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HORSES.

Dynamic Heredity.

"The qualities of any horse depend upon a complicated variety of circumstances. Each animal originates in two germs which unite and enter a matrix, where they develop into a young animal of the parent species. The formation of such an animal resembles, in many respects, the making of a casting in bronze or iron. . . . Although small differences exist in castings made from the same pattern, the difference are, usually, negligible quantities. There come times, however, when great differences occur in spite of all care. A portion of the sand may cave in after the mould is closed, etc., etc. The same general results occur in the production of animals. Two germs from the same parent are not exactly alike any more than two seeds from the same plant are alike. The union between two germs from the different parents is not always the same. And the kind and quality of nourishment which two individuals receive during the period of their gestation differ. These differences in conditions are hidden within the processes of reproduction, and are largely, though not wholly, beyond the control of the breeder. They are the causes of the slight differences which we observe in brothers and sisters, and they apply both to the structural characters, such as size, color and conformation, and to dynamical characters, such as intelligence, strength and activity."

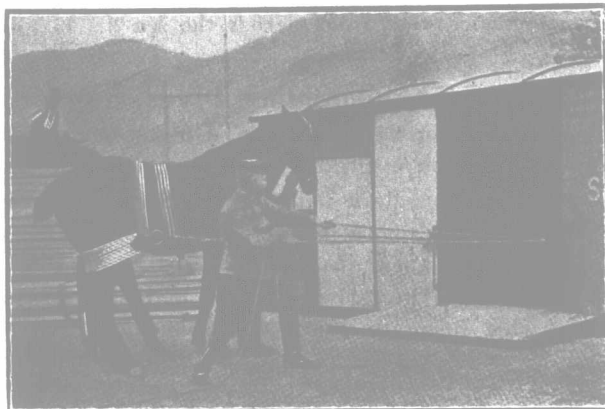
So writes Professor Redfield in the Horse World, regarding a case bearing upon a certain theory advanced by him accounting for the transmission or inheritance of such intangible qualities as speed, endurance, intelligence, etc. An elaboration of the theory is found in the subjoined reply of the author to a critic. The reply treats specifically of the parts age and development play in "The Dynamic Theory," as it is termed. The practical point involved, in a consideration of this subject, is the advisability of working the parents in such a way as to develop in them the qualities, whether of speed or power, which it is desired to have transmitted in high degree to the

progeny. While the Professor's theory is somewhat abstruse, it may serve as a hypothesis from which research may proceed to the attainment of definite knowledge. To quote directly:

"In the dynamic theory development is not measured by the race-track standards. The degree of speed which a horse exhibits is only a partial indication of his development from the biological standpoint, which is the standpoint that involves the degree of his inheritance. George Wilkes, trotting in 2.22, was vastly more developed than was Axtell, trotting in 2.12 as a three-year-old.

"A horse may reach the limit of his speed at six or eight years of age, and no further training can make him go faster. In such a case we say that the horse has reached the limit of his development, but for breeding purposes he has not. To illustrate, suppose that a horse reaches his highest possible speed at six years of age, and then is retired and has no further exercise beyond what he gets in walking around in a paddock some forty or fifty feet square. At the end of a year he will be decidedly soft. But suppose that instead of retiring him as soon as he has reached his speed limit at six years of age, he be kept going regularly until he is sixteen. Then if he is retired he will also get soft, but he will not get soft so rapidly nor to so great an extent in a year's time. The extra ten years of training and racing have hardened and toughened his muscles so that their dynamic qualities persist longer when he comes to his idle time.

"In breeding, the germ which produces the new animal has been nourished by the parent from which it comes and partakes of the dynamic qualities of that parent. During the period of gestation this germ rests for a year, just as a horse would rest when confined in a box stall or a restricted paddock, and during this resting period it becomes dynamically soft, just as a horse does from a similar long rest. The degree of this dynamic softness in the foal measures its



Device for Loading Horses in Cars.

future qualities as a performer. If the dynamic qualities at the beginning of this resting period were low, then the foal will be dynamically very soft and of small value as a performer. If they were high and firmly fixed by long-continued activity, then there will be only a small degree of dynamic softness, and the foal will be valuable as a performer.

