Importance of Heredity to the State

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The subject as assigned (Heredity and Eugenics) is a very broad one, and I should like to limit it somewhat and speak, rather, of the importance of heredity to the state, to your state, to Minnesota.

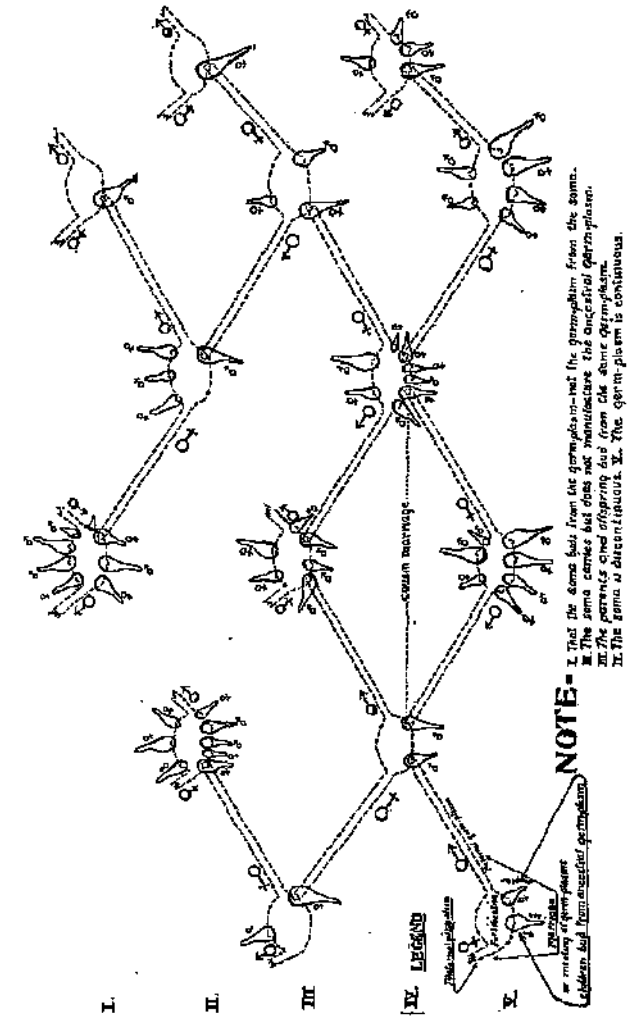
First, it is necessary to bring to mind the great changes which have taken place in the last, few years in our ideas concerning heredity. These changes 1 think are well based upon the extensive investigations 'that have been made in the last ten years, more extensive than in all, the history of science before. They have led to certain conclusions which are now generally accepted by biologists. Some of these conclusions overturn current notions of heredity, and so I think it is worth while to call attention to them.

First, we do not inherit, strictly, from our parents, nor from our grandparents, nor from anybody; but rather, we inherit from something out of which our grandparents, our parents, and we ourselves, have all developed; and it is because we have this same source that we are alike. This material, of which each one of us is a part in common with other members of our family, is called the germ plasm.

In order that yon may get a sharper notion of the genm plasm, let me compare it with something that may be more familiar—the strawberry plant. As you know, this sends out runners, and at intervals the runner sends down rootlets, and up springs a young strawberry plant. About the same time it severs its connection, by a withering away of the runner, from the first and older plant. The young plant, in turn, sends out a runner, and this takes root and sends up a plant. Now, you will see that the youngest of these successive plants has not arisen from the next older plant, 'but that the whole series of plants has arisen from the common runner. And so it is in human heredity. "We all arise from this common germ plasm. From this point of view the father is really a half brother of his son,- the son being by a different mother.

Perhaps a little diagram will help to make clearer this notion, and so I will call your attention to the chart (Fig. 1), in which is represented the germ plasm, the runner. We see a complication in the human condition which does not arise in the illustration that I gave you; namely, that these runners, unite together in pairs, and when two of these germ plasms unite in an area A, then from that point of union there arises the new individual. That individual, however, does not use up all the material in the development of its own body, but a little remains behind to form the

DIAGRAM ILLUSTRATING
THE CONTINUITY OF THE GERM-PLASM AND CONSEQUENTLY
THE CONTINUITY OF ANCESTRAL TRAITS.
(AFTER DAVENPORT)



germ plasm of a new generation, and, In time, these germ cells will be liberated and fused with those of another individual, and thus we can trace back lines of germ plasm for generations—this represents three generations—you can study the individuals which 'have arisen at these points where germ plasms are fused, and by studying those individuals., noting their characters, we can learn something of the characters that these germ-plasm's carry.

That brings me to the second point, and that is that we really do not inherit characters. I say, for instance, that my daughter has my nose. That is purely a figure of speech. I have my nose still. What is true is that there are certain materials in the egg and in the sperm which determine what the form of the nose shall 'be, and because my daughter and I both arise from this common germ plasm, because we have arisen from this germ plasm with the same determiners, the determiners of the nose are the same, and the form of the nose is the same in two generations. You get, then, the idea that what is truly inherited, what streams down through the germ plasm, is not the character itself, but some little invisible particle which determines the nature of the character, of the trait, and that we may call, for short, the determiner.

The third point grows out of this last idea. The determiners are carried in the germ cells, and it takes two germ Cells, the union, of two germ-plasms, to produce an individual. Wow, if each of these fusing germ cells contains the determiner for any character—if, for instance, the brown color of the iris—then the child will get a determiner for this character, for brown color of the iris, from both sides of the house, and consequently this particular trait, brown eye, will be strongly developed in the child. We may say that in these cases the child has the character duplex, double, having been derived from both sides of the house. Now, a child with such dark brown eyes will, on reaching maturity, form his germ cells, and each one of those germ cells will contain a determiner for brown iris pigmentation.

But if, on the other hand, one of the parents has blue eyes, that is evidence that there is no determiner for brown iris pigmentation in the germ plasm of that side of the house. If the germ plasm from the other side of the house carries brown pigmentation, then in the union of the germ cells we shall 'have one determiner for brown eye, and only one; wherefore the eye will be of light brown color. When a person who lias a character simplex, as we say—derived from one side of the house only—matures, the germ cells are formed in such a person, and only half of them possess that determiner, and the other half Jack that particular determiner.

In case, then, of an individual simplex in respect to any character, the separate germ cells differ from each other and fall into these two classes, with and without the determiner. Now if, in the third case, neither parent has blue eyes, that is an index that the germ plasm of neither parent contains the determiner for brown eye, for if the germ plasm of a person contains determiner for brown eye, then that person must have developed brown pigment in the iris. The fact that both parents have blue eyes is proof that they are without the determiner for black eyes. Every child

born of such parents will be without brown iris pigmentation, and will have blue eyes. I will not go into the modification and so-called exceptions to this rule, hut the possible deviations from it arise from certain complication which do not militate against the rule laid down here.

Returning now to the second case, if both parents have light brown eyes and are simplex in respect to iris pigmentation, so that half of the germ cells of these parents have the determiner for brown eyes, then what will appear? Half of the eggs have the determiner, and half lack; half of the sperm have the determiner, and half lack. In the haphazard union of the egg and the sperm, there are four events. If a sperm with determiner meets an egg with determiner, then the child is duplex with respect to the determiner for brown eye pigmentation. If the egg has the determiner and the sperm is without the determiner, then the child gets it from one side of the house only, and is simplex. If the egg is without the determiner and the sperm carries it, then again the child is simplex; but if neither of the germ cells contains the determiner, then the child will be without it, and will have blue eyes. So we may say that when both, father and mother have in turn a brown-eyed and a blue-eyed parent, then of the four grandchildren there will he one with dark brown eyes, two with light brown eyes, and one with blue eyes. And extensive statistics hear out the conclusion derived from the application of this formula.

Now, what is true of eye color 'has been shown to be true of a large number of other human characters. It has been shown to hold for hair color, for hair form, for stature, for a host of diseases, for conditions of development, mental and physical, which I will not now stop to enumerate, (but some of which I will illustrate later), because it will he well at this time to discuss the question which must have arisen in your minds; namely, Where does culture come in? If each physical trait, if the different mental traits, if the different elements of disposition, are determined in the germ cells, if what the child is to develop into is" determined by the combination of these elements, germ cells, then what is the use of all of the instruments of culture of which we make so much nowadays?

In order to understand the proper relations between heredity and culture, I think we have merely to put ourselves in the position of the farmer. The farmer knows full well that, in order to get a successful crop, it is necessary for him, first to select the best seed from the best strains, to get such seed as he knows carries the particular traits, characteristics, that he is after. If he is after sugar in the corn, then he selects one strain; if he is after starch in 'his crop of corn, he selects another; if he is after oil in his corn, he selects another; if he wants the characteristic of popping, he selects, still another, and so on. Having obtained the particular strain which has been selected to give him the particular characters he wants in ibis crop, then he proceeds to apply culture, and the purpose of the culture is to enable the germ to develop to the utmost those potentialities that it has. Culture, therefore, has introduced no new characters into the plant, hut merely permitted the plant to develop to the utmost those capacities, those characteristics, with which it was provided at the time of the fertilization of the egg.

