously their children.

Similarly there should be considered the possible effects on future generations of the undernourishment and general undercare of the children and other noncombatants who will be the parents of the next generation.

Dr. Lorenz, of Vienna, was recently quoted as saying that the average child of Vienna is about four inches below the normal height and sixteen and a half pounds below the normal weight, that thousands are suffering from rickets and not infrequently from broken bones which have given way because of their unhealthy condition.

We are apt to shut our eyes to these possibilities of race damage from the unsanitary environment and unhygienic mode of life brought about in Europe by the war because of the widely accepted dictum that acquired characters are not inherited. On this assumption we are in danger of jumping to the conclusion that the stunted, rickety or generally decrepit individuals now constituting a large part, probably a majority, of the European population will have children just as large and healthy as these particular parents could have had under ordinary circumstances. We are severely told that rickets and broken bones are not inherited.

Conklin says: "How could defective nutrition, which leads to the

production of rickets, affect the germ cells, which contain no bones, so as to produce rickets in subsequent generations, although well nourished?"

But granted all this as "gospel truth," its complacent application to the existing European conditions would be altogether unjustified and misleading.

Conklin himself, on the very next page after that from which I have quoted, expresses an important qualification. He says "that unusual conditions of food, temperature, moisture, etc., may affect the germ cells so as to produce general and indefinite variations in offspring is probable, but this is a very different thing from the inheritance of acquired characters."

For our present purposes, however, the difference is small and the similarity great. If the depleted vitality of Europe is to show in future generations it is just as much depletion whether general or specific, whether the rickets of this generation will be followed in the next by rickets or by tuberculosis or neuro-pathic conditions or feeble-mindedness or any other manifestation of damage done. From a practical point of view the question is whether damage to the present generation will still be damage in succeeding generations, and not the technical question of whether the specific form of that later damage will be the same as of the present damage. Biologists are in danger of deluding themselves by clinging to form rather than substance in this instance however technically correct is the insistence that acquired characters are not inherited.

In this insistence they often give the impression, if in fact they do not receive it themselves, that the sins and misfortunes of this generation are not visited on the next. Observations and experiments on the mutations of the primrose, of yeast and of insects indicate that environment often does leave permanent marks on the species. Gy in France has found that tobacco not only damaged the animals on which he experimented but their offspring as well. Van der Wolk found that maple trees injured by bacterial infection (rot) gave rise to leaves of a changed color and to flowers which, unlike the original, were monosexual; also that these changes were transmitted. The bacterial infection thus originated a new species!

One great field, therefore, for eugenic research is the study of the extent to which future generations are damaged because of damage received by their parents of the present generation, in other words the extent to which hygienic or unhygienic conditions for the individual are eugenic or dysgenic for his offspring—in short, the extent to which hygiene is eugenic.

If it be true, as I have little doubt, that the recent unhygienic conditions of war are sure to crystallize into permanent dysgenic condi-

tions of peace, it is, by the same token, also true that in general and quite irrespective of the war eugenics must take account of hygiene.

Now if what is poison to the individual is in general poison to the race, if what helps or hurts the individual in his own life leaves, to some extent, a beneficial or harmful impress on posterity, then the importance of eugenics is greatly extended and it becomes a task of eugenic research to study the extent to which the indiscretions and bad environment, on the one hand, or the good habits and good environment, on the other, affect our descendants. And it becomes a mission of the eugenics movement to discover and set itself against race poisons. These may include not only alcohol, habit-forming drugs and infections but, if Gy is right, tobacco and, if Kellogg is right, even tea and coffee. We have no right, in the present state of our knowledge, to assume that these are harmless to the race, if they are harmful to the individual.

I would emphasize this partly because, so far as I have any right at all to speak as a eugenicist, it is on account of studies in the neighboring field of hygiene.

