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EUGENICS OR RACE BETTERMENT.*

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The word, Eugenics, meaning the generation or reproduction of the good and referring to the human race, was coined by the late Sir Francis Galton, who defined the term as follows: "Eugenics is the science which deals with all influences that improve the inborn qualities of a race; also with those that develop them to the utmost advantage." It will be seen from this definition that Galton did not intend to restrict this new science to a study of heredity and its effects upon race development, but to include congenital and postnatal influences as well. In one of his essays, Galton speaks of heredity and environment as follows: "Nature is all that a man brings with himself into the world; nurture is every influence from without that affects him after his birth. The distinction is clear; the one produces the infant such as it actually is, including its latent faculties of growth, of body and mind; the other affords the environment amid which the growth takes place, by which natural tendencies may be strengthened or thwarted, or wholly new ones implanted. Neither of the terms implies any theory; natural gifts may or may not be hereditary; nurture does not especially consist of food, clothing, education, or tradition, but it includes all these and similar influences whether known or unknown. When nature and nurture compete for supremacy on equal terms in the sense to be explained, the former proves the stronger. It is needless to insist that neither is self-sufficient; the highest natural endowments may be starved by defective nurture, while no carefulness of nurture can overcome the evil tendencies of an intrinsically bad physique, weak brain, or brutal disposition."

It is along these broad lines marked off by the founder of this new science that I propose to discuss certain questions bearing on the development of the human race. This is not to be a strictly scientific lecture on disputed, or as yet unsolved problems in heredity. It is a fact of universal observation applied to all living things from the lowest to the highest that like begets like, that man reaps what he sows, and that in man himself racial and family traits are repeated in

*A popular lecture given to the students of Michigan University at the request of Mrs. Huntington Wilson.
generation after generation. It is equally true that in all the wide world of animate things there are no two individuals exactly identical. Similarity and variation are equally in evidence wherever we turn. Without stability in reproduction life would be chaos; without variation in generation development would be impossible. The child may resemble father or mother or both, but cannot be an exact reproduction of either. Most likely the child resembles its father in some respects and its mother in others, but in all instances it differs from both, and these differences may be marked. The ancestors of the child are those of the father plus those of the mother, and it not infrequently happens that some dominant trait in the ancestral line back of father or mother and not recognizable in them becomes the most potent factor for good or ill in moulding the child. This is an old observation as is shown from the following quotation from Bacon's Advancement of Learning: "It happeneth sometimes that the grandchild or other descendant resembleth the ancestor more than the son." The physical, mental and moral attributes of the child are determined not wholly by father and mother, but in part by the ancestry that lies further back. In order to forecast the destiny of a child it is necessary to know not only the father and the mother, but the stock from which each has come. The eugenic records recite many illustrations of this, and I will briefly abstract one reported by Davenport. The father is an educated, respected physician; the mother is a talented woman, who has shown no other defect than migraine and chorea in girlhood. The children are two boys, one normal, truthful and lovable; the other a liar and a thief. The mother's father, whom the children never saw or even heard of, was a drunkard, and was once involved in a murder.

Galton calculated with a fair degree of probability that the average child receives one-fourth of its peculiarities or characteristics from each parent, or one-half from the two, but half of these may be intensified by like qualities or neutralized by contradictory inheritances. The greatest possible contribution made by each of the grandparents would be one-eighth, but a part of this is included in that which comes through the parents, and the remainder, be it for good or ill, comes from the endless line of the ancestral dead. This would be true if all traits were alike transmissible, but as we shall see, certain ones are dominant and tend to appear, while others are recessive and tend to lie hidden. It is also a fact that traits do not necessarily reappear in succeeding generations in exactly the same form. This is true of both good and bad inheritances.

Family traits have been observed and commented on from remote times, but the first scientific, experimental study of their transmission was undertaken by an Austrian monk, Mendel by name, about the
middle of the last century. This man had the true scientific spirit, experimenting intelligently, observing accurately and recording truthfully. His work was published, but did not attract attention until nearly forty years later when, quite ignorant of his work, De Vries, Correns, Tshermak and others undertook like investigations and obtained similar results. Then, some one found the forgotten work of Mendel and those who had unconsciously followed him were big enough to give him credit, and now we speak of the Mendelian law of inheritance. Mendel experimented with peas which he grew in the garden of the monastery. He carefully crossed those of contrasting characteristics; those with long stems with short; those with green unripe pods with those of yellow pods; those with inflated pods with those of constricted pods; those with round seeds with those of angular seeds; those with yellow seed leaves with those of green leaves; those with white seeds with those that yield gray, etc. Mendel found that when he crossed contrasting peas, in the first generation one or the other characteristic prevailed practically to the exclusion of the other. For instance when dwarfs were crossed with tall stemmed peas, all were tall.

The characteristic which prevails in crossing pure stocks is known as the dominant character, while that which apparently disappears is known as the recessive character. In the cross between short and long stemmed varieties of peas tallness is dominant and shortness recessive. When one parent is of pure blue-eyed stock and the other of pure brown-eyed stock, all the children will have brown eyes. In this case brown is dominant and blue recessive. But the dominant character does not permanently prevail, nor is the recessive permanently lost. The tall peas produced by a cross between tall and shorts when bred among themselves produce three tall to one short. This means that in the first generation from the cross-breeds seventy-five per cent have the dominant character, and twenty-five per cent the recessive character. Furthermore, when the recessives of this generation are interbred all the offspring have the recessive character and continue this and this only so long as the interbreeding continues. On the other hand, when the dominants are interbred, some produce only dominants, others produce three dominants to one recessive, and this continues. It will then be seen that in crossing the two pure stocks the dominant and recessive characters are in reality distributed in the offspring as follows: One-fourth inherit the dominant character only and transmit this to their offspring; one-fourth are in reality recessives, and when interbred reproduce this character only; one-half are in fact cross-breeds and show both dominants and recessives in their offspring, with the former numerically greater than the latter.