[Let us now take under consideration in more detail the method of inheritance of certain strains that have a significance for the state, for society. And especially may we consider those cases that are of such importance to the state as to require the state care of those who possess them. Let us consider first the case of so-called feeble-mindedness.

feeble-mindedness is not a definite character; it is just a condition or state which indicates that the person requires care from outside, is not able to take care of himself, and this result may be due to a great number of things. It may be due to bad nutrition, so that if the nutrition can be improved, the child may develop, It may be due to imperfect circulation. But in a great number of cases it is perfectly clear that in the feeble-minded we have a strain which is not adequately equipped with the characteristics which enable a person to play his part well In society. Now, when we study the families from which such incurable cases come, we find that there is clear evidence that -we are dealing here with a defect; usually, we may say, a unit defect The result is due to the fact that the determiner which forces complete mental development is lacking; sometimes from one side of the house only, but frequently from both sides of the house; that is, the germ-plasm of both father and mother is defective in so far as it lacks the capacity for complete mental development.

Figs. 2 and 3 illustrate the way in which such inheritance can he demonstrated, the way in which the inherited cases of feeble-mindedness arise in a family, and how the condition is transmitted throughout generations.

First, if both parents are imbecile, then all the children will likewise be imbecile. (Fig. 2.) The case is like that of the blue eyes;—if both parents lack brown pigment, the children will be without it, and if both parents lack the determiner for complete mental development, all of the children lack it, all will fail of such development. If, on the other hand, one parent alone lacks the determiner, and the other is simplex—has it from one side of the house only—then half of the children are defective. (Fig. 3, Center). If both parents, though normal, come from a -defective strain, then one in four will be defective. (Fig. 3, upper right). How often we are led to wonder that from good stock arises an imbecile child! We wonder at it, and, yet, very often it can be shown that these mentally well equipped parents come from stock with mental defects, and they are carrying defective germ cells which by chance have united in that particular child, and consequently such child as incapable of normal mental development.

(Fig. 2, left), shows a feeble-minded woman who married a man he- - longing to a strong strain. All of his children are normal, but they all carry their mother's taint. They developed so as to take their place in normal society; but there were defective grandchildren.

By appropriate matings the taint from both ancestries can he entirely eliminated, so that hereafter there is no danger whatever of their having defective children, even though they marry into blood that is not without taint.

We see here the two sides of the matter of heredity. We are prone to look at the evil side of heredity and say, "Alas! The burdens we carry are due to these defects that have been handed down to us from

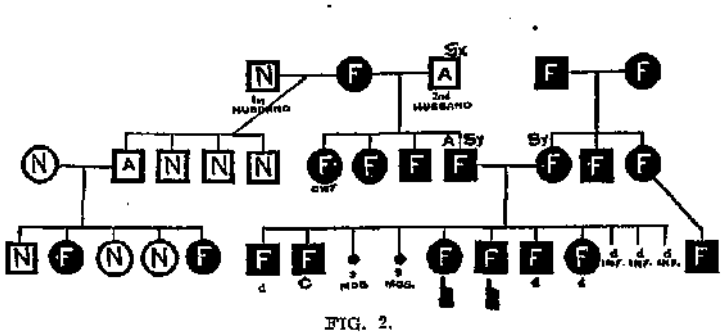


FIG. 2.

Pedigree of a family showing the results of the mailings of a feeble-minded woman, (Circle, top line.) with a normal (N) man and a feeble-minded, alcoholic sex offending man.

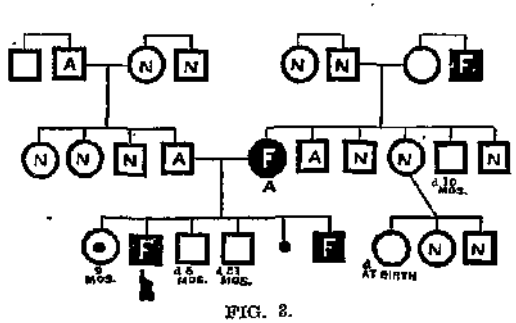


FIG. 3.

Pedigree of a family showing, upper right the union of a normal man with a woman of feeble-minded stock, producing one feeble-minded child in a fraternity of five who grew up. This child marries (center) an alcoholic nan of fair stock and has at least two feeble-minded children; two others who were not known to he feeble-minded died early.

remote ancestry." And we curse the fact of heredity. That is a foolish attitude to take. No farmer takes that attitude. He is glad because of heredity. He recognizes it is the most important element to improve his stock. He recognizes that the determiner introduced by the normal blood entirely wipes out the defects inherited in the remote ancestry.

What is true of feeble-mindedness is true of many other traits of social importance. It is true also of epilepsy. If both parents are epileptic, then all the children Will be epileptic or feeble-minded. If one parent is epileptic and the other comes from normal stock, it seems probable, although this has not been carefully studied, that the children will all be normal, though they will carry the taint. It is quite common to find two normal parents having epileptic children. It can usually be shown that both parents carry the taint.

And so in forms of functional insanity. We have now made a careful study of hundreds of cases of manic depressive insanity and dementia precox, and it is rare indeed that it can not be demonstrated that there is a defect in the germ plasm of both sides of the house, even though the parents themselves may not show in their soma the defect which they carry in their germ cells.

The diagrams that I have here illustrate the same rule in a physical trait of less social importance, although it leads to a condition which needs treatment in our public hospitals, especially in the eye clinics; that is the case of lack of pigment from the skin, hair and eyes, albinism. Fig. 4 is an actual case of a family in Massachusetts. We have here two parents who are both albinos. They have two Children, both albinos. It has been confirmed, by an investigation of four or five pairs of albinos, that all the children of albinic parents are albinos. It is the same as the case of blue eyes. There is an absence of brown pigment. Two normal persons, (Fig. 5), who probably were tainted, married and had two children. Both appear normal. One of these married a woman who, though normal, was tainted with albinic stock. Two children, among nine, were albinos. One of the albinic women married a sormal man and had three children, all normal, but tainted, and, to make a long story short, one of these married into tainted stock—again part of the same family way back—and one child out of four is an albino.

Nothing is more striking, even to these people themselves, than the recurrence of a child without pigmentation in hair and eyes, making it difficult to see in the daytime, They do not know of any case of the kind; never heard of it; and they seek to explain it by maternal impression—the mother saw a white rabbit cross the road or a white sheet hanging out on washday, and consequently the child was marked.

Because of the fact that albinism is rather rare, it is uncommon for two consorts who both carry the defect to be entirely unrelated, and thus it comes about that albinism is apt to occur in consanguineous marriages, cousin marriages. It is not that the cousin marriage causes albinism, but it is the bringing together of two individuals carrying the same defect.

Fig. 6 may serve to illustrate the inheritance of epilepsy, and at the same time point out a social matter which I am sure has no relation at all to the state of Minnesota, but it has relation to many of our southern

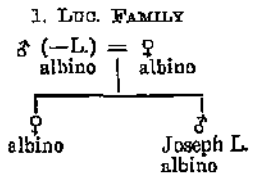


FIG. 4.

Pedigree of an albino family.

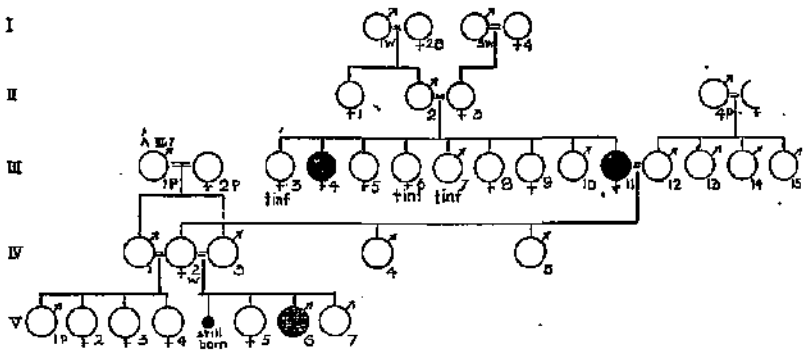


FIG. 5

Pedigree of a family with albinism. I., II., III., IV., V., numbers of the generations inf., died in infancy. The capital letters B., P., W., are initials of surnames.

states, and it had relation to many of our northern states only a generation ago, and that is the production of imbeciles and epileptics in our poorhouses. Through a mistaken idea of economy, these unfortunates were segregated and the sexes not separated, so that it was not uncommon for children to be horn there from women who had long been inmates of the institution.

