from the author –
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A

TREATISE

ON THE

BREEDING OF ANIMALS,

AND

OTHER MATTERS INTERESTING TO FARMERS.

BY JAMES GLENN,

AUTHOR OF A PAMPHLET ENTITLED "THE REAL NATURE OF THE ELECTRIC FLUID, AND THE CAUSE OF THE POLARITY OF THE MAGNET:" MEMBER OF THE NATIONAL INSTITUTION ESTABLISHED AT WASHINGTON, FOR THE PROMOTION OF SCIENCE.

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PREFACE.

In writing the few following pages, we have been as guarded in our expressions as the nature of the subject would admit, and we are confident that any person whatever, may read them with advantage and profit. But should some people think them unfit to be read by very young people, we have only to say, that they were not intended for them, and they have been addressed to a class of men, who, from their profession and their time of life, are superior to being influenced in a malign manner by any coarse expression of ours, or disposed to jeer and joke on subjects of such practical utility.

It has been said, that the man who causes two ears of wheat to grow where formerly there grew only one, confers a great benefit on mankind. We do not aspire to this honor: but if we have pointed out a mode by which the various races of Domestic Animals may be greatly improved, we confess that we should be disposed to feel not a little proud, should it be confirmed by experience, and it would give us more sincere gratification than if we had written the most eloquent and most meritorious essay on politics, morality, or literature that ever was penned.

ESSAY.

ON THE EFFECTS OF SIMILAR AND DISSIMILAR DISPOSITIONS AS REGARDS THE SEXES.

In forming Matrimonial Alliances is it necessary or desirable, that the sexes should possess similar habits, tastes, manners and dispositions?

It is an universally received opinion that persons uniting in marriage, ought to possess similar tastes, manners and dispositions, and that the happiest unions are formed where this is the case. We dispute this doctrine, and we maintain that the case is entirely the reverse, and that the happiest alliances are those formed, where the dispositions and tempers are opposed; and we also contend that it is the intention of nature that it should be so, both for the happiness of the individuals and the benefit of their offspring. Combe in his constitution of Man, as well as other phrenological writers recommends young men to observe the developments of the heads of females, and to select those that possess faculties the most nearly resembling themselves. Without at all attempting to undervalue or dispute the correctness of the science of phrenology, as we fully believe that the principles of the science are founded on truth, we may remark, that in our judgment this piece of advice is wrong, and that young people would do better without any such advice, by choosing those partners for life for which they may have contracted the greatest regard—a regard that has not been induced too suddenly, but has arisen gradually by repeated observation and intimacy. This is the way most generally followed, and notwithstanding exceptions, we believe the great majority of mankind look back with sincere pleasure on this part of their conduct. Rules and regulations and particular signs are never regarded by a lover when applied to his mistress, nor probably never will be; and they do better when left to follow the dictates of their own judgment and inclinations, than if they adhered, and strictly followed the instructions of the wisest philosophers that ever lived. Mr. Combe remarks fur-

ther, in the work alluded to, when speaking of the fine head of Melancthon—What, he asks, would be the consequence, if such a fine person were wedded to such a mean, worthless woman?—alluding to a woman of an opposite character. We entertain the opinion that in this case the consequence would not be so bad as surmised, from the circumstance that the talents and dispositions of the parties were different; and the offspring of such an union would be more likely to partake of the qualities of their father than their mother. If the person in question had married a being equal, and similar in talents and disposition and every other respect to himself, the alliance would be more likely to be unhappy, and the children would be far inferior to both parents. This may appear surprising, but we will give our reasons in support of the assertion.

Young men admire those qualities in a friend of their sex that are similar to their own, but they respect those the most in a woman that are the reverse; and this they do, both with regard to their mental and physical qualifications. A tall man is apt to choose a woman of low stature; a choleric person loves a female of a mild, easy disposition; a learned gentleman dislikes to see his lady spending her time in perusing books and newspapers; a robust, athletic individual prefers a young woman of a more slender frame. All these statements may be reversed, and yet our argument applies with equal force; as a man of low stature choose a woman that is tall; a person of a mild, easy disposition prefers a female of a quick, lively turn; an illiterate individual delights to sees his lady engaged in reading and other literary occupations; a gentleman of a slight, delicate frame of body naturally selects a young woman of a robust, energetic constitution. A great many examples of the above remarks might be pointed out in real life, to substantiate our views; but they are doubtless within the recollection of every individual. We will, however, mention an anecdote of Sir Walter Scott, that may serve to illustrate our views. Sir Walter Scott was walking in the fields one day with his lady, when observing some lambs in a playful, sportive mood, he remarked—"It is no wonder that ancient authors alluded to the lamb as an emblem of innocence." Mrs. Scott replied—"They are very good with mint sauce." The great author, being a learned man, was pleased with this reply; so much so that he thought the joke too good to be lost, and related it to