Civilization has thrown the daily life of the individual out of balance, so that not one person in a hundred lives what might be called a biologic life. He is insufficiently exposed to the air, he eats too fast and often too much. In America he eats far too much protein and far too little bulk. His food is far too soft. It is usually lacking in vitamins. His evacuations are too infrequent, his posture is usually abnormal and unhealthful. His activities are too one-sided. His mind is too excited, worried and hurried. Worst of all, he is the unconscious victim of many physical poisons and infections. The examinations of the Life Extension Institute show some physical imperfections in practically every person examined. And the average man is blissfully unconscious of the damage he thus does himself, cumulatively, day after day and year after year. Yet this damage keeps on like a creeping fire under the leaves in the woods.

Hygiene and eugenics should go hand in hand. They are really both hygiene—one individual hygiene and the other race hygiene—and both, eugenics—one indirectly through safeguarding the quality of the germ plasm and the other directly through breeding.

I do not mean to assert that hygiene, as practiced, is necessarily eugenic. It may well be true that *misapplied* hygiene—hygiene to help the less fit—is distinctly dysgenic. I remember being astonished at the attitude of a university president, who became very enthusiastic over the triumph of hygiene saying, "I know of a girl who had many disabilities. She had a surgical operation to remedy one difficulty and a course of hygiene to remedy others, so that finally she was so repaired and improved as to be converted into quite a respectable human being

*and now she is married.*" Schools for tubercular children give them better air and care than normal school children receive. Institutional care of defectives often surpasses that in the home.

Eugenic research can help the eugenic cause by showing the folly of such differential care of the biologically unfit, especially when such differential care is not accompanied by safeguarding against the marriage of the unfit. Undoubtedly the rule of eugenics should be "to those that have shall be given" and this maxim will have added eugenic worth the more it can be shown that biologic gifts belong not only to the present generation, but to all that come after.

The picture of this world and especially of Europe suggested to our minds by what has thus far been said is that population is increasing in quantity but declining in quality.

At present the world contains seventeen hundred million people and, according to Professor East, its population is increasing by about fifteen millions per annum. It is fast filling up the empty spaces of the globe. The rapid filling up of North America during the last century will surely be followed by the filling up of South America and Africa in the next century.

In a few generations as Thompson and East emphasize, the expansion in numbers must itself approach an end. Within the life time of many living there will, in all probability, come a realization such as at present scarcely exists of the profound truths set forth by Malthus at the beginning of the nineteenth century. We must not be deceived by the exceptional conditions under which we have been living in the last two or three centuries. The opening up of America gave a new outlet for population and reduced and postponed the operation of Malthus' checks to population. Mechanical inventions, which increased physical productivity, had the same effect. But after the lands now empty are full and those now waste are reclaimed no increase of the food-producing area of the globe is conceivable. Nor is it likely that inventions which have made two blades of wheat grow where one grew before can go on at a geometrical progression and so keep pace with the biologically possible growth of population. And unless this be possible population must necessarily in a few generations come practically to a halt, either by the relentless check of an increased death rate or by the more preventive check of a decreased birth rate.

What will be the eugenic significance of this future limiting of population? This is one of the great questions for eugenic research. The answer will doubtless depend largely on which of the two checks will be put on population, whether it is to be the check from an increased death rate operating through lack of subsistence or the check from a decreased birth rate operating by volition of parents.

The former check shown by Malthus led Darwin to conceive his



theory of natural selection, which in turn led Galton to suggest eugenics.

In so far as the future check on population is to be of this kind, even though an increased death rate involve much misery, the presumption is that, on the whole, it will be eugenic rather than dysgenic in its effects. Those should survive who are best fitted to earn a livelihood. But this is, as the critics of Malthus complained, a dismal outlook.

The operation of the other check is not so obvious. To-day we have, in a way and to a degree of which Malthus probably never dreamed, the exercise of this prudential check under the title of neo-Malthusianism or birth-control.

Until recently this subject was not discussed in the open, partly because the movement had not gained sufficient momentum, partly because of the conventional reticence on all matters of sex and partly because of the continual existence (in this country alone among the nations of the earth) of laws passed at the instigation, chiefly, of Anthony Comstock, forbidding the dissemination of information on birth-control.

But the subject is one especially deserving eugenic research; for, of all human inventions, those relating to birth-control probably have the most direct bearing on the birth rate and its selective possibilities.