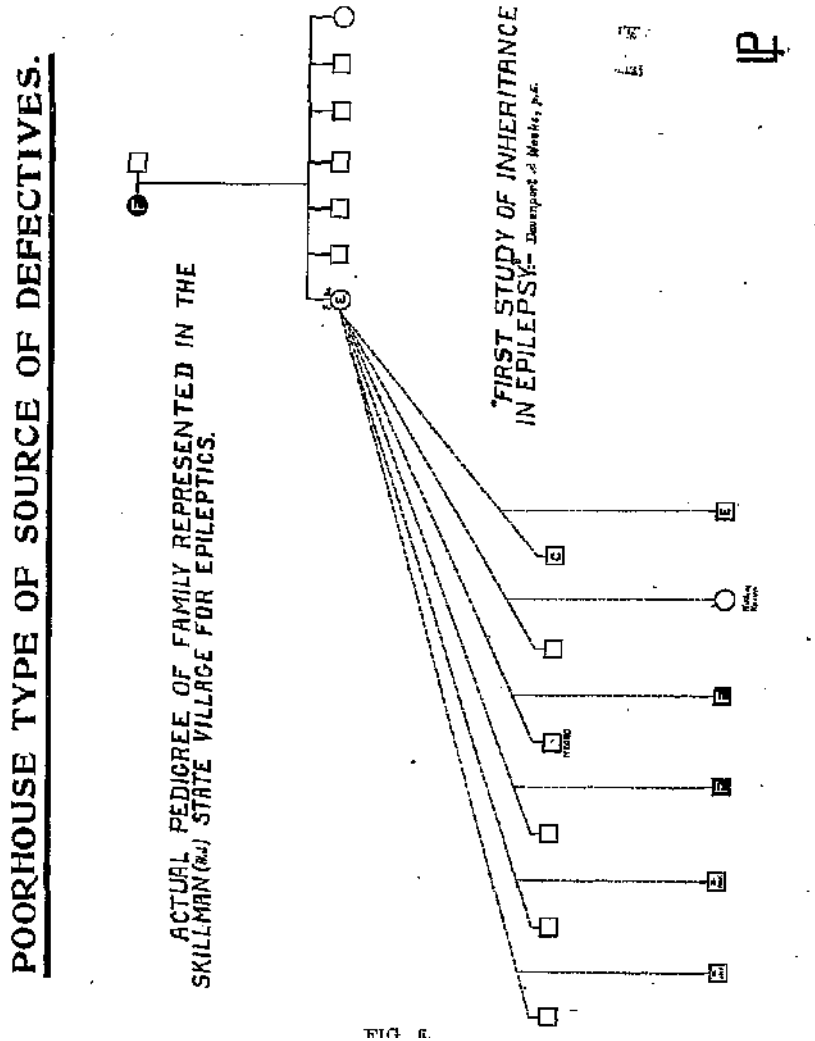


FIG. 6.

This is the case of a feeble-minded and epileptic woman who had six children by various persons while an inmate of a county poorhouse. One child at the age of eighteen died in the almshouse, two died in infancy, one was epileptic, (the son of a man with a criminal record), and two who are

now living in the almshouse are feeble-minded, one being the son of a negro. There is no economy in running an institution so cheaply as to permit the reproduction of individuals that have to be taken care of at great expense.

Another kind of reproduction of defectives is not uncommon, terrible as it seems, and that is illustrated in Fig. 7, which represents the social relations of a family living in a hollow in the woods. This illustrates how inadequate is our legislation against particular kinds of matings; against incest, or marriage of feeble-minded. These people are removed from social, influences. A criminalistic, alcoholic man has a number of children who were born in this hovel and are living there. One feeble-minded boy has by his sister an epileptic child, who has epileptic traits like her father and grandfather, and is an alcoholic. By her father this daughter in turn has four Children, of whom one was horn an idiot monster who died directly after being born, one is an epileptic girl, one a feeble-minded hoy, and one feeble-minded girl, who is criminalistic, is alcoholic, and the mother of two illegitimate children who died early. This case illustrates the inadequacy of legislation, because these people are out of reach.

Some years ago some rabbits were introduced into Australia, and these rabbits multiplied tremendously and overran the country. Now, I can imagine an Australian lawmaker securing the passage of a law to the effect that these rabbits shall not breed any more, thus helping to solve the problem of the destruction of the country by rabbits. This law is about as sensible as a law against the reproduction of defectives or the laws against incest,

I recall one case on a peninsula off the coast of Maine. We got there by riding two miles on a narrow wood road. It was a small community, and the people were all closely related. A thousand feet from the peninsula was a little island, and on that island was one house, accessible only at low tide. In that house lived a man, his wife, and their family of two sons and a daughter. That daughter has had by her father four children. You can see that society and law do not reach into such remote corners of the globe. The girl, of low power mentally, had no thorough appreciation of any social objection to her having children by her father.

Now, the way in which these different socially important defects are grouped and concentrated in certain individuals in certain families is well brought out by some at the families that have been studied by our field workers in making researches into family histories.

Here (Fig. 8), we have a family Starting with an alcoholic father. A son, who is an epileptic and feeble-minded, marries into a criminalistic strain, and we have a number of defectives. The oldest daughter is a sex offender, three sons are criminalistic and at least one of them also feeble-minded, and a sex offender. A daughter is insane and a sex offender. The next daughter is feeble-minded and a sex offender. And the last is a young child of whom nothing is known. In the next generation the same non-social traits continue: Feeble-mindedness, sex immorality, criminality, epilepsy, insanity.

We say the environment is had, and so- it is. It is bad partly because the individuals have not intelligence enough to improve it, but at the real

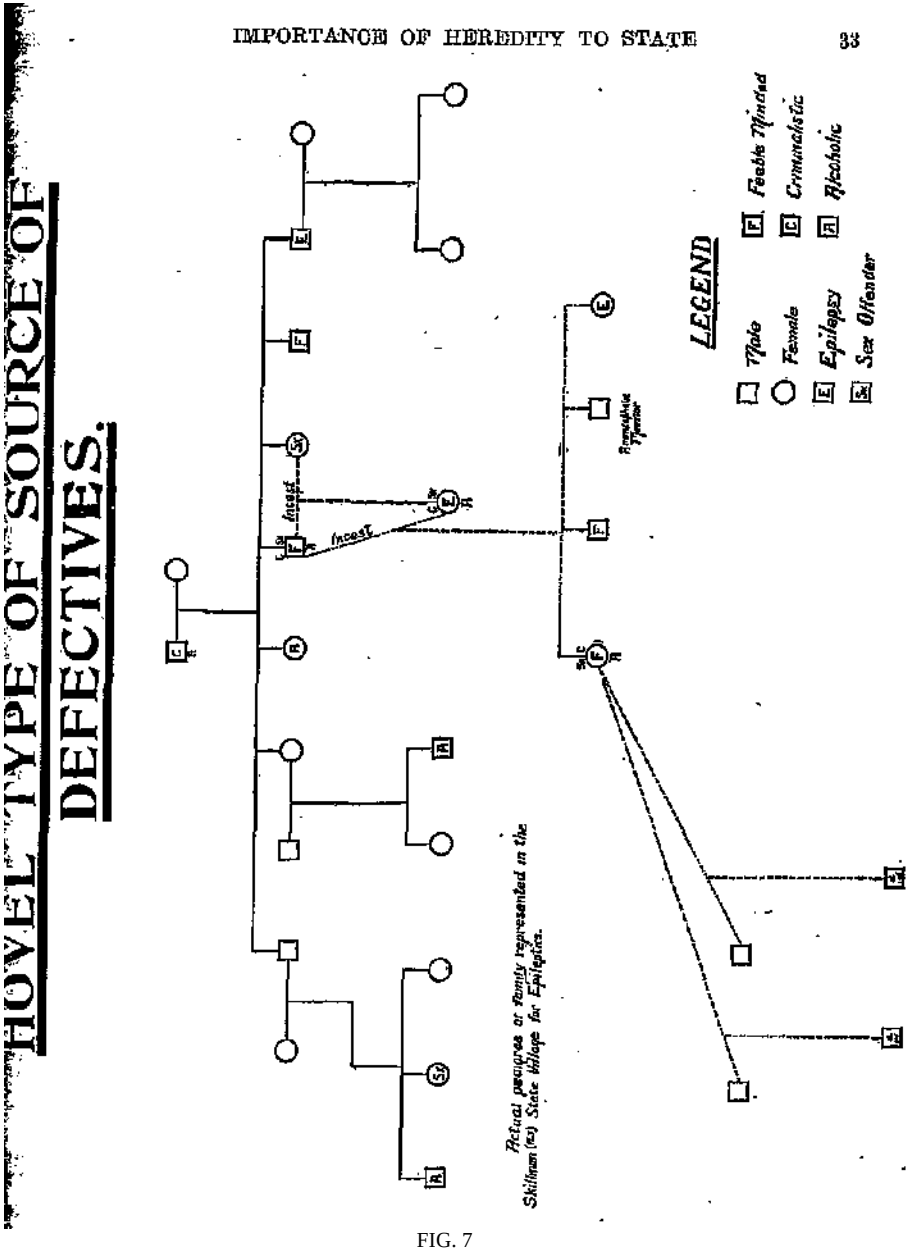


FIG. 7

root of the matter lies the fact that these persons are reproducing inherited weakness, and they are no more responsible for their condition than you or I are responsible for the possession of brown eyes or blue eyes.