"By an extended tabulation it is learned that more than one-half of all foals are got by sires before they are nine years of age. It follows from this that the average time for three generations is less than thirty years. Comparing this with our 2.10 trotters, it is seen that all but a very few were born a long time after their great-grandfathers. In looking at those few which were not born a long time after their great-grandfathers, we find that they come from lines of trained or raced sires, or else they are not stallions. In this connection it is proper to note that the performing qualities of stallions are to be measured from their sires, and that the performing qualities of mares and geldings are to be measured from their dams. Lou Dillon is from an eighteen-year-old dam, who was the daughter of a mare from twelve to sixteen years old, and her sire was out of a nineteen-year-old mare. All of these were hard-worked road mares."

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"A rolling stone gathers no moss," runs an old proverb. Quite true, but the moss is not just what we're after. If some of us would do a little more rolling (travelling and observing) there might be fewer mossbacks.—[One of Them.]

Joint Evil in Foals.

This is an ailment that has been frequently referred to in the columns of the "Farmer's Advocate" during the past few months, and the only excuse for taking it up again at this late season is the seriousness of the malady and the fact that probably 75 to 90 per cent. of the losses by death of foals, calves and lambs may be traced to this affection, and there may yet be some readers who have not noticed the latest theory of the origin of the disease and the advice given as to its prevention and treatment. The following from the pen of Dr. George Fleming, an English veterinarian, is, perhaps, as clear a treatise on the disease as has been given:

"It is only in recent years that the true pathology of the disease has been ascertained. It is really due to the introduction into the blood of putrid matter derived from a decomposing clot of blood in the remaining portion of the navel string still adherent to the young creature's body at birth. Certain conditions of the ruptured cord would appear to favor the reception of the germs of putrefaction, so that what is known as 'joint-evil' is in reality a septic blood disease, manifesting itself locally in the joints, none of which are exempt from attack, though those of the limbs are by far the most frequently involved, such as the knees, hocks, stifles, shoulders and hips, and also the smaller joints of the legs.

"The animal is usually attacked a few days after birth. It becomes dull, and sucks less than usual, but perhaps the earliest symptom in the case of the foal that attracts attention is stiffness or limping in one or more legs.

"The progress of the disease is very rapid, death occurring in some instances in twenty-four or forty-eight hours, but the average duration may be from two to three weeks, or, in rare cases, six weeks to two months. It has been noted that about 70 per cent. are dead within three weeks after birth. Recovery is somewhat unusual, death being the usual termination.

"In such a rapid and fatal disease as this, of course prevention is everything, and, fortunately, prevention is an easy matter, and as simple as it is easy. It consists merely in cleanliness—keep the shred or navel string free from the septic germs and there will be no joint-evil. This implies that as soon as the animal is born this part is to be kept clean, and to make sure, it may be bathed in a weak solution of carbolic acid, or chinosol (1 to 300); or the part may be well dressed with powdered boracic acid. To make assurances doubly sure, it is well also to steep a bit of lint in one of the above-mentioned solutions, place it on the navel, and keep it there by a wide calico bandage passed around the body. In a few days this may be removed with safety, when the remains of the navel strings will be found dry and withered and incapable of infection. When nothing else is at hand, smearing the part with Stockholm tar will answer well.

"As for the medical treatment of joint-evil, there is not much hope of its success. What breeders can do in the way of prevention, and which will prove perfectly efficacious, is to attend to cleanliness in every particular. Clean stables, clean litter, and keeping the navel cord clean and disinfected."

Horse-breeding in Japan.

A despatch from Buffalo, N. Y., says: "A deal was closed last week at the Ideal Stock Farm in East Aurora, Erie Co., whereby the Japanese Government acquired possession of thirty-four horses, to be used for breeding purposes in Japan. The Japanese Government paid \$110,000 for the entire lot, which included four Hackney fillies, two Hackney stallions, seventeen Thoroughbreds, including several stake-winners and eleven trotting-bred stallions. The average price per horse at East Aurora was \$3,529, but the cost of the horses when they are landed in Japan, it is said, will be the highest ever paid for any collection of horses bought by any Government in the world for purely breeding purposes. The animals are to be sent to California by express under the care of special expert attendants, and they are to be sent across the Pacific in a ship especially arranged for their comfort."

The Queen for the Horse.

Queen Alexandra is throwing all her weighty influence on the side of the horse versus the motor. Her Majesty was present at the meet of the Four-in-Hand in Hyde Park last week, and later on at the inter-regimental polo match at Hurlingham. It is an open secret that Her Majesty heartily approved of the edict which drove the motor cars from Hyde Park during the hours when society parades itself in all its magnificence. Queen Alexandra is a great lover of animals, and is jealous of their honor and glory. She is the president of the Ladies' Kennel Club, that institution which Lady Aberdeen has managed to set upon a solid financial basis.