It is startling to think that the sex impulse which hitherto has been the unerring reliance of nature to insure reproduction can no longer be relied upon. Some insects sacrifice their lives to reproduction. Nature relies on their blind instinct to reproduce regardless of any consequences to themselves. If we could suppose such an insect suddenly to be given an option in the matter so that it could satisfy its sex impulse without the consequences of offspring or of immediate death to itself, its instinct of self-preservation would presumably refuse to make the ancient sacrifice and the species would perish from off the earth.

In the case of the human species nature demands no such extreme sacrifice of the mother; if this were the case birth control would almost surely mean the ultimate extinction of the human race. But the human mother has nevertheless had to sacrifice personal comfort and both parents have had to sacrifice some economic well-being and some social ambitions to meet the obligations of parenthood. Hitherto the only effective ways to avoid this and still satisfy the sex instinct have been infanticide and abortion. Birth-control offers another way, easier, less objectionable and therefore destined to be far more widely practiced among civilized peoples.

This is largely a development of "feminism" in the interests of women. It opens up amazing possibilities of race extinction or, on the other hand, of race betterment.

If the birth-control exercised by individual parents could itself be controlled by a eugenic committee it could undoubtedly become the surest and most supremely important means of improving the human race. We could breed out the unfit and breed in the fit. We could in a few generations and, to some extent even in the life time of us of to-day conquer degeneracy, dependency and delinquency, and develop a race far surpassing not only our own but the ancient Greeks.

Thus birth-control is like an automobile. It can convey us rapidly in any direction. As now practiced which way is it carrying us? Where will birth-control really take us? This is a matter for eugenic research to settle. There are three possibilities: (1) it may cause depopulation and ultimately bring about the extinction of the human race; (2) it may reduce the reproduction of the prudent and intelligent and the economically and socially ambitious, leaving the future race to be bred out of the imprudent, unintelligent and happy-go-lucky people, thus resulting in race degeneration; or (3) it may cut off the strain of the silly and selfish, the weak and inefficient who will dispense with children for the very good reason that they lack the physical stamina or the economic ability to support a large family.

The advocates of birth-control maintain, with much show of reason, that it diminishes poverty, increases efficiency, prevents damage to the mother's health, and improves the health and education of the children.

What does history tell us so far? The best opinion seems to be that in Holland birth-control has reduced infant mortality by making better intervals between successive children and by increasing their size and vigor as well as the per capita wealth of the country. In countries where birth-control has been exercised only a short time the reduction in the total number of births has been accompanied by an almost equal reduction in the total number of deaths. There is a distinct correlation between the death rate and the birth rate so that a moderate amount of birth-control need not reduce much, if at all, the rate of increase of population. In Russia, Roumania, Bulgaria and Serbia, presumably without birth-control and where the birth rates are forty or fifty per thousand, there is an increase of population between fifteen and twenty per thousand, and in Australia and New Zealand, with birth control and where the birth rates are from twenty-five to thirty per thousand, there is substantially the same rate of increase. When birth-control in these last named countries has been in use longer and more generally the same effects as in France may perhaps be expected. In France population was actually declining before the war, a situation realized in no other country, except in the time of the World War, when it was temporarily true of England, Serbia and some other countries.

It is worth noting here that if feminism is to have a depopulating effect the first element it will extinguish is the feminist element itself.

So far as it elevates woman, feminism is to be commended. But friends of womankind should heed well the warning of some other movements which contained the seeds of their own destruction. "Shakerism" killed itself because it shunned marriage. Feminism may kill itself if it shuns children. A bragging feminist recently referred to the old child-bearing women as a type which has disappeared below the historical horizon. If it has, then the type which will not bear children will surely disappear in its turn just because it will have no children in its own image.

The world's experience with birth-control thus far does seem to show that the average family which practices it does not practice it in the required moderation. Dublin has shown that, under present conditions, it takes an average of about four children in the family for the upkeep of population. An average of three means decrease of population and an average of five means increase of population.

