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HORSE-BREEDING
RECOLLECTIONS.

BY
G. LEHDORFF.



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NOTES

ON

BREEDING RACEHORSES.

CHAPTER I.

GENERAL OBSERVATIONS.

THE principal requisite in a good racehorse is soundness, again soundness, and nothing but soundness; and the object of the thoroughbred is to imbue the limbs, the constitution, and the nerves of the half-bred horse with that essential quality, and thereby enhance its capabilities.

The thoroughbred can, however, fulfil its mission only provided the yearly produce be continually subjected to severe trials in public. The only appropriate test, proved by the experience of two centuries, is the racecourse, although its adversaries oppose it as too one-sided, and propose in its stead others of more or less impracticability. The last struggle for victory, in which culminates the exertion of the race, results from the co-operation of the intellectual, the physical, and the mechanical qualities of the horse, the development of which combined power is higher and more reliable than any that can be obtained in the same animal by other means. The combination of those three qualities forms the value of the horse destined for fast work: the mechanical, in respect to the outward shape and construction; the physical, as regards the soundness and normal development of the digestive organs and motive power; the intellectual, or the will and the energy to put the other two into motion and persevere to the utmost. The attained speed is not the aim, but only the gauge, of the performance.

The grand ideal principle which places this test so incomparably higher than any other based upon the individual opinion of one or more judges is the absolute and blind justice, personified in the inflexible winning-post, which alone decides on the racecourse, and the irrefutable certainty that neither fashion nor fancy, neither favor nor hatred, neither personal prejudice nor time-serving—frequently observable in the awards at horse-shows—has biassed the decision of hotly-contested struggles as recorded in the Racing Calendar for the space of one hundred and seventy years. This it is that gives to the English thoroughbred horse a value for breeding purposes unequalled and looked for in vain in any other species of animal creation.

I apprehend great danger from the endeavor to improve horse-racing—like any other human institution, not without its shortcomings—by corrective measures, which might interfere with that principle of blind justice; its fundamental laws would thereby become undermined, and the building, which it took centuries to erect, fall to ruins.

Nothing but the framing of the racing propositions ought to serve as indicator of what is required of the thoroughbred; every state in need of an efficient cavalry should be careful how to place authority for that purpose in experienced hands, and see it used leniently, but on clearly-established principles. As for the rest, it should be left to the immutable laws of Nature to gradually mould, in outward form and inward composition, that horse which best answers those requirements.

The centre of gravity in all trials of strength and endurance is to be found on the racecourse: the straighter the running-track the more infallible the result; the longer and steeper the gradient the severer the test.

As to the distances to be run over, I would recommend for three-year-olds and upwards from one mile to two miles at the scale of weights adopted in the rules of racing at present in force in Prussia, which is about ten pounds above English weights.

Two-year-olds should—due regard being had to the time of

year and the state of the ground—never run less than four and a half nor more than seven furlongs; shorter races ruin their temper more than those over longer distances, in which the pace from the beginning is not so severe nor the start of so much consequence.

Whoever has had frequent opportunities for observing in a racing-stable the development of two-year-old horses will, as a rule, have noticed an evident change about the middle of summer. They quite suddenly lose their foal-like appearance and become young horses. In general this alteration takes place at the same time as the shedding of the two middle teeth; all at once the youngsters are better able to resist the wear and tear of training and improve as the work agrees with them. Of course this change does not occur simultaneously in all two-year-olds, although they may be equally well reared; nevertheless I have noticed at this period a greater degree of evenness in the development of late and earlier foals than seemed warranted, considering the difference in their respective ages.

As, however, at midsummer the ground frequently is too hard to admit of good work being done with two-year-olds without danger to their legs, I would advocate that the principal races for horses of that age should not take place before the autumn, when owners who have judiciously saved their young animals during the summer may indemnify themselves through richer prizes than were offered for competition in the earlier part of the season.

In principle I do not disapprove of running two-year-olds; on the contrary, I take it, if done in moderation, to be an unerring means to ascertain the soundness of the constitution. From midsummer—say first of August—I look upon such races, according to the degree of development in the individual horses, as useful; care must, however, be taken not to overdo it, especially with fillies, whose temper is more excitable than that of colts. I have generally noticed that mares which creditably stood the test of two-year-old training also proved themselves superior at the stud. Taking, for instance, the most successful brood-mares during the twenty years from 1860 to 1879,

—that is to say, the dams of the winners of the four classic races, Two Thousand Guineas, Derby, Oaks, and Leger, of that period—we find, upon examination of their earlier career, that of those eighty, or rather eighty-two, mares—two races resulted in dead heats, which were not run off—only thirty did not run as two-year-olds. That early ripeness in a racehorse may be regarded as a proof of health, even with regard to later usefulness at the stud, is further corroborated by Little Lady, the dam of the Two Thousand Guineas winner, Camballo, having carried off the Anglesey stakes for yearlings at Shrewsbury in 1859—the only race of the sort ever run. I mention this circumstance, however, by no means in support of yearlings' races; on the contrary, I look upon them as senseless institutions, which, fortunately, twenty years ago were abolished in England, the only country where they ever existed.

The severe training and repeated trials of yearlings, moreover, I take to be dangerous in Germany, where the winter generally sets in and puts a stop to all training operations about the middle of November. In England, and especially in France, where, as a rule, yearlings can be tried about Christmas-time, it may be done without detriment to their health; the more so, as in those favored climates their development is less retarded by the cold, and young horses acquire earlier than in Germany the power which is necessary to bear the strain of training.

I consider the test by hurdle-racing, and especially by steeple-chasing, rather one of acquired cleverness than of consequence for breeding. The principal race across country in England, the Liverpool Grand National, has repeatedly been won (for instance, in 1863 by Emblem, and in the following year by her own sister, Emblematic, by Teddington out of Miss Batty) by animals not possessed of sufficient staying power to run a mile creditably in even moderate company. This applies more particularly to the younger sister, Emblematic. It is not so much length of distance that constitutes a criterion of endurance as the pace at which it is run. In a steeplechase this is generally so slow that a horse able to race half a mile is never for a mo-

ment extended ; if with such speed he combines a quiet temper, so as not to take more out of himself than is required by his rider, he may, in an ordinary race of that description, gallop a long time without being distressed, and, having thus husbanded his strength, have sufficient left in him to enable him to win the race.

Jumping is more a question of agility than of power, except in young and unpractised horses, that tire more through their awkwardness in leaping than through galloping ; schooled chasers, however, are required to put forth additional energy only when the race is run at an inconveniently fast pace difficult for them to continue.

To the practised jumper, on the contrary, the leap over a fence of not extraordinary proportions, if taken at a moderate pace, rather affords him time to recover his breath than causes the waste of additional strength. Since the speedier horse jumps at a slower pace than the slower stayer in proportion to their respective degrees of speed, the former, equal cleverness in jumping taken for granted, must necessarily consume less strength than the latter.

The steeplechase course, therefore, favors, *cæteris paribus*, the speedy horse as compared to the slower stayer, and practice daily shows us instances of horses that as non-stayers were useless on the flat become successful chasers, and, *vice versâ*, stayers on the flat which over a country fail to gain distinction.

Intending regenerators of racing on what they consider more rational principles, therefore, show a lamentable ignorance of the nature of the horse when advocating the adoption of the steeplechase as the test by which to gauge the capabilities of the thoroughbred, and would, if they succeeded in their endeavors, attain only the exact reverse of what they aim at. I would recommend those who still insist that steeplechasing is more reliable than racing on the flat for the purpose of ascertaining power and soundness in a horse to look round the large steeplechase establishments in England, France, or even Germany, and examine the legs of the horses kept for that kind of work. The numerous patched-up screws that run and

win races year after year would not stand for a month the preparation for a flat race, much less the race itself; and, finally, as to the excellence at the stud of stallions celebrated as steeplechasers, experience teaches that none such exist who subsequently made a name as sires of racehorses, whereas stallions that on the turf belonged to the first class frequently sired superior chasers. As a touchstone for mares intended for breeding purposes, steeplechasing, independent of other considerations, is unsuitable, inasmuch as horses are qualified for such work at a more advanced age only. Whereas, therefore, the brood-mare is kept from her vocation longer than is desirable in the interest of breeding, her fitness as a matron suffers proportionately by long-protracted training.

As far as I know, there is in the whole stud book not a single steeplechase mare that has made for herself a great name as the dam of winners on the flat.

A cardinal point, which continually maintains and regenerates the thoroughbred as a source of power and soundness, and places it, with regard to certainty of propagation, far above all other breeds of the equine race, is the circumstance that the thoroughbred is tried before it is sent to the stud, whereas of the half-bred such individuals only as are unfit for breeding purposes are put to the test. Half-breds at the stud, more especially stallions, from the day they are foaled to that of their death, lead an existence of sluggish idleness, generation after generation, without interruption. However useful cart-mares may be in the plough or other kind of slow work, a half-bred brood-mare is never subjected to a real trial of her capabilities, and, as an extremely rare occurrence, such a mare returns to the stud on account of an excellence accidentally brought to light; but if, however, done so, it will probably be too late for any use for breeding.

What would become of the usefulness of our half-breds, what of our cavalry, without a continuance of crosses with stallions of pure blood, bred for stoutness and chosen on account of their proper excellent qualities, so as to constantly renew the necessary steel in the breed?

The thoroughbred is in a much lesser degree the produce of any particular locality than the cart-horse or even the half-bred; it is rather one of an artificial nature, better able to withstand external influences, and capable of being transplanted to all parts of the globe and continued without essential deterioration as long as the elementary principle is not lost sight of—that is to say, as long as its capabilities are tried in public, and as long as the best-tried animals are in preference used for reproduction. The thoroughbred stands to the half-bred in the same position as the plantation tree to the wild tree of the forest: the former thrives in any locality where trees grow; the latter feels at home only where it first struck root, for, having never been transplanted, it wants those fibres by means of which to take hold of and draw sustenance from the new soil.

I do not, however, mean to say that thoroughbred mares are in no way influenced by translocation to other countries and climates; on the contrary, I am of opinion that greater safety will be insured by breeding from mares bred at home than from imported ones. I merely assert that in the thoroughbred the power of resistance to local and climatic influences is infinitely higher than in the half-bred, etc.

For this reason the establishment of a stud for thoroughbreds in Germany is less difficult than one intended for the baser breed, provided the locality be adapted to the purpose and the requisite means available. I do not mean to say that faultless brood-mares of the first class are easily obtainable in England; but since the price of such mares is eventually almost unlimited in comparison to what half-bred brood-mares will command in the market, and as, in numerous instances, owners of eminent mares which did them good service on the turf prefer breeding from them in public establishments to selling them to the more extensive breeder, in England the fluctuation in the thoroughbred material is influenced in a higher degree by the change of circumstances than that in our half-breeds. The chances of a foreigner making a favorable investment, therefore, rise in proportion, provided he is at home in the Racing Calendar, the

Stud Book, and last, but not least, the personal concerns of English breeders.

This brings us to the practical question, What must be the aim of the breeder in the selection of brood-mares; or, as applied to us, what principles must guide us in the importation of brood-mares from England or France, or when choosing from those bred at home?

I believe, if strictly adhered to, the following hints may be depended on as offering the greatest amount of safety in the choice of brood-mares:—

1. To buy, without exception, mares from the best strains of blood only, more regard being had to the dam even than to the sire.

2. To bear in mind that a good pedigree alone is not sufficient, because the best-bred mare may be unsound (I thought that by the acquisition of the own sisters to Gladiateur and Vermout, although neither had done anything remarkable on the turf, I had made sure of an enormous success; but both turned out unsound and worthless at the stud); to be, therefore, particular to buy from the best strains of blood such mares only as have

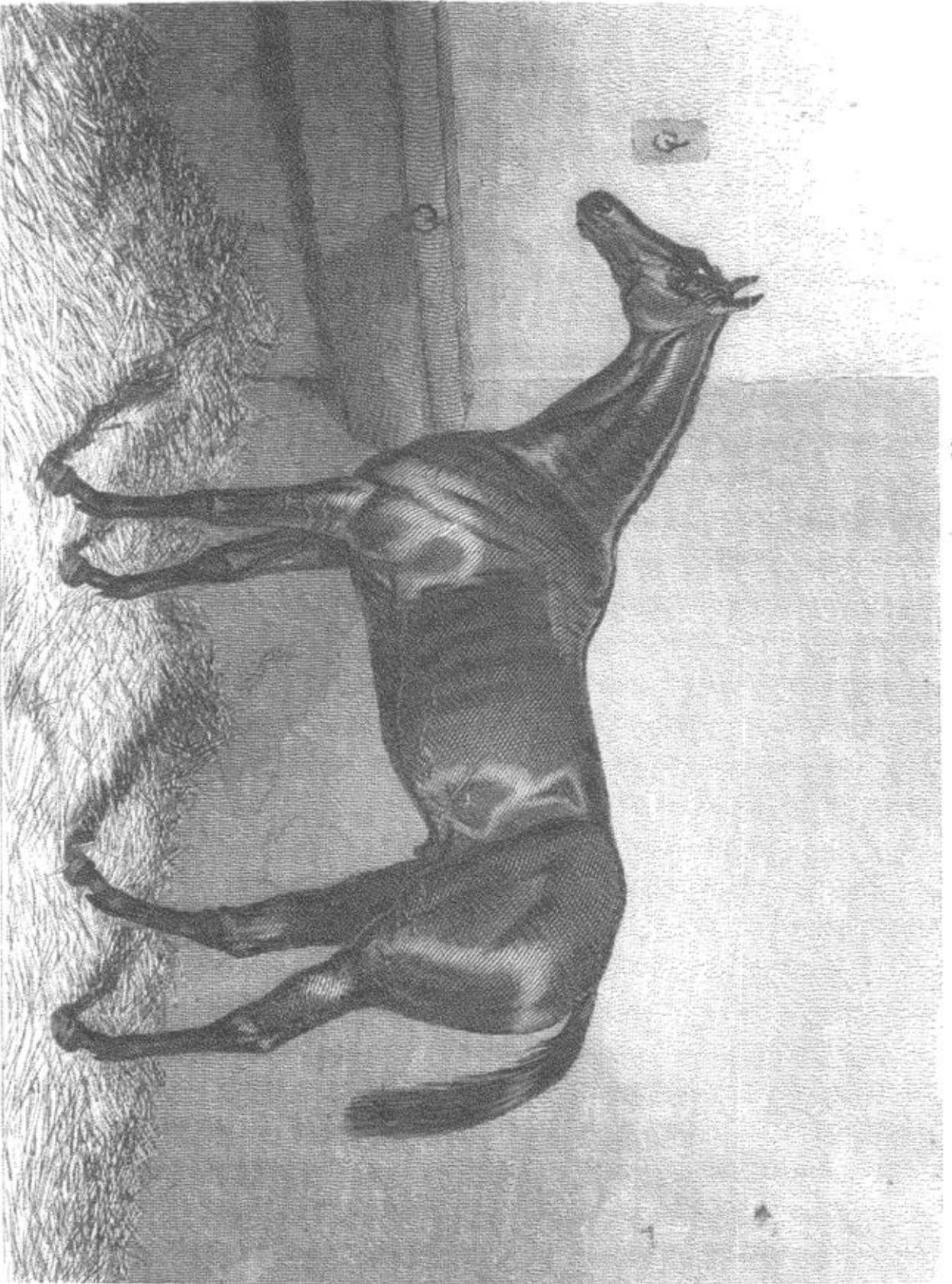
- (a) Themselves exhibited some form on the turf, and only on account of insufficient age not yet been tried at the stud, or have
- (b) Already bred winners, and thereby proved themselves sound dams and fit to propagate the excellent qualities of their respective families.

