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ARE INHERITED MENTAL OR EMOTIONAL DEFECTS THE PRINCIPAL CAUSE OF CRIMINAL DELINQUENCY?

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Crime has a tremendous fascination for all of us—it is dramatic or commonplace, vulgar or sordid, brutal or ferocious, incomprehensible or childish, depending largely upon the personnel of the criminal, his method of perpetration, or “modus operandi”, the scene and occasion, and the relative standing, individuality, or prominence of the victim. Crime is thoroughly and luridly advertised in newspaper, pamphlet, book, and magazine, and appeals to the potential “Cole Younger” or the incipient “Sherlock Holmes” or the reformer in all of us. It is always present in a greater or less degree, and the consensus of opinion seems to be that an unprecedented “wave” of this noxious social and moral evil has been sweeping over this country particularly, for some ten years past, and a goodly percentage claim that it is now reaching a dangerous crest which threatens the foundations of society and the very fabric of government itself.

None can deny that it is an important question. Available statistics indicate that about 500,000 men, women and children enter various correctional and penal institutions each year in the United States, and while estimates of the annual cost of crime vary, they undoubtably reach billions of dollars. Causes are assigned “ad libitum”: The war, prohibition, feeble mindedness, emotional insanity, lack of religious faith and practice, divorce, the automobile, movies, dancing, inadequate police protection, loss of parental control, a false and indifferent public opinion, etc., etc.

Courts, politicians, reformers, educators, clergymen, the newspaper editor, the people, have become aroused and are eagerly looking for a remedy. What more natural than that the Psychologists, the Pathologists, the Eugenists, the Sociologists, the Juvenile Workers, the Criminologists, the Biologists, and Psychiatrists should fling themselves into the breach, each with a plan of correction, each sure his

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respective theory of cause and prevention is all important, unassailable, and entirely sufficient to stem the crimson tide.

What group is, and of necessity should be, more interested in the subject of crime from every possibly phase than the members of the bar? Thousands of our profession make their annual living defending those accused of lesser or more serious breaches of the law. Thousands more are compensated from the public treasury for prosecuting them. Others are interested in securing the release and parole of prisoners, in looking after the property interests of the accused, the condemned, or the victims of their criminality, and we as jurists, attorneys or counsellors are deeply concerned with feeble mindedness, defective affectivity, or insanity as a defense. We have to deal with the expert alienist and psychiatrist upon his own ground. Yet all other professions apparently coincide in accusing us of knowing less about the subject than even the ordinary layman. Charging that we are guilty of antedeluvianism, that we fail utterly to investigate, study, or keep abreast with modern science and medicine, and that our ultra conservatism is the cause, and the main cause, for the inability of those who know how, to initiate a program which will bring about the desired change. Our Courts are accused of sentencing to death men who are wholly irresponsible for crime, through feeblemindedness, emotional insanity, or defects of the emotions such as "dementia praecox katatonia". We are told that heredity is the controlling factor in crime, that if we will purify the bloodstream of the race, sterilize and segregate the criminal, emotionally or mentally defective, establish Psychiatric Clinics so that children may be examined and when found emotionally defective, be placed in farm colonies where they may become industrially useful to society without being permitted to propagate, that we will have throttled crime at its source and in a generation or two will be the most law abiding nation in the world.

At the September 1926 Meeting of our Bar Association a distinguished Chicago jurist gave us an interesting paper on the cause and prevention of crime:

A careful reading of this lecture will show that the author desired to prove and leave with us the impression, that the majority of modern scientists believe and teach, that with the re-discovery of Mendel's Law of Heredity, and the recent revelation that there is a high correlation between emotional defect and social behavior, that we inherit our criminal tendencies and characteristics. That proper or improper environment, early parental example, good or bad homes, insufficient discipline, education and religion, or lack of them, are practically immaterial. That it is idle in most cases to deal with criminals as though they were normal persons who know the right yet prefer to pursue the wrong. That it is fundamental error to assume that youths charged with crime are normal, and that society can adopt radical measures of reform by which they may be won from idleness, immorality, and self-indulgence, and inspired with ambition to make the most of their opportunities and lead useful and honorable lives. That to suppose that criminality is the result of a bad bringing up, a poor environment, bad example at home, vicious companionship, or the leading of an unchristian life in general, is unscientific, and contrary to all the modern recognized laws of biology or genetics.