Now, these diagrams will, I hope, serve to show the importance of heredity in determining the traits that persons possess, and especially in de-

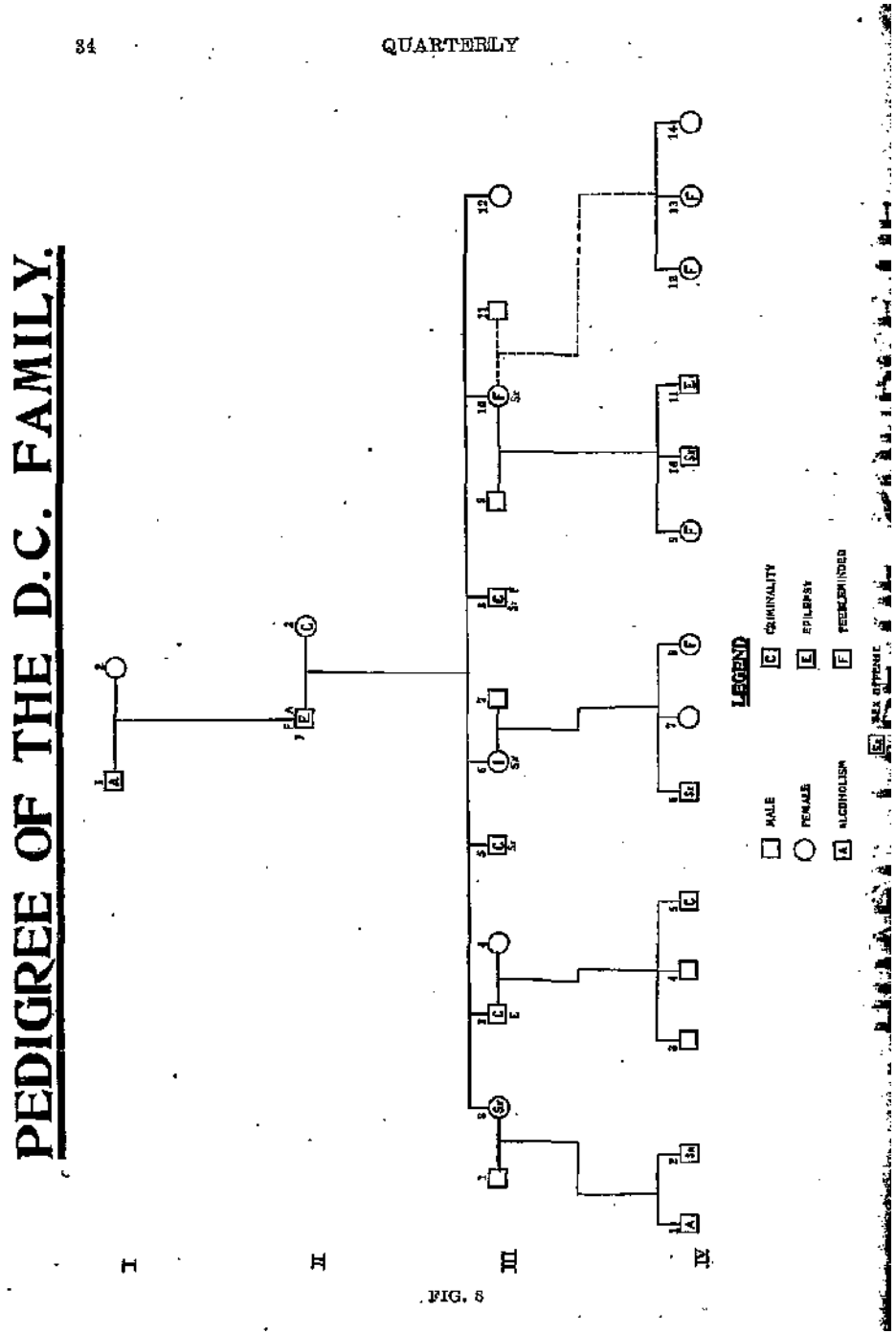


FIG. 8

terming the recurrence of so many individuals with the traits that cost society so much. One marvels, after having examined the vast quantity of evidence which has accumulated during the last few years, that we have been so long so blind; that we have laid such stress upon culture without considering the sort of blood or strains that we are cultivating. Think of the enormous sums and great attention paid to the subjects of sanitation and factory regulation; think of the great stress laid upon, and properly, the principle of education; think of our great universities and the vast sums spent on them; think of our great libraries; of the. great interest shown and the sums paid in the care of infants after birth and of mothers during pregnancy; think of religion and the money put into great churches and cathedrals;. think of politics, all of the money spent in connection with them, All of these are for culture. Where do you look for any agencies that have to do with the quality of the strains? There are practically no interests in the country which take into account this matter.. Certain genealogists are interested in studying their fine families, and here and there you will find enlightened superintendents of institutions who are in-. terested, and physicians who are interested, in tracing the family history of the. particular cases with which they have to do; but, on the whole, we have been quite blind to the importance of heredity in human affairs. We have thought people were all the same; we have thought of them as differing because they have not had the same opportunities; whereas the fact is people are just as different as kinds of corn or kinds of tomatoes. at the time of harvest. No one can make a Poland from a Berkshire hog by any method of feeding or cultivation. We realize that the one race will develop into the one kind and the other into the other, because they are bred that way.

Now, let us turn for a moment from the defective strains and consider some of the strains which have made this country great, which have focused the attention of the world upon us; strains that have let to such results as our advancement in education, as our general intelligence, our inventive-ness, and our progress in certain fields of science. "We shall see that these results are due quite as much to good breeding as bo the good conditions which we have provided for the education of our young people.

As an illustration of this, I may call your attention to Fig. 9, which is of the Dwight family, or, properly speaking, the Edwards-Dwight-Woolsey combination, in Connecticut, which produced so many scholars in that small state. In this chart we have indicated by the differently marked symbols individuals who have played a specially important part in educa-tional matters. The solid squares, college presidents; symbols marked in the upper half are college professors and other leading educators; those marked in the lower half represent college instructors; those marked by an. upper diagonal are persons with special scholastic ability; the lower diagonals represent persons interested in education to the extent of hold-ing the position of trustees of institutions of learning. The women, though not active in these lines, are all represented here. They serve to dilute the. density of this chart. We see a remarkable distribution of talent in the pedigree of these educators.

Gen. I, 1, is Jonathan Edwards, who married Sarah Bierrepont, a

daughter of James Pierrepont, a founder of Yale College, and produced the second generation (IT.) who in turn had a remarkable progeny. We have here Mary Edwards, a remarkable woman, who educated all her numerous family in her own home—she had a school there—and educated some of her grandchildren in the school she herself kept. She married into the Dwight family, Major Timothy Dwight (II), a Yale graduate, a man of some remarkable ideals, who attempted to found in the state of Louisiana a New England Colony. Among her fraternity we have here the Honorable Timothy Edwards, who was a graduate of Princeton, a man of superior intellect. And we have another brother, Jonathan Edwards, who was president of Union College. As a consequence of the. union of Mary Edwards with Major Timothy Dwight, we have produced a large progeny, including President Timothy Dwight, late president of Yale, who married Mary Woolsey. The Woolseys are shown at the right of the chart. The college presidents and college professors in the Woolsey tribe are not duplicated in the main pedigree chart. The Woolseys here unite with the Dwights, and we have produced this remarkable progeny: First, founder of a professorship at Yale; second, a college treasurer; another (TV. 7) had great literary 'talent; (IV. 8) was president of Hamilton College; and we have two professors at universities (IV. 11, 12). IV. 5 marries a woman of remarkable family, and there are three children, one President Timothy Dwight of Yale and two tutors at Yale. Mr. Timothy Dwight, (IV. 1), a merchant, has two sons, of whom one was Theodore Williams Dwight, founder of Columbia Law School, and his brother, Benjamin Dwight, who had charge of a rural high school that he founded himself in order to put into practice certain principles, novel principles for that day.

We have the union of cousins in Gen. III. One of the Dwights marries a son of an Edwards, and of their children there are two who are college professors, and one of them marries a college professor.

At IV. 26 we have again a union of the Edwardses with the Woolseys, (IV. 29) is president Theodore Dwight Woolsey, of Yale. His -sister marries into the Edwards strain and produces two professors in mathematics,

You see here a remarkable galaxy of mating of good blood with other good strains, and repeated marriages of intellectual strains together, until we have produced a pure race of intellectual persons. How far is that due to environment? No doubt these people had high culture, but there is a family related to this where every child was born into the same environment as this, hut they produced no great scholars; so that we see we cannot rely solely on environment as as explanation of scholarship. And so, as we look about our country, as we look over the list of its great men, we find that they do not occur haphazard, tout that they are to be found in certain families, certain strains. It is difficult to follow these strains because through constant intermarriage traits become dissociated and the surnames by which we follow the relationships are changed.