The followers of Mendel hold that the individual is made up of unit
characters, each of which is transmitted through inheritance quite independently of the others. These unit characters do not themselves exist in the reproductive cells, but the germ plasm contains a "determiner" which leads to the development of its own special unit character. The nature of the determiner is not understood. Some think that it is a ferment, but this assumption has no support in fact, and it is more probable that the determiner is a small atomic group in the very large and complex molecule present in the reproductive cell. When a certain unit character does not develop it is assumed that the determiner is absent, but that this cannot always be true is shown by the fact that the unit character which may not be in evidence in either parent manifests itself in their offspring. It is supposed that brown eyes are due to a determiner or enzyme which produces a colored pigment, while blue eyes are due to the absence of the enzyme. The unit characters do not blend, and the individual is a mosaic of the units transmitted from his ancestors. In this way it happens that the individual may strikingly resemble one parent in some respects and the other in different peculiarities, or he may display in marked degree the peculiarities of one of his four grandparents, or he may inherit some striking trait passed down from a more remote ancestor. When one parent has a given characteristic while the other does not have it, the child gets it from only one side, and in the second generation half the children may possess it, and the other half be without it. In this way a child may resemble one of its grandparents in this one particular more than either parent. A characteristic which comes from only one parent is known as simplex, while one coming from both parents is said to be duplex. When a given recessive character is not found in either parent it will be absent from all the offspring. When both parents have blue eyes, which are due to the absence of brown pigment, all the children have blue eyes. When both parents have blond hair all the children will be light haired. If both parents have brown eyes all the children may have brown eyes or one-fourth of them may have blue, the latter inheriting from a grandparent. When one parent has brown and the other blue eyes either all the children will have brown eyes or half will have blue. Davenport says: "If both parents are simplex in a character, so that they produce an equal number of germ cells with and without the character, then in a large number of offspring, one in four will have the character duplex; two in four simplex, and one in four will not have the character at all (nulliplex). This gives in the offspring of such a pair the famous three to one ratio, sometimes called the "Mendelian ratio."

It will be seen from what has been said that heredity consists in the transmission of unit characters or their determiners; that some of these
are dominant while others are recessive; that they do not blend one with the other, but form mosaics; that the unit may be simplex, duplex or absent (nulliplex). Students of heredity are busy trying to determine what are unit characters, and whether or not like laws control the transmission of all of them. Among the physical characteristics best studied are color of eyes, hair and skin, stature and body weight. The two last mentioned seem to involve two or more units. In stature, length of limbs, body and neck and head may vary quite independently; besides stature depends upon age and is influenced somewhat by occupation. Davenport makes the following statements concerning the inheritance of stature: “The first general law is that in case the four grandparents are very unlike, the adult children will vary greatly in stature; whereas, when the grandparental statures are closely alike, those of the children will be also . . . . The second general law is that when both parents are tall all of the children tend to be tall; but on the contrary, if both parents are short some of the children will be short, and some tall, in ratios varying from 1:1 to 2:1. If all the grandparents are short then there tend to be twice as many short children as tall; but if one grandparent on each side be tall there will tend to be an equality of short and tall children.”

Body weight is dependent upon several factors, but it is well known that both spareness and rotundity, especially in adult life, are often notable family traits.

Temperament, fluency in speech and readiness in composition, manual dexterity, memory, imagination and other physical and mental characteristics show unusual development in certain families, and Galton has collected much interesting and instructive data in his book on “Hereditary Genius.” Making all due allowance for family influence in securing positions of honor and trust, it must be admitted that mental ability repeats itself in certain families, while it is unknown in others.

The most distressing matter with which Eugenists are at present concerned is the inheritance of defective mentality. The prevalence of feeble-mindedness in this country is becoming alarming, and demands the attention of all who are interested in the future of the race; and who is not? Without being an alarmist or a pessimist, I wish to say that the American people is threatened with the spread of mental and moral degeneracy through the multiplication of the unfit. I am not alarmed about this because I believe steps will be taken to check this threatening disaster. However, it is the plain duty of those who perceive this danger to call attention to it and suggest, if possible, how it may be averted. Davenport and Weeks after making a scientific study of epilepsy and feeble-mindedness in New Jersey make the follow-
ing statement: "If our data should hold for strains with epileptic members we could conclude that if no change in mating and fecundity occur, the number of epileptics and feeble-minded in the State of New Jersey will be relatively double what it is now in 1940, and relatively four times as common in 1970. Thus, if the present proportion is 1 to 500 it would be 1 to 125 in 1970."

Rosanoff and Orr have arrived at the following conclusions from a study of heredity and insanity: "The neuropathic constitution is transmitted from generation to generation in the manner of a trait which is, in the Mendelian sense, recessive to the normal condition. Rules of theoretical expectation are accordingly as follows:

a. Both parents being neuropathic all children will be neuropathic.

b. One parent being normal, but with the neuropathic taint from one grandparent, and the other parent being neuropathic, half the children will be neuropathic and half will be normal, but with the capability of transmitting the neuropathic make-up to their progeny.

c. One parent being normal and of pure normal ancestry, and the other parent being neuropathic, all the children will be normal, but capable of transmitting the neuropathic make-up to their progeny.

d. Both parents being normal, but each with the neuropathic taint from one grandparent, one-fourth the children will be normal and not capable of transmitting the neuropathic make-up to their progeny, one-half will be normal, but capable of transmitting the neuropathic make-up, and the remaining fourth will be neuropathic.

e. Both parents being normal, one of pure normal ancestry and the other with a pure neuropathic taint from one grandparent, all the children will be normal, half of them will be capable, and half not capable of transmitting the neuropathic make-up to their progeny.

f. Both parents being normal and of pure normal ancestry, all the children will be normal and not capable of transmitting the neuropathic make-up to their progeny."