Judge Olson in his lecture stated: "Environment will create opportunities and will develop and discipline the character, but it will not

alter in the slightest degree the qualities of the mind and heart which are of the blood solely. Lincoln inherited the qualities that made him great. Ever since his death environment has been credited with his success, and his parents, ancestors, and the race from which he sprung have been ignored as factors of supreme importance in his life. But now the science of biology—"the youngest of the sciences"—discloses the secret of his power and proves that he was the product of a great heredity.

"The discovery and re-discovery of Mendel's Law of Heredity, the recent knowledge that the emotions govern behaviour more than the intellect, that the chromosomes, those microscopic particles, forty-eight in every human being, half of which are inherited from each parent, carry the different traits which make us what we are, and that environment does not change nor affect these chromosomes in the slightest—all this comparatively recent knowledge—must, and has changed our views of the source of Lincoln's power from being environmental to hereditary. Scientists have long known that the brain was made up of layers, but have only recently come to realize that the brain has more than one function. It was long believed that the brain was our organ of thought, and that was its only function. But now it is known that it also has other functions, one of the most important of which is to will—to control our actions and emotions.

"Only recently has it been learned that the seat of the emotions is the lower or basal layers or ganglia of the brain. Therefore we can trust the moral judgments of a democracy more safely than we can trust its offhand rational decisions. Men of very ordinary ability often are the pillars of society, where decency, ethics and moral standards are concerned. The people as a whole will vote right, if they know the facts. To get this knowledge to them is the big task of democratic statesmanship.

"On the other hand, men of ability are often found wanting in ethical standards. Where an individual with a sound basal ganglia, or lower brain, sees right from wrong when the division is only a hairline, those individuals who have low emotion cannot see it when the line is as wide as the road. There are grades and shades of defect from a very slight deviation from normal to the outspoken moral defect. The latter, in spite of a good intellect, which enables him to become a leader, has no ethical sense and corrupts our public life wherever he is given important responsibilities. He himself does not realize the situation; he is colorblind so far as ethics are concerned. For that reason those who are ethically sound ought to drive these high-grade intellectual, but morally defective men, from public office and from public leadership. Such men frequently reach comparatively high places in our government, local, state and national, and we can identify them by their crass conduct when tested by ethical standards."¹

May we inquire first of all what percentage of our criminals are mental defectives, that is imbecile or feeble minded or subnormal? Prior to the great war, leading physicians, psychiatrists, and criminologists, such as Dr. H. H. Goddard of the Vineland New Jersey Training School for Feeble-minded,² Dr. Charles Goring, the English Criminologist, Sir Bryan Donkin, one of the Directors of Convict Prisons in England; and Doctor William Healy of Chicago,

¹ *Human Destiny in Human Hands*, 3 Bar Briefs, 45, 61 (1926).

² See his *Criminal Imbecile*, particularly chapter VI (1915).

claimed that from 10 to 40 per cent of all criminals in criminal institutions were feeble minded.² Just how they arrived at this conclusion is difficult to say. They seem to have taken it for granted, as few direct tests or authoritative examinations upon any large scale had ever been made. Perhaps they were led to this result by the physical attributes of the prisoners. When you visited a large penitentiary for the first time and watched the inmates go marching in to dinner, did you shiver as you watched the ferocious jaws, the stupid brows, the receding foreheads, the eyes of cunning and beastlike expression, the snarling lips? Were you convinced that criminals were not like other men? Go to a busy street corner in any large city and try an experiment. Watch the passing faces and try to imagine you are looking at criminals who have been released from prison. I venture to say you will almost immediately find the street peopled with ferocious jaws, stupid brows, the eyes of cunning.

The army consisted of young men chiefly between the ages of 21 and 31. They were drafted from every state in the union and from every strata of society. Mental and physical tests were made, thoroughly, carefully, and with what result? The world was amazed to find the low percentage of scores in intelligence. Since the war careful mental tests have been given the prisoners in many of the penitentiaries of the country with the result that the criminal element of society, it is found, does not possess a lower average intelligence than the adult civil population.

