

to their cost. It is true that a first and only connection does not usually result in conception; but this is not owing to any natural law—it is merely owing to the difficulties ordinarily attending the first act, and its consequent imperfection. In animals, a single connection, even the first time, usually results in impregnation, and there is no reason why it should not do so in the human female. If there be a perfect egg in the proper place, and the semen reaches it, conception may take place from a first and only connection, just the same as from a later one.

It is also equally true that conception may follow violation, whether the female was conscious of it or not, in virgins as well as in others. Formerly, it was thought that whenever conception occurred it proved *consent* on the part of the female, and many people suppose so even now. There is no foundation whatever for such a notion, and it has often caused females to suffer gross injustice. No matter what violence they might be subject to, or even if they knew nothing of it, if pregnancy followed, it was thought to be a *proof* that they must have *consented*, and also that they must have had more than one connection. The cruel injustice resulting from such erroneous notions has often blasted the reputations of innocent persons, and led to despair and suicide.

As a proof that conception may follow connection while the female is unconscious, I may here mention a case which occurred in my own practice. A young married couple found it impossible to consummate the marriage, owing to the nervous fear of the lady, and to the extreme smallness of the organs. The slightest attempt at the act threw her into convulsions from mere fear and dread. I advised that she should be placed under the influence of chloroform, and that the act should be consummated while she was unconscious. To this she gladly agreed, and the experiment was attended with full success. No injury resulted, and she had no recollection of the affair at all. Still *she conceived*, and became the mother of a very fine child. Afterward no difficulty was experienced.

It is undoubtedly the fact that many women are quite unaware of being pregnant till a very late period, sometimes even up till *the time of delivery*. To many this will appear very strange, but it is nevertheless true. In several instances, where females have been impregnated while asleep, or during stupor, they have neither known nor suspected it till the natural result forced it upon their attention. M. Desgranges informs us of a young female who allowed her lover to have intercourse with her while *in the bath*, having the idea that conception could not *possibly* follow under such circumstances. She, however, became pregnant, but was totally unaware of it, and would not believe in her situation till delivery took place. In fact, if a woman believes, from any cause, that she *cannot* become pregnant, she may not know nor suspect that she is so till the last moment. Many have been thus deceived from putting implicit trust in certain *precautions*, while others have thought they *could not* be pregnant because the hymen was unbroken, or because the act of connection was only partially performed. I have even known married women, who had borne children before, arrive at the period of actual labor, without an idea that they were pregnant. The *possibility* of such ignorance should be borne in mind, as it may often be important when a woman is accused of *concealing* the birth of her child.

ON THE STATE OF MIND IN FEMALES AT THE TIME OF DELIVERY.

It is not generally known, but should be universally, that many females during pregnancy, and especially at the time of delivery, are in a peculiar mental condi-

tion. Some are really insane, for more or less of the time; others have peculiar *manias*, and *very frequently* they are quite unaware of the nature and consequences of their acts.

There is every reason to suppose that, in many cases, where women have destroyed their infants at birth, they acted not from depravity, nor from a desire to get rid of their offspring, but simply from a *morbid impulse*, which made them quite unaware of what they were doing. Many have committed this act who had no motive whatever for doing it, and some even while strongly desiring children. Instances are known where mothers have thus destroyed their offspring while in this peculiar condition, and on recovery, have known nothing about it.

Now, if a poor woman who has been seduced, or violated, kills her child, it is at once concluded that she does it willfully and knowingly, to get rid of it. That such is the case sometimes there is no doubt, but at the same time it must not be forgotten that the poor creature may be really perfectly innocent of any criminal intention, and may even not have known, at the time, what she was doing.

It must also be remembered that in a case of illegitimate pregnancy, the poor mother, from her dread of discovery, anxiety, shame, and sense of injustice, is much more likely to be thrown into a morbid state of mind than one more happily situated. There is no doubt but that many such have been unjustly condemned for doing that for which they were in no way whatever responsible.