There has been some divergence of opinion concerning the inheritance of epilepsy as a unit character. If tradition and history are true, some great men—Napoleon and Caesar for instance—were subject to mild forms of epilepsy, but the evidence is not unquestionable. Epilepsy may follow a blow, in other words it may be traumatic, but a like traumatism is followed by epilepsy in only a few, and it is thought by some that these have an inherited taint. It is certainly true that when both parents are epileptic all the children are defective mentally. Epilepsy and feeble-mindedness seem to be interchangeable in inheritance, and that epileptics are not fit parents has been abundantly demonstrated. All agree that certain forms of insanity are transmissible, and so far as such inheritance has been studied it seems to follow the Mendelian
When both parents are insane, none of the children remain normal; when one parent is normal but of insane stock and the other insane, half the children may become insane; when both parents are normal, but of insane stock, about one-fourth the children become insane. Certain forms of insanity, such as those due to trauma or to certain poisons and diseases are not transmissible. This leaves a third class in which the insanity is due to alcohol, syphilis and other poisons, concerning the transmissibility of which there is still diversity of opinion. However, parenthood from this class is not desirable, and is not likely to improve the race.

In discussing questions of heredity it is well to distinguish between poverty and pauperism. A man's poverty may be greatly to his credit. Carlyle writes: "I have a sacred pride in my peasant father. Let me write my books as he built his houses, and walk as blamelessly through this shadow world." Speaking further of his parents he said: "They had to scramble, scraffie for their clothes and food. They knit, they thatched for hire, above all, they hunted. My father had tried all these things from boyhood. The mother had not always meal to make porridge. Once the meal which had perhaps been long scarce, and certainly for some time wanting, arrived at last late at night. The mother proceeded at once to make cakes of it, and had no fuel but straw that she tore from the beds to do it with." The man of good family may decline to enrich himself by means which his less scrupulous and base-born neighbor does not hesitate to employ. But the shiftless, ne'er-do-well pauper is usually the descendant of poor stock. We cannot call shiftlessness a unit character, but as a rule the individual who exhibits it has no reason for pride in ancestry, nor much hope in posterity. It usually means lack of energy and indifference to those incentives that move the normal man to strive for the necessity and comforts of life. Even the diseases which afflict the pauper and tend to keep him in that state are often the results and not the causes of his condition.

Whether alcoholism and similar addictions are due to inherited weakness or to acquired depravity is still a question on which there are differences of opinion. There are families of drunkards, and drunkards are much more common in families characterized by mental defects than in normal ones. Feeble-mindedness, epilepsy, insanity, sexual obliquity, criminality and alcoholism are often found on the same genealogical tree, and seem to thrive under like conditions. There is much evidence to support the claim that alcoholism engrafted on good stock leads to deterioration, while on bad stock it increases the defects. Davenport and Weeks in their studies of epilepsy state: "We see, accordingly, a constant excess beyond expectation of epileptic and feeble-minded offspring from alcoholic parents. Insofar our results sup-
port the view that alcoholism, to a certain extent, is a cause of defect; that 10 to 20 per cent more children in any fraternity are defective than would be were it not for alcohol. However, a word of caution must be added. It is not improbable that some of the alcoholics are actually feeble-minded, and any such would tend to increase the average of defective offspring because of their inherent defective germ cells, and quite apart from any poisoning effect on the germ cells of alcohol. Evidently we have to leave it undetermined for the present whether alcoholism is begotten of, or begets, feeble-mindedness. It is sure that they belong to the same breed.

The relation of heredity to crime is a complicated problem, and one which remains without satisfactory solution. All authorities on the subject say that some are criminals by descent, but to what extent the criminal tendency is inherited through the germinal plasma, and how much it owes to environment it is difficult to say. That we have in our population the greatest proportion of criminals of any civilized nation has been asserted by some of our greatest jurists. Wier says that in this country "250,000 persons whom the law never touches are engaged in the systematic pursuit of crime—There are four and one-half times as many murders for every million of our population today as there were twenty years ago .... Ten thousand persons are murdered in this country every year, and of the murderers only two in every hundred are punished." The causes of this sad condition are variously interpreted. No less an authority than President Taft thinks it in part at least due to defective administration of the criminal law. He says: "It is not too much to say that the administration of criminal law in this country is a disgrace to our civilization, and that the prevalence of crime and fraud, which is here greatly in excess of that in European countries is due largely to the failure of the law and its administrators to bring criminals to justice." Then, there is the question of what is crime. The poor mother who steals a loaf of bread to feed her hungry children or picks up lumps of coal fallen from an over-loaded car to keep them from freezing is a thief, and is quite sure to be condemned as such while the stock manipulator who steals a railroad is a great financier. A former Earl of Shaftesbury said that the dangerous classes are not the people, but the rich who do no good with their money. To my mind the man who sells watered, or fictitious stock, is as truly a thief as the one who steals a purse, and the student of the relation between crime and heredity must include the former as well as the latter in his studies before he can show that inheritance is more potent than environment in the development of the criminal. However, I am ready to admit that the feeble-minded are often petty criminals, but these are not able to distinguish between right and wrong. The Juvenile Courts are acquainted with cases of this kind, and Coulter of New York speaks
of them as follows: "When a case of out and out mental deficiency is discovered in a juvenile delinquent there is no place where that child can receive proper treatment. The result is that such of those children as are committed to ordinary institutions are being made into habitual criminals and paupers; each, too, an agent for the reproduction of his kind in later years."