As a matter of course, of the mares coming within the limits of the foregoing conditions the most powerful and truthfully made will be preferred; but no consideration of the exterior, however prepossessing it may be, if not accompanied by those requisite attributes, should be allowed to prevail—for there is no more baneful, no more certain, hereditary evil than unsoundness—especially rheumatic or scrofulous disorders.

I am well aware that with regard to No. 2, and especially subdivision (a), I shall meet with vehement opposition, and that a number of instances to the contrary will be cited. They

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High Hill, Newmarket



Standard?

Winner of the 2000 G. Stakes, the Derby, and St. Leger, 1865.

E. H. K.

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are not unknown to me, but I adhere to my opinion for the following reasons:

When I require in a young mare intended for stud purposes individual performances, I do not mean to say that I would not buy one that had not, on a given number of occasions, been first past the post.

Although I value racing form, as such, very highly, yet do I consider it of still greater importance that a mare should have proved, by repeated running, even if not attended by eminent success, that no unsoundness of limbs, no organic disease or defect of temper, prevented her bearing the strain of training and racing.

I know perfectly well that in numerous instances thoroughly sound animals with a good temper and all the necessary qualities for racing, through no fault of theirs, but in consequence of a mere accident, have been kept from appearing in public (absolute certainty in that respect can, however, only be acquired by personal superintendence of their training); but I know equally well that in nine cases in every ten unsoundness, weakness, or temper has been the cause. It is advisable to rely on the Racing Calendar alone, and not believe a word of the fictitious marvels told of the innumerable mares without public form, and which tales are spread about by the owners of those animals. If only one-tenth of them were true there would have been every year at the least a dozen winners of the One Thousand Guineas, the Oaks, or the Prix de Diane—if one accident or another had not happened.

The affirmation on the part of owners that the mare for sale had never been trained, was not even broken, likewise frequently differs from the truth, and is solely intended to make the purchaser believe that she would in all probability have done wonders if she had been put into training. But, in reality, this ought to be considered as a drawback, as, those of a few eccentric breeders excepted, nearly every thoroughbred in England, if sound, well developed, and sufficiently well bred, is sent to be trained; only when too small, unsound, or cripples are they thought not worth the trouble and expense, and con-

sequently kept at home at grass. I am deterred by the expression "never been in training" or "never been broken," when applied to a young mare, even more than by an injured leg, which tells its own unvarnished tale of the reason of her non-appearance in public. The wisest plan is to keep aloof from both until they have by their progeny proved their soundness as dams.

A look round the select studs of owners who breed their own racehorses in England and France (Lord Falmouth, Duke of Westminster, Mr. Lefèvre, etc.) will show that nearly all their brood-mares have themselves been winners or are the dams of winners, with the exception of only now and then a mare of their own breeding, or from their racing-stables, sent to the stud on trial, of whose internal soundness the owner is perfectly satisfied, and who has only in consequence of an accident been prevented from running on the turf. Mares with high-sounding pedigrees, but without any pretensions to individual goodness, form the staple of a good many studs breeding for sale over which a few matrons of sterling worth—bought, if possible, for large sums at public sales—serve to throw a kind of halo. Mares without fashionable pedigrees or previous excellence, which in England are to be had by the dozen for less money than that for which half-bred ones can be purchased on the Continent, are owned by needy people, who wait for a lucky chance, or by second- and third-rate breeders, who speculate on selling them to the flats from abroad.

Sir Tatton Sykes, quantitatively one of the most extensive breeders of modern times, sold only his colts, while he allowed the fillies to grow up wild and untried, and kept those he liked best to breed from. The upshot was a stupendous failure, which must have ruined any man less wealthy than the Yorkshire baronet. He had peculiar ideas, and, I think, believed in the soundness of his principle. Had it been any one else, I should have put him down as a very knowing manager; for in a stud breeding for sale a considerable saving may no doubt be effected by substituting for brood-mares of well-established reputation, that cannot be had without the outlay of large

sums of money, young and perfectly untried animals which have cost very little to keep and nothing at all to train. The only difficulty is to make the public, or even a small section of it, share the apparent belief of the owner and induce them to pay for the yearling colts in proportion to their credulity.

If Sir Tatton had been obliged to put all his colts into training, instead of disposing of them to the highest bidder, even for a mere song, as was toward the end the case, he would, I am convinced, in spite of his eccentric obstinacy, soon have changed his mind and principle of breeding. I could continue the subject, and make similar remarks with regard to some studs of the present day largely breeding for sale from untried mares. It is thus not surprising to see such breeders on speculation amongst the foremost champions of that theory. Any attempt to get from the same men—who invariably have a large stock of rubbish on hand for sale to the unwary stranger—one of those mares with racing performances (of which, as I explained before, they keep a small number), will be met with the demand of an absurd price or the stereotyped “not for sale.” Should, however, an exception be made and a reasonable sum asked, it is ten to one that there is something wrong about the mare.

On the other hand, it is evident that in England latterly a wholesome reaction has commenced to prevail; not so in France, where the thoroughbred is at present in danger of suffering from the pernicious wholesale production from untried mares in studs breeding for sale.

In support of the assertions of those fanatics who ridicule individual racing form as not hereditary, and look for the probability of propagation of such qualities in the breed only, without taking into account the propagating individual, Pocahontas (the dam of Stockwell, Rataplan, King Tom, etc.) is frequently quoted as the irrefutable proof of the correctness of their theory. They copy from one another, and rely on the public taking as little trouble as themselves to refer to the Racing Calendar for the old mare’s performances. For the benefit of those who not only look for examples to prove their

ready-made theories, but are anxious for real facts from which to draw instruction, I will detail the racing career of Pocahontas, in order to show that she comes up to my standard of a good brood-mare. Pocahontas, though she was a roarer, by her racing during four seasons proved herself possessed of a good constitution; her form, moreover, was not so inferior as many pretend it to have been. If she had run in races of minor importance, she would probably have had more than one winning-bracket to her name.

Pocahontas, bred 1837, by Glencoe out of Marpessa (dam of Jeremy Diddler and Boarding School Miss), when two years old ran only in the Criterion, unplaced to Crucifix.

As a three-year-old she ran twice, also unplaced: in the Oaks, won by Crucifix, and in the Goodwood Cup, won by Beggarman, in which race Lanercost was second and Hetman Platoff third.

At four years of age she ran three times unplaced: in the Goodwood Cup, the Cesarewitch, and the Cambridgeshire.

In the following year, at Goodwood, she won the first heat of a race finally won by Currier. At Brighton she also won the first heat of a race ultimately won by Miss Heathcote. She made her last appearance on the turf in a mile race heats at Rochester and Chatham, where in a field of nine horses she won the first heat and in the other two ran second to Patchwork.

To see mares celebrated on the turf—like Marie Stuart, Fraulein, etc.—turn out indifferent at the stud may at least partially be accounted for by their too arduous and too protracted racing careers.

Lord Falmouth's mares, whose racing careers invariably close with the end of their fourth year, rarely suffer in a like manner. In support of the correctness of this and other assertions advanced by me, I give the list of that nobleman's entire stud at Mereworth as it existed in 1880. It was composed of the following twenty-four mares:

BROOD MARES AT MEREWORTH IN 1880.

Names printed in black letters are those of winners of one or more of the four classic races—Two Thousand Guineas, Derby, Oaks, and St. Leger.

Bred.	Name.	Pedigree.	Own Performances.				Bred the following Winners.
			Year.	Ran.	Won.	Of which Important Races.	
1858	SILVERHAIR..	By Kingston out of England's Beauty (dam of the winners: Attraction, The Rake).	1860 1861 1862	3 5 3	2 1 ...	Eglinton Stakes.	Silvester. Silver Ring. Periwig. Garterly Bell. Fetterlock. Silvio. Apollo.
1870	SILVER RING	By Blair Athol out of Silverhair (dam of the winners: Silvester, Periwig, Garterly Bell, Fetterlock, Silvio, Apollo).	1872 1873	7 7	5 1	Bretby Stakes.	Ringleader.
1859	HURRICANE...	By Wild Dayrell out of Midia (dam of the winners: Cynricus, Avalanche, Tornado, Sydmonton).	1861 1862 1863	4 8 4	2 3 ...	1000 Guineas.	Stromboli. Atlantis. Atlantic. Cataclysm. Whirlwind.
1867	ATLANTIS.....	By Thormanby out of Hurricane (dam of the winners: Stromboli, Atlantic, Cataclysm, Whirlwind).	1869 1870	9 2	5 ...	Clearwell Stakes. Prendergast Stakes.	Henry II.
1867	GERTRUDE....	By Saunterer out of Queen Bertha (dam of the winners: Queen's Messenger, Spinaway, Wheel of Fortune, Great Carle).	1869 1870 1871	8 11 10	3 4 1	Yorkshire Oaks, Great Yorkshire Stakes.	King Clovis. Childeric. Charibert.

BROOD MARES AT MEREWORTH IN 1880—*continued.*

Bred.	Name.	Pedigree.	Own Performances.				Bred the following Winners.
			Year.	Ran.	Won.	Of which Important Races.	
1860	Queen Bertha	By Kingston out of Flax (dam of the winners: Reginella, Court Mantle, Linsey Woolsey).	1862 1863 1864	4 5 1	1 2 ...	Oaks.	Gertrude. Queen's Messenger. Spinaway. Wheel of Fortune. Great Carle.
1872	Spinaway	By Macaroni out of Queen Bertha (dam of the winners: Gertrude, Queen's Messenger, Wheel of Fortune. Great Carle).	1874 1875	3 13 16	1 10 11	1000 Guineas, Oaks, Nassau Stakes, Yorkshire Oaks, York Cup, Doncaster Stakes, Royal Stakes, New-Market Oaks.	Merry-go-round. Darnaway.
1876	Wheel of Fortune	By Adventurer, out of Queen Bertha (dam of the winners: Gertrude, Queen's Messenger, Spinaway. Great Carle).	1878 1879	6 5 11	6 4 10	Richmond Stakes, Buckingham Stakes, Dewhurst Plate. 1000 Guineas, Oaks, Prince of Wales's Stakes Ascot, Yorkshire Oaks.	
1865	LADY COVENTRY	By Thormanby out of Lady Roden (dam of the winners: Ma Belle, Liddington, Mirella, by West Australian out of Saunterer and Loiterer's dam.	1867 1868	1 6 7	... 1 1		Peeping Tom. Yorkshire Bride. Farnese. Lady Golightly. Placentia. Earl Godwin.
1875	LADY OF MERCIA	By Blair Athol out of Lady Coventry (dam of the winners: Peeping Tom, Yorkshire Bride, Farnese, Lady Golightly, Placentia, Earl Godwin).	1877	2	...		

BROOD MARES AT MEREWORTH IN 1880—*continued.*

Bred.	Name.	Pedigree.	Own Performances.			Bred the following Winners.
			Year.	Run.	Won.	
1874	LADY GO-LIGHTLY	By King Tom out of Lady Coventry (dam of the winners: Peeping Tom, Yorkshire Bride, Farnese, Placentia, Earl Godwin).	1876	8	5	Champagne Stakes, Nassau Stakes, Yorkshire Oaks, Great Yorkshire Stakes, Doncaster Stakes, Newmarket Oaks, Newmarket Derby, II. in St. Leger, York Cup.
			1877	15	10	
			1878	8	2	
				31	17	
1876	PLACENTIA ...	By Parmesan out of Lady Coventry (dam of the winners: Peeping Tom, Yorkshire Bride, Farnese, Lady Golightly, Earl Godwin).	1878	2	1	
			1879	2	...	
				4	1	
1867	WHEAT-EAR..	By Young Melbourne out of Swallow (own sister to Stilton and dam of the winners: Whitebait, Lady Bugle Eye, Nightjar, Ortolan, Germania Merlin).	1869	6	3	Ascot Biennial, Newmarket Biennial.
			1870	9	4	
			1871	4	1	
				19	8	
1874	KITTY SPRIGHTLY	By Rosicrucian or Young Dutchman out of Niké (dam of the winners: Juvenis, Dreadnought, Hydromel, Adjutant, Spring Captain, Best and Bravest, Britomartis).	1876	10	3	
			1877	6	1	
				16	4	

Skylark.
Fieldfare.
Redwing.
Leap-Year.