CHAPTER XLIV.

HEREDITARY DESCENT, AND IMPROVEMENT OF THE RACE.

WHEN the mass of the human race get over their present *fear of knowledge*, and realize that it is really *power* for indefinite *good*, they will turn their attention to the improvement of the *race*, and human beings will be produced, superior, in every way, to any the world has yet seen. Not only can the *body* be perfected, so as to be stronger and more beautiful, as well as free from disease, but the *mind* also can be made far superior to the most gifted ever yet known. The power of the mind depends on the perfect development and organization of the *brain*, and there is no question but that the brain can be perfected as well as the muscles.

In the brain of every kind of animal we find certain parts developed which are not found at all, or only rudimentary, in the animals below them that have less *mind*; and it is the same in the *human race*. It is, therefore, only the more perfect brain which gives man the more perfect mind, and it is only by perfecting the brain that we can effect further improvement in his mind.

In examining the human brain there are certain parts found, small and apparently rudimentary, whose uses are not at all known. Now it is probable that these are merely organs not yet perfected or developed, but which *may be developed* by judicious attention to *training, intermarriage*, and selection.

It seems to me more than probable that human beings will, in the future, be produced with *brains*, and consequently *minds*, as far above those of our present greatest men as *they* are above the brutes; and that in those days men will comprehend and reason understandingly upon matters which we now esteem unfathomable mysteries, and far above all human comprehension.

I have full faith that the *man* of the future will be as far above the present man as the present man is above the orang-outang.

But for this to be effected *marriage* must be a *science*, based upon a knowledge of physiology and the laws of natural selection and hereditary descent, instead of a mere matter of *chance*, as it is now.

We think it quite right and laudable to so attend to the breeding of *animals* as to bring them to the most perfect point of development, and yet we shrink from applying the same laws to human beings; though nothing is more certain than that the one could be perfected equally with the other. Let any one look at an ill-bred, uncared-for domestic animal, and then look at a *thorough-bred* of the same kind, and note the difference,—they are scarcely like the same beings. All the bad points are carefully *bred out*, in the improved one, and the good ones developed to the utmost. The same results would follow among human beings if procreation was made a science, as I cannot but hope and believe it some day will be.

If men were only rational enough to see this truth and act upon it, we should be able to gradually perfect the nervous system the same as we do the other organs, and

consequently the mind also. Education improves or develops the mind, by causing a more perfect development of the brain, and this affects not only the individual so educated, but also his children, by the law of hereditary descent. Parents with well-educated brains, on an average, will produce children with better developed brains at birth than those of uneducated parents. And with continued careful training and selection, this course of improvement might go on indefinitely; how far we cannot even imagine, but doubtless to the production of human beings as far above the highest yet seen, mentally, as they exceed the merest brutes.

Men have found out how to develop in animals any mental trait they may wish, as in the pointer and the shepherd's dog for instance, and they have also found out that the young of these educated animals are more easily trained than the young of uneducated ones. This is owing to the law of hereditary descent, which gives to the brain of the young dog a similar development to that of its parent to start with. The advantage, however, so gained may be more or less lost, in subsequent generations, by want of care in mating the parents, and so allowing one to spoil the other.

In the same manner we see particular dispositions and qualities, particular mental powers, and even insanity, transmitted from parent to child. This is because the child inherits the same form and kind of brain. Now we all know what wonderful results have been obtained among animals by proper training and selection in mating, and beyond doubt still more wonderful results would follow, among human beings, from similar care. The human brain is more susceptible of impressions by training than that of any other animal, and there seems no limit to its capacity for development. Hereditary descent is also more marked in the human animal than in any other, so that what is once gained can be perpetuated.

I say again, therefore, that when men have progressed far enough to attend to these matters, as regards their own race, the same as they now do to the lower animals, human beings will be born immeasurably more perfect, both bodily and mentally, than anything we can now conceive.