In addition to the unit characters, certain anatomical peculiarities are transmitted and mark certain families. This is strikingly illustrated in supernumerary digits, cleft palate, etc., but is also true of less obvious structures. Inborn deaf-mutism is well known, and intermarriage among these defectives should not be encouraged. President Jordan states that the Cretins of Aosta have been eliminated within less than thirty years by segregation of the sexes, and thus preventing their reproduction. Certain diseases, as hemophilia, Friedrick's ataxia, and Huntington's chorea are hereditary beyond any doubt. There are families of so-called bleeders—people in whom hemorrhage is frequent and difficult to control. There is an especially interesting fact about the inheritance of this defect. It manifests itself usually only in the males. The daughters, as a rule, do not show it, but transmit it to their sons. One of the most striking and convincing family histories illustrating both the ill and the good that may come through heredity is detailed by Goddard in his story of the Kallikak family. The name is for obvious reasons not the true one. At the beginning of the Revolutionary War a young man, known in the history as Martin Kallikak, had a son by a nameless, feeble-minded girl, from whom there have descended in the direct line four hundred and eighty individuals. One hundred and forty-three of these are known to have been feeble-minded, and only forty-six are known to have been normal. The rest are unknown or doubtful. Thirty-six have been illegitimate; thirty-three, sexually immoral, mostly prostitutes; twenty-four, alcoholic; three epileptic; eighty-two had died in infancy; three were criminal, and eight kept houses of ill-fame. After the war, Martin Kallikak married a woman of good stock. From this union has come in direct line four hundred and ninety-six, among whom only two were alcoholic, and one known to be sexually immoral. "The legitimate children of Martin have been doctors, lawyers, judges, educators, traders, landholders, in short, respectable citizens, men and women prominent in every phase of social life." These two families have lived on the same soil, in the same atmosphere, and in short, under the same general environment, yet the bar sinister has marked every generation of one and has been unknown in the other.

Davenport, Goddard and others have collected similar histories, and while no other is quite so striking as that of the Kallikak family, all
point to the fact that the sins of the fathers extend even to the third and fourth generation. The evidence that there is seed so bad that good cannot come from it is conclusive.

The Jukes family of New York State, so thoroughly studied by Dugdale, was for five generations made up almost exclusively of criminals, prostitutes, drunkards and paupers, and in the course of seventy-five years cost the state more than a million and a quarter of dollars. The family in Indiana, known as "the tribe of Ishmael," have in five generations produced one thousand seven hundred and fifty individuals. Of the females more than thirteen per cent were known to be prostitutes, and most of the men were alcoholics and criminals, the charges against them running along the scale from petty larceny to murder. In one county in Michigan there is a group of families more or less closely connected by intermarriage, only five per cent of the individuals being normal. Miss McKinnie, who has been conducting a survey for the State Board of Health, says that the total cost of maintenance for defective members of these families in State institutions has been over $86,000, exclusive of the capital invested in buildings and of local or State aid given in their homes. From these families there are now thirty-eight in the home for the feeble-minded at Lapeer, one hundred and thirteen feeble-minded at large, and twenty-two known prostitutes. Miss McKinnie estimates that there are not less than nine thousand feeble-minded at large in the State, and these are multiplying their kind. From this class come the Giteaus, Colgozsz and Schransks.

The Eugenist is trying to accomplish two things, both of which are essential to the future welfare of the race. One of these is to prevent the multiplication of the bad stock, and the other is to encourage the replenishment of the good. It will be seen that the science of Eugenics has its negative and its positive work.

Negative Eugenics can succeed only by the help of legal enactments. There must be laws preventing the marriage and reproduction of the unfit. The first thing to be done in carrying out a program of this kind is to determine who is unfit. At present surveys are being made in certain localities by men and women trained at the institution for the study of experimental evolution located at Cold Spring Harbor, Long Island, N. Y. The Director of this Institution is Dr. Chas. B. Davenport, and the work is supported in part at least by the Carnegie Institution at Washington. The men and women trained by Dr. Davenport are excellently prepared for this work. It is customary to begin such a survey by going to a State institution for the feeble-minded and then visiting the families represented by the inmates. Field workers study the genealogy of the feeble-minded. Davenport suggests that the school teachers of the country should make a general Eugenic survey, but I doubt the feasibility of this proposal.
I wish to suggest a plan which I believe to be preferable to that suggested by Davenport. The enumeration and location of the feebleminded and of others, whose reproduction are to be discouraged, should be a part of a broad, scientific scheme for the uplift of the race. In every densely populated county of this country there should be a health officer or commissioner, an efficient medical man with the training which would fit him for his work. He should give his entire time and energy to the preservation of the health of all within his jurisdiction. He should study and authoritatively advise in matters of water supply, sewage, the general sanitation of city, village and individual homes; should prevent threatened epidemics and suppress existing ones; supervise disinfection and vaccination; make a complete sanitary survey of every part of his jurisdiction twice or oftener every year; find every case of tuberculosis, infantile paralysis, typhoid fever or other infectious diseases, see that the individual is properly cared for and the spread of the infection prevented; locate every case of inheritable defect whether it be physical, mental or moral, and be ready to advise as to the measures necessary to prevent the reproduction of the unfit; study the conditions under which wayward children are being reared; ascertain whether their homes are unfit places for them or they are unfit for their homes, whether their defects are due to nature or to nurture, to heredity or environment. Within a few years such an officer with trained assistants would become acquainted with the virtues and vices of every family within his jurisdiction. Degenerative tendencies would be detected in their early development, and with the aid of a wise judge much could be done to stifle crime before it is born. Crime is a disease due to heredity or environment, or both, and at present we permit it to breed and come to maturity in our midst. It will not grow less so long as this continues. Its breeding places should be located and disinfected. Children even in this day and right here amongst us are growing up in an environment which precludes their development into good citizens. This is true of some who have come from good stock, and doubly true of those in whom the tendency to evil is inborn.