BROOD MARES AT MEREWORTH IN 1880—*continued.*

Bred.	Name.	Pedigree.	Own Performances.				Bred the following Winners.
			Year.	Run.	Won.	Of which Important Races.	
1875	REDWING.....	By Blair Athol out of Wheat-ear (dam of the winners: Skylark, Fieldfare, Leap-Year).	1877	6	5	Hurstbourne Stakes, Astley Stakes, Convivial Stakes.	
			1878	9	1	Coronation Stakes.	
				15	6		
1876	LEAP-YEAR..	By Kingcraft out of Wheat-ear (dam of the winners: Skylark, Fieldfare, Redwing).	1878	5	3	Chesterfield Stakes, Prendergast Stakes.	
			1879	5	...		
				10	3		
1864	NIKÉ.....	By Orlando out of Ayacanora (dam of the winners: Cachuca, Chattanooga, Cestus), by Bird-catcher out of Pocahontas.	1866	11	3		Juvenis. Dreadnought. Kitty Sprightly. Hydromel. Adjutant. Spring Captain. Best and Bravest. Britomartis.
			1867	9	3		
			1868	6	3		
				26	9		
1869	LILLIAN.....	By Wingrave out of Lady Blanche (dam of the winners: Miss Gratwicke, Parmesina, Zee), by Voltigeur.	1871	7	3	Newmarket Oaks. Brighton Stakes. Brighton Cup, Warwick Cup. Great Ebor Handicap. and 29 Queen's Plates.	
			1872	14	7		
			1873	17	3		
			1874	32	21		
			1875	17	7		
			1876	19	5		
			1877	3	0		
			109	46			
1870	CANTINIÈRE..	By Stockwell out of Cantine (dam of the winners: Picnic, Aventurière), by Orlando out of Vivandière (own sister to Voltigeur).	1872	7	6	Woodcote Stakes, Ascot Biennial, Hurstbourne Stakes, Chesterfield Stakes, Lavant Stakes, Findon Stakes.	Forager. Bal-Gal. Dutch Oven.

BROOD MARES AT MEREWORTH IN 1880—*continued.*

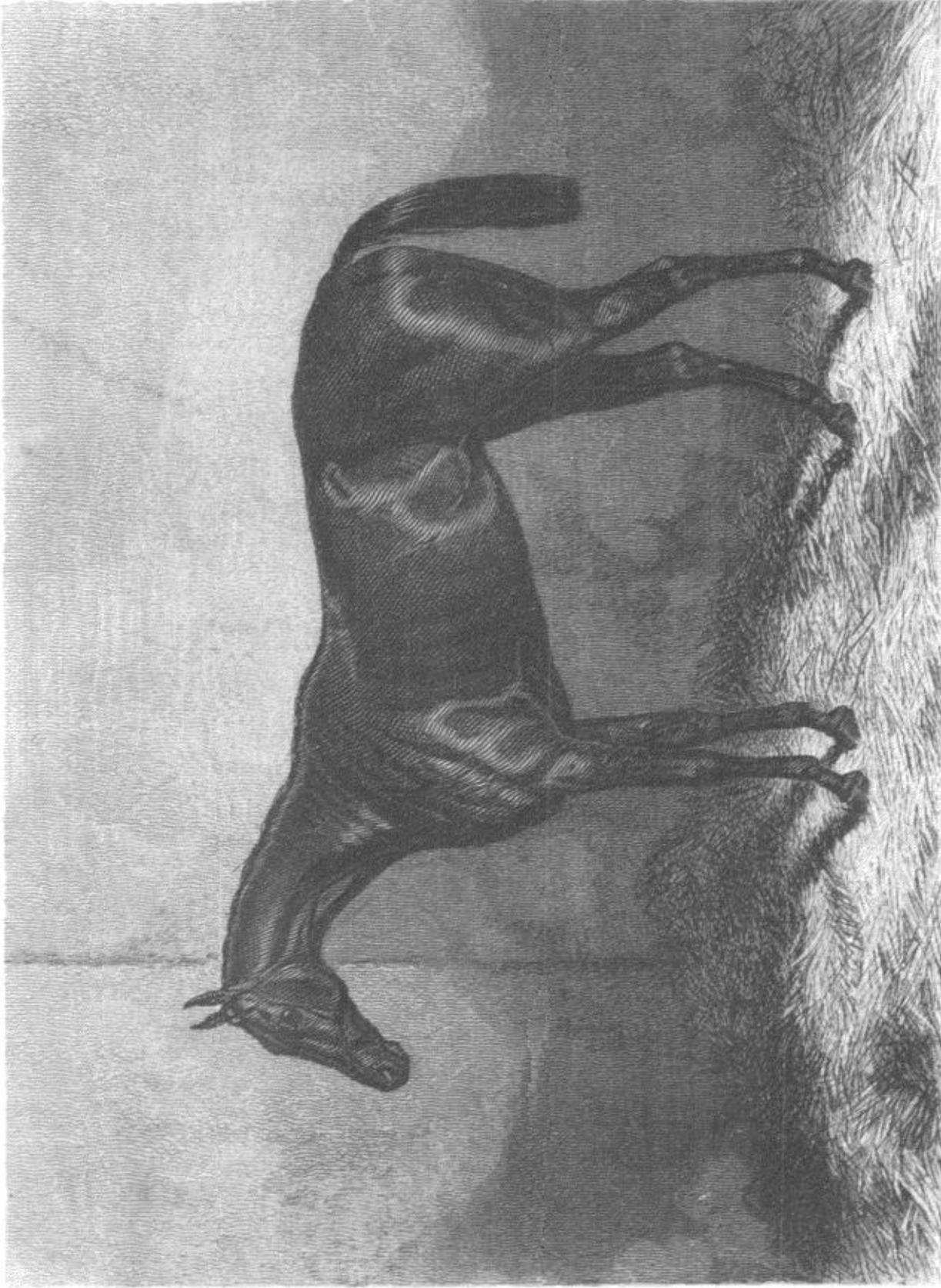
Bred.	Name.	Pedigree.	Own Performances.				Bred the following Winners.
			Year.	Ran.	Won.	Of which Important Races.	
1868	CHEVI-SAUNCE (own sister to Lord Lyon and Achievement)	By Stockwell out of Paradigm (dam of the winners: King at Arms, Man at Arms, Rouge Dragon, Blue Mantle, Gardevisure, Lord Lyon, Achicrement, Paraffin).	1879	6	1		Jannette. Muriel.
1875	Jannette.....	By Lord Clifden out of Chevisaunce (own sister to Lord Lyon and Achievement.	1877	7	7	Criterion Stakes, Richmond Stakes, Clearwell Stakes, Bretby Stakes.	
			1878	10	8	Oaks, Midsummer Stakes, Yorkshire Oaks, St. Leger, Park Hill Stakes, Champion Stakes, Newmarket Oaks.	
			1879	7	2	Jockey Club Cup.	
				24	17		
1870	CECILIA.....	By Blair Athol out of Siberia (winner of the 1000 Guineas, and dam of the winners: Patriarch, Dandelion).	1872	5	...		Olivette.
			1873	6	2	1000 Guineas.	
				11	2		
1874	MAVIS.....	By Macaroni out of Merlette, by The Baron out of Cuckoo.	1876	7	2		Gaillard.
			1877	8	1		
				15	3		
1874	PALMFLOWER	By The Palmer out of Jenny Diver (dam of the winners: Oasis, Jenny Howlet), by Buccaneer.	1876	8	4	Hurstbourne Stakes.	
			1877	4	...		
			1878	1	...		
				13	4		

On examination of the foregoing table of the twenty-four matrons, of which that celebrated stud is composed, it will be seen that

1. It contains not a single mare that has not been on the Turf, and only one (Lady of Mercia) that has not won a race. She was the best-trying yearling in the stable and of enormous size, but she caught influenza, and became a roarer. Further, that
2. There is not one amongst them that did not run at two years of age, or
3. Remained on the Turf longer than four years old, except Lilian, who during her racing career belonged to Mr. Savile, and was not purchased by Lord Falmouth till after its close; or
4. Whose dam had not bred other winners besides herself.

It may be said that breeding from tried and successful mares is only a hobby of Lord Falmouth's, and that the same result might be obtained by other means. It is difficult to deny this with absolute certainty. The following tables, showing the performances of the dams of the winners of the four classic races—Two Thousand Guineas, Derby, Oaks and St. Leger—for the twenty years from 1860 to 1879, compiled for that purpose, however, will at least prove that a greater probability of success is secured by acting on that principle.

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F. Hacker

Cherry Hill, Newmarket.

Formosa,

A thorough-bred filly, the property of Mr. W. Graham.

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TWO THOUSAND GUINEAS.

Year.	Winner.	Dam of Winner.			Won.
		Name.	Ran.		
			2 years old.	3 years and upwards.	
1860	The Wizard	The Cure mare	—	—	—
1861	Diophantus	Equation	—	8	2
1862	The Marquis	Cinizelli	—	3	—
1863	Macaroni	Jocose	—	4	2
1864	General Peel	Orlando mare	2	—	—
1865	Gladiateur	Miss Gladiator	—	4	—
1866	Lord Lyon	Paradigm	2	—	—
1867	Vauban	Palm	8	—	7
1868	{ Moslem Formosa	Besika	7	26	7
		Eller	2	7	2
1869	Pretender	Ferina	—	—	—
1870	Macgregor	Necklace	—	8	—
1871	Bothwell	Katherine Logie	—	—	—
1872	Prince Charlie	Eastern Princess	6	36	7
1873	Gang Forward	Lady Mary	—	—	—
1874	Atlantic	Hurricane	4	12	5
1875	Camballo	Little Lady	18*	17	16
1876	Petrarch	Laura	5	4	2
1877	Chamant	Araucaria	—	7	1
1878	Pilgrimage	Lady Audley	—	—	—
1879	Charibert	Gertrude	8	21	8

DERBY.

Year.	Winner.	Dam of Winner.			Won.
		Name.	Ran.		
			2 years old.	3 years and upwards.	
1860	Thormanby	Alice Hawthorn	3	68	49½
1861	Kettledrum	Hybla	—	—	—
1862	Caractacus	Defenceless	1	—	—
1863	Macaroni	Jocose	—	4	2
1864	Blair Athol	Blink Bonny	11	9	14
1865	Gladiateur	Miss Gladiator	—	4	—
1866	Lord Lyon	Paradigm	2	—	—
1867	Hermit	Seclusion	6	16	6
1868	Blue Gown	Ras Bleu	1	7	—
1869	Pretender	Ferina	—	—	—
1870	Kingcraft	Woodcraft	8	1	2
1871	Favonius	Zephyr	5	9	3
1872	Cremorne	Rigolboche	4	4	—
1873	Doncaster	Marigold	—	14	5
1874	George Frederick	Princess of Wales	8	1	1
1875	Galopin	Flying Duchess	8	7	2
1876	Kisber	Mineral	5	13	4
1877	Silvio	Silverhair	3	8	3
1878	Sefton	Liverpool's dam	1	1	1
1879	Sir Bevys	Lady Langden	6	—	—

* Of which once as a yearling.

OAKS.

Year.	Winner.	Dam of Winner.			
		Name.	Ran.		Won
			2 years old.	3 years and upwards.	
1860	Butterfly	Catherine	—	7	4
1861	Brown Duchess	Espoir	5	14	14
1862	Feu de Joie	Jeu d'Esprit	—	3	—
1863	Queen Bertha	Flax	—	—	—
1864	Fille de l'Air	Pauline	—	—	—
1865	Regalia	The Gem	6	2	2
1866	Tormentor	Torment	5	9	8
1867	Hippia	Daughter of the Star	3	16	5
1868	Formosa	Eller	2	7	2
1869	Brigantine	Lady Macdonald	1	1	—
1870	Gamos	Bess Lyon	5	—	—
1871	Hannah	Mentmore Lass	—	6	1
1872	Reine	Fille de l'Air	9	12	13
1873	Marie Stuart	Morgan la Faye	1	1	1
1874	Apology	Mandragora	—	—	—
1875	Spinaway	Queen Bertha	4	6	3
1876	{ Enguerrande Camelia	Deliane Araucaria	— —	3 7	1 1
1877	Placida	Pietas (late Faith)	14	15	5
1878	Jannette	Chevisaunce	6	—	1
1879	Wheel of Fortune	Queen Bertha	4	6	3

ST. LEGER.

Year.	Winner.	Dam of Winner.			
		Name.	Ran.		Won.
			2 years old.	3 years and upwards.	
1860	St. Albans	Bribery	7	9	8
1861	Caller Ou	Haricot	—	40	18
1862	The Marquis	Cinizelli	—	3	—
1863	Lord Clifden	The Slave	3	—	—
1864	Blair Athol	Blink Bonny	11	9	14
1865	Gladiateur	Miss Gladiator	—	4	—
1866	Lord Lyon	Paradigm	2	—	—
1867	Achievement	Paradigm	2	—	—
1868	Formosa	Eller	2	7	2
1869	Pero Gomez	Salamanca	4	3	1
1870	Hawthornden	Bonny Blink	2	—	—
1871	Hannah	Mentmore Lass	—	6	1
1872	Wenlock	Mineral	5	13	4
1873	Marie Stuart	Morgan la Faye	1	1	1
1874	Apology	Mandragora	—	—	—
1875	Craig Millar	Miss Roland	16	3	10
1876	Petrarch	Laura	5	4	2
1877	Silvio	Silverhair	3	8	3
1878	Jannette	Chevisaunce	6	—	1
1879	Rayon d'Or	Araucaria	—	7	1

The foregoing tables show, that of these eighty-two (in 1868 the Two Thousand Guineas, and in 1876 the Oaks, resulted in a dead heat, the stakes in each case being divided) dams of the winners of these great races only eleven, or about 13 per cent., had not been on the Turf, and that of the remaining seventy-one tried mares only nineteen had not run as two year olds. Taking, moreover, into consideration that of the mares figuring in the English Stud Book and used for stud purposes, those without public trial are in an overwhelming majority against those which have been on the Turf, it cannot be denied that the chances of breeding a winner of one of the four classic races are incomparably better with the latter than with the former.