At present, however, it is considered almost blasphemous to speak of such things, and therefore we go on perpetuating disease and madness, from generation to generation, when we might easily get rid of them.

In all forms of nervous disease, and especially those affecting the mind and disposition, this law of hereditary descent is especially operative. And this constitutes one of the main difficulties in treating such diseases; for what can the physician do when the patient has been *born* with a certain kind and form of brain, making him have inevitably certain mental and moral infirmities? Neither medical treatment nor moral preaching can do much good in such cases, and yet in our ignorance they are all we depend upon.

Fortunately, Nature here steps in with another law, which counteracts gradually the deplorable effects of man's ignorant inattention. This is Darwin's *Law of Natural Selection*, or the gradual weeding out of the more imperfectly developed beings. Those with the most perfectly developed bodies and minds, by their greater capacity or power, lord it over the weaker ones, and gradually push them out of existence. The same as, in a forest, the strongest growing trees inevitably smother and kill the more tender ones.

At the present time, we often gain, by education and training, a splendid development of body or mind in some favored individual, but lose it when that individual

dies. Instead of perpetuating it, or even improving upon it, in his children, the chances are that it will be lost from want of proper selection in mating, and inattention to the laws of hereditary descent.

It is well known that marriage is entirely a matter of chance, at the present time, as to any *fitness* between the parties. They may be naturally suited to each other, or they may not; but such suitability or unsuitability is never taken into account. The consequence of this is that we go on *perpetuating* disease, insanity, and imperfections of every kind, when we could just as easily get entirely rid of these scourges.

Even our greatest men marry without any thought as to whether their partners are such as they should be to insure perfect children. By this inattention we lose all the advantage of their excellent development, and their children, instead of being superior to their fathers, sink below them, or may be, are even inferior to the ordinary run of children. This is why great men or great women so seldom have children equal to themselves, although, by proper mating, they might have offspring far superior.

It is useless, at the present time, to attempt to give rules for scientific procreation, or even to lay down general principles, for no one would yet act upon them. The first thing to be done is to educate the public mind up to the point of not being afraid of the subject, and to lead the more advanced minds to see its importance. The practical application of such knowledge will follow, and people will then wonder that such an important matter should have been for so many ages neglected.

The question is often asked whether it is proper—aside from social or moral considerations—for very near relations to marry?

It was formerly thought, and is now by many, that the marriage of *near relations*, as brother and sister for instance, must necessarily be an evil, and result in diseased offspring. Recent investigation, however, has disproved this, and has shown that it is not the mere *relationship* that causes the evil, but simple *unfitness*. Any marked peculiarity or bodily condition that is the same in both parties, is nearly sure to be *doubled* in their offspring, and as there are few families without some *taint* or some objectionable peculiarity, the marriage of near relations, each affected the same way, increases the evil by doubling it in their offspring. But this is not merely because they are *relations*; for two perfect strangers would equally affect their children in the same way if they were equally unsuited.

Good points can be perpetuated and increased by judicious breeding as well as bad ones, as breeders of animals well know. And these men invariably breed *in and in*, in the closest manner, often between parent and child, brother and sister, and grandchildren and grandparents. So far from this resulting in any inferiority, the very finest and healthiest animals are thus produced. Of course, the breeders take care never to breed among relations who have any mutual *imperfections*, because they do not want to increase *them*; and if any such imperfection should exist, they *cross* with some *stranger* till they get rid of it, and then they continue to marry near relations in the closest manner.

Near relationships, therefore, are not objectionable in marriage, speaking *physiologically*, providing the parties are naturally suited to each other, but may even be an advantage. There are, however, other reasons, social and moral, which forbid and make them improper. I merely speak of them here in a *physiological sense*. The subject will be more fully discussed further on.

Direct experiment has shown that many disorders can be made hereditary, even when produced artificially; especially those connected with lesions of the nervous system.