one of his neighbors. It was too characteristic and too feminine not to have been delighted with it. And we venture to affirm that his delight was greater than if he had been answered in a learned, pathetic style, delivered with great judgment and pathos, by some of our most gifted ladies. On the contrary, had Sir Walter been a man having no particular regard for literature, and possessed but a very ordinary share of learning, he would have felt quite proud at hearing a learned harangue delivered by his wife on the innocence of the lamb. It is probably owing to this circumstance, why very few learned men relish the writings of ladies.

It is not pretended that a person with a good disposition ought to select a partner with bad propensities. We only affirm that they ought to be different, and each person may possess good qualities although of an opposite nature. An individual of Herculean trength may not marry a weak, unhealthy female, but only one that is much less robust, or one that combines lightness with agility. I have often observed that the children of parents who were both of great bodily strength were apt to be marred in some respects, and were very subject to paralysis. We have observed this as a general occurrence, although there may be a great many exceptions. It is probably owing to this very condition, why the offspring of parents that are nearly related in blood, are most generally defective, the habits and dispositions of the parents being nearly alike; as they are much more apt to be so than strangers. I am aware that the individuals of a family sometimes differ very much from one another; this may be the case, but still they agree in a good many traits of character; there is what is called a family likeness, both in features and dispositions. Combe, in his work already alluded to, says that the royal family of Spain intermarry with their kindred, and are consequently a very inferior race. He calls this violating an organic law; that is, it is a law of our natures that people nearly allied in blood ought not to marry; but it is somewhat strange that the author did not perceive that the cause of this might be owing to their dispositions being nearly the same. If we leave individuals and examine nations, tribes and even the inhabitants of cities, towns, villages and particular districts of country, we will find the same observations to hold good. If any of these places remain excluded from the rest of the world, they continue an inferior race, and even to re-

trograde; but the moment that they open an intercourse with the rest of the world, by means of commerce or any other mode, they immediately advance in the scale of civilization and become both mentally and physically improved. This is no doubt partly effected by the inhabitants intermarrying with foreigners and adopting their good customs and manners. Commerce undoubtedly brings some evil in its train; but upon the whole, it is a blessing. In the different cities in Britain, some are remarkable for fine looking men and but very indifferent women, while others again are famed for fine, handsome women and but very inferior men. Perhaps there are not a finer set of men in the British dominions than those that may be seen in the city of Glasgow; and yet it is confessed that the female part of the population are but very indifferent looking; generally pale and of low stature. The case is entirely the reverse in the city of Edinburgh, the male part of the population being much inferior in appearance to the females. A similar remark applies to the city of New-York in the United States, as that of Glasgow in Scotland. Perhaps there are not in America a finer, portly looking set of men than the New-Yorkers; and yet their women are confessedly far inferior in appearance to those in Philadelphia and other places.

These statements go to confirm our assertion, that an intercourse with foreigners improves the race of mankind, and this it does, because the tastes and habits of the parties are dissimilar. These statements also show, that when the good qualities of the male part of the population predominate, the male children will inherit the virtues of their father. If, on the contrary, the excellent qualities of the female part of the population preponderate, the female children will inherit the virtues of their mother.

Among Indian tribes and communities of colored people, the half breeds are esteemed the best part of the population.