If we want authorship, there are many lines which show it, but what strain is there in this country that shows it to a greater extent than the Abbott strain? Jacob Abbott wrote over two hundred books for children; John S. C. Abbott, his brother, wrote scores of histories and biographies. Then in the next generation we 'have the sons of Jacob, Lyman Abbott, a

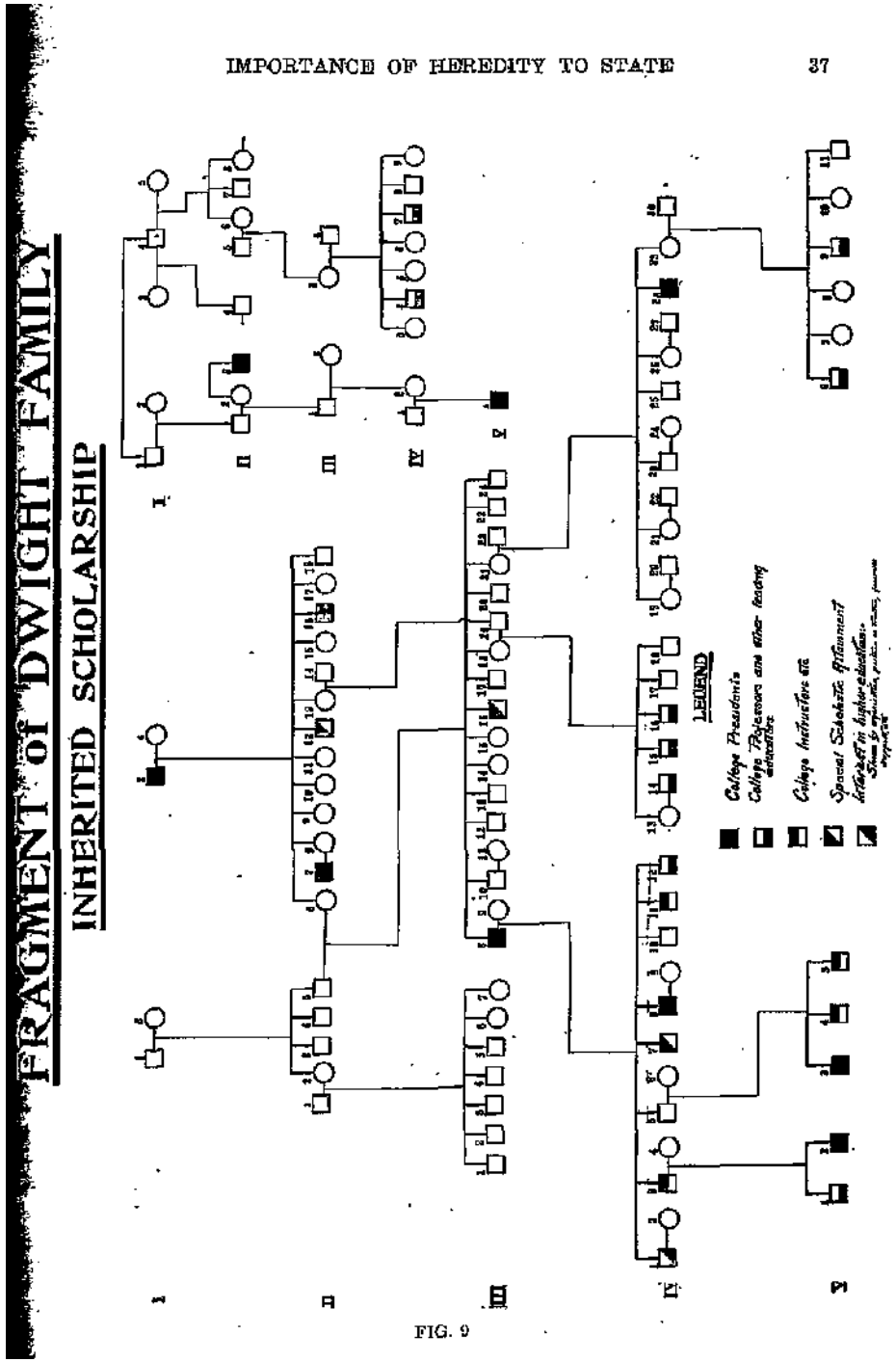


FIG. 9

prolific author, especially of religious works, Benjamin Vaughan Abbott, his brother, a noted lawyer. In fact, two of his brothers are in the law, and in the law are just as remarkable for their authorship as Lyman Abbott is in the field of religion or Jacob Abbott in the field of child books.

Similarly we have certain strains of astronomers, of which the Mitchells are a remarkable family. Mary Mitchell, breaking through the barriers which are raised against women, has become a noted "astronomer, receiving a gold medal from the King of Denmark. Her brother is an astronomer. Her father, though a man of affairs, was so much interested in astronomy as to be on the visiting committee on astronomical research at Harvard University.

The Booth strain produced actors for two or more generations.

We think we did a great thing when we won the cup for supremacy in the sport of yachting, yet without the Herreshoffs we should have had no chance. For three generations they have shown a combination of artistic and mechanical and nautical interests and abilities, which have enabled them to make these sailing crafts that cannot be beaten. Four of the seven sons of the illustrious head of the family were inventors and boat designers.

And so in the production of firearms in this country, we have the families of the Colts, the Winchesters, and the Pomeroys, who in Revolutionary days made all the arms for our government, and who for generations have shown a particular genius in. working with iron, just as the Fairbanks family has shown a genius in the production of scales, iron working, and other lines.

"When it comes to the matter of missionaries, we have two great families from which a large part of our missionaries has come, the Williams and the Gulick families. For generations these have 'persisted in the same profession. We may say that that is a matter of tradition. And, yet, it is not a matter of tradition merely, because in every generation there have been some who have not been missionaries. It is the combination of love of teaching with love of new countries, the wandering spirit, love of seeing new people, which have led them to make distant journeys.

And so with military commanders, the Lee family, of Virginia has produced many who from the beginning have taken a prominent part in every war. We have strains of governors, the Wolcotts, of New England, etc.; of orchestral leaders, the Damrosches, etc.

"We see plainly that this country has been producing strains which have lent themselves to these varied professions. Some of you may think this is all flue to opportunity, yet what opportunity offered to any one of us here would enable us to become a great mathematician unless we were born that way? Or a painter, unless belonging to a family who has shown ability in this direction? Do you think we could go to the Herreshoffs shops and, toy taking lessons there, could acquire insight enough to be able to produce something in ships better than has ever been produced before? While these people have had opportunity, yet they had what was of more importance, the internal impulse to seize that opportunity. They were already equipped with innate capacity which made their occupations congenial. We lay too much stress upon the all importance of opportunity, despite the fact that we know well of a case like Abraham Lincoln, a per-

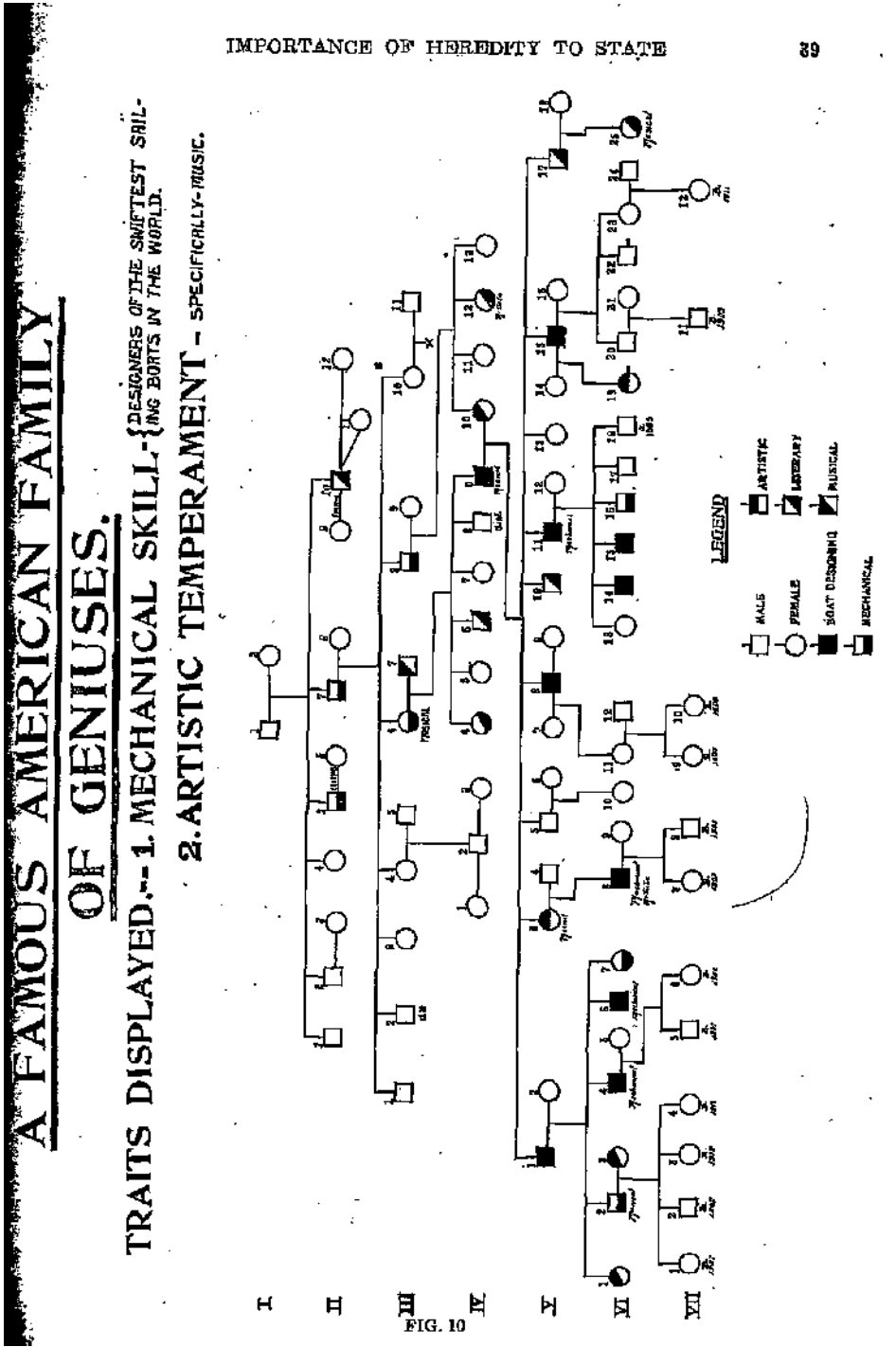


FIG. 10

son born with little opportunity, learning without teachers, who succeeded in reaching an advanced position despite the lack of initial opportunity. His success was due to internal impulses and capacities for utilizing even slight opportunities.