But aside from the danger of depopulation as shown in France is the question of the kind of selective birth rate which birth-control will bring about. Will this be a good or a bad selection? As birth-control leaves births to human choice instead of to instinct, many jump to the conclusion that this is necessarily a step forward. But whether it is or not depends on how this human choice will actually operate.

Professor McDougall has given reason to believe that the present occupational stratification of society corresponds roughly to the stratification of intelligence; that the four classes, (1) professional men and business executives, (2) other business men, (3) skilled workmen and (4) unskilled workmen represent on the whole four classes of human beings graded as to innate mental ability. The college graduate means the professional man and business executive.

Cattell finds that the average Harvard graduate is the father of three-fourths of a son and the average Vassar graduate the mother of one-half of a daughter and that the average family of American men of science is only 2.22 as compared with an average of 4.66 for the country. Popenoe and Johnson give similar results summarizing many statistical studies of Yale, Harvard, and other educational institutions.

At present, then, our educational system seems to be destroying the very material on which it works! Colleges seem to be engines for the mental suicide of the human race! Are the colleges of to-day sterilizing our scholars as did the monasteries and nunneries of the middle ages? Such race suicide of scientific and educated men and of the well-to-do classes means that their places will speedily be taken by the un-intelligent, uneducated and inefficient.

Up to the present time, so far as I can see, birth-control has done harm to the race, exactly in the same way as has the war.

But it is plain that the extension of birth-control to all classes will tend to rectify this condition. At present it is practiced only in the

upper one or two of the four strata which McDougall distinguishes in his statistics. Its extension is rapidly going on, thanks to the propaganda of Sanger, Drysdale and others and will inevitably include all classes eventually. It is therefore too early to condemn utterly birth-control. It may still prove to be a great instrument for eugenic improvement.

It will probably require long years of research to determine what the ultimate effect will be. The hypothesis which now seems to be probable is that there will be three stages.

The first effect of birth-control seems, as has been said, distinctly bad because it is first practised by the intelligent class and is, for that class, as Mr. Roosevelt said, "race suicide."

The second effect will be that where birth-control is practised among all classes, as has almost been the case in France, an actual decline in population will occur which will seem alarming.

The third effect may then follow. It is a rapid repopulation from the small minority of the strongest, most efficient, and the most child-loving and altruistic persons of the population. We all know people who, though fully aware of the possibilities of birth-control, nevertheless do not practise it or do not practise it to excess, but rear large old-fashioned families because they love children, can afford to have them, and have no physical or economic difficulties in bearing and raising them. These vigorous champions of humanity will doubtless possess not only physical strength but the intelligence necessary to earn a sufficient livelihood to justify their choice of having large families.

Whenever civilizations have decayed, and many probably have done so from race suicide, their places have been taken by strong and fecund invaders. In the case of birth-control the invasion need not come from outside. It may come from inside the decadent nation itself. It is said that, in this way, the Breton portion of the French population is replacing the other portions. Multiplying by geometrical progression, a tenth part of our population can in a few generations of large families fill up all the gaps made by birth-control and make a stronger race than we ever have had. Should this rosy prospect actually work out in the twenty-first or twenty-second century, birth-control would go down in human history, like the flood in the Bible, as a means first of wiping out the old world and then replacing it by a new, from the best seeds of the old.

At any rate, while there are undoubtedly grave possibilities of evil facing us in birth-control, we must not be misled by averages. The *average* Harvard graduate may not reproduce his kind, but among thousands of college graduates there will almost certainly be found a *few* who do and by geometrical progression the few can become the majority.

An apparent objection to this forecast is that the most reckless will practice birth-control the least and so will have the greatest number of children. But this objection may possibly be answered by the fact that such people will soon become public charges, as paupers for instance, and that we may then stop their reproduction by enforcing celibacy, segregating the sexes.

But the truth is that we can not yet tell what will ultimately happen as the net result of birth-control, whether race degeneracy, depopulation, or race improvement or, as I have suggested, all three in succession.