It is frequently laid down as a rule that, in order to benefit the breed of horses in general, no thoroughbred animal affected with hereditary defects ought to be used at the stud. It is but just that those who clamor for this condition—that is, the breeders of half-breds—should set the example, which, however, they frequently omit; and I myself should not object to adopt a similar principle for the thoroughbred. It depends only on what is understood by the term hereditary defects. I take weakness and infirmities of the constitution to be the most hereditary defects, and believe that the ideal station on which the thoroughbred would be enabled to fulfil its high mission can be reached only if no unsound mares are allowed to be used for stud purposes. The only practical test of soundness of limbs, digestive organs, nerves and temper, remains—until a more perfect system is discovered—the public trial on the racecourse.

A mare, which in her second and third year, when perfectly well and fit, is repeatedly brought out, and honestly perseveres, even if only with moderate success, may in all probability be looked upon as sound, and from such sound mares, if no misfortune intervenes, sound progeny may be expected. Exceptions to this, as to any other rule, of course do occur. So may we sometimes see mares, after standing the wear and tear of a Turf career without detriment to their constitution, in the end become unsound dams, that is, bring unsound foals or none at all; but in

that case it is generally in consequence of being kept too long on the turf; for mares like Alice Hawthorn and Beeswing, to race till their eighth and ninth year and then bring sound foals, adapted for racing, are rare exceptions indeed. I do not like to buy mares that remained on the turf longer than, at the most, their fifth year.

The animal living in a primitive state, and acknowledging Dame Nature as the only authority with regard to its sexual instincts, satisfies the longing as soon as it makes itself felt. There is not much difference in our domestic animals, such as cattle, sheep, pigs; with them but a comparatively short time passes between the desire being awakened and appeased. In the young mare only that satisfaction is postponed from month to month, from year to year, until hysterics and similar disorders ultimately culminate in absolute sterility, consequences easy of comprehension, if it is taken into consideration that nature denied to the mare that salutary cleansing process, menstruation.

For this reason I prefer for stud purposes mares which during the period of training are never in use. I have frequently known such mares, of which on that very account fears of perfect uselessness for breeding purposes were entertained, on being sent to the stud, take the horse at the proper moment, be stunted the first or second time of covering, and retain this very valuable habit during the whole of their stud career.

I am well aware that it would be as difficult to carry out the exclusion from the stud of every untried or unsound mare, as it is to prevent others affected with visible defects or imperfections being used. I merely mean to say that the breeding from so many untried or unsound mares is the principal obstacle to the complete attainment by the thoroughbred horse of its ideal destination.

The buying of brood mares, if pursued not only with the possibility, but the probability also of success, is indeed no easy task. By deducting all mares which never showed any racing form, nor ever bred a winner, the sum of those remaining available will be reduced by 90 per cent. on those offered. This, however, by no means guards against bitter disappointment;

and in order to insure the greatest possible safety in choosing from among the so reduced number, the intending purchaser will do well to pay particular attention to the following points :—

1. With young mares, to be careful that habitually they be neither too gross nor too poor ; either extreme is inimical to a healthy progeny.
2. If dam and granddam have bred other winners, it will greatly enhance the value of the mare under inspection ; the more superior, and especially sound, race-horses amongst her immediate relations the better. Is she, on the contrary, of a great number of brothers and sisters the only good performer, her acquisition will by no means be so desirable as at first sight her individual excellence seemed to warrant.
3. The peculiarities or weaknesses with regard to temper, organs of respiration and digestion, feet, bad habits, such as wind-sucking or crib-biting, nerves, etc., should be taken into account ; likewise the strong or weak points which characterize the respective families must not be overlooked.
4. Before buying mares which have already bred foals, one should be satisfied as to the state of the sheath. From outward signs of rupture or a blubbering noise in trot or canter, may be inferred rupture or extension in its internal parts. I cannot too energetically caution against the purchase of such a mare ; she would be too dear at any price.
5. An examination of the udder should not be omitted, its development, and whether on both sides equally practicable. The state of nurture of the last foal will show what nourishment it received from its dam ; in wholesome mother's milk frequently lies the decision of the whole question whether a foal will grow into a race-horse or become a miserable weakling. Insignificant foals frequently develop with incredible rapidity at

foot of a dam with exceptionally good milk, as other mares will, season after season, throw magnificent foals, which during suckling time collapse and melt away like butter in the sun. It is advisable to take away from such dams the foals soon after they are dropped, and get nurses for them if they are to be had.*

6. It is better to abstain from purchasing mares which, according to the Stud Book, have repeatedly slipped their foals, frequently remained barren, or bred twins.
7. The first requisite in a mare is that she should be long, deep, and roomy, in order to afford the foal sufficient space for its development; leggy and short mares cannot be expected to throw big foals. Many imperfections may be overlooked rather than these two.
8. I do not like in a brood mare a too luxuriant growth of hair, nor, especially, tails full and bushy at the root. Foals from mares, and stallions, too, thus affected, are generally wanting in energy and quality. A rat tail is a great eyesore; but how rare is a bad horse with a rat tail?
9. From a sharply-marked expression in muscles and limbs in every animal, from which it is intended to breed, may be inferred that its progeny will be similarly distinguished. The generic character, especially, must be unmistakably expressed in either sex. I dislike mares resembling in shape and manners stallions as much as I do entire horses, a minute inspection of which is necessary to convince one that they are not mares or

* Particularly sensitive mares will not easily submit to the exchange, but with the necessary precaution and patience it generally succeeds. The mare knows her foal by the smell principally, as may be ascertained when collected in greater numbers. A little aniseed oil rubbed into the coats of the foals to be exchanged, for a few days, until the mares have got accustomed to it, prepares the deception. The mares are then removed from their boxes for a time sufficient to allow the pressure of the milk in the udder to become inconvenient, when, the foals being exchanged in the meantime, the mares are brought back, and the imposition is accomplished.

geldings. The more quality the mare possesses, the more marked must be the expression of her sex. The charm of femininity, if I may say so, ought to pervade her whole appearance.

To enumerate every possible rock on which the purchaser of brood mares may get wrecked is almost impossible. It requires the practical eye of the breeder, experienced in all the difficulties besetting his calling, to detect them and to protect him from its danger.

I do not venture even approximately to determine at what age the brood mare attains the climax of her propagating power. The most celebrated of their kind exhibit in this respect the greatest varieties, although a certain distrust against the produce of very old mares may appear justified. But even here exceptions are not wanting: for instance, Araucaria, dam of Stephanotis, Wellingtonia, Catalpa, Camelia, Chamant, and Rayon d'Or, was bred in Pocahontas, her dam's, twenty-fifth year, whereas Pocahontas was Marpessa's first foal, the latter also being the first foal of Clare. On the other hand, it is surprising that of the winners of the four classic races few were first foals; of the Derby during a century only three—1795, Spread Eagle; 1852, Daniel o'Rourke; and 1855, Wild Dayrell. ♣A singular fact, also, is that the Two Thousand Guineas in 1823 was won by one of twins, Nicolo, by Selim. 7

Of all the celebrated matrons in the Stud Book, Queen Mary and Haricot, her daughter, stand forth as descended from dams of the most tender age. The mare by Plenipotentiary out of Myrrha, by Whalebone, foaled in 1840, was covered when not more than two years old, and bred in 1843 the famous Queen Mary, who, after running but once as a two-year-old, was disabled by an accident. She was covered when three years of age, and bred in the year following Haricot. In those two mares, Queen Mary and her dam, early impregnation seems to have been attended with unusual individual potency.

In general, let the breeder of thoroughbreds never adopt the principle that quantity better than quality will succeed.

Breeding can be profitable only when in conjunction with the very best material obtainable, and when in the produce nothing is spared to contribute to success. Although a few isolated instances, like the late Mr. W. Blenkiron, of Middle Park and Waltham Cross, have of late years proved that wholesale production of the thoroughbred may pay, yet I am doubtful whether Mr. Blenkiron did not die at precisely the right moment, and whether, without the enormous prices realized after his death at the sale of his too numerous stud, the business would ever again have been able to show an equally favorable balance-sheet. Mr. Blenkiron was an unusually clever manager; he had closely studied and completely grasped the different phases of the thoroughbred market. On the one side breeding from a lot of untried mares, he at public auctions occasionally threw away, apparently without an object, large sums of money, but in reality in order to strengthen in the public the conviction that he was concentrating in Middle Park the quintessence of the English Stud Book, and to familiarize purchasers with the idea of the vastly enhanced value of the best class of its produce. The actual successes of the latter, independent of the prices realized at the sale, however, were, in comparison to the quantity, but moderate, and would, if all the horses bred by Mr. Blenkiron had been trained and raced for his own account, unquestionably have ended in his ruin.

As it is not likely that there will ever again be, in Europe at least, so large a breeding establishment as that sold at Middle Park in 1872, it may be in the interest of the history of the thoroughbred that the figures of that ever memorable sale be not lost in oblivion. I therefore recapitulate them in this place.

During six days in the months of June and July of that year, Messrs. Tattersall sold in the Middle Park Paddocks

Brood mares	198
Foals	119
Stallions (including Blair Athol for 12,500 gs., Breadalbane 6000 gs., Gladiateur 7000 gs.)	12
Yearlings	101
	<u>430</u>

for the sum of 130,704 sovs., or at an average of nearly 304 sovs.

In half-breds the profit to be obtained from individual animals is narrowly limited. A numerical extension, therefore, may help to distribute the general expenditure over a greater number, and thereby reduce the average cost. In the thorough-bred, on the other hand, the value of a successful brood mare is almost illimitable, and repays manifold for years of fruitless labor. The late Mr. W. P'Anson grew rich by the sale of Queen Mary's sons and grandsons. Mr. Jackson paid him for Blair Athol alone, shortly before the St. Leger, consequently *after* the son of Blink Bonny had won for his breeder the Derby, not less than 7000*l.*; and Breadalbane, Broomielaw, Blinkhoolie, etc., also considerably swelled his receipts from the male line. With the female progeny of Queen Mary Mr. P'Anson founded a breeding stud, whose yearling produce, from nine to ten in number, realized at Doncaster, as late as 1880, an average of 900 *gs.*

What incalculable value is not represented by a mare like Pocahontas, whose direct descendants won the four classic races of England on no less than forty-five occasions! Pocahontas, bred 1837, reached the advanced age of thirty-three years; she bred fifteen foals, amongst which the stallions Stockwell, Rataplan, and King Tom, and, in a lesser degree, Knight of Kars and Knight of St. Patrick, shine as stars of the first magnitude. When twenty-five years of age, Pocahontas bred her last foal, Araucaria; and how potent remained in her that vital power with which she endowed her last offspring is shown by the achievements of the latter's progeny—Stephanotis, Wellingtonia, Camelia (winner of the Oaks), Chamant (winner of the Middle Park and Dewhurst Plates and the Two Thousand Guineas), and Rayon d'Or (winner of the St. Leger). Pocahontas founded a family of heroes, which ruled the Turf to an extent never equalled. Stockwell, himself a winner of the Two Thousand Guineas and the Leger, sired (besides three winners of the Blue Ribbon) six winners of the St. Leger, a number which has never been reached before or since.

It is highly interesting to follow the progeny of celebrated ancestresses in all its branches, with their winners or dams of winners, the issue of each generation, especially in the female line; the value of the stallions being, as a rule, more universally known.

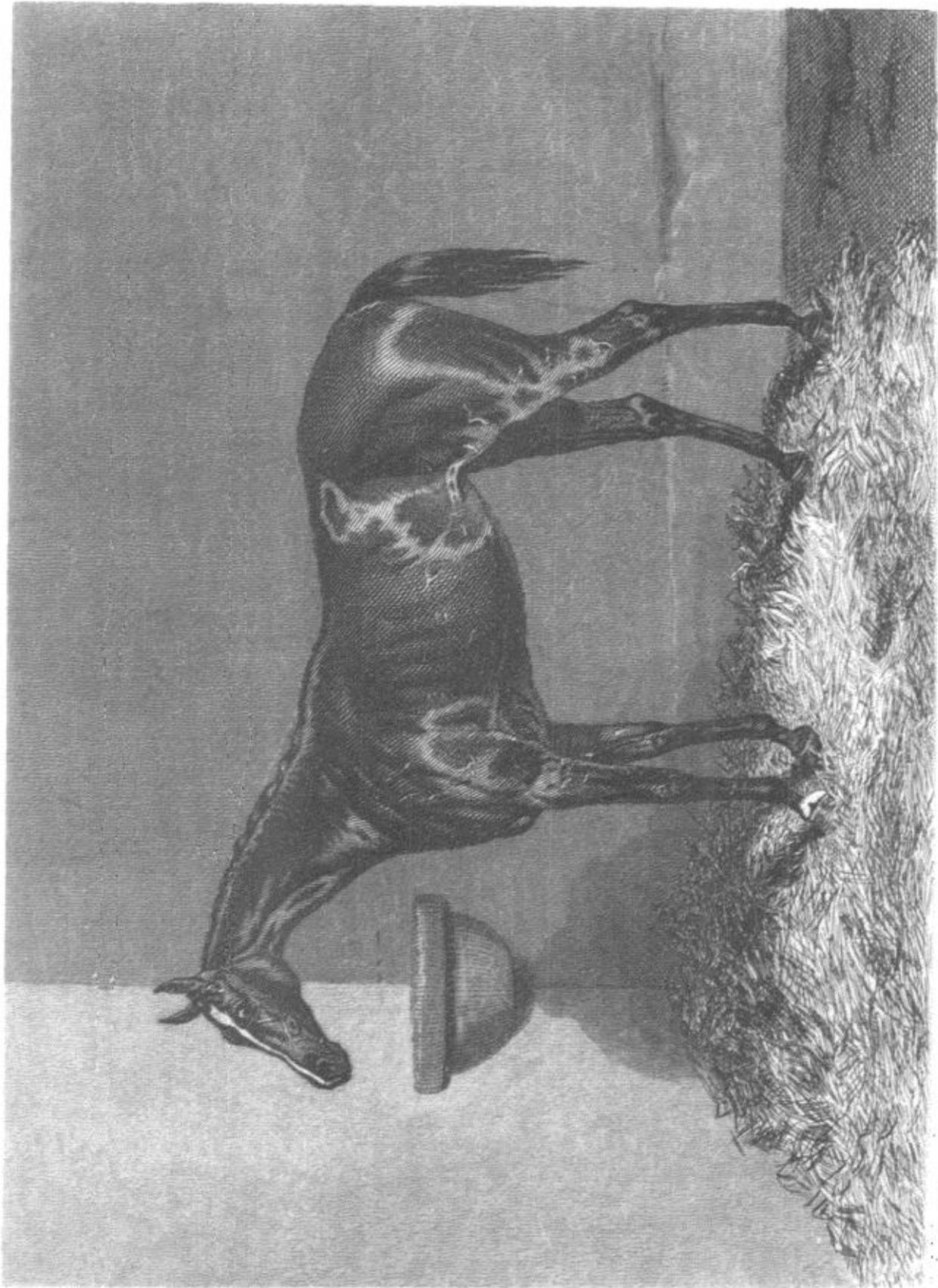
Before spending a large sum of money for a brood mare, it will be well to construe a genealogical table of the strains of blood throughout the female side, as I have hereafter tried with regard to the Queen Mary and Miss Agnes families. Nothing is so appropriate to show at a glance whether the mare under consideration belongs to a great racing family, or whether such qualities were inherited, in solitary instances only, or not all, on the side of the dam.