The fact is plain that we have in this country special strains corresponding to the strains with which the horticulturist is familiar, and it is to these strains that we look for special service in particular lines. It is these great strains that have placed this country where she is today. The sad thing about it is that so many of these strains die out. If you examine carefully into the history of families to see why they have died out, you see that some of these people have never married, some have failed to have 'children, while others, and perhaps even more commonly, have become careless with regard to the matings which they have made, and they have made had selections, brought in weak blood, and the innate capacity which the strains possessed has became diluted or even eliminated through these unfortunate matings. How important, then, for this country, if it were in any way possible, to see that these strains, with their valuable determiners, persist and multiply and continue to keep the innate capacity in order to secure to this country that advantage among the nations which it has heretofore possessed.

Just as we have these valuable strains, so we have strains of degenerates, and these are the sorts of strains of which the ordinary people who are not investigating the subject know little. I have been going over the records of one family in New York, the so-called Nam family. There were fifty-five per cent consanguineous matings, marriage between cousins, in one generation, and, owing to the fact that the strain was already loaded with defects, we can see how these defects were concentrated by these cousin marriages, so that about ninety per cent of the strain is feeble-minded. There are fully ninety per cent of the men who are unable to resist the lure of liquor. One-fourth of the children are horn illegitimates. Infanticides, incest, murder, harlotry, are all over the chart. This is a highly inbred community, keeping a nearly pure strain of social defects, and the cost to the community has been a million and a half on a fair way of figuring, not directly in the care hut indirectly in the damage they have done. These constitute a rural community. Out of this community we can trace those who have gone to the cities and become murderers, prostitutes, and thieves. They are not confined to one state; they spread out over the country. One branch of the family came to the state of Minnesota. We sent to one of Dr. Rogers' trained field workers to learn whether she had ever heard of this family, and received a reply that the family was well known to social workers in the state of Minnesota. These strains of degenerates are not local matters at all; they are matters of national interest.

We have certain methods of testing whether it is had environment or bad breeding which produced these people. Some of the children have been taken at an early age and "placed out". We have traced their subsequent history. In most eases they have turned out quite as bad as those who have remained at home. In a few cases they have turned out well, hut it is also true that some of the children who remained at home

in bad environment have turned out well. A woman may have children by a husband who is an indolent sort of a man, and by another who is ambitious. Comparing the two sets of children, we find the difference in these two fraternities corresponds with the difference in the two fathers, although they were brought up in the same environment. Similarly we pan take one man who has married successively two women, and we find that the two sets of children have turned out differently in the same environment. Removed from the old homestead to a new environment, to a good environment like the state of Minnesota, bad traits reappear and are still reproduced. Some persons may say these strains must be due to alcohol or syphilis. We know that in this "particular Nam family, at its home, there is only one case of syphilis, although in some descendants—some of this family who have gone into the cities—there is syphilis. With regard to alcoholism, we know certain "degenerate" strains that are without a desire for alcohol. Bad traits, like good traits, are carried in the germ plasm, and we are dealing here with definite strains, quite like the bantam strain of chickens, or the dwarf strain; of apple trees.

Now, one sees the enormous importance of these defective strains, degenerate strains, to the state. The Nams cost over $1,000,000, the Jukes cost $1,700,000 in 70 years. There is no question about the great expanse of the maintenance of criminal courts and institutions for defectives. There is no question about -he great cost to the state induced by these had strains. How are we 'going to prevent these results? Some persons say, "Prevent marriage of the feeble-minded by law." As I pointed out, this is quite useless. There are those who would say, "Training will do at," but there is much evidence that training increases the danger, in a way, by making the defective, especially if he has criminal tendencies, more capable of crime. Here are those who urge sterilizing and letting the sterilized go, But this will not cure the danger of the moral imbecile who is a danger because of his own unsocial acts. There is no question that sterilization will have great results in the next generation, but we must also protect the present generation. Then there is the method of segregating throughout the whole reproductive period. This is a very expensive method, and that is no doubt why we are so slow to adopt it, though we must recognize that it is the most thorough going method. It remains to be seen, however, whether the cost is altogether prohibitive. We are about to try in this country to see how far the feeble-minded can be made self-supporting by establishing them in a farm community and having them raise their own fruit, weave their own clothes, or exchange for clothing certain products that they raise, build their own houses, and so far as possible pay the expense of their own maintenance. If it could be shown that such a feeble-minded colony could he made self-supporting, then the difficulty in the way of permanent segregation would be largely removed.

I want, in conclusion, to urge one point that seems to follow from matters that I have had the pleasure and honor to present to you, and that is the function of research in the state. Our forefathers saw only three branches of government: The legislative, the administrative, and the judicial. But the world has advanced since that day, in one department more than any other, and that is in the realm of science, in exact knowl-

edge. It seems to me that an enlightened community, organizing a government today, might well provide in addition to these three departments—administrative, legislative, and judicial—a department for systematic study, investigation; as it were, a scientific department. But even as at present organized, such scientific work may well he carried on by the administrative department, even as it is today being carried on in the state of Minnesota, toy an institution like that under Dr. Rogers' control, where scientific studies are 'being made into the strains or families that produce the wards of the state.

(Minnesota is one of the first states to have appropriated funds especially for research in family history. New Jersey is doing it now. The state of Massachusetts is appropriating some funds. Michigan has this year appropriated funds for the study of the families of the state, particularly Those that afford state wards. It is to he hoped that legislatures will see that, while they are appropriating millions for the care of the defectives, it might he good policy to appropriate thousands to make a careful study of the origin of these defectives and the methods by "which the state may be eventually relieved of the care of so many defectives.

So I plead for the recognition of research as a great branch of government, for at bottom our troubles are due to ignorance, and a successful society must have knowledge to avoid disaster. As was said of old, "Seek the truth and the truth shall make yon free."

P. M. Ringdal, Chairman State Board of Control: I am sure I voice the sentiment of every person present when I say that this address has been very instructive and very much enjoyed.

I have no doubt that there are many present who would like to discus's the subject,. Perhaps there are others who would like to ask questions. The address certainly has opened up a great field for speculation, and I presume that the doctor would have no objection to answering any questions that might be asked.

If there is any person present who would like to say something! on the subject, opportunity is now given.

Samuel N. Keep, Minnesota State University: I think the great question which is before us in connection with the practicability of a social policy is, what percentage of dependents, defectives, and delinquents, is due to environment and what percentage is due to heredity? I presume that Dr. Davenport would agree that environment also is a factor, and that in a study of social evolution all factors must he considered in order to determine social progress.

I should like to ask whether any investigations have been made, to Dr. Davenport's knowledge, of children who have been placed in schools or penal institutions, and after a certain period have been placed in good homes, the results of which point to a conclusion different from the one of which he spoke; that is, where perhaps a large percentage of those placed in good homes became good?

I should like to ask also whether some investigations have been made which perhaps show that a large percentage placed in good homes have after all, turned out to be bad.

Dr. Davenport: While I have the question in mind, perhaps I might reply to it so far as I can.

With regard to the question of the relative proportion of persons who, if placed at an early stage under the best environment, might be improved, might be saved from becoming public charges, I can't say. We are told that among the feeble-minded there is a class, constituting perhaps thirty per cent, which belongs to the group of mongolians, in whose family no evidence of mental defect has been traced. There have been studies made on a number of these families. I certainly hope there will be more. Dr. Rogers may have some of the field workers investigating this class. So far as investigation has gone, their characters arise de novo. The condition may he due to lack of nutrition in the mother. These cases are the ones for which the least perhaps can be done. If it is due to conditions of development only, then those conditions are so bad and the result; so deep-seated that no important alteration can be made after they are born. But, then, of course there are others that we are told are feeble-minded, or backward, through imperfect circulation, through adenoids, through had circulation combined with bad nutrition. If their adenoids are removed, and they sleep in the open, we are told that conditions will be improved, and I have no doubt that is true, but to what degree I don't think anybody can say, because I suppose the degree of change is very variable. Dr. Rogers will know a great deal more about that than I.

But of the typical imbeciles and even the typical morons, excepting this indefinable class which can be helped by manipulations, I take it that a very small percentage can be permanently helped add become (normal individuals. The superintendent of an institution for feeble-minded, receiving a feeble-minded child, is very slow to tell the parents that much can be done for the child, even though the child is quite young.

I should like to have Dr. Rogers speak on this subject, as I have to take it at second hand.

Pro. Reep: Perhaps I didn't make my question quite clear. What percentage of the children taken from adverse social circumstances, placed in institutions, and then placed out again into good homes, turn out well? I refer specifically to delinquent and not defective classes.