In volume 15 of the *Memoirs of the National Academy of Sciences*, 1921, is found a comparison of 3,368 criminals at Fort Leavenworth with the 94,004 cases, of the sample of the army, which demonstrates that the criminals have the advantage in alpha scores.³

Dr. Carl Murchison, Ph. D., Professor of Psychology in Clark University and Chief Psychological Examiner for the government at Camp Sherman, Ohio, who has given mental tests to soldiers and prisoners for years, tells that after hearing the guards in a certain penitentiary describe in condescending terms their ideas on criminals, he had an opportunity to compare the mental test scores of the guards with the mental test score of those same criminals and found that the average score of the criminals was just 75 per cent higher than the average score of the guards. The only reason those guards continued to live was because the architects of that prison had done their job well.

It seems fairly obvious that the pre-war prevailing opinion that criminality and feeble-mindedness are closely related, was certainly not built upon a solid foundation of collected facts, because until there had been an investigation of the mental intelligence of the citizenship as a whole it was impossible to say whether criminals were more or less feeble-minded than the general population. Average intelligence was greatly respected in those days. But the war has shown that the average intelligence is nothing to be proud of, and that through the masses of the social group there is so much low and mediocre mentality, that the criminal need not fear the direct result of comparison.

² See Goddard, *Feeble Mindedness*, 6-10 (1914). Cf. Goddard, *The Kallikak family* (1912).

³ Cf. Murchison, *Criminal Intelligence*, 15 *J. Cr. L. & Cr.* 239, 268, (1924). Cf. also, "Tests" given to Iowa Farmers reported by Wallin, *Problems of Subnormality*, chapters 1 and 2.

Feeble-mindedness then cannot be the all-important factor in crime, and does not distinguish the ordinary criminal from the ordinary citizen. We must look further for the determining cause.⁴

Is it heredity? Some modern biologists claim that Mendel's theory proves that it is. Gregor Mendel was a Catholic Augustinian Monk, a teacher in the little town of Brunn in old Austria, and in 1865 made a very important biological discovery. He had been experimenting for years with cross breeding various plants. He found, that if you cross tall peas with dwarf peas the offspring will be as tall as the tall parents. The dwarfness has completely vanished. Certainly an amazing outcome.⁵

From this point on, however, the events of heredity are even more astonishing. If you cross these tall offspring back with a dwarf, one-half of the offspring of this cross will be dwarfs and one-half will be tall. Evidently the dwarf quality has in some mysterious manner been carried through in absolute purity.

However, instead of crossing the tall back with dwarfs, as described in the preceding paragraph, if you place capsules over their blossoms so they will not become crossed with any other plant, and then sow their seeds, one-fourth - not one-half - of their seeds will come up dwarf and three-fourths will come up tall.

Suppose, for convenience, we now select four of these latter plants at random - that is, the grandchildren of the original pair - taking one short and three tall. We shall then find that the seeds from the dwarf plants will produce nothing but dwarfs. Tallness has been married out of this strain forever.

Now the three tall which we selected all look precisely alike. But, somewhere hidden within them, beyond the power of the microscope to discover, there is a strange and mysterious difference in their heredity. On the general average one of them will produce nothing but tall offspring. Dwarfness has likewise been married out of this strain, never to return. The two remaining tall, however, evidently still carry dwarfness because their offspring again average one short to three tall.

Again, if you cross peas which have yellow seeds with those having green seeds all the offspring will be yellow. But when you plant these apparently pure yellow seeds, one-fourth of their children produce green seeds and three-fourths, yellow. Nothing is more interesting than to open a pod and see these different colored seeds lying side by side with the same environment, yet with such an enormous difference in their heredity. The same events happen if you cross peas whose seeds have rough, wrinkled coats with those having smooth coats. All the offspring are rough, but these rough carriers produce an average of one-fourth smooth seeds and three-fourths rough.

Bringing Mendel's experiments down to date and applying them to animals, we find that when pure-bred black rabbits or guinea pigs are crossed with albinos the offspring are all black. If these blacks be crossed back with white, on the average, one-half of the children will

⁴ Cf. Margaret Wooster Curti, *The Intelligence of Delinquents in the Light of Recent Research*, 22 Scientific Monthly, 132 (1926). For bibliography of this subject, see L. W. Crafts in 7 J. Cr. L. & Cr. 644 (1916), and J. B. Miner, *Deficiency and Delinquency*, 324 ff. (1918).