One of the claims of enthusiastic advocates of birth-control is that it will help save us from further war because it will save us from that pressure of population which results in imperialistic ambitions. Huxley and others are quoted to support the view that pressure of population and the need of an outlet for surplus population lie behind emigration, colonization, conquest and war. It is inferred that the real remedy for the yellow peril or the "rising tide of color" must consist in the extension of birth-control to the Orient. How much truth there is in this view is a matter for eugenic research to determine. The same argument for extending birth-control to other nations applies as for extending it to other races within our own.

At present the white race is still increasing faster than the other races but it is easy to see that birth-control will soon put an end to this unless birth-control is extended from the white race to the colored. Birth-control, war and immigration are certainly associated problems.

Economically, immigration of cheap labor is beneficial (initially at least) to capital and injurious (initially at least) to native labor. The conflict between these two interests, of capital and of labor, constitutes most of what is ordinarily included in the immigration problem.

The core of the problem of immigration is, however, one of race and eugenics, despite the fact that in the eighteen volumes of the report of the Immigration Commission scarcely any attention is given to this aspect of the immigration problem. If we could leave out of account the question of race and eugenics I should, as an economist, be inclined to the view that unrestricted immigration, although injurious to some classes, is economically advantageous to a country as a whole, and still more to the world as a whole. But such a view would ignore the supremely important factors.

The character of the present immigration will make a great difference in the character of our future inhabitants.

Between 1788 and 1840 England sent many of its undesirables to Botany Bay, near Sydney, Australia, and to-day the excessively large slums of Sydney are, according to the findings of Dr. Davenport, to a large extent the progeny of those undesirables. At present the United

States inherits, both socially and biologically, probably as much from the eighty thousand original immigrants, who, Benjamin Franklin said, had come to this country up to 1741, as from all the other immigrants since that time. Our problem is to make the most of this inheritance. We can not do so if that racial stock is overwhelmed by the inferior stock which "assisted" immigration has recently brought.

If we allow ourselves to be a dumping ground for relieving Europe of its burden of defectives, delinquents and dependents, while such action might be said to be humane for the present generation, it would be quite contrary to the interests of humanity for the future. Not only should we be giving these undesirable citizens far greater opportunity to multiply than they had at home, but we would be taking away the checks on the multiplication of those left at home. It would be a step backward, a step towards populating the earth with defectives, delinquents and dependents. That the foreign born multiply faster than the native stock has been shown by the Immigration Commission and by East, Dublin, Baker and others. There is great danger, therefore, not only to this country, but to the whole world, of injuring the germ plasm of the human race by the indiscriminate immigration of recent times. The best service we can render, not only to ourselves, but in the end to those very nations which would feign empty their almshouses, asylums and prisons on us, is to prevent their doing so. In the words of Professor Ross in "The Old World in the New":

I am not of those who consider humanity and forget the nation, who pity the living but not the unborn. To me, those who are to come after us stretch forth beseeching hands as well as do the masses on the other side of the globe. Nor do I regard America as something to be spent quickly and cheerfully for the benefit of pent-up millions in the backward lands. What if we become crowded without their ceasing to be so? I regard it (America) as a nation whose future may be of unspeakable value to the rest of mankind, provided that the easier conditions of life here be made permanent by high standards of living, institutions, and ideals which finally may be appropriated by all men. We could have helped the Chinese a little by letting their surplus millions swarm in upon us a generation ago; but we have helped them infinitely more by protecting our standards and having something worth their copying when the time came.

What has been said applies to immigration even from countries of our own race.

The problem of Oriental immigration has a somewhat special character. It involves race prejudice and impossibility of assimilation, socially and racially. The arguments usually brought forward in this connection are largely partisan and inconsistent. The Japanese immigrant in California is hated as belonging to an inferior race, on the one hand, and, on the other because his industry, frugality and intelligence are such that the native laborer can not compete with him. In other words he is hated both because he is inferior and because he is superior.

