ON PALAEOGENETIC FACE-PATTERN IN ACROTERIC PIEBALDS.

BY

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Broad forehead, streak on face of horse prolonged upon the upper lip and showing also on lower lip. White stockings occurred on all four feet, very long on the hind feet, and very abruptly margined. The horse was not otherwise piebald. Both in Buffon's portraits and those of Neisser the lower lip was implicated as well as the forehead.

THE most casual observer in London streets must have noticed that many horses have stars, or streaks of white, on their faces. It may, however, evoke a smile of amused incredulity if it is asserted that these markings sometimes have their representatives on the human face.

In the first place let me point out that these patches may differ much in size and contour, and although usually in the middle line, and bilaterally symmetrical, they are sometimes one-sided and conspicuously unsymmetrical. They sometimes run the whole length

of the face, from the vertex to the lips, and may affect even the lower lip, whilst on the upper forehead they may have side-wings and become dagger-shaped. With them comes the very curious and important observation that the animals which show them almost always have the lower parts of their extremities, one or several, white to a greater or less extent, and that the extent to which they are white is in direct ratio with the size of the patches on the face. "White stockings" is the colloquial expression in use respecting the feet, and the association of the two is recognized in the farmer's charge to his son when going to the fair:

Four white stockings and a white nose,
I pray thee, my son, buy none of those.*

When the forehead marks are large they are called "blazes" or "flares." I do not believe that they imply any real discredit to the horse which shows them, but they have their meaning. For the present all detail must

Illustrating the common association of a white star on forehead of horse with white feet on three legs. Note that the "stockings" are small and the foot that has none is the right forefoot (according to rule).

be avoided, and I must invite my readers to observe for themselves in any town-street, or, to greater advantage and

*The term "acroteric" is used to denote association with the extreme periphery, that is, with the outermost points. The tip of the tail, the ends of the four limbs and of the nose and the external ears, are all acroteric. The term may be extended to include adjacent regions, as, for example, the forehead and whole of face.

more at leisure, at any railway station. It is to be noticed *in limine* that although we speak of them as "white markings," they are not invariably white, but that when in other tints they are, as will be easily understood, less conspicuous. This circumstance it is which to some small extent explains their being less easily observed in the human subject. Although I have preferred to give the horse as my example, these face-markings are common to many of the larger quadrupeds, and may be easily studied in many dogs.

The items of evidence which bear upon the occurrence of "blazes" and "white stockings" in the human subject are but very scanty, but they are very instructive. The first which I adduce is from a drawing taken by an English surgeon in the West Indies of a piebald girl. The ship in which it was being carried to England, having been taken by a French privateer, the sketch fell into the

A piebald goat showing a broad white band on the face in association with white legs and black stockings. To be compared with Buffon's portrait of piebald child with star on forehead and black gloves and stockings. (Copied by permission.)

hands of Buffon, and was by him published. It must be remembered that this was long before the days of photography, and that no details of the case were recorded.

We must notice that the "blaze" on the child's forehead is dagger-shaped and has an island near its centre, that it does not involve the nose, but recurs on the lower lip and chin. As regards its body, the child is (as is usual in piebalds) patched with rudely bilateral symmetry, and, what is more important, that its four extremities, manus and pes, all carry stockings or gloves, which, however, are not white, but black. It is the pattern, and not the colour, which is noteworthy.

The observations respecting this portrait might be passed aside as exceptional, or vulgarly claimed as a "freak," were they not most remarkably substantiated and illustrated by the next group which I produce. The portraits of three negroes, which are here seen, are executed from a photograph given me ten years ago by Professor Neisser of Breslau. I have his permission to publish them, but neither he nor I have been able to obtain any particulars, or to say whether they have ever been published before. It is very probable that they have; and if so, I should be very much obliged to any one who can give me the reference to place of their publication or any facts respecting them.