⁵ *Experiments in Plant Hybridization*, Gregor Mendel, translated in Castle, *Genetics and Eugenics*, App., pp. 313 ff. (1920).

be white and the other half black. If mated with each other, however, or with ones having similar parents, the children turn out one white to three blacks. The albinos will breed only albinos. On the other hand, while the three blacks all look alike, yet on the average, one will produce only black when mated with black. But the two remaining black-looking animals have a surprisingly different heredity, because if they be mated with each other, or with ones having similar ancestry, the progeny again turns out one white to three blacks.*

Mendel calls the quality - or "character," as we now term it - which showed the more plainly, such as tallness or yellowness, and the like, the "dominant" quality or character, and the one which disappeared altogether or partly, such as dwarfness or greenness, the "recessive" quality or character, because in the offspring of the crosses, called "hybrids" it *receded from view*. His suggestion, somewhat modernized, was that, in the offspring of crosses - that is, where one parent bore one character and the other parent bore its contrasting character - both characters might be present in the body-cells of such offspring, one showing more plainly than the other.

But it was Mendel's next suggestion that made his name immortal. He said that while in these hybrids, that is, the offspring of crosses between two contrasting characters, the body-cells might carry both the dominant character and the recessive character, yet, that when the plant came to form, or we might say manufacture, its germ-cells, that is, its pollen grains, and ovules - in other words its reproductive cells - that the dominant quality, tallness or yellowness, for instance, went into only *one-half of the germ-cells while the recessive quality went into the other half.*†

Mendel's law is very simple - it is this: *The units contributed by two parents, separate in the offspring without having had any influence on each other.* For example, in a cross between yellow-seeded and green-seeded peas, one parent contributes to the offspring a unit for yellow and the other parent contributes a unit for green. These units separate in the ripening of the germ-cells of the offspring so that half of the germ-cells are yellow-bearing and half are green-bearing. This separation occurs both in the eggs and in the sperm.

Mendel did not know of any mechanism by which such a process could take place. In fact in 1865 very little was known about the ripening of the germ-cells. But, in 1900, when Mendel's long-forgotten discovery was brought to light once more, a mechanism had been discovered that fulfils exactly the Mendelian requirements of pairing and separation.

The sperm of every species of animal or plant carries a definite number of bodies called chromosomes. The egg carries the same number. Consequently, when the sperm unites with the egg, the fertilized egg will contain the double number of chromosomes. For each chromosome contributed by the sperm there is a corresponding chromosome contributed by the egg, that is, there are two chromosomes of each kind, which together constitute a pair.‡

The reader may wonder what is meant by chromosomes. They are small bodies inside every cell of every living plant, both body-cells and germ-cells. At certain stages - that is, when the cell is

* See Castle, *Genetics and Eugenics*, Part III (1924).

† *Ibid.*, p. 127.

‡ *Ibid.*, Part I.

getting read to divide and make a new cell - they look somewhat like short strings of beads. They are called chromosomes because they can be stained with a drop of coloring matter like a chromo while the balance of the cell remains clear and colorless. The chromosomes thus stand out so we can see them through the microscope. It was this remarkable property which led to their discovery.

It has been discovered that in human cells there are 48 chromosomes, 24 of which have come from the father and 24 have come from the mother.

One school of biologists headed by Dr. Goddard, Professor Wm. Bateson of Cambridge, Dr. Paul Kamerer of Vienna and others says: In the chromosomes are stored the *factors* or *determiners*. The chromosomes in the *body-cells*, which originated of course from the first cell from which the individual was born, *determine one's life characteristics*, such as *height, weight, form, color, nervous organization, temperament, intelligence*, and the like. The chromosomes in the reproductive cells, such as the eggs of birds or germ-cells of higher animals, carry all these characteristics on in the line of heredity and hand them to the children. Chromosomes are therefore the most important things for their size in the whole world. They control the *inborn tendencies* of the *growth* and *development* of the *body* and *brain*; while on the other hand, those which are set aside in the germ cells for reproduction carry the inborn health and weakness, sanity and foolishness of the parents, grandparents, and other ancestors down the stream of the generations. Since, as Professor Morgan says, chromosomes are the sole bearers of heredity, it is evident that the qualities, that is, the factors or determiners for these qualities, which are carried in the chromosomes of the two parents and which are united into one cell at the time of sex union, determine all the *natural characteristics* of the children. They determine absolutely whether the children shall be naturally *long* or *short-lived*, naturally *healthy* or *unhealthy*, naturally *good* or *bad*, *wise* or *foolish*. Environment, of course, influences to a considerable extent, the expression of these qualities, that is, which ones shall be fully developed and which ones shall remain dormant or be positively repressed; but a man's natural or inborn *abilities, health, temper, temperament* and *character* are determined by the sort of chromosomes from which he was born.*

If we were convinced that the foregoing was scientifically correct, then indeed heredity would be the most important factor in our existence, and in the development of crime, and a man's future would be practically determined by his parentage. Happily we have a school of scientists, just as respectable and intelligent, and more modern, who do not agree with this older school of determinism.