No child should be born into this world save from good stock. However, "good stock" needs some explanation. It does not mean riches. This is certain. It is true that in common parlance we have unduly magnified wealth. We say that such a young man or woman has a great inheritance, and by this we mean riches, but this is not the meaning given the term "good inheritance" by the Eugenist. One could hardly think of the rugged and masterly intellect of Thomas Carlyle or Abraham Lincoln coming from a line of wealthy ancestors. By "good stock" the Eugenist means one relatively free from undesirable unit characters, and the most important of these are alcoholism, feeble-
mindedness, epilepsy, insanity, pauperism and criminality. All of these classes should be excluded from the list of those to whom is granted the privilege of exercising the highest, holiest, most important function of the race—parenthood. From what I have already said it is evident that in order to boast of good stock it is necessary to have the history of at least three successive generations. Among these there should be none of the defective unit characters mentioned above. The marked development of any one of them is likely to reproduce itself in some of the descendants. Among your ancestors, there may be those who were poor; those who won no official position; those who made no great contributions to literature, science, or art; in short, all may have been very ordinary people, but so long as all were sober, sane and honest, you have a goodly inheritance. This is a family record of which but few kings can boast, and its possession should be highly prized by those fortunate enough to rightfully claim it, and it remains for such to so live as to honor the worthy dead to whose lineage they belong. As Macauley said: "As we would have our descendants judge us, so ought we to judge our fathers."

While I have been talking about heredity I dare say that the young among my auditors have been busy thinking of their ancestors, and wondering what manner of people they were. I ask you to turn about and face the other direction. Let the dead past rest with those who have made us what we are, and with whom we are bound by the unbreakable thread of the continuity of the race. The fact that we are here in this great institution of learning, striving to prepare ourselves for the duties that lie before us is sufficient proof that however the good and the bad may have mingled in our creation, the dominant unit characters in our lineage must have been good. Let us now look into the future—say fifty years from now. Then young men and women will be wondering what kind of ancestors they had, and this means that they will be thinking of you and me. The past has made us; for the future we are responsible. When we were conceived in our mothers' wombs the gates of ancestral gifts were closed.

The warp and woof of the character habiliments that we are wearing have been spun for the most part at least by those who are now moulder ing in graves. We are to prepare the character raiment for those who are to fill our places. Let us do this work skillfully, intelligently and honestly.

The generations of the future will have cause to bless or curse us according to the lives we live. By the process of evolution, man has grown to a degree of intelligence which makes him a co-worker with the Creator, and the future of the race is largely within man's power to make or to mar, to illumine or to darken, to fill with the joy of life or with
the regret of having been born. It may be that years from now some young man, having apparently a brilliant future before him, will be struck with insanity because one of you, his ancestor, got drunk and acquired syphilis. As potent as it is, heredity is not the only factor in determining the future of the race. A man may come from the best stock imaginable, and still he may do that which unfit him for parenthood. As advancement in each generation is possible, so relapses may occur. Decensus averno facile est. As I have already stated, it is still a question as to the exact relation between alcoholism and heredity. Some hold that alcoholism is a result of bad inheritance, while others are quite sure that it leads directly in the offspring to feeble-mindedness and insanity. Be this as it may, it is an undesirable unit character and unfit for parenthood.

There are some diseases that are so destructive to man's physical and mental development that nature makes an attempt to prevent their transmission. This is true of the venereal diseases. In the male, gonorrhea renders a considerable per cent of its victims sterile, the exact percentage varying with the virulence of the infecting agent. In woman this disease accomplishes the same end in a much more serious manner, and a large per cent of the women who go to the operating table for pelvic troubles owe their sad condition to this disease. Blindness in the newly born is quite without exception due to this disease. Syphilitic parents seldom bring healthy children into the world, and practically all perish either in utero or in early childhood. Knowing these things, it must be evident that the venereal diseases unfit one for parenthood. A considerable per cent—not all—of both these diseases is curable, and when properly treated this bar to parenthood may be removed. But even when this can be secured, it means much and prolonged distress of body and mind, and in this connection we may repeat and extend our quotation from the wise old Latin poet:

"The gates of hell are open night and day;
Smooth the descent and easy is the way;
But to return and view the cheerful skies—
In this the task and mighty labor lies."

It should be evident from what I have said that alcoholism, epilepsy, the venereal diseases, feeble-mindedness, insanity and criminality should be absolute bars to parenthood.

There are other matters which may be discussed in this connection. It is generally believed that when father and mother are much alike the children are prone to be peculiar at least. This is due to the fact that the unit characters become duplex and exaggerated. If all the unit characters were desirable this would not be objectionable; indeed it
would be highly beneficial for good unit characters to come from both sides and be duplex, but since no one is free from some undesirable unit character this is likely to become duplex and to appear in the child in an exaggerated form. This is the ground for the ban placed on the marriage of first cousins. If each possess only favorable unit characters there can be no objection to such marriages. Some excellent families have come from first cousins, but this is more likely due to the fact that the dominant characters in each have come from other than the common stock. On the whole, in-breeding is to be condemned, the evidence against it being so plainly seen in certain isolated localities. There are many factors which tend to in-breeding. One is geographical isolation, such as islands and mountain ranges. Davenport has pointed out the ill effects of close intermarriage on the islands and peninsulas of our Atlantic coast. Other factors are social status, language and religion. One of the causes of the marked degeneracy among the Southern Italians is the fact that they are broken up into small communities and have been isolated for so long that the dialect of one group is not intelligible to that of a relatively near-by community. Those in each group intermarry and have done so for so long that the undesirable unit characters have been exaggerated to such an extent as to render the people decidedly inferior. Even among the foreigners who have come to this country, language remains for one generation at least, as a barrier to wide acquaintance and favors in-breeding. Religion has had a similar effect.