All the large blood-vessels, like other parts of the body, have special nerves connected with them, which regulate their action, and if these nerves be cut through, or destroyed, the blood-vessels and the parts they nourish are singularly affected. Thus in a guinea-pig, if the nerves connected with the carotid artery be severed, on one side of the neck, all the parts on that side of the head which are fed from that artery will become hotter from increased circulation. The eyelid also, on that side, becomes puffy, and droops. The ear becomes so much hotter, that in white animals it can be seen congested with blood.

After a while the parts heal, and the animal becomes, in most respects, as before. The eye, however, remains permanently smaller, with a contracted pupil, and the lachrymal gland overflows constantly. The eyelid partly recovers its natural state, but the membrane with which the animal clears the eye remains always congested. As long as the animal lives this condition continues, and if the affected eye be examined, after its death, it will invariably be found smaller than the other.

The most singular fact, however, and the one which bears on the question of heredity, is this: If such an animal breeds, even with another that has not been so operated upon, the young from that union, though apparently perfect when born, in a few days exhibit all the above phenomena. Their ears are thickened, corresponding to the one so affected in the parent that was operated upon, and they have similar small eyes, but on both sides. These young may be close bred, in and in, for several generations, and all their descendants will exhibit the same peculiarities. In fact, they seem to become fixed.

It is very singular, however, as shown by dissection, that the nerve which was destroyed in the first parent, and never reproduced, is yet perfect in the descendants. In this respect they are just like other guinea-pigs, and yet continue to show the same symptoms as their mutilated ancestor.

If a certain part of the brain, in one of these animals, be punctured, the ear on that side becomes gorged with blood, dry gangrene sets in, and part of it falls off, sometimes in a few hours. The eye also, on that side, bulges out, and becomes larger.

If one of these animals, so treated, bear young, even with a perfect companion, the offspring are affected in the same way. Their eye-balls enlarge and protrude, and in a few days their ears drop off from gangrene.

The young of these diseased animals, and their young also, indefinitely, if they breed in and in, will all show the same peculiarities, but if they breed with perfect animals, only some of their young will exhibit the diseased condition, while others will be perfect.

Dr. Brown-Séquard found that he could produce *epilepsy*, artificially, in guinea-pigs, by wounding certain parts of the spinal cord, or of the sciatic nerve. And the epilepsy continued even after all trace of the operation had disappeared.

The sciatic is the great nerve of the leg, and when it is destroyed, the limb loses all sensation, and all power of motion, so that the animal has no feeling whatever in it, and drags it about. In consequence of this, the skin becomes rubbed off, so as to expose the flesh, and then the animal begins to bite and eat it away, so far as there is no feeling in it. The inner toe, however, retains its feeling, because it receives

nerves from another source, and this part the animal does not eat. All the wounded parts soon heal, when the dead portions are gone, and the animal is thus left with a one-toed foot.

This is one effect which follows from the operation, but there are others still more remarkable. In a short time, sometimes in two hours after, a large portion of the skin of the face, on the side operated upon, becomes peculiarly affected. It loses all ordinary sensation completely, so that it cannot feel heat, cold, pressure, nor electricity, but becomes remarkably *ticklish*.

On tickling it, the muscles of the jaw, nose, and eye, on that side twitch violently; and gradually those on the other side become affected also, in the same way. The twitchings seem to be quite involuntary, and often persist constantly, as in St. Vitus' dance. Finally, true epileptic fits begin, with convulsive movements of the head, eyes, limbs, and chest, accompanied often by a sharp cry, and then the animal falls, just as we see in human epileptics. After a while the fit passes off, and the animal recovers, but remains more or less stupefied for some time, and occasionally seems to be really *insane*! Eventually the fits come on without any tickling, the animal having become a confirmed epileptic.