Dr. Davenport: J think the largest body of statistics on this matter will he found in two publications of the Eugenics Record Office at Cold Spring Harbor: "The Hill Folk" and "The Nam Family," which are about to be distributed. One is the study of about sixty or seventy such children, or children who fulfill those conditions to some degree, and the other is a study of perhaps thirty such cases.

The general upshot of it all is that there is clear evidence of acquisition a veneer of good manners, but no fundamental change of character, in these children. They dress better when they are in their new homes, they behave in many respects better, they are more polished in their manner, and yet many of them go hack, and as soon as they go back, they become frowzy and neglect themselves. It is the same story that we hear about the Indian girls at Carlisle. If they go back to their tribe, they fall at once, as if they fitted perfectly, into the conditions of the tribe, and become like the other squaws.

Miss Anna L. Fox, Superintendent Associated Jewish Charities, Minneapolis: To those of us who are engaged in charity work and frequently come in contact with the abnormal and subnormal mental type, the negative phase of Eugenics is of particular interest.

In view of the fact that it has been proven conclusively that feeble-minded parents transmit their taints to their children, is not compulsory segregation the only feasible means of preventing the transmission of these physical and mental taints and so reproducing these misfits of society?

If the state were to establish through legislation the 'permanent segregation of the feeble-minded class, who would have the authority to determine as to whether or not a person is feeble-minded and what would be the means employed, especially with the" moron type, whom the layman does not recognize as 'belonging to the feeble-minded class?

Dr. Davenport: I do not see how I could answer that question offhand. I should say that there is no rule that one can lay down. Each case will have to- be decided on examination of the individual and of the family history to determine whether on the whole it is best for society that that person should be permanently segregated and should not reproduce. I should say, then, that the method would be to have a commission of experts to decide in every case where there is any doubt.

Dr. Julian A. DuBois, Sauk Center: With all due regard to Dr. Davenport's very able presentation of his subject and his claims for heredity, it seems to me that when he leaves the physical man and attempts to apply his scientific instruments of precision to human mentality he will fail to get the definite results he expects. He is upon a sea, so vast and mysterious that we find ourselves without chart and compass. Of course, there is warranted a general statement that, given idiotic ancestry on paternal and maternal sides, idiotic progeny can he expected. On the other hand, instead of "great mental development never being of haphazard origin," isn't it rather the fact that the greatest mental development comes absolutely haphazardly, and not by any so-called laws of heredity? Is it not an absolute fact that, given the common, the very common, human mentality, opportunity and environment can develop from it the greatest type of human character? Is it not a fact that, were it not for the great moral issue of the middle of the last century, if it were not for the opportunity then presented, that ideal character that we call Abraham Lincoln would have been absolutely nothing but a very slovenly lawyer in the city of Springfield, Illinois? Is it not a fact that genius, which is the highest type of mental development, is always a haphazard production. How will you account for your Shakespeare, who set the whole world in a reverential attitude toward them for centuries to follow?

I notice the genealogical chart hanging there, headed by Jonathan Edwards, and the fine list of clergymen and college professors tracing line of descent from him. But how shall you account for the stern old theologian personally? Isn't it a fact that the world's greatest characters are made great by opportunity and environment than by simple heredity? It seems to me so. I cannot see it otherwise. These people come absolutely without order and without rule. You cannot apply your little rule to these products of human activity along the mental line. You enter at once a domain in which your materialistic conceptions absolutely fail. You are in a sphere in which the unexpected is continually occurring and always to our surprise. You cannot apply the ordinary rules which govern the material world to any such department of the human life. The mind of man is an unknown and everlasting problem to himself. Who understands one's self? How, then, can you ever expect by any definite rule to say what shall be produced from any possible combination in the human life? You may take all the wisdom that we have acquired so far in this world, and I will defy you to apply it in any way so that you will produce a great character fifty years from now, who will make the world come to his tomb. The laws of heredity have their value, but opportunity -and environment affect us much more profoundly and are eternally wrapped up in the matter of man's mental and moral development.

Chas. O. Merica, Superintendent State Training School: I want to pay my tribute to the excellent address and the very careful study that has brought it out.

Dr. Davenport seems to say quite conclusively, speaking as a scientist, that what be calls culture, which he of course fails to define, has no significance upon certain abnormal traits or conditions. I am not discussing the feeble-minded, but I do want to speak concerning those whom we call delinquents. Perhaps up to this stage there has been no definition of what combination of mental traits will produce delinquency. It is sufficient to know they produce it, and that we have delinquency. I want to say that it seems to me that Dr. Davenport is entirely unjustified in saying that there may not be treatment it may be psychological, call it what you like, environmental, opportunity, I don't care what you call it—that there may not be certain kinds of treatment which have their effect on the mind of the child delinquent, that may correct those combinations and send that child back to a normal social life. The removal of adenoids and other sorts of changes of physical condition by operations will correct certain traits so that these combinations disappear. So I insist that there is another field; namely, that of the removal of mental traits by psychological endeavor, by association, by instruction by the culture that Dr. Davenport has seemed to rather lose sight of in this relationship, all of which may have as much effect as any sort of physical operation. I am rather tired of having it said that the physician or surgeon is the only one that can do anything. I am perfectly certain that there has been no scientific investigation with collection of data sufficient to justify conclusion that social treatment along the lines of the correction of mental traits may not effect a cure for certain unsocial mental conditions as efficiently as physical treatment may effect a cure for physical ailment.

Dr. A. C. Rogers, Superintendent School for Feeble-Minded: Dr. Davenport is able to defend himself, but I think Mr. Merica has misunderstood Dr. Davenport entirely. In his statement that environment did not affect the mind except temporarily, he did not apply his remarks to anything but defective minds.

In further answer to the question of Prof. Reep, it has been the experience of the last hundred years with regard to the feeble-minded that they are absolutely feeble-minded forever and eternally, so far as we know

anything about it. The originators of the physiological training of the feeble-minded had the idea that by careful physiological development they were going to produce normal-minded people. They worked on that basis for years. Experience showed that that was absolutely impossible. It was the failure of that particular thing that led to the gradual acceptance of the situation that we must have our village communities for the feeble-minded. Thus this idea has been a matter of evolution, based on actual experience. Not having a clearly defined method of diagnosis, and not having common standards for classification, when they found that their pupils were backward, our public school teachers did not know that a great many of these so-called backward children were really feeble-minded. For years that was the situation, and whenever we discussed the impossibility of making a normal child out of a feeble-minded child, we were thought to have the institution mas.

We have no survey of mentality in this country except in very small areas, hut probably about sixty-five per cent of the feeble-minded children that we know of are feeble-minded from heredity; that is, they come from families in which there is much feeble-mindedness, usually associated with various neurocs, or psychosis. There are about thirty-five per cent approximately that are acquired cases. These cases develop from various things. Full development may be prevented during gestation, or early childhood, or early adolescence, but those acquired cases are entirely distinct from the hereditary ones. Of course from the social standpoint they are all the same; the individuals are incompetent, and are consequently not able to conduct themselves or their affairs with ordinary prudence.

There are two ways of determining or testing this mental condition. One test is putting the child out—giving him the best possible—and trying him out in the world. That is the test that has been going on through the ages except as to the preliminary training. The feeble-minded do not pass the test. They fail in life. An individual may marry if he isn't an idiot, but belongs in the imbecile or moron class. If he marries one belonging to the same or a lower class, and begets children, there will be a little group of the people that the public will support year after year. The other day in the institution over which I have the honor to preside a family was admitted that represents exactly this situation. We had six people come into the institution, the father, the mother, and. four children, all feeble-minded. We have just such, families as that all through the community. They have not stood the test! They are not usually recognized as feeble-minded, though their social and economic failure is complete and well recognized. You can never put them where they will be anything but social and economic failures.

The other is the new laboratory test that we hear so much about, the Binet-Simon plan. The results of the laboratory test are practically identical with those of the social economic test, so far as the cases have been compared. The laboratory method determines from the child itself what his mental capacity is, within reasonable limits of accuracy. And that is the thing that is helping us to avoid the more expensive social trial.

As civilization goes on, we become more careful in our differentiation.

Life becomes more strenuous, and as our standards are raised, people who were considered normal years ago are not considered normal now.

As differentiation developed special classes were started in the public schools. This was more (thoroughly done in England than anywhere else. They said, "It isn't necessary to segregate mentally backward children. What we need is to give them an educational opportunity and to allow them to live in their homes." The report of the English schools published about five years ago shows exactly the same results that we have experienced when we tried to place children out. We have tried in Faribault, time and again, to place the brighter children in the best families we could find, and in every instance the results were failures, so far as independence of the oases was concerned.

"We have cases occasionally from the purely backward class, those who, though slow, have that certain indefinable something that we call common sense. Such a child is all right anywhere. Such one will never be a great literary character, or a great mathematician, or a great astronomer, but he will get along all right in his social level and may be a good citizen. We have had several such cases that would not have come to us necessarily if they had found proper special classes—that is, special classes with industrial training—and if their other environments had been suitable. These are not feeble-minded children. They represent the nearly backward class. When you have a child thirteen years old who is retarded three years as shown by the Binet scale at nine years of age, you have a feeble-minded child. You may make mistakes in making that diagnosis in some particular child—that is, in determining the amount of retardation, which is a question of expertness or skill in using the tests—but when you have such a child, I don't care where you place it, it will be a failure. I have extended my remarks on this point more than I intended, but I wish to emphasize the point, especially as it has to do especially with the hereditary cases—because of their larger number among defectives.