Perhaps the views of Dr. H. S. Jennings of John Hopkins University, one of the leading biologists in America, may help to clarify the role which heredity plays in environment. He says in the *Scientific Monthly* for September, 1924: "What happens in any object - a piece of steel, a piece of ice, a machine, an organism - depends on the one hand upon the material of which it is composed; on the other hand upon the conditions in which it is found. Under the same conditions objects of different material behave diversely; under diverse

* Cf. Conklin, *Heredity and Environment in the Development of Men*, 162 (1914). Cf. also Conklin, *Direction of Human Evolution*, 13, 14 (1922).

conditions objects of the same material behave diversely. Anything whatever that happens in any object has to be accounted for by taking into consideration *both* these things. Neither the material constitution alone, nor the conditions alone, will account for any event whatever; it is always the combination that has to be considered.

"Organisms are like other objects in this respect; what they do or become depends both on what they are made of, and on the conditions surrounding them. The dependence on what they are originally made of we call heredity. *But no single thing that the organism does depends alone on heredity or alone on environment; always both have to be taken into account.* Heredity is not the simple hard-and-fast thing that old-fashioned Mendelism represented it. . . .

"Not only what the cell within the body shall become, but what the organism as a whole shall become, is determined not alone by the hereditary materials it contains, but also by the conditions under which those materials operate. Under diverse conditions the same set of genes will produce very diverse results. It is not true that a given set of genes must produce just one set of characters and no other. *It is not true that because an individual inherits the basis for a set of characteristics that he must have those characteristics.* In other words, it is not necessary to *have a certain characteristic* merely because one *inherits* it. It is not true that what an organism shall become is determined, foreordained, when he gets his supply of chemicals or genes in the germ-cells, as the popular writers on eugenics would have us believe. The same set of genes may produce many different results, depending on the conditions under which it operates. True it is that there are limits to this; that from one set of genes under a given environment may come a result that no environment can produce from another set. But this is a matter of limitation, not of fixed and final determination; it leaves open many alternative paths. Every individual has many sets of 'innate' or 'hereditary' characters; the *conditions* under which *he develops determine* which set *he shall bring forth.* . . .

"*Clearly, it is not necessary to have a characteristic merely because one inherits it.* Or more properly, *characteristics are not inherited* at all; what one inherits is certain material that under certain conditions will produce a particular characteristic; if those conditions are not supplied, some other characteristic is produced.

"Some of the fruit flies inherit, in the usual Mendelian manner, an inconvenient tendency to produce supernumerary legs. But if those inheriting this are kept properly warmed, they do not produce these undesirable appendages. In the cold, only those individuals acquire the extra legs that have inherited the gene to which such are due; but even they need not do so, if conditions are right. . . .

"*Beyond all other organisms, man is characterized by the possession of many sets of inherited characteristics; the decision as to which shall be produced depending on the environment.* . . ."¹⁰

I had the pleasure the past week of attending a lecture given by Dr. Smiley Blanton, B. S., M. D., of Cornell University and The College of Physicians and Surgeons, London, also Assistant Professor of Medicine at the University of Minnesota and Director of the Child Guidance Clinic of Minneapolis. I discussed with him this very

¹⁰ *Op. cit.*, vol. 19, 225 ff; see also Jennings, *Prometheus* (1925).

question, and I am pleased to quote him as follows: "There is much misconception as to the role that heredity plays in determining behavior. *Heredity* is often thought of as a force that *inevitably* shapes the life of the child, do what we may. It is often said that the family tree is the all-important thing and that the environment is a mild and often ineffectual brake on the intensity of inherited traits.