The girls were sisters and presumably of different ages. It will be seen that all have the forehead "blaze" and the patch on the chin, but with certain minor differences which are important as demonstrating that

the pattern may vary in detail whilst remaining essentially the same. The upper part of the dagger has no doubt been distorted by the manner in which the white hair has been arranged. The fact that a piebald condition occurred on the upper extremities is made evident in the central figure, and in all of them it is shown that the manus remained wholly black or almost so, as in the Buffon's case. We may safely suppose that all three were in essentials alike. The occurrence of such similar phenomena in three sisters, and, still further, their parallelism with what is seen in the Buffon portrait, are, I must insist, sufficient to prove that we must refer them to the action of law and not to mere chance coincidence; and the same statement applies, I think, to the comparison which I have suggested with the forehead and foot pattern as they are observed in the horse. It is surely needless to protect myself from the absurd inference that I suggest any direct transmission by inheritance between horse and man. All that I imply is that horse and man alike inherit an integumental organization which under the laws of palaeogenesis may evolve, even in very remotely related animals, similar results.

It is obviously much to be regretted that no family history of the patients is obtainable (at any rate for the present). We do not know for certain, either in Buffon's portrait or in those of Neisser, that the girls were mulattos. It may be plausibly suggested that they were; but I may remind those who are inclined to attach much importance to this supposition that mulattos are very common, whilst the conditions here shown are extreme rarities, and that the mixture of races has never been observed to bring out patterns of this kind. My own belief is that what we here observe are the result of palaeogenetic inheritance, and that we ought not to attach much importance to the fact that the subjects in this instance are all of negro race. Mr. Bishop Harman has, indeed, already given us (in the

Transactions of the Ophthalmological Society a most instructive narrative (with a portrait), in which in several generations forehead-patterns occurred in subjects of English parentage. I possess in the Polyclinic Museum and in my notebooks sundry other illustrations of coloured face-patterns, but prefer for the present to allow these cases to stand by themselves.

My observations of the face and foot markings of horses have extended over many years, and I am in a position to make certain statements respecting them with tolerable confidence. There are exceptions to all rules, but, allowing for these, I am sure that generally, as I have already stated, the upward extension of the patches on the legs will be in ratio with the size of the star or blaze on the forehead. If it occurs, as is unusual, that the forehead patch is not placed in the middle line, there will probably be want of bilateral symmetry in the markings of the feet. The face marking may be a simple small and central star. This star may be developed as a large patch, and it may form wings; these wings may be wholly one-sided. Now, all four feet may be involved or only some or one. The hind feet almost always are more extensively involved than the fore ones. The horse figured (p. 1479) in the present paper shows what we may describe as one of the commonest types. There is a small bar on the forehead, and it is central. One foot only is without any stocking, and it is the near or right one. I attach much importance to any conspicuous deviations from symmetry in these matters. If, for instance, the face-patch is on one side only and the two feet on one side show stockings while those on the other retain colour, it may, I believe, be suspected that the animal is not developed with perfect bilateral symmetry in other respects. He may differ from his fellows, as a left-handed man differs from a right-handed. He may be a sinistral horse, and if so, although he may be strong and efficient for work, he will move more or less awkwardly and not be pleasant to ride. As my observations have been made for the most

Face-pattern on a negress with acroteric distribution of colour in a piebald skin. (From Buffon.)

Face-pattern in three negresses (sisters) with acroteric distribution of colour, probably on piebald skin. (With permission, from a photograph given by Professor Neisser.)

part in driving about London streets, I have not had, as a rule, any opportunities for making inquiries as to the animal's gait. Out of the few instances in which such information has been obtainable I have met with several which remarkably confirmed my conjectures from the animal's feet and face. Of examples in which both fore feet had stockings and both hind ones were wholly exempt I have seen only two or three.

The faces of all animals, especially our domestic ones, should be carefully observed and notes and photographs should be taken. There is much to be learnt from them. The face often preserves a pattern when little or none is discoverable on the body. Animals with tails often show at their tips colour resembling that of their noses or foreheads. Dogs very often show the white star or a long central white forehead-streak extending from nose to nape. Black cats often have snow-white paws, the hinder ones, like the feet of horses, being the longer ones.

A Clinical Lecture

ON

DERMATITIS ARTEFACTA.

BY

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[With Special Coloured Plate.]

DURING the last three years several cases of dermatitis artefacta have come under my notice in hospital and in private. There is, perhaps, no class of case attended by so many difficulties and where the exercise of tact on the part of the doctor is so essential. The apparent absence of any reason for self-mutilation very often, indeed one may say usually misleads the attending physician, and diagnosis is most often made only when the hard-hearted stranger is called in consultation.