Of him I would say, as of immigrants generally, that from a narrow, shortsighted economic point of view, his immigration should be encouraged, but if we should let down the bars for Oriental immigration, under modern conditions of rapid transportation, the country might be inundated with Chinese, Japanese and Hindoos. We should then lose even that modest degree of political solidarity which we now possess. There would probably be a demoralization and disintegration of our general social structure and, what most concerns us, we should add to our present southern and black race problem a western and yellow race problem; race wars, lynchings and massacres, such as we have just been witnessing would ensue. Ultimately, if not speedily, actual war with a United Asia would undoubtedly be brought about. What Japan has done in one generation, China can do in the next. And when China is fully equipped with battleships, machine guns, aeroplanes and poisonous gases, she and Japan could possibly conquer the whole white world.

We have often laughed at the yellow "peril" especially when it was the nightmare of the Kaiser. But later he showed us what peril may be in even one comparatively small nation. To-day the yellow color peril is the subject of a seriously alarming book by Lothrop Stoddard, "The Rising Tide of Color." It is in the thoughts of many far-seeing people on the Pacific coast. Under unrestricted immigration, within a century a majority of this country might become Oriental, especially if we commit race suicide. It would require only a few years for millions to enter and by geometrical progression it requires only a few generations for millions to become scores or hundreds of millions.

What has been said is from the point of view of our own white race and American nationality. Theoretically and academically it may be that true eugenics for the human race as a whole may favor some other race than ours, and that, say, yellow domination rather than white domination, may, in some distant future, be the ideal domination. But we can not be expected, especially in the absence of any proof that we are an inferior race, to act on that assumption and quietly lie down and let some other race run over us.

Again, it is possible that the ideal for remotely future ages may be a human race which is a mixture of all existing human races. That is also a subject for eugenic research. The solution, for instance, of the Jewish problem, if such exists, may be their racial assimilation. But if such a mixture is ever effected, especially a mixture of widely different races, it must come slowly. We can not ignore race prejudice, and any sudden mixture is sure to produce an unstable compound, which will blow up in race war and social demoralization. Professor East believes that the black and white mixture in Africa will be one of

the greatest of race problems three generations hence. The obvious safeguard at present is restriction of immigration of a drastic kind. This should be done tactfully and reasonably. As Stoddard points out, if the white world does not wish to be dominated by the world of color it ought to cease its own attempts at dominating the latter.

Of the great problems which I mentioned at the outset, I have sketched briefly the problems of war, hygiene, birth-control and immigration in their relations to eugenics.

The results of a cursory bird's eye view seem to indicate that much of what we call progress is an illusion and that really we are slipping backwards while we seem to be moving forwards. Human ambitions under the opportunities afforded by civilization seem to sacrifice the race to the individual. We congregate in great cities and pile up great wealth but are conquered by our very luxury. We seek imperial power and not only damage but destroy our germ plasm in war. We seek social status and education but limit motherhood. Like moths attracted by a candle, we fly toward the glamour of wealth and power and destroy ourselves in the act.

In concluding this telescopic review of big eugenic problems, I may be permitted to point out the directions in which it seems to me we may hope for remedies.

If it be granted that war is dysgenic, then a League or Association of Nations which will prevent or minimize war is an important eugenic device.

If it be true that birth-control among the intelligent is due, to a certain extent, to the fact that children are an economic handicap, Professor McDougall's suggestion of putting an economic premium on large families among the fit ought not to be overlooked. A millionaire like Carnegie, instead of pensioning professors or rewarding heroes, might subsidize children among a specific group of biologically fit to be determined by a committee of award. Ultimately when public opinion is ripe, the government might subsidize the children of school teachers also instead of, as is at present sometimes the practice, discharging women school teachers if they marry.

Coeducation in colleges ought not to go unmentioned as promising somewhat to increase the marriage rate among college graduates.

Segregation of the sexes in public institutions is a eugenic device of undoubted value. It does no violence to our humanitarian ideas to take care of the present crop of undesirables on condition that they shall not act as seeds for future crops.

If it be granted that, from our standpoint at least, indiscriminate immigration is dysgenic, a discriminating exclusion must be eugenic. Laughlin's proposal of having aliens examined in their home town for mental and other defects is full of promise. The proposal of registra-



tion of immigrants and then deporting and purging the country of the most undesirable among them as soon as these undesirables turn up later at feeble-minded and other institutions is likewise full of promise.