"Enthusiastic but unscientific writers on heredity have caused much confusion in the popular mind by trying to apply Mendelian laws of inheritance effective in plants and lower forms of insect and animal life to the more complex mental and physical characteristics of man. Eye color, stature perhaps, and certain types of feeble-mindedness are inherited according to the Mendelian laws. This is perhaps about as far as these laws are applicable to man.

"It may be asked whether most mental traits and characteristics are inherited in the same way that physical qualities are inherited. *The answer* is an *emphatic no*. Mental characteristics may have certain inherited backgrounds, but they require a certain type of environment in order to bring them out. Criminal tendencies are not inherited; fears are not inherited; with the exception of the fear of falling and of loud noises; speech defects, such as stuttering, are not inherited; temper tantrums are not inherited. If the child develops characteristics similar to those of his parents, it will be through training and association rather than from inheritance."

Albert Edward Wiggam in his book *THE FRUIT OF THE FAMILY TREE* published in 1924, himself a great believer in heredity, says: "If a man educates himself, will his children for that reason be born with any better minds than if he had spent his life digging ditches or in a jungle with savages?

"If a man commits a crime, such as forgery, murder, burglary, or arson, will his children for that reason be born with feebler wills, less moral sensitiveness, or in any way more likely to commit crime?

"If a blacksmith uses his arms in his work, will that cause his children to be born with any stronger arms or sounder constitutions than if he had all his life carried his arms in a sling?

"If a mother cultivates her musical talent by singing, playing the piano, and listening to beautiful music all her life, will her children be born with any greater musical talent than if she had never heard a more musical note than an Indian tom-tom?

"If a horse runs around the racetrack for many years and his trainer develops him to the highest speed of which he is capable, will that cause his offspring to be any faster than if he had stood hitched all his life to a post?

"If a farmer plants his potatoes in rich soil and then does not save the big strong ones for seeds, but continues to plant all the offspring, will the rich soil improve the stock?

"If children are taken from bad homes and filthy immoral surroundings and given good homes, careful training and improved environment, will their children and grandchildren for that reason be born with brighter minds, nobler impulses, warmer sympathies and better moral instincts than if they have been allowed to grow up in the midst of filth, immorality and ignorance?

"After a hundred years of argument and over thirty years of experimentation upon plants, animals and human beings, science can at last answer all these questions with a *great deal of assurance* in the *negative*. There is a limited technical sense in which it may be pos-

sible that some slight influence which comes from improvement or injury to the parents is in extremely rare instances and under extraordinary conditions transmitted to the children. What this is I shall point out later. But, speaking broadly, we can say with just about as much certainty as we speak of *gravitation* or *relativity* that what happens to *parents* during their *lives* or what they do, whether they educate themselves or remain in ignorance, cultivate their talents or totally neglect them, develop good or bad habits, - that all this has no appreciable influence in causing their children to be born either better or worse, brighter or more stupid, weaker or stronger, wiser or more foolish." ¹¹

Dr. John B. Watson, formerly Professor of Psychology and Director of the Psychological Laboratory, John Hopkins University, published his great work on BEHAVIORISM in 1925. I take pleasure in giving his views. He says: "Man is an animal born with certain definite types of structure. Having that kind of structure, he is forced to respond to stimuli at birth in certain ways (for example: breathing, heart beat, sneezing, and the like.) This repertoire of responses is in general the same for each of us. Yet there exists a certain amount of variation in each - the variation is probably merely propositional to the variation there is in structure (including in structure, of course, chemical constitution.) It is the same repertoire now that it was when the genus homo first appeared many millions of years ago. Let us call this group of reactions man's *unlearned behavior*."

"In this relatively simple list of human responses there is none corresponding to what is called an 'instinct' by present-day psychologists and biologists. There are then for us no instincts - we no longer need the term in psychology. Everything we have been in the habit of calling an 'instinct' today is a result largely of training - belongs to man's *learned behavior*."

"As a corollary from this I wish to draw the conclusion that there is no such thing as an inheritance of *capacity, talent, temperament, mental constitution* and *characteristics*. These things again depend on training that goes on mainly in the cradle. The behaviorist would *not* say: "He inherits his father's capacity or talent for being a fine swordsman." He would say: "This child certainly has his father's slender build of body, the same type of eyes. His build is wonderfully like his father's. He, too, has the build of a swordsman." And he would go on to say: ". . . and his father is very fond of him. He put a tiny sword into his hand when he was a year of age, and in all their walks he talks sword play, attack and defense, the code of duelling, and the like." A certain type of structure, plus early training - *slanting* - accounts for adult performance.