It was remarked by Dr. Franklin, that there is no such principle as natural affection. In this, the Doctor was right, for it is undoubtedly an acquired habit. Philosophically speaking, there is no natural affection existing between man and man, or brethren; it is an acquired habit. But we are pretty certain that there exists in human nature both a natural affection and a natural dislike, as regards the sexes; that is, a young man of a well regulated taste naturally dislikes a female whose habits and peculiarities most nearly resemble himself; and the design of nature in

thus acting is to prevent the union in marriage of persons consanguineously related. It sometimes happens that the members of a family, both male and female, get separated when very young and mix at large with the world. After a number of years they lose all recollection of the identity of one another. In such cases, a brother and sister might be apt to marry did there not exist a natural repugnance to each other, arising from possessing the same propensities. We have read of but one instance of a brother and sister marrying without being aware of their relationship. This occurred in the New England States, as recorded in the newspapers, and the parties separated after learning the fact. We should think such an occurrence might happen frequently were there not something else implanted in human nature besides the mere power to recollect each other's identity.

If we leave the human race and descend to the lower orders of animals, we will find the same law to hold good as that we have just been speaking of, although it is not quite so apparent in some races of animals. Some people who are not familiar with beasts, are apt to imagine that there is very little difference in individuals of the same species, either in disposition or form. This is a great mistake, for it is well known that there is a marked diversity, both in their nature and features, in every single one of the race. It is said a shepherd can recognize each one of the flock, while another person can hardly perceive any more dissimilarity than there is between one egg and another. In all domestic animals the male or female ha no choice; that is, they do not follow in every instance the instincts of their nature. But the art of man supplies the deficiency. Men who are in the habit of raising animals of the domestic kind ought never to attempt to raise from a male or female both of which inherit the same qualities—a breed equal to the parents. They ought rather to select those of which the propensities are different, and each quality good of its kind.

As we consider this subject of great importance to farmers, we will be a little more particular, and will select the Horse as the subject of our argument, as greater pains are taken with him than almost any other animal. If it is desired to raise a breed of great strength, it will not answer the purpose to put a great, stout, large boned mare to a horse equally strong, as the colt will turn out to be inferior to both parents. An experienced breeder will select a

mare for the horse much inferior in strength, but possessing some other excellent qualities. The offspring will then resemble the horse, or possess the good qualities of both parents. It is well known to farmers, that if a poor, indifferent looking mare is taken to a fine, stately horse, the colt will uniformly resemble its male parent. Farmers are aware of this fact, but probably never gave themselves the trouble to enquire into the cause. All men can observe occurrences, or effects, but few are at the trouble to trace them to their origin.

The remark that we have applied above, as regards the strength of horses, will also apply to any other quality that might be named. If the temper of the horse is remarkably docile, it is not a good mode of acting to take a mare to him of a mild disposition. She ought rather to be fiery and quick, and the temper of the offspring has a better chance of being modified accordingly. An experienced breeder can generally discover at a single glance those mares that are calculated to make the best breeders. Long practice in their profession has enabled them to do this; but their knowledge extends only to one particular, and has no relation to the qualities of the offspring. That particular is a peculiar form and texture that is not too firmly knit, nor too loose; but possessing a happy medium. Such mares are not so liable to accidents during the time of foaling, nor any time previous.

It would be superfluous in us to enumerate any more particular qualities in horses, as these will be sufficient to elucidate our views. There is one law, however, relating to consanguinity, upon which we will make a few remarks. Its effects in regard to the human race have already been shown; and the existence of the same law can be clearly traced through all the various races of domestic animals. It appears to us that consanguinity is not sufficiently attended to by farmers in the raising of animals. A horse that remains for a series of years in one neighborhood for the purpose of receiving mares, as is frequently the case, must occasionally have his own offspring brought to him; which circumstance would have a great tendency to deteriorate the race. This, however, cannot happen so often with the race of horses as it must with cows, sheep, &c. Farmers generally recollect the parent of their foals, and it is only in the event of their selling them to their neighbors, that such an occurrence might happen. We are here speaking on the supposition, that farmers are aware of

the evil tendency of such practices. We are afraid, however, that the great majority of agriculturists are quite unconscious of any impropriety in so acting. A few, indeed, are aware that the males of all animals ought to be changed frequently, because they have ascertained that the race is improved by crossing. But they seem never to have imagined, that by associating animals together nearly allied in blood, the breed will degenerate. It is sometimes the case with farmers, to keep a whole litter of pigs together—boars and sows, along with their female parent, and allow them to breed in this manner. This is a very pernicious practice, and the stock must speedily run out. The males of all animals ought to be changed as frequently as possible, and their places supplied from a considerable distance, so that there may be less chance of having their own progeny brought to them. A bull is often reared and kept several years in the same neighborhood, and has cows brought to him promiscuously from every quarter. This practice, if persisted in without crossing, must speedily lead to the decay of the race; for a bull in such cases must often have not only his own offspring, but even his own parent brought to him. The same is the case with sheep and hogs, and even our domestic fowls, which, on account of their young coming very soon to maturity, ought to have the males changed once a year. A horse kept for breeding ought to be changed every three years, and a bull every two years.