Finally, however, if the animal lives long enough, the convulsions get less violent, and longer between, till at last they cease altogether, and perfect recovery takes place. The affected skin loses its peculiar ticklishness, and regains natural sensation; the hair falls off from it, and a new growth takes its place. The only difference then to be found between the animal operated upon and other guinea-pigs is, that it has but one toe on the side where the nerve was severed.

Symptoms almost identical with those above described occur, in most cases of epilepsy, in human beings. There are almost always portions of the surface of the body peculiarly affected, in which a singular sensation arises before an attack, and spreads to other parts. This is called the *aura*, and it usually begins in one special spot. If this spot can be determined and reached, so that it can be removed or cauterized, a cure is generally effected. In the same manner the epileptic guinea-pig can be cured by cauterizing the affected area of skin.

The most important fact in connection with the above experiments, however, is this, that many of the young of the guinea-pigs so operated upon are affected like the parents. They are born *with one toe* only, if the parent had but one, and though apparently healthy at first, they soon become epileptic, continue so for a while, and finally recover as their parents did. The same portion of the skin loses its natural feeling with them, the hair falls off it, and a new crop grows when the disease is gone. In short, the young guinea-pig, which has not been operated upon, passes through the same range of symptoms as the parent that has been, and is even born with a limb mutilated in the same way.

Now in the animal operated upon, the disease and the mutilation both result from the cutting of the nerve, and the cure takes place only when the cut nerve grows and unites again. This is all very obvious, and easy to understand; but in the young, who inherit both the one toe and the epilepsy, exactly as in the parent, the nerve is not severed at all. In fact, the closest observation can detect no difference, in that respect, between them and other young guinea-pigs. Why then should they have but one toe, and be epileptic? This is what we do not know; we can only refer to the fact, as an illustration of heredity.

It is worthy of notice also, in connection with this, that insane patients often

have their ears affected, and lose portions of them, just like the epileptic guinea-pigs; probably from the same cause—impaired nervous action of the part.

Sometimes only a few of the young pigs are born epileptic, unless both parents were so affected, and it is most singular that all so affected are born also with the one toe only; the bodily malformation and the nervous disease thus going together.

Epilepsy may arise from several causes, besides being inherited. It often follows from injuries to the head, from violent anger, from intense sexual excitement, and from continued drunkenness. Whatever the cause, if men or women, so afflicted, become parents, their children are almost sure to suffer in the same way. Such people, therefore, should never become parents, nor should those suffering from scrofula, cancer, phthisis, or any other serious constitutional disease. Insanity, or any dangerous or hurtful mania, should equally forbid parentage, so that all such causes of suffering and deterioration may be stamped out. Attempts at curing them amount to very little; the true policy is *not to propagate them*.

In the case of the guinea-pigs above referred to, although the young ones showed no sign of anything wrong in their nervous structures, like that produced by the operation in their parents, still there is every reason to suppose that, in some important part of their nervous centers, a lesion did exist. The cut nerve in the parent was only the line of communication between the outer skin and some point in the sensorium, and the real injury was done there. When the young were born, that point in them, in all probability, was similarly affected, and hence they too were epileptic. The nerve might be intact, but something was wrong in the sensorium, and the disease did not disappear till the sensorium became perfect.

The fact of *the one toe* being transmitted makes it almost certain that other injuries were transmitted also, but in positions where we could not directly trace them.

The importance of all this, as a matter of heredity, can scarcely be overrated. I have no doubt myself but that the confirmed *dipsomaniac*, who will drink, no matter how he and others suffer from it, has a *diseased spot in his brain*. There is some lesion or injury in the great nervous center, as there is in all cases of mania, and this, or the tendency to it, he may transmit to offspring. He therefore never ought to become a parent. Many a woman sacrifices herself by marrying such a man, to reclaim him, and nearly always fails; thus throwing herself away, and running the risk of becoming a mother of children similarly cursed.

Again I would remark, for it cannot be too often repeated, that by proper pairing, and observing the laws of heredity, the bodily and mental diseases and imperfections, of all kinds, which now afflict us, could be entirely got rid of; and all those qualities which are desirable in us be magnified and perpetuated.