"We must begin too, to think of a man as a mammal - a primate - a two-legged animal with two arms and two delicate mobile hands. As an animal that has a nine-months' embryonic life, a long helpless infancy, a slowly developing childhood, eight years of adolescence, and a total like span of some three score years and ten.

"*Do all members of the species homo wherever they are found in biological history start at birth with the same group of responses and are their responses aroused by the same set of stimuli?* Put in another way, is the *unlearned*, birth equipment of man, which you have been

¹¹ *Op. cit.*, 68 ff.

in the habit of calling *instincts*, the same wherever he is found, be it in Africa or in Boston, be it in the year six million B. C. or in 1925 A. D.? Has he the same *unlearned equipment*, whether born in the cotton fields of the south, in the Mayflower, or beneath the silken purple quilts of European royalty?

"The genetic psychologist - the student best qualified to answer this question - hates to be faced with it because his data is limited. But since he is forced to answer he can give his honest conviction. His answer is: "Yes, within the limits of individual variation, man is born with the same general set of responses (let us wait before we call them instincts though) regardless of the station of his parents, regardless of the geological age in which he was born and regardless of the geographical zone in which he was born."

"But, you say: "Is there nothing in heredity - is there nothing to eugenics - is there no advantage in being born an "F. F. V" - has there been no *progress* in human evolution? Let us examine a few of the questions you are now bursting to utter."

"We hasten to admit - yes, there are heritable differences in form, in structure. Some people are born with long slender fingers, with delicate throat structure; some are born tall, large, of prize-fighter build; others with delicate skin and eye coloring. These differences are in the germ plasm and are handed down from parent to child. More questionable is the inheritance of such things as the early or late graying of hair, the early loss of hair, the span of life, the bearing of twins, and the like. Many of these questions have already been answered by biologists and many others are in the process of being answered. But do not let there undoubted facts of inheritance lead you astray as they have some of the biologists. The mere presence of these structures tells us not one thing about function. This has been the source of a great deal of confusion in the subject we now have under consideration. Much of our structure laid down in heredity would never come to light, would never show in function, unless the organism were put in a certain environment, subjected to certain stimuli and forced to undergo training. Our hereditary structure lies ready to be shaped in a thousand different ways - the same structure mind you - depending on the way in which the child is brought up. To convince yourself, measure the right arm of the blacksmith, look at the pictures of strong men in our terrible magazines devoted to physical culture. Or turn to the poor bent back of the ancient bookkeeper. These people are structurally shaped (within limits) by the kinds of lives they lead.

"But everyone admits this about bone and tendons and muscles - "Now how about mental traits? Do you mean to say that great talent is not inherited? That criminal tendencies are not inherited? Surely we can prove that these things can be inherited." This was the older idea, the idea which grew up before we knew as much about what early shaping throughout infant life will do as we now know. The question is often put in specific form: "Look at the musicians who are sons of musicians; look at Wesley Smith, the son of the great economist, John Smith - surely a chip off the old block if ever there was one." You already know the behaviorist's way of answering these questions. You know he recognizes no such things as mental traits, dispositions, or tendencies. Hence, to him there is no sense to the question of the inheritance of talent as the question is ordinarily raised.

"Our conclusion, then, is that we have no real evidence of the inheritance of traits. I would feel perfectly confident in the ultimately favorable outcome of careful upbringing of a *healthy, well-formed baby born of a long line of crooks, murderers and thieves, and prostitutes*. Who has any evidence to the contrary? Many, many thousands of children yearly, born from moral households and steadfast parents become wayward, steal, become prostitutes, through one mishap or another of nurture. Many more thousands of sons and daughters of the wicked group grow up to be wicked because they couldn't grow up any other way in such surroundings. But let one adopted child who has a bad ancestry go wrong, and it is used as incontestable evidence for the inheritance of moral turpitude and criminal tendencies. As a matter of fact, there has not been a double handful of cases in the whole of our civilization of which records have been carefully enough kept for us to draw any such conclusions - mental testers, Lombroso, and all other students of criminality to the contrary notwithstanding. As a matter of fact adopted children are never brought up as one's own. One cannot use statistics gained from observations in charitable institutions and orphan asylums. All one needs to do to discount such statistics is to go there and work for a while, and I say this without trying to belittle the work or such organizations.