If these hints were attended to, we are confident the breed would be greatly improved, and there would be fewer complaints of their stock running out. It is very remarkable what a decided improvement takes place after the introduction of a foreign male into any kind of domestic animals; a visible and decided improvement quickly takes place. I have heard it repeatedly remarked, that there are frequent instances of wild and domestic animals keeping company, and the young of such alliances were decidedly superior to those where both parties were domestic animals.—If any person chooses to prove the truth of these remarks, let him introduce a new and foreign cock into his brood of hens, and he will soon perceive a superior race of chickens growing up. No wonder that our farmers have a puny, degenerate race of fowls, when they keep a cock of their own raising from year to year, and pay no kind of attention to them whatever.

The evil effects resulting from animals of different sexes uniting

.ogether are more apparent and decided in the human race than in the lower orders of creation. In those, blindness, lameness, and general deformity are visible in the offspring; and if this is not the case, there is great imbecility both mental and physical. In these, the progeny is not often deformed or defective in organization; but the decay of energy and spirit, and all the good qualities for which the race are distinguished, are very obvious.

We will now enquire by what means the various races of wild animals are preserved from degenerating. They receive no assistance from the art of man, and derive no benefits whatever from his care: so there must exist something that prevents the decay of the kind. In perusing Natural History, we will find that during the sexual season with brute creatures, the males have fierce and bloody fights, and the strongest and most robust of them must of course acquire the ascendancy. Here, then, is a law that is very general, that the strongest and best males should be preserved, while those less so should be destroyed. In fact, this law would be enforced by some of our domestic animals did not the art of man prevent it; and in fact, it takes place with our domestic fowls; for if two cocks are raised from one brood, they both fight until the stronger destroys the weaker. Captain Parry says, in his Journal of his voyage to the Northern Seas, that in numerous herds of Musk oxen that they witnessed, they never could discover but one or two males with a herd. From this he inferred that the males destroyed one another in their fights for their favorites. During the aforesaid seasons, some females depart from their tribe and remain absent several days, no doubt seeking a male at a distance. This mode of acting is what may be called crossing the breed; so the art of man is only an imitation of nature. Sometimes a female, as is the case with wolves, will run off with two or three males, who engage in desperate struggles until they kill one another; or sometimes the she wolf will steal off with her favorite while the others are asleep. This is certainly exerting something like a choice in the female.

During the sexual seasons, all animals are in the habit of departing to great distances in search of males, and no doubt, in this manner the breed get mixed, and the race preserved in its pristine purity.

The habits of solitary animals are not so well described by naturalists, as those that are gregarious; but in all probability the

females of those go likewise to a distance to seek for males, and consequently there would be less danger of the kind being deteriorated by nearness of blood. Wild animals and fowls, particularly those that are solitary, never keep company with their young after they are able to provide for themselves, but on being approached by them they bite and otherwise punish them severely.

There is one law existing amongst fowls that bears so close an analogy to the institution of marriage amongst mankind, that it deserves particular notice. We allude to the pairing of birds. Each bird chooses its own partner; they both unite in building a nest, take turns in hatching the eggs, and while the female is setting, the male, (if a singing bird,) soothes and comforts her with his song. It is very probable that these birds do not select their partners at random, but are guided by taste or instinct; and this instinct would not lead them (no more than it does in the human race,) to choose their own offspring or parent.

We think we have now clearly shown, that it is the design of nature that persons or animals nearly allied in blood ought not to be united, and that it is this law that preserves the race entire.