At present we try to cure disease by medicine, and vice by punishment or moral suasion, with but indifferent success. We keep lopping away at the constantly springing branches of the tree of evil, but leave the vigorous root untouched, so that our labor is fruitless and never ends. By attention to the laws of heredity, and proper pairing, we should destroy the root at once, and the tree would die forever.

The bringing of children into the world is not a matter which concerns the parents alone, nor principally. The future of the children themselves, and of society, as it may be affected by them, should be considered *first*. At present it is

seldom that any consideration whatever is given to either the one or the other. The thoughtless selfishness of the very poor, in this respect, is often encouraged by their spiritual teachers, who preach to them that Providence will provide. And this in face of the fact that thousands of their children, all around them, are born to misery, crime, disease, and untimely death. They are, however, no worse than the rich, who often from ignorance, or greed, deliberately marry disease and deformity, and perpetuate it as a family inheritance.

As a rule, like begets like, and children more or less resemble their parents, as is well known, but why it should be so is only beginning to be asked. Men have hitherto been satisfied with the bare fact, without seeking for the reason, but at the present day it is different. We want now to know the natural law which thus connects parents and offspring, and to understand why it is that though they usually resemble each other, yet at other times they totally differ.

That children generally resemble their parents is a fact of great practical importance to those who choose to act upon it. Among the ancients, especially the Spartans, practical use was made of the fact, and propagation was so regulated as to insure the raising of perfect and healthy children only, who were expected, in their turn, to be the parents of other children equal to themselves. All the weak, or malformed, were eliminated without scruple, so that their imperfections should not be perpetuated. The effect of such a course, as may well be conceived, was to create a very superior race of people, and had the practice become universal, the race generally would probably have been, in every respect, much more perfect than it is now.

Nature herself, as Darwin has so well shown, does much in this way constantly. The sick and feeble have a less chance of growing up than the strong and healthy, or of maintaining themselves after, and usually die earlier. Both they and the deformed also are less apt to be chosen in marriage, and thus propagate less. Among savage people this is especially the case; the strong, skillful, and cunning, among men, kill off their less fortunate brethren, or monopolize all the means of living; while among women those most physically perfect are chosen as wives, in preference to their less attractive sisters.

By this rude process of natural selection, the human race has, undoubtedly, been gradually but surely improved; and the same process, to some extent, is working even now. As people become civilized, however, this natural mode of improvement is much interfered with, and marriage is determined by other considerations than those that prevail in the savage state. The sick and feeble are cared for and protected, and the malformed, or imperfect, are not destroyed, nor left to perish.

Whether this is, on the whole, a gain, or really more humane, has been questioned, and with much show of reason. By caring for the diseased, the feeble, and the malformed, and allowing them to become parents, we undoubtedly propagate and perpetuate disease, debility, and deformity.

Perhaps the true compromise between care for the individual and care for society, may be found in simply preventing parentage, whenever, from any cause, it would be likely to result in undesirable offspring. It would seem as if this were a right inherent in society for its own protection.

Special cases, in which family traits of a marked character are transmitted, are numerous enough, and a few of them are well worth referring to.

Many family names among the Romans were founded on such traits, recognized as permanent. Thus we find *Nasones* (big-nosed), *Labones* (thick lips), *Capitones* (big-headed), and many others. At the present day, the Austrian royal family is noted for large lips, and the Bourbons of France for large noses. The prevalence of this latter feature, accompanied by a peculiar form, is also well known among the Hebrews.

Very often these family traits are quite persistent, so that nearly all the members will have them, but at other times they appear only in particular individuals, and even disappear entirely for several generations, and then come up again. Instances of this may often be seen in old family picture galleries, where a certain prominent feature, or peculiar face, can be traced at intervals through a long line of descent, as if the same person was born over again, from time to time.