While in-breeding is to be condemned it is equally certain that interracial marriages produce an undesirable progeny. The Eurasians of India, the mulattos of our own country, and the mixed races of South America and neighboring islands are unanswerable arguments against race mixtures. The bad of each side become dominant, and the mongrel, whether man or beast, is no credit to the pure blood on either side of the house.

Every normal individual from untainted stock should prepare for the responsibility of parenthood. Some are influenced by the hope of personal immortality; some may be led to right living by the rewards promised in another and better world; some may be restrained from evil by the fear of eternal punishment, but all should know that each generation begets the succeeding one, and that like breeds like with the possibility of betterment on the one hand and of deterioration on the other. Our children and their descendants through generations to come, with modifications coming in in each generation will bear at least some of our characteristics. If we are healthy they are likely to be. If we are strong mentally and morally they will receive through inheritance more or less of our strength. If we meet every problem in life courageously and hon-
estly they will find it all the easier to perform their duties with credit to themselves and with benefit to others of the same generation. Every deviation from the path of rectitude made by us will make it more difficult for them to keep to the straight road. This is the teaching of science, and is it not the highest conceivable incentive to make ourselves strong in every proper direction? The young man or woman who neglects his or her opportunities of self betterment is doing an injury not only to self but to those whose thread of life is for the time in their keeping. Moreover, our influence on the future is to have its effects not only on our direct line, but upon those about us, and through them upon their descendants. No man can live to himself alone, but each is a part of the whole and the perfection of the whole depends upon its parts.

I am compelled at this point to make a direct appeal to the young women. Do not marry a man of bad habits with the hope of reforming him. Even if you succeed in this attempt, which most frequently fails, you will likely bear children who will repeat the faults of their father. Don't marry any man unless you wish your children to be like him. In fact women have been and are now, quite unconsciously for the most part, the stronger Eugenic power as between the sexes. Learned statisticians have shown that the average length of life is greater among married men than among unmarried men, and this has been taken as proof that the conjugal state favors longevity. This conclusion is not, however, the only one which may be drawn from the facts. While some splendid men remain single from choice, many remain in this state because no woman will marry them. It follows, therefore, that the average married man not only enjoys greater longevity, but is superior in every particular to the average unmarried man, because in the latter group are included all those who on account of obvious defects are excluded from the former group. The same holds true between married and unmarried women, and for like reason. There is one striking and regrettable way in which man often fails to show himself a Eugenist. This I regard as so important and vital to racial welfare that I must be permitted to go into some detail. The female moron, especially when of high grade and in early womanhood, is often very attractive. Her face has the doll-like loveliness so fatal to the susceptible man. He interprets her weak-mindedness as maid­enly innocence, and he says to himself, sometimes to others, “She is the daintiest, sweetest, most innocent creature in the world. She never suspects anything wrong and she loves me so dearly that she would do anything I might ask. She is my darling little girl.” It is true she is a “little girl,” and she will never be anything more. Mentally she never grows beyond “sweet sixteen.” She is an animated doll and, like her prototype, the bloom on her cheek will soon fade and her gay raiment
will soon become tawdry. Many a young man of good stock and of excellent personality falls a victim to the bewitching moron girl. Her vine-like clinging love will entwine her admirer or any other post within her reach.

I was once enjoying an after dinner talk with a great man, one who has achieved more than a national reputation, and I led him to speak of himself and of his family. With much animation and with pardonable pride he spoke of his ancestry, but as he turned from the past to the future his face grew sad and his voice tremulous as he said: “but when a man has sons some one of them is pretty sure to marry a silly girl and then the family name will go to pot.”

Social duty has compelled me more than once to witness the marriage of such a butterfly with a high grade man, and when the beautiful ceremony reached the words: “If any man can show just cause why they may not lawfully be joined together,” etc., I have been compelled to suppress the desire to cry out against the outrage.

Every family physician of years of experience and observation knows how disastrously such marriages end. Let me briefly sketch the outlines of one instance. Some forty years ago a brilliant young man of high character met, admired and wed such a girl as I am describing. Both were poor, but this was an advantage rather than otherwise. For his profession he was unusually equipped both by nature and by nurture. He had bright dreams and the ability to weave the gossamer of their structure into real fibre. But there was one picture in his dreams as he stood at the altar with his fair bride, which no power on earth could ever bring to realization. He dreamed of winning a competency, if not a fortune; of becoming a leader among men, of professional fame, of rendering the highest and best service to his fellow man, and the central figure in all these visions of the future was a wife of whom he should always be proud, who should stand by his side, at all times his equal and who should bear to him strong, manly sons and fair, intelligent daughters. He won more than competency; there was no official position within the gift of his state which was not within his reach; his professional service was sought by both rich and the poor; from the one he demanded and received liberal compensation, to the other he gave time and labor cheerfully and gratuitously. Living, he was honored and beloved; now dead, his memory is held in the highest esteem. All these victories he won and at the same time he carried a heavy load. His wife never grew mentally. He bought and read the choicest books. She dusted and arranged them on the shelves, but of their contents she was as ignorant as she was of Hebrew. Intelligent men and women sat at their table, but their conversation was beyond her comprehension. His most intimate friend never heard from him a word indicating that he
recognized any inequality between himself and his wife. To her he was only kind, gentle and considerate, but when he entered his own home smiles fled from his face, and his voice lost much of its charm. To this union there came three sons. The eldest, even with the help of private tutors, was never able to finish the high school course. In early manhood he married a fellow moron, and they are now multiplying their kind on a farm given by the father. The second is more intelligent; after a university career, broken by drunken sprees, he managed to secure a degree, and now occupies his father's office, but not his position in life. The third is hardly able to take care of himself.