We believe the law relating to consanguinity can be traced no further downwards in the scale than the animal creation. There is nothing analogous that we can perceive in plants or minerals. Two metals uniting will beget a third totally unlike both parent substances; such is the case with zinc and copper, which produces brass. Two chemical substances uniting, as an acid and an alkali, will produce a neuter salt, partaking of the nature of both parents. Thus affinity resembles love in the animal species, and is perhaps the only operation that can with any propriety be termed intelligence in inorganic matter.

A plant always produces seed, and this seed being sown, becomes uniformly like the parent stock. There is here no trace whatever like relationship. It is true there is some analogy in the mode of propagating the kind, both in plants and animals, and it is on this circumstance that the Linnæan System of Botany is founded.

We shall not extend our arguments any further on this subject; but shall conclude by making a few observations on the nature of plants; observations that are not generally known to farmers, and some of importance that have entirely escaped the observations of agriculturists. We have already remarked that the mode by

which plants are propagated bears some resemblance to that of animals. As most farmers know nothing about the system of Botany we will explain that subject a little, and will select the Indian corn plant as an example. Before this plant comes to maturity it spindles out, and this is what is commonly called its top.—This top as it comes to maturity elaborates a kind of dust or pollen. The next process is what is called the tasselling of the plant, which consists of a bunch of long, slender filaments. The pollen or dust from the top is shed down upon these, and passing along the filamants, they become impregnated and produce seed. This is what is called, in the language of Botany, the female part of the plant, and the top is called the male part. Without this operation there would be no seed produced. Farmers ought on this account to be very careful and not cut the tops of their corn too early, as they may do it material injury. All plants whatever perform the same operation; but some have the parts differently situated. A great variety of herbs and plants have the organs that are analogous to the top and tassel of Indian corn all in one flower cup; while other plants and trees produce male flowers on one and female flowers on another. In the making of hay, agriculturists ought to observe when their grass begins to blow, and they ought to be careful not to cut it down until after it has blossomed; for in that case it will contain too much juice, and would be liable to get brittle and musty; neither should it be kept growing until the seed is perfected, as the stem would then be too dry and hard. Great damage is often done to wheat during its period of flowering, if it be very wet weather, as the rain dissipates the pollen of the flower and diminishes its strength, and also prevents in some degree its shedding, so that the operation is prevented altogether or performed in an imperfect manner, and a diminished or false kernel is very often the consequence. Farmers are very much perplexed in Great Britain in consequence of wet weather; but in America it is much less frequent. I have frequently observed in the former country that some plants and herbs of a wild nature come to blow with great profusion and beauty, but produce no seed; while in America, there are but few plants but that produce seed, although they do not blow with such profusion.—There can be no doubt but this is partly owing to the superabundance of wet weather in Britain and dry weather in the U. States.

The most important occupation of a farmer relates to the

changing of the soil for all kinds of grains, vegetables and grasses. Wheat requires a change of soil oftener than any other kind of grain. Few soils can produce over two or three crops in succession. Of all the cultivated herbs, we believe the family of grasses can be produced on the same soil oftener than any other. It is the opinion of all agriculturists that the cause of this circumstance is the impoverishment of the land on which they are raised. This, we contend, is not the fact; for philosophically speaking the ground is not impoverished; it is only rendered unfit for that particular kind of grain and its ability to produce other kinds is as good as ever. The real cause we consider to be this; every kind of plant whatever, requires a peculiar substance for its existence; as for instance, wheat requires a particular nutriment, oats another of a different kind, and potatoes a third. When the plant exhausts the substance necessary to its existence, it dies and another kind of plant succeeds, and that in its turn exhausts its peculiar substance and also dies, and so on *ad infinitum*. This is the process of nature, and the art of man is only an imitation. It is true he can impart the substance to the land by manuring it well, and in this consists the superiority of man over nature.

When a piece of land is reclaimed from the forest, it is called new, while strictly speaking it is as old as any other. It has supported a growth of trees for a great length of time, and they take as much nourishment from the soil as any other growth. Some, indeed, strike their roots deep into the ground and draw nourishment from a great depth, but others again, as the beech, for instance, spread their roots near the surface. The land so reclaimed may, indeed, be called new to a particular kind of grain, but not new of itself, except it was reclaimed from the ocean, or a river, upon which nothing had grown. Hence the needless lamentations of the great agriculturists of Europe, about their land being old and exhibiting symptoms of being worn out, while in fact it may be as capable of producing good crops of that particular kind of grain to which it has not been accustomed, as that land just reclaimed from the forest.