It must be remembered that, in all these cases, no care has been taken to insure these traits being transmitted, and the fact that they are so, to the extent that we see them, shows the strength of the hereditary tendency. With the constant intermixture of other blood, which takes place in all families, the wonder is that individuality is not lost altogether.

A well-known case is recorded of one Edward Lambert, whose body was covered with a horny shell, somewhat like an alligator's hide. He was the father of six children, all of whom were covered with the same kind of shell by the time they were six weeks old. They all died but one, and he married and transmitted the horny skin to his sons. For five generations this peculiarity was noted in all the male members of the family.

A few years ago a Russian was exhibited in Paris who was covered all over the body, even the face and eyelids, with long silky hair, like that of a Skye terrier. He had a son and a daughter, both of whom had the same peculiarity as the father.

The bearded lady will be well remembered by many, she having been exhibited over most of the United States. She was full-bearded like a man, and had a hairy forehead. Her daughter exhibited the same peculiarities as the mother.

Many other similar cases are recorded, and in all of them, if the individuals married, the peculiarity was transmitted to their offspring. Usually in these cases of superfluous hair-growth, there is some abnormality of the teeth also. At times they are deficient, and then again they are in excess.

Baldness is often hereditary, and so are peculiar forms of the limbs. Families have been known in which the male members all had six fingers, or six toes; and others in which all the members had a peculiar gait or limp. Hare-lip, and cleft-palate are very apt to be transmitted, and sometimes albinos appear regularly in certain families.

Why or how these peculiarities begin we do not know, but it is obvious that they result from some constitutional change, and not from any accidental cause. As a rule, we do not find any artificial mutilation, or impress, become hereditary, no matter how long it may be kept up. Thus, every male Hebrew is born still with a prepuce, notwithstanding that every one has been circumcised for thousands of years. And every flat-head Indian is born with a natural shaped head, although all his ancestors, for unknown generations, have had their heads flattened out like a plate, artificially.

It is probably the same with all peculiarities, bodily and mental. We can seldom make them permanent by inducing them artificially, but when we find them appear

naturally, we can perpetuate and increase them by proper attention to mating and parentage.

This fact should be regarded as a fundamental one in education. Every child should be looked upon as an individual, with peculiarities of his own, some to be encouraged and some to be repressed. Each one has some mental faculty predominant, and his education and after profession should be based upon that. If he be forced into any other line, for which nature has not adapted him, his life will be more or less a failure. We cannot create faculties, but when found, we can give them their fullest development and perpetuate them.

Thousands of valuable lives have been thrown away, and years of time wasted in trying to make mathematicians and linguists out of those whom nature had not adapted for such pursuits, but who were perhaps admirably fitted for others. The true educator is he who recognizes the natural bent and capacity of a child, and adapts his education to it. Our present plan of trying to form all on the same model, and to make all follow the same school course, results, for the most part, in a dead level of mediocrity, or in downright failure.

This educational fault is seen more palpably in girls than in boys, for there is even less variety with them. They each and all have the same little dab of French, music, and other so-called accomplishments, but not one is ever educated individually, so as to turn to the best account the faculties nature has given her. A girl with a real taste for drawing, and not the slightest capacity or ear for music, must nevertheless spend just as much time at the piano as a born musician, and as little at drawing.

It is probable that every individual could attain a fair standing in some pursuit, if not eminence, if proper attention were paid to their education in the first instance, and to their profession afterward.

A very remarkable instance of a natural peculiarity being transmitted, is that of the Ancon sheep, so often referred to. An intelligent farmer in Massachusetts, who was annoyed by his sheep jumping the fences, and straying away, noted among his lambs one with very short legs. This being a male, he kept it to breed from, and soon saw that many of his descendants had short legs also. By keeping these apart, and mating them together, he soon got a breed well established, with legs so short they could not jump the fences.