Dr. H. A. Tomlinson, Superintendent State Hospital for Inebriates, Willmar: It seems to me that the differing points of view presented in this discussion come from the social self-consciousness that prompts us to resent the implication of incapacity. It is the democracy of human nature that is the basis for the quarrel between those who would credit nature and those who would credit nurture with our weakness or with our strength. A person without training or experience in this work is prone to be influenced by the wish to believe, without regard to the facts. The person doing research work does not draw conclusions from isolated observations, and one of the first things he learns is the irrelevancy of the exception. The exceptional man, if a man of prominence or notoriety, is of more importance in the general belief than is the balance of mankind. The fact that Jonathan Edwards was a great man, that Daniel Webster was a great man, that Abraham Lincoln was a great man, has nothing to do with the general problem of eugenics. Eugenics deals with human being in the large, and has to do with those conditions that affect their development and physical welfare. The average is very common, while the exception is conspicuous because it is the exception, and the trained observer notes this fact. We must draw our conclusions from observation of the facts with regard to

human beings in general, not from the particular individual who is conspicuous because he is the exception.

There is another difficulty, it seems to me, in the disposition to go ahead without a definite conception of what we mean by the term "Eugenics." We speak glibly of methods of culture or of treatment, hut if some one asks us what we mean by the terms we use, we do not always know what to say. I do not know of any more misused term than the word "Psychic," unless it is the word "Science." These terms are used as if they defined entities, and connoted something specific, to be used as an unvarying formula.

From the biological standpoint, the difference between feeble-mindedness and delinquency is one of degree only. In the case of feeble-mindedness, in its differing degrees, we are dealing with lack of capacity to co-ordinate the functional activities of the nervous system'; whereas in the case of so-called delinquency, in its various aspects, and particularly juvenile delinquency, we are dealing with the inability to control the activities that are manifested in conduct. What' we call delinquency is common to us all, is inherent, natural; that is, it is human nature. If we start from some such premise, it ought not to he difficult to determine just how much of what we have to deal with is the result of nature, and how much is dependent upon nurture.

The difficulty with the study of the influence of what Galton called nurture, Dr. Davenport calls culture, and what is popularly known as the influence of environment, is that no considerable amount of investigation has, been done, so that there is no information upon which to base ai justifiable 'Conclusion. The committee that has this work in charge in Minnesota has outlined a plan that it is expected will be carried out in the next two years. This plan contemplates making systematic investigations of the conditions in the environment of the individual that may have had to do with his feeble-mindedness or his delinquency; hut, as yet, nothing has been done that would warrant a tentative conclusion even.

I am inclined, from my personal experience and observations, to attach more importance to the influence of nurture than is done usually by students of eugenics, but not from the popular point of view. I believe that physical conditions, in contradistinction to mental influences, existing before birth in the mother, and after birth in the child, as they influence his nutrition, and affect the growth and development of the organism; may Save a decidedly harmful influence upon his mental development, as well as upon his physical welfare. If I was in the habit of citing exceptions, I might call attention to the fact that a great many children, in spite of most adverse parental and environmental conditions, grow up sound both, mentally and physically, and become social assets. This fact proves nothing, however, except with regard to the individuals involved, and has no significance with regard to the average child. I do believe, however, that just in proportion as we are able to secure a proper co-ordination of the functions of the organism as a whole, will we be able to establish co-ordination in the manifestation of these functions in conduct and social relation. Neither does it invalidate this statement to say that some one

that we know was always poorly nourished, but is a good and successful man.

It is unfortunate that it is not generally recognized that those who are defective are not defective in one direction only. There are associated conditions that are the evidence of irregular or arrested development in the body organs, and this means that the brain is not well nourished during the period of development, so that the capacity of the organism is less than normal, and if there is an inherent weakness in the nervous system, then adverse conditions in the environment would interfere with nurture, with the result that the child might be delinquent or feeble-minded.

We cannot accomplish anything of value if we go to work with the intention to prove what we wish to believe. We can accomplish the desired result only by making careful, accurate observations of things as we find them, without prejudice, and by recording these facts in such a way that they may he compared with the observations of others, so that the conclusions will he generally accurate. Only as we confine ourselves to careful observations that cover the whole field, shall we be successful in solving the problem of the relative significance of nature and nurture.

Rev. John A. Ryan, St. Paul Seminary: I speak with a great deal of diffidence in this matter because I know nothing about it, but I have listened to a few lectures on it, and 1 notice always that, when discussion arises, the positive statements made by the speakers are confined to a much narrower field in the discussion than they are in the lecture. As I have observed it, the lecturer ordinarily speaks of mental, moral, and physical heredity, and he gives specific instances of physical heredity and of mental heredity, mostly in connection with the feeble-minded. Then he throws out a few suggestions with regard to morals, talking about the criminalistic type, and so on; but when the discussion arises his assertions are confined to the feeble-minded. It seems to me that the alienists have really investigated feeble-mindedness, and got enough facts to justify their conclusions on this point; but to transfer their inferences with regard to heredity from the feeble-minded to the domain of moral heredity, to the domain of delinquency and moral defects, is not a valid process. Their argument, here is not based on any actual investigation of facts with regard to the moral delinquents. There are factors entering into the condition of the moral delinquent that have not been taken into account because there have not been any investigations; yet that is the tremendous, important, practical side. I am willing to segregate the feeble-minded. These are, after all, a relatively small proportion of the total population, although somebody has said that everybody is insane. Moral delinquency is more important because there are more moral delinquents than feeble-minded. If we are going to apply to the former the conclusions with regard to feeble-mindedness and treat these moral delinquents through much the same remedies and preventives as those with which we treat the feeble-minded, it is a very serious proposal. "Will you sterilize or segregate them? The main fault that I find with presentation of this kind is this sort of sneaked-in insinuation that we know as much about the inheritance of moral defects as we do about the inheritance of mental defects. I see no evidence for that.

A good deal of this discussion as to the relative importance of environment and heredity Is lite the old discussion of whether the pen is mightier than the sword. I think we want more investigation and more tacts with regard to the inheritance of moral defects before we are justified in drawing conclusions or making practical suggestions. I sympathize entirely with the remarks which Mr. Merica has made, even if 1 did not believe that there is in man something more than the material element, and that we have to take into account the inheritance of the soul, which we can't measure as we would measure the inheritance of a horse. We ought to have more facts on the moral side before any of these suggestions are made. That chart over there is not convincing to me because so many of those individuals who have inherited genius are occupying rather ordinary positions. College presidents or professors—that is all I am myself that is no indication of genius.

Then, when we talk of environment—these families have not only the environment that is open to other people who have the same wealth, but they have that environment which comes from having exceptional parents who educate them from the very beginning in a certain direction, so that they have a tremendous advantage over other people who might have the same general advantage, but did not have the same parental environment. I have often felt this myself when I have met people whose parents were educated. Mine were not. While I can hold my own in ordinary branches of knowledge, I haven't the ability to use language in the cultivated and effective way that they have. Why? Because from their babyhood they have been in families who used the English language in a, much superior way. This is the part of environment that we must take into account and emphasize, and of course it isn't heredity.

Dr. Davenport: May I say just one word is response to the interesting remarks of Father Ryan?

1 think that those who have dealt with the feeble-minded would realize that the whole problem of criminality is bound up most closely with that of feeble-mindedness. We at the Record Office, and many institutions co-operating with us, have made extensive studies of strains in which there is feeble-mindedness that takes on such special forms as are commonly designated "criminalistic" or "immoral."

One of the most striking classes of these strains is the class of sex offenders. We have records now in the family history of perhaps two hundred and fifty persons placed in institutions for girls because of their immoral behavior in the sex realm, and nothing is more appalling in the whole collection of histories that we have than the way in which that uncontrollable, overwhelming, overpowering sex impulse impels the" persons to acts of the most terrible and distressing immorality, despite the best protection and environment that the world can afford.Young girls brought into the institutions where the best of Christian environment constantly surrounds them, break through every restraint and barrier which is afforded them in order to get out and hunt up some man to go off with them. And we find that not merely the individual, but their mothers and their grandparents and other relatives have had the same impelling instincts, have had the same uncontrollable instincts.

On the other hand, we have in these same people as it were entire inability to know what they are doing. Just as the boy that I know who set fire to four or five buildings around our place in the country reacted when he was reproached: "Why did you do this?" "I wanted to see the fire engines come; I wanted to see the fire. And why not?" And so with these sex offenders. In reply to the question, "Why do you do these things?" they always say, "Why not?" They cannot see why they should not do these things, nor is there any method, so far as known, by which one can inculcate into these people any appreciation of the reason why they should not commit these acts which are to the ordinary person so obviously highly immoral and unsocial. Many of these people are without ability to appreciate in this connection the relation between cause and effect. It is impossible to inculcate those principles of morals which most of us receive so easily.

I am sure that if Father Ryan could come to our office at Cold Spring Harbor, if he could look through the records of juvenile offenders, male and female, he would be convinced that we are not dealing with ordinary people submitted to unfavorable environment, but we are dealing with strains for which environment can do nothing.