"The truth is society does not like to face facts. Pride of race has been strong, hence our Mayflower ancestry- our Daughters of the Revolution. We like best to boast of our ancestry. It sets us apart. We like to think that it takes three generations to make a gentleman (sometimes a lot longer!) and that we have more than three behind us. Again, on the other hand, the belief in the inheritance of tendencies and traits saves us from blame in the training of our young. The mother says when her son goes wrong - "Look at his father" or "Look at his grandfather" (whichever one she hates). "What could you expect with that ancestry on his father's side?" And the father, when the girl shows wayward tendencies - "What can you expect. Her mother has always let every man she came in contact with make love to her." "If these tendencies are inherited we can't be much blamed for it. Traits in the older psychologies are God-given and if my boy or girl goes wrong, I as a parent can't be blamed."

"Let us, then, forever lay the ghosts of inheritance of aptitudes, or "mental" characteristics, of special abilities (not based upon favorable structure such as throat formation in singing, hand formation in playing, structurally sound eyes and ears, etc.) and take up the more general question of what the world has been in the habit of calling instincts."¹²

Scientists then do not agree among themselves as to the bearing which heredity has in the production of criminals. But, is it not comforting and hope producing to have leading American biologists inform us that we do not have to be born of a famous line of ancestors to achieve prominence and success. If men of performance could only come from superior, educated, highly intelligent, wealthy, successful or noble family lines, then this would be a conclusive argument for a privileged class and for an hereditary aristocracy. If the congenital equipment of an individual should prescribe completely what he will accomplish in life, equality of opportunity, educa-

¹² *Op. cit.*, 74 ff.

tion and social reform would be of no significance. Does not our own every day American History tell us and demonstrate that any citizen irrespective of nationality, if born of clean blooded parents free from taint of insanity, feeble-mindedness or syphilis, can rise through proper environment and individual effort to any position he may aspire? A Robert E. Lee born in China could not have become the greatest military genius of America, nor could a Lincoln born here on the same day have become a Lincoln had there been no civil war. Lee was a member of a distinguished family line possessing high natural ability and the advantages of opportunity and wealth. Lincoln had no *parental inheritance* of *ability*, except perhaps that he came from clean stock, the same as thousands of other American boys born at the same time. Is it not idle to ascribe his success to *heredity*? Certainly he had no advantage of wealth or social position, and yet through individual effort he rose higher on the ladder of fame than Lee.¹³

There is one common ground upon which lawyers, jurists, eugenists, psychiatrists and biologists may meet, namely that the entire question of crime is too complicated for laymen to handle. Can we not also admit that no one group of so-called experts can solve it alone? Surely we may all acknowledge that crime does not spring from a single root, and is there not an inter-dependence which just naturally requires that all interested shall realize their responsibility for studying the problem from each professional angle and thus joining in a united attack on crime through joint discussion and education. The Courts and the lawyers need the alienist and the psychiatrist, but they in turn need the social worker, the teacher, the juvenile investigator, the police officer, and the prison warden, so that a combination of theory and practice may result in the enlightenment of all for the good of society and posterity.

In dealing with delinquency scientific attention has been increasingly focussed on childhood. The problem child is the forerunner of the problem adult. The accepted basis for work with problem children is the fourfold attack from the fields of general medicine, psychiatry, education and social work, starting from the assumption that there are definite causes for personality and behavior problems even if we cannot agree as to whether such definite causes arise through hereditary or environment or both.

We can all agree that we wish a pure blood stream for the race and that the efforts of the eugenist to prevent the intermarriage of the feeble-minded and the insane and their tainting influence on posterity can be ably seconded by the lawyer, the politician, the jurist and the statesman. We can all recognize that no matter what our views on heredity that the influence of environment is all powerful in producing a law-abiding and upright citizen, and that to properly reach the individual he must be reached in childhood, and prior to that time through his parents. So that the real ground work for the prevention of crime must be with the parentage of the coming generation. When parents know how to raise their children and the state has provided suitable training for all children we shall have found the golden key which will lock our ever growing penitentiaries, reformatories, and homes for correction.

¹³ Cf. Clarence Darrow, *The Edwardses and the Jukeses*, *American Mercury*, vol. 6, 147 (Sept., 1925).