QUEEN MARY.

Bred 1843, by Gladiator, dam by Plenipotentiary out of Myrrha, by Whalebone out of Gift, by Gohanna.

Bred.	Name.	Ran.	Won.	Important Races.
<i>Sons.</i>				
1850	BALROWNIE	10	3	Doncaster Stakes.
1853	BONNIE SCOTLAND	4	2	Doncaster Stakes.
1858	BONNYFIELD	Disabled, but sire of winners.
1862	BROOMIELAW	18	7	Dee Stakes. Chesterfield Cup.
1863	BERTIE	16	6	Dee Stakes.
1864	BLINKHOLIE	21	9	Ascot Gold Vase. Alexandra Plate.
<i>Daughters.</i>				
1847	I. HARICOT	40	17	
<i>Her Produce.</i>				
1857	a. Cramond	21	3	
1858	b. Caller Ou	98	49	34 Queen's Plates. St. Leger. Twice Northumberland Plate. Brighton Cup. York Cup.
1867	Pandore	14	4	
1868	The Pearl	27	8	
1870	Poldoody	13	2	
1872	Periwinkle	11	3	
1878	Roysterer	13	2	Still running.
1864	c. Fabiola	
1870	King William	38	6	
1873	Titania	2	1	

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F. Hester

Henry Hall, Newmarket.

*Blink Bonny,
winner of the Derby and Oaks 1857*

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QUEEN MARY—*continued.*

Bred.	Name.	Ran.	Won.	Important Races.
HARICOT—<i>continued.</i>				
1868	d. Lady Langden	6	...	Epsom Gold Cup. Doncaster Cup. Northumberland Plate. Goodwood Cup. Goodwood Stakes. Derby.
872	Hampton	33	19	
1876	Sir Bevys	4	1	
1878	Fosyan	14	1	Twice Great Northern Handicap. Goodwood Stakes. Chesterfield Cup. Alexandra Plate.
1869	e. Freeman	37	9	
1849	II. BRAXEY	50	15	Epsom Gold Cup. Ascot Gold Vase. Hardwicke Stakes. Champion Stakes. Grand Prix Deauville. Still running. Still running.
<i>Her Produce</i>				
1858	a. Bernice	51	8	
1862	b. Kate Hampton	7	...	
1868	Lady Mortimer	11	2	
1863	c. La Dauphine	24	3	
1865	d. Thrift	
1878	Tristan	37	18	
1879	Pursebearer	11	2	
1869	e. Ella	28	4	
1870	f. Miss Wingie	16	2	
1852	III. BLOOMING HEATHER	Hertefeldt. Vienna Derby. Union Berlin. Still running. Still running. Hertefeldt. Still running. and 5 Steeplechases. Derby. Oaks.
<i>Her Produce.</i>				
1858	a. Grouse	2	...	
1859	b. Gorse	21	2	
1872	Goura	17	3	
1873	Good Hope	5	3	
1875	Blanc Hexe	12	2	
1876	Tyrann	17	5	
1877	Schlenderhan	6	2	
1878	Kaiser	3	3	
1862	c. Maid Marian	5	1	
1869	King Tom colt	4	1	
1863	d. Robin Hood	11	2	
1867	e. Mahonia	15	3	
1874	Magnolia	9	1	
1869	f. Laburnum	22	3	
1854	IV. BLINK BONNY	20	14	
<i>Her Produce.</i>				
1860	a. Borealis	21	6	
1868	Hyperion	25	5	
1869	Red Light	5	2	
1870	Blue Light	16	2	
1872	Flying Scotchman	9	1	

QUEEN MARY—*continued.*

Bred.	Name.	Ran.	Won.	Important Races.
	BLINK BONNY—<i>continued.</i>			
1873	Pier Light	3	1	
1861	b. Blair Athol	7	5	Derby.
1862	c. Breadalbane	27	8	Leger.
1857	V. BAB-AT-THE-BOWSTER	18	3	Prince of Wales Stakes, Ascot.
	<i>Her Produce.</i>			Gratwicke Stakes.
1870	a. Whympet	12	2	
1872	b. Mare by Adventurer	22	6	
1875	c. Mare by Knowsley	15	1	
1876	d. Lady Dixie	35	2	
1859	VI. BONNY BREAST-KNOT	10	1	
	(in France).			
	<i>Her Produce.</i>			
1874	a. Sheldrake	32	5	
1860	VII. BONNY BELL	12	1	
	<i>Her Produce.</i>			
1867	a. Bonny Swell	17	3	
1869	b. Toesin	9	3	
1871	c. Blantyre	9	2	
1874	d. Muscatel	23	3	
1875	e. Beauclerc	5	3	Middle Park Plate.
1866	VIII. BERTHA	7	1	
	<i>Her Produce.</i>			
1872	a. Brenda	47	21	
1873	b. Bridget	27	4	and over hurdles.

MISS AGNES.

Bred 1850, by Birdcatcher out of Agnes (dam of Lady Agnes), by Clarion out of Annette (dam of Ambrose and Glenmasson), by Priam.

Bred.	Name.	Ran.	Won.	Important Races.
	<i>Sons.</i>			
1858	GOLDSEEKER	17	4	
1859	KING OF KARS	17	3	
1864	BISMARCK	46	13	
1869	LANDMARK	16	2	
1871	COURONNE DE FER	10	4	Hurstbourne Stakes.
	<i>Daughters.</i>			Stockbridge Cup.
1856	I. LITTLE AGNES	22	4	Hopeful Stakes.
	<i>Her Produce.</i>			
1861	a. Prince Arthur	13	6	
1862	b. Wild Agnes	37	14	
1869	Little Agnes	13	6	Prix de Diane.
1871	Fair Agnes	4	...	
1873	Wild Tommy	19	1	

MISS AGNES—*continued.*

Bred.	Name.	Ran.	Won.	Important Races.
LITTLE AGNES—<i>continued.</i>				
1863	c. Fair Agnes (broken hip)	
1868	Bishopthorpe	68	16	
1870	Wild Aggie	21	9	
1871	Agglethorpe	67	12	
1872	Percy	13	1	
1874	Constantine	41	5	
1877	Gildersbeck	41	8	Still running.
1878	Melmerby	23	2	Still running.
1879	Daffodil	5	1	
1864	d. Tibthorpe	44	11	Stewards' Cup.
1868	e. Merry Agnes	31	9	
1869	f. Little Heroine	25	2	
1870	g. Couleur de Rose	17	3	
1871	h. Thirsk	16	4	
1875	i. Bonnie Agnes	7	2	
1878	k. Banbury Bun	9	1	
1857	II. BROWN AGNES	5	...	
<i>Her Produce.</i>				
1862	a. Brown Bread	25	9	Northumberland Plate. Caledonian St. Leger.
1868	b. Andorka	35	6	Nemzeti.
1877	Armgard	18	7	
1869	c. Labancz	5	1	
1863	III. DARK AGNES (dead)	29	4	
1865	IV. POLLY AGNES	
<i>Her Produce.</i>				
1871	a. Lily Agnes	32	21	Northumberland Plate. York Cup. Doncaster Cup. Ebor Handicap.
1875	b. Tiger Lily	14	2	
1876	c. Jessy Agnes	13	6	
1867	V. FRIVOLITY	15	4	Althorp Park Stakes. Middle Park Plate.
<i>Her Produce.</i>				
1874	a. Grand Templar	13	1	
1877	b. Miss Edwards	26	10	
1870	VI. WINDERMERE	3	1	
<i>Her Produce.</i>				
1875	a. Ether	2	1	
1876	b. Bowness	17	5	
1877	c. Muncaster	3	1	
1878	d. Westmoreland	4	1	Still running.

How far the exterior is to be considered in the choice of animals intended for the stud is an open question which causes much dispute, but which each breeder answers for himself, according to the aim he has in view.

Those who will not pay the cost of production of the thoroughbred, that is, who breed and use half-bred horses, insist on the power and regularity in make and shape of the latter; they forget, however, that the breeder of thoroughbreds can calculate to a fraction that selling his produce outside the racecourse by the standard of the exterior alone will not pay for its rearing, nor original cost and keep of the brood mares, covering fees, &c. If he had no other means of disposing advantageously of his produce, he would find himself placed in the alternative, either to breed from cheap, and, therefore, indifferent material, at a rate of expense not exceeding that of a half-bred stud, producing consequently inferior animals, never subjected to public trials, or to give up breeding altogether. Of the two, he would certainly do better to choose the latter; for, by following the former plan, he would find himself needlessly restricted in the choice of brood mares and sires, and, after all, produce animals, the only difference between which and half-breds would consist in inferior size and lack of substance.

He who would breed thoroughbreds on rational principles, and knows how to calculate, is forced to look for a better return for the capital invested than the every-day market affords. This he will find only on the racecourse, without which the production of thoroughbreds would be aimless, because it offers the only possible public trial on which the whole principle is based.

To sum up, I say:

The breeding of thoroughbreds to suit the ever-changing fashion as to exterior, without regard to highly-tried capabilities, I look upon as an absurdity—in that case it would be preferable to turn one's attention to the better classes of the half-bred—but within the acknowledged best strains of blood I should by no means neglect, if only on patriotic grounds, the exterior, for in the production of our half-breds it has become an absolute necessity to use thoroughbred stallions, not only with performances of a high order, but also that our cavalry horses may answer certain conditions and forms about make and shape laid down in order to prevent their deterioration.

The term of so-called faultlessness, however, is not to be taken in so strict a sense, when used in conjunction with the tried thoroughbred, as when applied to the untried half-bred.

In the former, every deviation from the true shape is rendered more distinct by the exertions inseparable from the training ground and the racecourse, and, by the tension or straining of the sinews, muscles and tendons, even develops into a visible defect. In the half-bred stallion the disposition to the same imperfection slumbers perhaps still nearer the surface, and would scarcely allow him to pride himself on his cheaply acquired freedom from blemish, if he were ever compelled to leave his *dolce far niente* and undergo severe trials.

My opinion as to the relative value of true shape and performances in the choice of a stallion to breed from, that is, what percentage of the one might be sacrificed to the other, may, not inaptly, I believe, in figures be thus expressed: I require the sire, intended for the production of thoroughbreds, for every per cent. less performance three per cent. more exterior—the form, however, should never be less than good second class; for that of half-breds I reverse the proportion, and give for every per cent. exterior three per cent. performance. To breed racehorses from a stallion who himself did not belong to the first or second class on the turf is imprudent, for the instances of an inferior stallion producing a superior racehorse are of such very rare occurrence—this used to be tried, not without success, most frequently in France, but has latterly there also begun to bear bad fruit—that the numerous fruitless experiments which must be made before that one is found would in all likelihood swallow a fortune.

Now, taken into consideration that England, for instance, produces every year a thousand thoroughbred colts, and of that number not more than one or two develop into racehorses of the first class, and perhaps two or three of a second class, good enough to breed thoroughbreds from; considered further, how lenient the English breeder is with regard to certain imperfections of shape which, in Germany, would condemn the horse at once, and that, on the other hand, the, in England,

acknowledged very best stallions are scarcely ever for sale, it may be readily understood how difficult it is to acquire a stallion of the first class adapted to the production of thoroughbreds, and if first rate form and undeniable pedigree be strictly adhered to, how necessary it is sometimes to be more indulgent with regard to the exterior than under other circumstances inclination would admit.

Our German public knows nought of such difficulties, and requires that the thoroughbred stallion of the first class, besides form and quality, be possessed of the power and truth of shape of the half-bred, and the action of the Arab. The good people forget that everything in the world has its limits, and that Nature herself is impotent, when asked to produce an animal of the strength of the elephant with the agility of the gazelle.

It is difficult and requires much local knowledge to buy sound mares of the best strains of blood and some public form or proved excellence at the stud, yet is their number not nearly so narrowly limited as that of sires. It is therefore advisable, in the choice of mares, to be more rigorous with regard to make and shape, else the thoroughbred will scarcely fulfil its mission—the production of capable half-bred stallions, answering the conditions which the breeders of such and of cavalry horses are justified in making.

The realization of this purpose by judicious mating of sire and dam is materially facilitated, if the breeder is not only familiar with the peculiarities of the families from which they are descended, but also has known them during their racing career. The impression received on the racecourse of the horse in the height of condition is with greater truth reflected in its immediate descendants, than that which is derived from the same animal when at the stud. In the former case nothing is hidden by superfluous flesh, and every imperfection of shape is rendered more conspicuous, when every muscle, sinew, and tendon is braced by hard work.

It may, perhaps, not be out of place here to express my views on the, of late years, steadily increasing disorder of roaring.

I have observed that in the English thoroughbred the growth

of this defect has kept pace with the increase of two-year-old racing, especially in early spring, and consequent thereon with the increase of studs breeding for sale.