The order of nature in the succession of plants, as we have observed it in the state of New-York, appears to be this: Grass will grow affording a succession of crops, for about ten years; it then begins to decay and is supplanted by the strawberry plant; these last after a while give way to the raspberry and other kinds of

briers, and these at last have their places usurped by trees of the hard wood kind, such as maple, beech, &c. It would seem from history and the recorded observations of authors, that these last are supplanted by pine and others of that family, and that after the pine has exhausted its substance, the soil is resumed again by hard wood trees.* I have been informed by several farmers residing in the pine district in the neighborhood of Albany, that there are more hard wood trees growing in their pine lots than was formerly the case, and this circumstance they aver, has occurred within their recollection.

These statements explain the circumstance why there are large tracts of country covered with pine, that according to history, was formerly occupied by trees of a hard wood kind. Mr. Mudee, in his book entitled, "Hints to the observance of Nature," says at Fort Hind, (a place in Scotland,) there grew a field of pine, larch and others of that nature, which had a very healthful, growing appearanee and promised to do well. In a short time they began to decay and speedily withered, and in a few years not a vestige of them was to be seen. This circumstance excited the astonishment of the author, for which he could not account. But the circumstance, in our judgment, is easily explained. They speedily exhausted the substance in the soil necessary to their growth and then withered and fell to pieces, and probably the soil possessed only a small quantity, which they speedily exhausted.

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* It is a general complaint among farmers, that their plum trees decay after bearing fruit four or five years, when formerly they used to thrive for fifteen years. The cause of this is very evident: instead of procuring plants or seeds of a new species and planting them in new ground, they allow the sprouts of the old decayed tree to spread and grow, which of course, according to the principles that we have described, cannot bear fruit for any length of time, as they have exhausted the substance of the soil necessary to their growth.

The following letter was sent to the Editor of the Madison Observer. As we conceive it to be of some use to farmers, we insert it here in the same form in which it was sent to the Editor.

Messrs. Editors:—Perceiving from an advertisement in your paper that a Society has been formed for the highly laudable purpose of promoting Agriculture, we take the liberty of sending you these few lines, hoping the suggestions they contain may be of some benefit to the Society.

As the making of Butter is an object of considerable importance to farmers, and wherever a Dairy is kept, any hints that may have a tendency to improve its quality must be of some benefit. We have heard great complaints from dairy women about their milk getting sour during a thunder storm, although perfectly sweet a short time previous. The following plans will prevent this in a great degree. All the pans containing the milk ought to be placed upon non-conductors of electricity, such as blocks of baked wood, pieces of glass, or wood that has been well painted and varnished. These are articles most easily provided. Beeswax, feathers, and woollen cloth are also non-conductors, but inconvenient to be used. All these articles will insulate the pans and prevent the electric fluid from entering, which is the cause of acidity; or is in fact, the principle of acidity itself. We think we have clearly shown this to be the case in a pamphlet that we published sometime ago. If glass basins were substituted for tin pans, the plan would be better still, and there would then be no necessity for the practice suggested above; the glass would preserve the milk much longer sweet than pans, and the acid would have no effect upon it. We are not aware of any acid that has the least impression on glass, except the fluoric acid. All iron vessels, or vessels compounded of iron, as tin pans are, attract the heat very readily, and of course sour the milk; and such is the affinity of iron for an acid that we doubt much if it is ever washed out entirely. Iron vessels, we are confident, are the very worst that could be used for the purpose; they are even inferior to wood.

There is one objection against glass basins; they will be liable to crack and break by scalding. But their many good qualities overbalance this defect, and in steady, careful hands, this also might be obviated. We have known some people wash common glass bottles for a great length of time without doing them any injury. The glass basins might be made of the same material as common black glass bottles, and the advantages in their favor would be these: they would retain the milk longer sweet; they would be very easily washed, as the acid never enters the glass at all; they would last much longer than tin pans, as the acid soon corrodes the latter. The original cost of a glass basin, we should think, would be but very little more than that of pans. Should this plan be adopted, we should think it would prove a considerable improvement. An experiment might easily be made on a small scale, as it would only cost a dollar or two, and as such we respectfully recommend it to the attention of the society.

Agriculture