Long-horned cattle and short-horned cattle have also been established in this way, and recently, in Texas, hogs have been found with solid hoofs, instead of cloven, from which, no doubt, a race could be fixed, if they were properly bred in and in.

Some families are notoriously long lived, and others short lived; some are unusually prolific, and others the contrary. Gout, calculus, and several other diseases are often inherited, as certainly as the family features.

By care in mating, any peculiarity can be either perpetuated or obliterated. It can either be bred in or bred out, systematically and certainly.

Tricks of habit may become hereditary, as well as bodily traits. The following extract from an excellent article in the *Cornhill Magazine* gives some very singular instances of this:

“**INHERITED TRICKS.**—The inheritance of tricks of habit is one of the most perplexing of all the phenomena of heredity. The less striking the habit the more remarkable, perhaps, is its persistence as an inherited trait. Giron de Buzareingues states that he knew a man who, when he lay on his back, was wont to throw his right

leg across the left; one of this person's daughters had the same habit from her birth, constantly assuming that position in the cradle, notwithstanding the resistance offered by the swaddling bands. Darwin mentions another case, in his *Variation of Animals and Plants under Domestication*. A child had the odd habit of setting its fingers in rapid motion whenever it was particularly pleased with anything. When greatly excited, the same child would raise the hand on each side as high as the eyes, with the fingers in rapid motion as before. Even in old age, he experienced a difficulty in refraining from these gestures. He had eight children, one of whom, a little girl, when four years of age, used to set her fingers going, and to lift up her hands after the manner of her father. A still more remarkable case is described by Galton. A gentleman's wife noticed that when he lay fast asleep on his back in bed, he had the curious trick of raising his right arm slowly in front of his face, up to his forehead, and then dropping it with a jerk, so that the wrist fell heavily on the bridge of his nose. The trick did not occur every night, but occasionally, and was independent of any ascertained cause. Sometimes it was repeated incessantly for an hour or more. The gentleman's nose was prominent, and its bridge often became sore from the blows which it received. At one time an awkward sore was produced, that was long in healing, on account of the recurrence, night after night, of the blows which first caused it. His wife had to remove the button from the wrist of his night-gown, as it made severe scratches, and some means were attempted of tying his arm. Many years after his death, his son married a lady who had never heard of the family incident. She, however, observed precisely the same peculiarity in her husband; but his nose, from not being particularly prominent, has never as yet suffered from the blows. The trick does not occur when he is half asleep, as, for example, when he is dozing in his arm-chair; but the moment he is fast asleep, he is apt to begin. It is, as with his father, intermittent, sometimes ceasing for many nights, and sometimes almost incessant during a part of every night. It is performed, as it was with his father, with his right hand. One of his children, a girl, has inherited the same trick. She performs it, likewise, with the right hand, but in a slightly modified form; for after raising the arm, she does not allow the wrist to drop upon the bridge of the nose, but the palm of the half-closed hand falls over and down the nose, striking it rather rapidly—a decided improvement on the father's and grandfather's idea. The trick is intermittent in this girl's case also, sometimes not occurring for periods of some months, but sometimes almost incessantly.”

Similar instances are met with in the experience of most people, but their significance is not generally seen.

Peculiar strength or activity is often transmitted, and so are keenness of vision and hearing. On the contrary, deafness and poor sight, stammering, squinting, loquacity or its opposite, taciturnity, are frequently hereditary, and so are peculiar likes and dislikes. Some families are noted for good memories, and others again for the contrary. The family to which the celebrated Professor Porson belonged almost all had remarkable memories. He himself was so noted that way that it was said he could not forget anything which he had once known. He could read a book through, and remember all of it, and how often any particular word occurred in it, and where.

It is not surprising that any remarkable faculty is seldom seen to the same degree in a man's children as in himself. To use an illustration, suppose a man with memory fifty per cent. *above par* marries a woman whose memory is fifty per cent. *below par*, the probability is that their children will have only ordinary memories; the defi-