This may appear strange, but is easily explained. Racing at so tender an age requires early developed yearlings; those studs, however, can flourish only when keeping that requisite in view, for experience teaches that a yearling which promises to win back his purchase-money within eight or ten months, will command a much higher price than one whose usefulness will probably not begin before his third year. The consequence is that they force their produce like asparagus in a hot-bed, in order to bring them up for sale as big as it is possible to get them. Such only find ready customers, and the assumption by a discriminating public, that all such breeders act on the same principle, more especially those who affirm the contrary, totally depreciates the less developed yearlings, for the purchaser believes—and generally his surmise is not without justification—that with them also the forcing process has been tried, but tried in vain. Thus, every stud owner breeding for sale is compelled to adopt the pernicious practice, and, in the end, the home breeder will have to follow the fashion.

That to yearlings, unnaturally forced in their development, the early training brings more danger than to those reared in a natural, and, therefore, more healthy manner—hence smaller and less gross, is self-evident. Their puffed-out organs of respiration especially are affected by the keen atmosphere in autumn and winter, during which their first training takes place, and, consequently, rendered more prone to inflammation. If the constitutional weakness, from which originates the inclination to morbid affections of the respiratory organs through irrational rearing is continued from generation to generation, the predisposition to roaring ultimately becomes hereditary.

Most frequent, naturally, are these symptoms of disorder in descendants from stallions from whom they inherit the attribute of quick growth, for they are the first taken into training.

It is equally natural that young horses with long necks turn roarers sooner than short-necked ones; for if through each of

two tubes of the same width, but of different length, a certain quantity of air shall pass in exactly the same space of time, it follows with mathematical certainty that, in the longer tube, the current must be forced through at a quicker rate, and, consequently, affect the sides and valves in a higher degree than in the shorter. It is, moreover, a well-known fact in human physiology, that long necks incline more to diseases of the larynx than others.

English breeders do not, however, on account of the predominating number of short races which may be won by a roarer, hesitate to use stallions thus afflicted at the stud. I believe that, if the system were changed, two-year-old racing abolished, and the distances to be run over generally lengthened, throat diseases would gradually diminish, though not at the same ratio in which they have for the last thirty years increased.

I am, however, no advocate of so radical a measure as the abolishment of two-year-old races, which for many reasons could not be carried out without any detriment to racing at large; I am only at a loss how to check in any other way the fattening process yearlings are forced to undergo, and the too early and too frequent racing of two-year-olds.

It will, no doubt, be argued, that there are many roarers to be found in France, although in that country two-year-olds do not run before the 1st of August, and the distances in races for horses above that age are twice as long as in England. It is true there are a good many roarers in France *now*, but the disease was imported from England, and has spread with the greatly enhanced prices of yearlings, caused by the vast increase in the demand for racing material.

Based on and caused by the rapid growth of racing in France, a great number of studs, principally breeding for the yearlings market, have sprung into existence, carrying on wholesale production by means of unsound mares, imported from England by the dozen at 50*l.* apiece and even less. Twenty years ago there were scarcely any roarers in France, but also no studs breeding for sale.

I am well aware that at present many public breeders may

point to certain private studs, producing as many roarers as themselves or more. But I think this does not much shake my argument. No doubt a certain number of select studs breeding first-class yearlings for sale, as for instance the Blankney stud and some others, contribute just as much to the improvement of the breed as the best private studs; but what I mean to say is, that the overgrowth of public studs, in comparison to home breeding, softens the thoroughbred race, through using too much weak, unsound, and altogether inferior material for the reproduction, and through forcing the foals too much with a view to the yearling market.

CHAPTER II.

IN-BREEDING—OUT-CROSSING.

I HAVE promised elsewhere to explain my views on the advantages or disadvantages of in-breeding with regard to the breed of racehorses, and will now proceed to do so. It is much to be regretted that our writers on zoology have not, instead of sheep, pigs, cattle, or cart horses, chosen the thoroughbred horse as the basis of their investigations in that direction.

According to my idea, no species of animal creation is so specially adapted for that purpose, for here incontestable facts and the accumulated statistics of the racing calendar collected during a space of more than one hundred and seventy years, are available as incontrovertible evidence, whereas in the breeding spheres selected and treated on by the zoologists, much must naturally depend on personal opinion, unreliable information, statements copied from other authors, or similar unsupported assertions.

The origin of the English thoroughbred is carried back to three Oriental ancestors, viz., the Byerly Turk, the Darley Arabian, and the Godolphin Arabian. It is a universally recognized maxim to count all living stud horses as belonging to those families from which they descend in a direct male line, the maternal descent being a matter of secondary consideration. It is manifest that this classification should not in all cases be a criterion, for a horse may have in its veins, through the dams, double the quantity of blood from their families to that which is derived from the male descent of its sire, and yet is considered to belong to the family of the latter.

If, however, the object is to gain a general view of the whole breed, and especially of those families which in course of time have proved most successful, and to follow up their origin to

the beginning of the last century, nothing remains but to classify them according to their male ancestors, the female descent offering not nearly so clear a perspective.

In order to afford a more comprehensive view of the whole subject, I have, as a special supplement, added thirteen tables, of which the first three reach to the middle of the nineteenth century, and the following ten show the progeny of those stallions whose male descendants at the present time rank foremost at the stud, and appear destined in coming generations to form the corner-stones of the race. As such they will probably suffice future breeders as points of departure in the framing of pedigrees.

These compilations show that the family of the Darley Arabian, or rather that of Eclipse, largely predominates, especially in England, over the other two.

The family which claims the Byerly Turk for its ancestor, with his three great descendants, Wild Dayrell, The Flying Dutchman, and Partisan, at present exercises less influence on the breed in England than in other countries.

Wild Dayrell's most eminent son, Buccaneer, was carried off to Hungary after having produced in England, besides several prominent mares—amongst them two winners of the Oaks—only Paul Jones and See Saw. Hungary in her turn, however, had to witness the expatriation of Buccaneer's most celebrated scion, Kisber, to the land of his ancestors.

The Flying Dutchman went to France and there got his two best sons, Dollar and Dutch Skater, of which two the latter, at present serving at the stud in England, seems to be the less valuable, since, with the exception of Insulaire and Dutch Oven, he has, as yet, produced nothing of note.

Partisan's most famous son, Gladiator, also fell to the share of France, where he got a great number of excellent mares—amongst others Gladiateur's dam, and, especially through founding the Fitz Gladiator family, acquired lasting merit. Fortunately for England he bequeathed to her in Sweetmeat a pillar of the breed, and in Queen Mary—the dam of Haricot, Blooming Heather, Blink Bonny—the mother of a family of heroes.

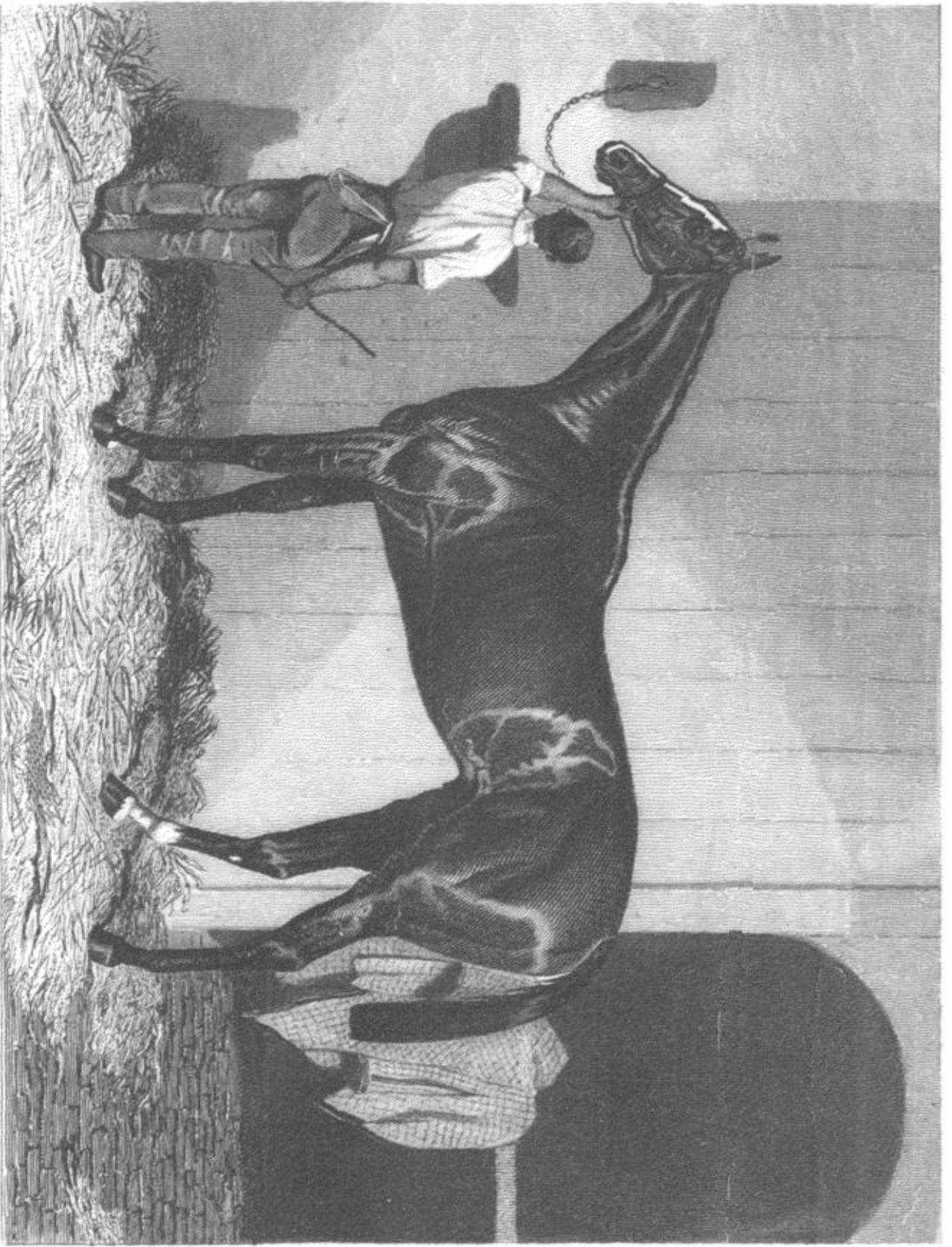
Besides these England has kept nothing prominent of Partisan's progeny ; neither Kingston, nor his two most noteworthy sons, Ely and Caractacus, having realized at the stud what they promised on the turf. The Derby winner of 1862 was later on exported to Russia.

Glaucus's line is represented by The Nabob's sons only, of which England possessed Nutbourne alone ; while France got Suzerain and Vermout, with his sons, Boïard and Perplexe, and Austria, Bois Roussel. America, too, has owned in a lineal descendant from the Byerly Turk, Lexington, one of her most successful sires.

The Godolphin Arabian in our days is, properly speaking, represented by the Melbourne family alone, and in England threatens to become extinct in his male descendants. The most successful stallion of that clan living seems to be Ruy Blas ; but this son of West Australian is in France, whither the first winner of that great treble event—or triple crown as it is called—Two Thousand Guineas, Derby, and St. Leger was exported. It may yet be that Knight of the Garter, Plebeian, or Statesman rouse themselves, and after all give to England a first-class sire of that strain of blood. For the first of the three it was, perhaps, unfortunate that The Jewel, in foal to him, was sent abroad ; yet it is questionable whether Przedswit, with his doubtful pluck, would in England have become of sufficient note to induce the breeding public to send him really good mares. The Earl, Mornington, Pell Mell, Strafford, and the brother to Strafford, appear scarcely destined to continue in coming centuries the Melbourne family.

It is a remarkable fact, that the Melbourne blood in its female descent shows to so much greater advantage than in the other sex, for which reason the family is so inadequately represented in the stallions belonging to it. In the whole stud book there is scarcely to be found a sire of better, and in their progeny more successful, mares than Melbourne (Blink Bonny, Blooming Heather, Canezou, Go-ahead, Leila, Mentmore Lass, The Slave, Stolen Moments, Sortie, The Bloomer, etc.) ; but of his sons, West Australian alone achieved a great reputation.

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Harry Hall, Newmarket.

West Australian
The Property of John Bowyer Esq of Durham.

E. Hauser

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With regard to him also, this superiority of the female descent holds good, as he got, besides a great number of more than useful mares, only two prominent sons, The Wizard and Ruy Blas, of whom the former, although himself a good racehorse, scarcely left any traces in Germany, the country of his adoption.

Now if we consider the question, what sort of crosses in the different strains of blood have recommended themselves as most desirable—although within the thoroughbred race there cannot, properly speaking, be any question of a cross, as understood in zoology, because the whole breed is more or less related—we naturally come to the conclusion that the breeder is involuntarily forced into breeding within close relationship by the endeavor to adhere to the families of established reputation, and within them to use for his purpose none but their most prominent members. In the commencement of the race we notice numerous cases of incest, logically accounted for, however, by the desire to mate the then existing and not too numerous individuals of tried excellence, and thereby perpetuate that quality. In the pedigree of Eclipse even occurs a glaring instance of incest, the grand-dam of Betty Leedes, who was the great grand-dam of Eclipse, having been got by Spanker from his own dam. The more the breed developed, the less pressing grew the necessity for close relationship, but in the days of Eclipse, bred in 1764, and his immediate descendants, the need still existed to a great extent, for by the general stud book a score of horses may be proved to have been got by sons of Eclipse from daughters of the same horse, but this alliance never produced anything extraordinary. Even in the present century many cases of incestuous breeding have occurred, but very few of them have proved successful. I shall have to make some remarks on two of their number (Juliana, bred 1810, and Valentine, bred 1832) later on.

Opinions as to whether relationship in parents is advantageous, and, if so, to what degree and where it begins to be injurious, differ very much even in our own days in England.

The thoroughbred is, with regard to this subtle question, especially adapted as a field for study and experiment, because

the uninterrupted trials of the produce of this or that principle in breeding are made public, and their results, as collected in the racing statistics of one hundred and seventy years, accessible to everybody. The inference drawn will, however, frequently prove the reverse of what follows from the same investigations, when applied to the untried half-bred, where the analysis of the calculation is based on the personal opinion of the investigator.