Doubtless much can be added to this meager program as a consequence of eugenic research and some things may be subtracted from it.

But, in order to lead to anything practical and effective eugenic research must be followed by, and in fact accompanied by, some far-reaching publicity. I mean that there must be a diffusion of the knowledge gained and, what is far more important from the standpoint of securing action, a diffusion of a sense of the pre-eminent importance of eugenics. Finding ourselves in the shadow of the Great War, in a world damaged by that war and by the other causes of degeneracy which have been mentioned, we can not stand silently by and see the general public enjoying a fool's Paradise. In the bliss of ignorance they mistake economic production and expansion for genuine progress and, with the best of intentions are, we fear, paving the road to hell.

There are millions of people in the world to-day whose enthusiastic support for eugenics could probably be obtained at the price of a little publicity. We now have a golden opportunity that should not be missed.

One means of enlightening the public is through increasing interest in hygiene, especially individual hygiene. Charity begins at home and, psychologically, the only route to race hygiene is through individual hygiene.

The teaching of both hygiene and eugenics in schools and colleges merely enough to show the elements of both, including the Mendelian principles of heredity and the responsibility of each person to the race, will appeal alike to self interest and to that idealism which is always present in young people whose lives lie ahead of them. Just as the Catholic church proselytes by getting children at the formative age, just as prohibition got its grounding in the public schools, so hygiene and eugenics can become the life-long possession of the next generation if inserted in the school books of the present generation.

In our public schools should also be included educational and mental measurements. They are rapidly coming into use in our colleges and universities throughout the nation. They emphasize individual differences and will serve to correct the view that "men are created equal" in the biological sense while leaving them equal in opportunity before the law.

We may hope that the proposed national Department of Public Welfare will spread knowledge in regard to scientific "humaniculture" as knowledge of scientific agriculture has been spread through the Department of Agriculture.

Another vehicle or starting point which should not be forgotten is

the coming International Congress of Eugenics in the fall. Extraordinary pains should be taken to see that the newspaper, magazine and moving picture publicity in regard to that congress may be adequate and effective. This congress should be followed up by an organized movement for general publicity on eugenics. This may, or may not, be the proper function of the Eugenics Research Association. If it is not, a new association should be started as a go-between to connect scientific research with the public.

Needless to say, in any propaganda care must be exercised to prevent the hasty endorsement of unproved methods and theories. But there is ample basis already for a movement the initial purpose of which will not be so much a detailed specific program as a general spread of the idea that eugenics is the hope of the world. Details can wait. Where there is a will there is a way and without a will there is certainly no way at all. While eugenic science is painfully finding the way there is ample work for a propaganda organization to secure the will.

I believe in Galton's idea that eugenics must be a religion. It will prove a wonderful touchstone by which to distinguish between what is racially and radically right and what is racially and radically wrong. It will bring home to parents the thought that much, if not all, of their conduct may be fraught with future significance for their children and children's children. It will throw its searchlight into every nook and cranny in the life of the individual and of society.

Therefore it will help mould all human institutions. Especially will it help mould that fundamental institution, human marriage. While marriage is a most intensely individual and private matter, it has been regarded, from time immemorial, as of vital concern to society. Around this great institution of human marriage have always clustered many sorts of folkways. In civilized times the law has made legitimate marriage a binding contract and religion has given it its divine blessing. It now remains for science which in so many other ways is remodeling the whole modern world, to affix its seal of approval.

And just as law and religion discriminate and refuse their seal of approval to alliances which are found to be improper from their respective viewpoints, so must science discriminate. Dysgenic marriages must be discountenanced just as bigamous or incestuous marriages are discountenanced.

In thus withholding or giving a coveted approval eugenic science will elevate marriage in its way as greatly as have law and religion in theirs. It will shed the light of reason on the primeval instinct of reproduction. It will exalt what is already a "legal contract" and "holy matrimony" into a dedication of all we are to what we want posterity to be.