I speak with some feeling on this subject, because I have known former students of mine to tie these millstones about their necks, and then try to keep on the surface of the sea of life. After vain struggles most of them sink out of sight. To the young men of my audience I wish to say, "shun the attractive, frivolous girl." She is found in nearly every community. The object of the Eugenist is not to multiply her kind, but to exterminate her.

There is another anti-eugenic condition in this country which calls for plain talk. I refer to class distinction as a bar to proper marriage. But says one, we have no social classes in this country. This is not true. Class distinctions exist in this and all other countries, and probably always will. To a certain extent they may be desirable, but the one to which I especially refer at this time is on a wrong basis. That basis is money. The daughters of the rich are for the most part deserving of sympathy. They live so luxuriously that no self-respecting American young man can afford to approach one of them with matrimonial intentions. His total income would not suffice to keep her in pin money, and many such women have to find some man who is willing to live a parasitic life, feeding on her wealth, and the American young man worthy of parenthood is, as a rule, not willing to do this. He has not been bred to that kind of life, and the poor girl often is compelled to find a fool for a husband, he a foreign one, or a native without, and in either case she seems doomed to become the mother of fools. The daily chronicles of current events supply numerous illustrations and there is no need for me to say more on this point, only to add that in my opinion this defect is not confined to the daughters of the ultra rich. Those of many of the moderately well-to-do live so expensively, idly and vainly that they repel rather than attract proper suitors. A young man once confided to a friend, saying: "Were it not for one thing I would long ago have declared myself the slave of a certain young lady (well known to both), but when I see that bird of paradise on her hat I hesitate. Think of its cost, but more deterrent than the cost is the fact that I cannot help thinking that one who plumes
herself with so characteristic an ensign of savagery must still contain within herself a large remnant of the barbarian."

It may be asked what kind of development best fits for parenthood. It is man's nervous system which has made him the lord of creation. In size, in muscular strength, in fleetness, in physical endurance he is surpassed by many animals. Even in his special senses his development is not equal to that of many animals. The vision of certain birds of prey penetrates distances through which man could distinguish nothing. His sense of smell is imperfect compared with that of his dog. Man differs from, and is superior to, all other animals in the evolution of his nervous system, the most perfect product of nature's biological laboratory. The Superman, when he is established on earth, will not radically differ from his progenitors in size, height, muscularity or blood supply, but his nervous system will be more highly developed. There are those who seem to think that race regeneration is to be found in athletic training. This is fallacious and even dangerous. Overdevelopment of muscle makes in the long run for weakness rather than strength. Man needs a strong frame, properly developed muscles and good circulatory apparatus, because all these are essential to his nervous system. Even in his barbaric state, man's superiority was determined not by brawn, but by brain: This has held through every stage of his development, and will continue. It has always been and always will be, intelligence against brute force. Had it not been for superior intellect the genus homo would long ago have disappeared in the contest with fellow creatures, extremes of temperature and scarcity of food. Man comes into the world the most helpless of all animals, and with one or two exceptions he has the lowest birth rate, and yet he has gained dominion over the earth and all that is therein. With growth in intelligence the birth rate falls, but this is quite compensated for by a lessened death rate and increased longevity. The Eugenist is concerned with quality more than quantity, and he agrees with Emerson who said: "Make your nation consist of knaves and it is but the case of any other vermin—the more the worse;" or as Ruskin wrote: "It is a matter of no final concern to any parent whether he shall have two children or four; but a matter of quite final concern whether those he has shall, or shall not, deserve to be hanged."

What is the measure by which we may decide that one man is better than another? In what direction and for what purpose shall we strive for the betterment of the race? In improving the breeds of the lower animals, some one trait is selected and developed. In this way, draft, carriage and race horses have been developed. The varieties of dogs evolved from the original are as numerous as the fancy of man has dictated. Some fruits are developed because of size, others for flavor, and
still others for form. What traits in man are to be evolved through the efforts of the Eugenist? There is no call for a race of athletes because as we have seen, over development of muscle is to be avoided. Some say, let us develop for intellect and leave all other traits out of consideration, but many men of intellect prostitute their gift to the basest purposes. It is said that the most liberally rewarded legal talent in this country is that which is employed in keeping high-grade thieves, generally known as great financiers, out of prison.

The Superman is to be healthy and intellectual, but the standard of measurement will be neither of these. It will be civic worth, and what do we mean by this? We mean the service he renders his fellowman. An efficient man is one who supports himself and contributes something to the welfare of the race. To beget and rear children worthy of him is to make such a contribution. "Good breeding" as used by the Eugenist does not mean polish of manner, ability to behave properly on all occasions, to dress in fashion, to use French phrases, etc., as desirable as these qualifications may be. It implies the desire, energy and ability to render social service, to make the world better, be it ever so little, to make his life a blessing to others.