If we take, for instance, the pedigree of Friponnier, we find that he is the produce of uncle and niece, consequently of very close in-breeding. Friponnier, although the fastest horse of his day, proved himself a failure as a sire of racehorses, because he wanted the individual power to transfer his racing qualities to his descendants. He is, therefore, quoted as a warning example of too close in-breeding in thoroughbreds. He then was sent to a half-bred stud in Germany, and there has unquestionably proved a great success. Writers on zoology, unfamiliar with the thoroughbred and its public trials, will therefore probably quote Friponnier as a brilliant example of that very same close relationship in the parents, on account of which he was in the first instance discarded.

But, before we enter more deeply into this matter, it is necessary to come to a clear understanding as to the meaning, with regard to the thoroughbred, of the terms: *in-breeding*, *moderate relationship*, and *out-crossing*. If they are not clearly defined, all real discussion is rendered futile. Stonehenge's disquisitions on the subject are indistinct, because not worked out on a firmly established system. If he instances Stockwell and Rataplan as in-bred, but Partisan and Emilius as out-crossed, he overlooks, that those celebrated brothers are doubly and trebly as far removed from their common ancestor on the male and female side, as the latter two from theirs. This proportion is by no means altered by the circumstance, that in Stockwell and Rataplan's pedigree Waxy occurs not twice, but three times; for even then they have only $\frac{3}{32}$ Waxy blood in their veins, whereas Partisan has $\frac{8}{32}$ and Emilius $\frac{1}{8} + \frac{1}{16} = \frac{6}{32}$ Highflyer blood.

I am of opinion, that a horse should only be termed *in-bred*, when in sum total less than four degrees lay between its parents and their common ancestor; in other words, when the children or grandchildren of a stallion or a mare are mated, I call their produce *in-bred*; but this term does not apply to the produce of great grandchildren of the common ancestor. We must not forget that in the pedigrees of horses the word brother or sister often means half-brother or half-sister, and that here the definition borrowed from the human family connection is not applicable.

As breeding within *moderate relationship* I reckon the mating of stallion and mare that are removed from their common ancestor four, five, or six degrees. It is indifferent whether they are on both sides equidistant from, or one of them nearer to the male or female progenitor than the other.

The English breeder of the old school was of opinion, that breeding from very closely related parents, even if possessed of the most excellent qualities, as a rule, led to disappointing results; in isolated cases, however, to the production of individual animals of quite extraordinary capabilities; and on the whole, I incline to that view myself.

More recently and in consideration of such exceptional instances, especially since Friponnier's appearance, the mating of very nearly connected stallions and mares has frequently been tried in England, but generally with the old result, that is, abundant failures, but also a few eminent exceptions, like Galopin and Petrarch.

As a matter of course follows the important question as to the individual productive power of such in-bred stallions. The current which in England set in the direction of in-breeding, naturally caused a strong counter-current, in its turn in many cases rejecting for breeding purposes, as in-bred, stallions that, in my opinion, come not within the meaning of the term.

In order to gain a clear insight into the matter, let us classify the stallions renowned on the turf and afterwards used for stud purposes, according to the degree of relationship existing be-

tween their parents; and then inquire which degree has furnished the best results as to power of reproduction.

I believe myself to be tolerably at home in the Racing Calendar and the Stud Book, yet it is possible I may have overlooked some pertinent instances. If so, I shall be glad if by the following compilations others interested in the subject be stimulated, in furtherance of the good cause we serve, to supplement or to refute what I have written.

A produce of brother and sister, or half-brother and half-sister not being available amongst renowned stallions, I shall begin with those whose parents are only *one* clear degree removed from their common ancestor, male or female. Of such I have been able to find but four, viz.:

- | | | |
|----|--------------------------------|--------------------------|
| 1. | Knight of St. George | in-bred to Sir Hercules. |
| 2. | Orest | " Touchstone. |
| 3. | Friponnier | " Orlando. |
| 4. | The Miner | " Birdcatcher. |

Two degrees removed are the parents of

- | | | |
|-----|---|-----------------------|
| 1. | Partisan | in-bred to Highflyer. |
| 2. | Priam | " Whiskey. |
| 3. | Humphrey Clinker | " Sir Peter. |
| 4. | Election | " Herod. |
| 5. | The Saddler | " Waxy. |
| 6. | Sleight of Hand } | " Peruvian. |
| 7. | The Drone } <small>Own</small> | |
| 8. | Van Amburgh } <small>brothers</small> | |
| 9. | Pericles* | " Highflyer. |
| 10. | Brutandorf | " Pot-8-os. |
| 11. | Blue Gown | " Touchstone. |
| 12. | Galopin | " Voltaire. |
| 13. | Lowlander | " Pantaloon. |
| 14. | Petrarch | " Touchstone. |

Three degrees removed are the parents of

- | | | |
|----|-------------------------------|-------------------|
| 1. | Orlando | in-bred to Selim. |
| 2. | The Flying Dutchman | " Selim. |
| 3. | Emilius | " Highflyer. |

* Pericles has 4-16ths each of Highflyer and Herod blood.

4.	Weatherbit	in-bred to Orville.
5.	Buccaneer	“ Edmund by Orville.
6.	Tramp	“ Eclipse.
7.	Blacklock	“ Highflyer.
8.	Epirus	“ Sir Peter.
9.	Cotherstone	“ Waxy and Penelope.
10.	Chatham	“ Waxy and Penelope.
11.	Oulston	“ Cervantes.
12.	Elthiron	} Own } brothers }
13.	Windhound	
14.	Hobbie Noble	
15.	The Reiver	“ Peruvian.
16.	Argonaut	“ Sir Hercules.
17.	Macgregor	“ Banter.
18.	Knight of the Garter	“ Camel.
19.	Pero Gomez	“ Lady Moore Carew.
20.	Dalham*	“ Touchstone.
21.	Isonomy	“ Birdcatcher.
22.	Silvio	“ Birdcatcher.

Four degrees removed are the parents of

1.	Sweetmeat †	on both sides goes back to Prunella.
2.	The Baron	“ “ Waxy.
3.	Bay Middleton	“ “ Sir Peter.
4.	Sultan	“ “ Eclipse and Highflyer.
5.	Pantaloon	“ “ Eclipse and Highflyer.
6.	Lanercost	“ “ Gohanna.
7.	Plenipotentiary	“ “ Sir Peter. ‡
8.	Melbourne	“ “ Termagant.
9.	Flatcatcher { Bro. to } { Phryne }	“ “ Waxy.
10.	Wild Dayrell	“ “ Selim.
11.	Cambuscan	“ “ Whalebone.
12.	The Palmer } Own }	“ go Priam.
13.	Rosicrucian } brothers }	
14.	Trumpeter §	“ goes Selim.

* Dalham's dam (Gertrude) also is three times removed from Touchstone, so that 1-32d of the same blood must be added.

† Sweetmeat's pedigree is doubtful, inasmuch as his dam Lollypop is put down to two sires. She is, however, generally believed to be, not by Voltaire, but by Starch.

‡ To whose sire, Highflyer, both parents of Plenipotentiary, Emilius and Harriet are in-bred.

§ His sire, Orlando, already being in-bred to the same horse, Trumpeter has five-thirty-seconds Selim blood.

15.	Marsyas	on both sides goes back to Waxy.
16.	Economist	“ “ Eclipse and Herod.
17.	Sir Hercules	“ “ Eclipse.
18.	Liverpool	“ “ Eclipse.
19.	Adventurer	“ “ Orville.
20.	Hermit	“ “ Camel.
21.	Przedswit	“ “ Marpessa.

Five degrees removed are the parents of

1.	Touchstone	on both sides goes back to Eclipse.
2.	Voltaire	“ “ Highflyer.*
3.	Voltigeur } †	“ go Hambletonian.
4.	Barnton } †	
5.	Newminster	“ goes { Trumpator and Beningbro'.
6.	Van Tromp	“ “ Buzzard.
7.	Defence	“ “ Eclipse and Highflyer.
8.	Alarm	“ “ Sir Peter and Prunella.
9.	Ion	“ “ Sir Peter.
10.	King Tom	“ “ Waxy.
11.	Saunterer	“ “ Waxy and Penelope.
12.	Paragone	“ “ Orville.
13.	Andover †	“ “ Buzzard and Waxy.
14.	Venison	“ “ Eclipse.
15.	Velocipede	“ “ Pot-8-os and Highflyer.
16.	Pyrrhus the First	“ “ Buzzard.
17.	Harkaway	“ “ Pot-8-os.
18.	Cowl	“ “ Whiskey.
19.	Cossack	“ “ { Sorcerer, Stamford, and Y. Giantess.
20.	Kingston	“ “ Sir Peter.
21.	Scottish Chief	“ “ Orville.
22.	Flibustier	“ “ Tramp.
23.	Sterling	“ “ Whalebone.
24.	Chamant	“ “ Emilius.
25.	Robert the Devil	“ “ { Touchstone and Birdcatcher.

* To whom Voltaire's sire, Blacklock, is in-bred.

† Own brothers and sons of the foregoing. The third brother, Vortex, was too inferior a racehorse to be mentioned here.

‡ His dam being in-bred to Waxy, Andover has only three-thirty-seconds Buzzard blood, but four-thirty-seconds Waxy blood.

Six degrees removed are the parents of

1.	Irish Birdcatcher .	on both sides goes back to	Eclipse.
2.	West Australian .	“ “	Trumpator.
3.	Stockwell } Own }	“ “	Waxy and Penelope.
4.	Rataplan } brothers }		
5.	St. Albans } Own }	“ “	Whalebone.
6.	Savernake } brothers }		
7.	Macaroni	“ “	Sir Peter.
8.	The Duke	“ “	Whalebone.*
9.	Lord Lyon	“ “	Whalebone.
10.	Blair Athol } Own }	“ “	Whalebone.
11.	Breadalbane } brothers }		
12.	Favonius	“ “	Whisker.
13.	Rustic	“ “	Whalebone.
14.	Lambton	“ “	Whiskey.
15.	Ely	“ “	Sorcerer.
16.	Wenlock	“ “	Whalebone.
17.	Kisber	“ “	Sultan.
18.	Lollypop	“ “	Whalebone.

The stallions of high importance to the breed, left after the enumeration of the foregoing six categories, that is, whose parents are distant from their common ancestor more than six degrees, are, on closer inspection, comparatively few in number, and of those remaining many, as, for instance, Lord Clifden, Teddington, See Saw, George Frederick, Albert Victor, etc., cannot, in the descent of their parents, show more than seven clear removes. It follows, therefore, that nearly all stallions of eminence in England, which in this case means the whole of Europe, are the results of breeding within more or less distant relationship. The aim of our investigations will thus be less to ascertain whether relationship in breeding be at all desirable, than to define the limits within which it operates advantageously.

We shall be materially assisted in the attainment of our purpose by subjecting, in their several categories, the stallions named to an impartial critic, although I cannot disguise from myself the difficulty of doing so without meeting with opposition to my estimation of their relative worth.

* To whom The Duke's dam also on both sides traces back.

Of the four stallions in the *first category*, we know that Friponnier at the stud did not realize the expectations entertained of him. The St. Leger winner, Knight of St. George's best performance as a sire was the getting of Knight of St. Patrick with a mare like Pocahontas, whose produce with many other stallions with whom she was mated proved to be superior to him. Knight of St. George was subsequently sold to America, where he was not more fortunate than at home. Orest, in consequence of an accident, never trod the turf; his class as a racehorse, therefore, cannot be determined. He got, however, a number of horses of a certain amount of medium racing form, and may, in consideration thereof, be classed as a successful sire. The Miner, Blair Athol's whilom conqueror at York, turned out rather insignificant at the stud, his paternity to Controversy being doubtful.

The *second category* is composed of fourteen stallions, amongst whom Partisan, as sire of Gladiator, Venison, and Glaucus, stands forth in such bold relief, that his value as a progenitor is above question.

Priam, even if he left no immediate male descendant of eminence, as sire of Crucifix and such useful matrons as Miss Letty, Annette, Dolphin, etc., deserves to be rated as a successful stallion.

Humphrey Clinker's claims to recognition principally rest on his paternity to Melbourne, but in consideration of the latter's worth, his merits must be deemed sufficient.

The Saddler and Brutandorf are of about equal value; the former's pretensions are, in a measure, justified by The Provost, while the latter's are based on Physician, whose sons, The Cure, and especially Blackdrop, merited the esteem in which they were held; the latter in Germany.

Election can scarcely be said to rank very high as a progenitor, nor has Sleight of Hand sired any racehorse of the first class. His paternity to several good mares, like Lady Elizabeth (dam of Stolen Moments), Legerdemain (dam of Adonis and Wimbledon) alone, does not entitle him to be ranked amongst the successful sires, and still less do his two full

brothers, The Drone and Van Amburgh, deserve a place in that select company.

Pericles' solitary claim to consideration consists in having got Harriet (Plenipotentiary's dam), but that is not sufficient.

Blue Gown's career as a sire cannot be said quite finished, since, although himself at the bottom of the sea, his last direct descendants have not yet appeared on the turf. Of his sons, Vitus and Blue Rock, good performers in Germany, should be mentioned; on the whole, however, I believe, by discarding him from the list of shining lights at the stud, I express the opinion of English breeders and owners of racehorses.

Galopin, Lowlander, and Petrarch are still on their trial; I shall follow their stud career, as being of paramount interest with regard to the question of in-breeding, with the greatest attention.

The *third category* contains twenty-two stallions, of whom Orlando, The Flying Dutchman, Emilius, Weatherbit, Buccaneer, Blacklock, and Tramp, may be said to be of indisputable pre-eminence.

Epirus, although supported by Ephesus and the Derby winner Pyrrhus the First only, will, on their account, pass muster; likewise Pero Gomez, who, as sire of Peregrine, winner of the Two Thousand Guineas, and a great number of other useful horses, deserves credit.

Knight of the Garter, albeit for the present not largely patronized, must, as the sire of Przedswit and many very serviceable horses, be reckoned as a successful stallion.

Of the four, although not very famous brothers: Windhound, Elthiron, Hobbie Noble, and The Reiver, the first, as the probable father of the Derby winner Thormanby, is entitled to a certain amount of recognition; the second has made himself in France, if not celebrated, at least useful; the last two, however, are decided failures.

Cotherstone, Chatham, Oulston, and Argonaut have not attained eminence at the stud, which is the more surprising with regard to Cotherstone, the winner of the Two Thousand Guineas and the Derby in 1843, as he was one of the most successful racehorses that ever trod the turf.

Macgregor appears to be unable to produce a horse of note.

Dalham, Isonomy, and Silvio are still in the commencement of their stud career; Isonomy, however, possessed such exceptional merit as a racehorse, that of his future the highest expectations seem justified.

The *fourth category* embraces twenty-one stallions, to whom no exception can be taken on the score of shortcomings at the stud, though perhaps Plenipotentiary's name may have a better sound than in reality it deserves.

Economist's chances were but few, yet as Harkaway's sire he has just claims to our respect.

Lanercost (sire of Van Tromp) and Flatcatcher have produced a great number of good mares; to the others no objections will, presumably, be raised; their names speak for themselves.

Przedswit alone has as yet had no opportunity to prove himself in his progeny. It may be urged against him, that he is the only horse of note his dam ever produced, yet his descent on both sides from that inexhaustible source of excellence, Marpessa, through two such brilliant channels as Pocahontas and Boarding School Miss, should justify great expectations.

In the *fifth category* there are twenty-five stallions, of whom Chamant and Robert the Devil are too young at the stud to be fairly judged. Of the other twenty-three I can point to Cossack and Andover alone as decided failures, even if the latter produced some useful animals like Cramon. It did not, however, require much individual power on the part of the stallion, when mated with a mare like Haricot. Nor has Barnton, although the sire of Fandango and Ben Webster, on the whole, been of much use at the stud, for which reason I hesitate to place him on the list of successful sires.

In England, Van Tromp has not made for himself a great name, he has, however, done better in Russia.

Venison has produced Alarm and Kingston. Paragone is difficult to classify, but his daughter, Paradigm (dam of Lord Lyon and Achievement), and the success he had in Germany, secure him an honorable place.

Defence, Pyrrhus the First, and Cowl have made their mark by producing good brood mares, and Alarm, though not having sired any very prominent horses, got many useful animals. The rest, viz., Touchstone, Melbourne, Voltaire, Voltigeur, Ion, Saunterer, Newminster, Velocipede, Harkaway, Kingston, Scottish Chief, Flibustier, and Sterling, are above discussion.

The *sixth and last category* comprises eighteen stallions, of whom Kisber and Lollypop have been too recently transferred to the stud to allow of their merits as stallions being considered.

The reputations of The Duke (sire of Bertram, and consequently grandsire of Robert the Devil), Lord Lyon, Favonius, and Wenlock, may not be sufficiently established, yet should I let three of their number pass as successful.

Breadalbane gets handsome horses; his stock, however, with few exceptions, suffer from too great an excitability of temper to bear severe training. To produce racehorses I should, therefore, not rank him amongst the sires with incontestable claims to recognition.

Ely is a dead failure at the stud; the rest, viz., Birdcatcher, West Australian, Stockwell, Rataplan, Savernake, St. Albans, Macaroni, Blair Athol, and Lambton, must be accepted as of undoubted excellence, a certificate of merit I should like to extend to Rustic, in consideration of the manner in which he has availed himself of the few chances offered him.

By summing up the foregoing remarks in shape of a comparative table of the successful stallions in their several categories, we arrive at the following result:

Category.	Number of Stallions in same.	Successful.	Too Young at the Stud.
With parents one degree removed	4	1 (?)	...
" " two degrees "	14	4	3
" " three " "	22	12 (?)	3
" " four " "	21	20	1
" " five " "	25	20	2
" " six " "	18	13	2

The proportion, accordingly, appears most favorable in the fourth, and, next to it, about equal in the fifth and sixth categories; on the whole, therefore, in those three, embracing the produces of moderate relationship; and thence, in the direction of in-breeding, gradually but strikingly lessening. It will, besides, be well to bear in mind that in the third category of the twelve stallions classed as successful, several, like Elthiron and Windhound, are rather doubtful.

From all this it would seem advisable to place most reliance on those stallions who, *cæteris paribus*, are descended from parents of moderate relationship; at the same time to be mindful, however, whether in former generations of their pedigree the same strains of blood have already met, in which case the in-breeding would thereby be increased. We thus arrive at the conclusion, that stallions of that degree of affinity in their parents, perhaps with the addition of a category with seven clear removes, are preferable to those who are in-bred or out-crossed. I, at least, should be at a loss to furnish from all the remaining stallions in the stud book, so stately a list as is comprised in the fourth, fifth, and sixth categories. That the degree of relationship alone is insufficient, when kindred strains of blood are united for the purpose of begetting high individual potency, is self-evident: that end can only be attained by using within the chosen families their most prominent members.

Almost insurmountable difficulties would be encountered in the attempt to compile similar tables for mares; their number is too great to admit of the possibility of arriving at anything like reliable comparative figures. We must, therefore, confine ourselves to a review of the celebrated matrons and see, whether among them exist many cases of in-breeding, or whether in their sex also the value for stud purposes appears impaired by too close a relationship of their parents.

Of mares that owe their existence to *incestuous* breeding, I could find but two that have proved at all successful at the stud, that is to say, have bred winners of big races, viz.:

1. Juliana, dam of the St. Leger winner Matilda, bred 1810,

by Gohanna from Platina, both being by Mercury, son of Eclipse. What renders this case still more remarkable is, that both parents of Juliana were out of Herod mares, consequently nearly own brother and sister.

2. Valentine, dam of the Doncaster Cup winner War Eagle, bred 1832, by Voltaire with his half sister Fisher Lass, both being out of the same mare, bred 1816, by Phantom out of an Overton mare.

Of celebrated mares, whose parents were altogether not more than *once* removed from their common ancestor, we notice six :

1. Miss Letty, daughter of Priam, who is strongly in-bred to Whiskey; herself in-bred to Orville (dam of Weatherbit).
2. Knowsley's and General Peel's dam, in-bred to Camel.
3. Palma, in-bred to Orville (dam of Adventurer).
4. The Jewel, in-bred to Birdcatcher (dam of Przedswit).
5. Mandragora, in-bred to Birdcatcher (dam of Mandrake, Agility, Apology, etc.).
6. Mineral, own sister to the foregoing (dam of Wenlock, Schwindler, Kisber).

The extraordinary success at the stud of Mandragora and Mineral is the more noteworthy, as their own brother, The Miner, although himself a much better racehorse, has been of little use as a sire.

With parents, *twice* removed from their common ancestor, we find a greater number of mares of tried excellence, especially :

1. Marpessa, in-bred to Whiskey (dam of Pocahontas, Boarding School Miss, and Jeremy Diddler).
2. Idalia, in-bred to Highflyer (dam of Pantaloon).
3. Necklace, in-bred to Emilius (dam of Macgregor).
4. Isoline, in-bred to Sir Hercules (dam of Isola Bella, Isonomy's dam, St. Christophe, and Braconnier).

5. The winner of the Oaks, Feu de Joie, in-bred to Touchstone (dam of Allumette, Hallate, etc.).
6. Veilchen, in-bred to Touchstone (dam of Vergissmeinnicht, dam of Wer Weiss, Wunderhorn, Walhalla, F. F. Walpurgis).
7. Bay Celia, in-bred to Camel (dam of The Earl and The Duke).
8. Elphine, in-bred to Beningbro' (dam of Lambton and Warlock).
9. Finesse, in-bred to Highflyer (dam of Decoy).
10. Decoy, in-bred to Sir Peter (dam of The Drone, Sleight of Hand, Van Amburgh, Legerdemain, Phryne, Flatcatcher).
11. Legerdemain, in-bred to Peruvian (dam of Toxophilite).

The latter instance is particularly remarkable, as it seems to corroborate the evidence of Mandragora, Mineral, and The Miner that in-breeding in mares does not influence individual potency in an equally unfavorable degree as in stallions.

Legerdemain is own sister to Sleight of Hand, The Drone, and Van Amburgh, who proved themselves inferior or useless at the stud; she herself, on the contrary, produced a horse of the first class, like Toxophilite, and that, too, under very adverse circumstances. In order to prevent the frequent re-occurrence of horsing, she was covered, when not more than three years of age, by Ion, won in the month of October of the same year (1849) the Cesarewitch, slipped her foal the day after, and then remained two years longer in training—all of which certainly did not enhance her usefulness at the stud.

A young mare with but two clear removes in-bred, who proved herself a pearl of the first water on the turf, and was in 1881 winner of the One Thousand Guineas and Oaks:

12. Thebais, in-bred to Touchstone.

Three clear removes in the descent from their common ancestor show among others the parents of:

1. Vulture, in-bred to Buzzard (dam of Orlando).
2. Peri, in-bred to Eclipse (dam of Sir Hercules).
3. Seclusion, in-bred to Sultan (dam of the Derby winner Hermit).
4. Languish, in-bred to Sir Peter (dam of the winner of the Oaks, Ghuznee).
5. Gruyère, in-bred to Waxy and Penelope (dam of Parmesan).
6. Mowerina, in-bred to Waxy, own sister to Cotherstone (and dam of West Australian, Go-ahead, Old Orange Girl, Baragah, and Westwick).

A similar case of in-breeding occurs here, as in Mandragora, Mineral, and Legerdemain, compared to The Miner, Sleight of Hand, The Drone, and Van Amburgh. Whereas Cotherstone, a quite exceptional horse on the turf, proves a failure at the stud, his own sister, Mowerina, becomes one of the most celebrated matrons in the whole Stud Book. Queen Mary might be mentioned here as in-bred to Whalebone, but as it is not beyond all doubt whether Moses is by Whalebone or Seymour, we had better leave her out.

With regard to future breeding results, it may be of interest to state that that wonder of the world,

7. Kincsem, in-bred to Slane, also belongs to this category of in-bred parents, as well as
8. Bal Gal, in-bred to Touchstone.

Of the numerous celebrated matrons, whose parents show *four* clear removes from their common ancestor, I may mention :

1. Martha Lynn, on both sides traces back to Sir Peter (dam of the Derby winner 1850, Voltigeur, Vortex, Eulogy, Barnton, Maid of Hart, Vivandière).
2. Emma, goes back to Eclipse (dam of Mundig, winner of the Derby 1835; Cotherstone, winner of the Two Thou-

- sand Guineas and the Derby 1843; Mowerina, Lady of Silverkeld Well, etc.).
3. Snowdrop, goes back to Beningbro' (dam of Gemma di Vergy).
 4. Canezou, goes back to Sorcerer (dam of Fazzoletto, Basquine, La Bossue, dam of Boiard).
 5. Ghuznee, daughter of Languish, in-bred to the same Sir Peter, goes back to Sir Peter (dam of Meeanee, Storm, Scalade, etc.).
 6. Alice Hawthorn, goes back to Beningbro' (dam of Thormanby, winner of the Derby 1860; Oulston, Terrona, Findon, Lady Hawthorn, Sweet Hawthorn).
 7. Phryne, goes back to Waxy. She produced to Pantaloon: Elthiron, Windhound, Hobbie Noble, and The Reiver; to Melbourne, Rambling Katie and Blanche of Middlebie; and to the Flying Dutchman: Katherine Logie.

About the breeding combinations in respect to Phryne volumes might be written. We have seen, that of the mares showing in the descent of their parents but two removes from the common ancestor, Finesse, her daughter Decoy and granddaughter Legerdemain, are in that strong degree in-bred to the three sires Highflyer, Sir Peter, and Peruvian, or grandfather, father and son; nevertheless, Legerdemain, the offspring of threefold in-breeding, when mated with a stallion of a quite different strain of blood, breeds a horse of the first class, like Toxophilite; and her dam Decoy, a produce of twofold in-breeding, with Pantaloon (from herself only twice removed), four such good animals as Sleight of Hand, The Drone, Van Amburgh, and Legerdemain. Fortunately, for a comparison, Decoy was also mated with Touchstone, with whom she stands (four degrees removed from Waxy) in moderate relationship, and, behold, produced Flatcatcher, winner of the Two Thousand Guineas and sire of numerous excellent brood mares, and Phryne, one of the most valuable pearls of the whole Stud Book. Decoy must assuredly have been a mare of enormous individual potency, to be able to produce six animals of the quality, of one

description or another, of The Drone, Sleight of Hand, Van Amburgh, Legerdemain, Flatcatcher, and Phryne, but no doubt can be entertained as to the incomparably higher value of the two last, produced within moderate relationship, than of the other four, the offsprings of close in-breeding.

All these investigations and comparisons seem to point, I should say, to the fact that in-breeding in mares, even if once or twice repeated, need not render us absolutely distrustful as to their value at the stud; that, however, on the whole, the mating of the best individuals within the chosen families, moderately related, is preferable for the production of brood mares as well as stallions, because such mating within the same strains of blood may, as occasion requires, be repeated without danger, as no apprehension of thereby weakening the constitution need be entertained.

It is evident, however, that the observance of this principle, if continued *ad infinitum*, also is not without danger to the lasting prosperity of the breed, for the more frequently the mating of animals, standing to one another in even a moderate degree of kin only, is resorted to, the more will gradually become the in-breeding in the whole species of thoroughbreds, necessitating, at perhaps a not far distant period, the infusion of new blood by occasionally importing into England sires of pre-eminence from other countries.

Experience points to America as the source from which to draw in future the regenerating fluid; for although the American thoroughbred takes its origin from England, and is still, more or less, related to its English prototype, the exterior appearance and the more recently shown superiority of American horses lead to the conclusion that the evidently favorable climate and the, to a great extent, virgin soil of America—in every respect different from ours—gradually restore the whole nature of the horse to its pristine vigor, and make the American race appear eminently qualified to exercise an invigorating influence on the constitution of the thoroughbred in the mother country, enfeebled, perhaps, by oft repeated in-breeding.