The Eugenist does not propose that marriage selections shall be determined by statute, but it does propose to so educate the young that selections shall be made on more rational grounds than is now too frequently the case. The Eugenist does not aim to abolish or degrade the institution of marriage, but does aim to inculcate the idea that marriage is the highest, holiest of institutions, so holy that he who dishonors it shall be counted worse than an infidel. It does not teach, as Plato did, that no mother shall know or nurse her child, but that every mother shall love and nurse her child. It is no free love scheme, for that would lead to physical, mental and moral debasement. It does not propose to abolish the family, but to bind its members together by stronger ties of a more rational love.

The Eugenist will endeavor to induce the State to aid in the evolution of the Superman by the following methods: By restricting the reproduction of the obviously undesirable. It is even now a crime by statute in this State for an individual of one sex to infect one of the other with a venereal disease, whether the relation between the two be that of husband and wife or not. However, such a statute is at present without other than educational value. Inasmuch as the prevention of crime is much wiser than permitting and then punishing it, the State will go further and demand that marriage be permitted only to those free from these diseases. Even this may at first have but little more than educational value, but it will soon be recognized as a wise provision, and honorable people will voluntarily comply with it, and failure
to comply with it will be regarded as a social disgrace. The declaration of Dean Summer of Chicago that no marriage will be solemnized in his church unless both parties show by medical certification that they are fit for parenthood will accomplish quite as much as legal enactment. It will come to pass that every wise man and woman will undergo a medical examination once or oftener each year, to ascertain whether they are sound or not. Others will follow this wise example and preventive medicine will prove the greatest factor in the evolution of the Superman. In working out this problem the State must supply expert medical advice, because this opportunity must be open to poor and rich alike, and the medical man must be the servant of the State for it will be for the public good that such a service will be rendered. No two consecutive examinations will be made by the same physician, and the record of each examination will be an official document. An abnormal condition overlooked through carelessness or lack of skill by one medical officer will be detected in subsequent examinations. In this way the effects of both heredity and environment will be detected early, and if they be bad the proper remedy will be at hand.

The State will not permit the reproduction of the weak-minded, the insane, the alcoholic and the criminal, and will deny parenthood to those suffering from diseases which cripple offspring. This prohibition will be enforced by segregation or by sterilization, or by both. Already the sterilization of certain classes under certain restrictions has been legalized in eight states, and in one the operation has been performed upon more than seven hundred individuals. The State has the right to protect its honest citizens against those that are evil, and no one can deny that the multiplication of the classes mentioned above and specified by the law is an evil. In order to secure protection against the evil doer, the State may and does often take his life; may it not therefore render him incompetent to reproduce his kind. Besides, it is the opinion of competent men who have observed the effects of this operation that it has a salutary effect upon the individual thus treated. For many reasons segregation is better than sterilization, the chief objection being the greater cost, but the cost of this method, as great as it would be, is much less than we now bear from the unrestricted multiplication of these classes, the members of which occupy our courts, necessitate a large police expenditure, and fill our reformatories, asylums and penal institutions. At present the bad multiplies and the good is contaminated. Crime breeds in our midst. We enact and attempt to enforce laws against it while we permit it to grow and scatter its seeds year by year. Here in this University town, there are children doomed by birth and environment to be prostitutes and criminals. The atmosphere in which they live is as fatal to good citizenship as the temperature of the north
pole would be to the growth of tropical fruits. Specific details are not suitable to this address, but can be supplied if desired. The State is doing something in the way of encouraging positive Eugenics, and it will do more when our legislators more fully comprehend the higher purposes of government. The public school, imperfect as it is, is a potent factor in race betterment. To its support all must contribute, each in proportion to his means. The rich help to educate the poor and the childless bear a small part in preparing the coming generation for its duties. The public school must and will be improved. More attention will be given to the sanitation of school houses and medical and dental inspection of the children constitutes an important move in the right direction. Instruction in hygiene, including that of sex, will be of great benefit. Leibnitz said: "Permit me to direct the instruction of the children, and I will change the world in a hundred years." It seems to be conceded now that every grade of instruction from the primary through the University should be within the reach of the poorest, provided he has the ability to profit by it. This is true not only of basic and general instruction but of expert training as well. Less than fifty years ago it was still denied by many that the State should train farmers, engineers, lawyers, physicians, etc., but now it is generally admitted that the development of efficient men and women is not only a function of the State, but a profitable one. Vocational education must be extended and must have its roots in the primary and secondary schools. In these grades evidence of degenerative tendencies must be detected and the fit and unfit separated. It is worse than idle to keep the normal and abnormal in the same classes and try to force the latter to keep pace with the former. Beyond a certain point in intelligence the moron cannot go.

Sickness, especially infectious disease, imposes a heavy burden upon those who are parents, consequently preventive medicine is a potent factor in the nature and nurture of generations. Even those of the best stock become less fit for parenthood when infected with tuberculosis, scarlet fever and sequellae, poliomyelitis, etc. It may be that the defects induced by these diseases are not transmitted to their offspring, but that they do not contribute to improve parenthood must be admitted. More than two centuries ago Descartes said that the regeneration and development of man must come through preventive medicine, and the experiences of the generations that have come and gone since that time confirm his statement. The suppression of diseases, both those that are transmissible from parent to child and those which affect directly only one generation is a State problem and must be solved by the State. I include here as diseases, not only the microbic infections, but feeble-mindedness, alcoholism, insanity, sexual perversion and criminality.
To deny the possibility of race betterment is the worst form of infidelity; it means to be without faith in self, in fellowmen and in the Creator. To fail to work for it is to neglect the highest duty. Race betterment, which of course includes and depends upon self betterment, should influence our daily lives, form a basis for our ethical judgments, determine our political activities, and be a strong motive in our religion.