I would first dismiss a class of artefact eruptions which really depends upon a mental delusion. I had last winter in my wards a woman, aged 52, whose chest was torn and scored in all directions by her nails in her endeavours to extract from her skin the parasites which she believed to be infesting it. There was in her case no concealment; she explained the lesions at once. Two or three of these cases have occurred in my experience, and I think the prognosis is invariably bad. This patient refused to stay in the ward, and although I restrained her until her relatives were consulted, they could not be induced to allow her to be sent, as I thought she should be sent, to an asylum. The next case is a relatively uninteresting one. The patient was a woman of low mental development, and at intervals she suffered from an eruption on her legs, an eruption which had evidently aroused sympathy and interest at home. The lesions were simply long scratches with her nails, and as she persisted in her statement that there was no itching connected with the eruption, it was pretty obvious that they were intentionally inflicted. I kept her in my ward a few days, and had her watched. The eruption disappeared, but reappeared soon after she returned home, and I fear she will, like the first case, eventually find her way into an asylum.

I am, fortunately, able to give illustrations from casts made by my secretary of three very typical cases, where the nature of the eruption was at first something of a mystery, the patients all along pretending complete ignorance of the cause. I have, for reasons which will be obvious, felt it necessary to paraphrase the cases, but I can vouch for the essential accuracy of the facts.

C. V., a girl aged 16, was knocked down in the street by a motor car. Her elbow was bruised, and she was taken to a hospital, where the joint was examined both manually and by the x rays without disclosing evidence of any serious injury. A correspondence relative to the accident began, and some of it was conducted in a less diplomatic manner than was altogether wise. While this correspondence was going on the arm was getting better; the stiffness was disappearing, and the arm becoming moderately useful again. One day there appeared around the affected joint a group of lesions, just such as those depicted in the illustration. The next day there were

more of them, and the surgeon in whose care the patient was sent her to me for an opinion. I at once suspected the nature of the eruption, but said nothing to the girl or her parents; indeed, I did not see the latter at this time. But I pointed out to the students sitting around me the probable nature of the eruption, using language which she was not likely to comprehend. Then, returning to simpler speech, I explained to the students that such cases were very often symmetrical, and that lesions having appeared in the neighbourhood of one joint, were likely to appear around the corresponding one on the other side. This in due course they did. I then pointed out to the students that in some cases the eruption spread to one of the other limbs, usually crossing the body in doing so, and two days later she came up with the eruption around the knee of the opposite side to that originally injured. I thought matters had now gone far enough to enable me to express a definite opinion as to the cause of the eruptions. I took her into my ward and had the cast from which the illustration is taken made. No further lesions appeared; those present soon disappeared, and there was no action in the Court of Session. I did not succeed in finding out what was the particular chemical she used.

The next case was a young lady whom I saw in consultation in the North of Scotland because of an eruption upon her face, arms, and chest. It was of markedly linear type, and when we retired to another room to discuss the case, I at once said to the doctor, "I believe she is doing that herself." Whereupon he replied, "I suspected it." She was a handsome, plump, healthy girl of 22, in good circumstances, and had no mental worries that either the doctor or her relatives could discover. She was carefully watched, and actually detected by one of her sisters applying nitric acid to her skin with a stick. I had the advantage in this case of having the opinion in consultation of an eminent neurologist, and neither he nor I could recall a case in which so much mutilation of the face had been produced. Under careful and close nursing she recovered, half admitted her share in the transaction, and a few months later was brought to me again with a similar eruption. While ready to admit that she had had something to do with the first, she stoutly denied anything of the sort in connexion with the later attack.

The next case was one which was instructive because of the character of the patient. It is well represented in the Plate (E.N.), and no one of experience, observing the bizarre character of the lesions, could possibly doubt that some extraordinary cause had been at work. This girl was a children's nurse. She had been many years with one family, was a devoted nurse, and was implicitly trusted by the parents, who could go away for days or weeks, leaving the children confidently in her care. For months these lesions continued to come out on different parts of the body, running a comparatively short course, and disappearing to give place to fresh ones in some other part. This patient was actually permitting arrangements to be made for her admission to the Longmore Hospital for Incurables, when I was asked to admit her to my ward, and, as said above, at once diagnosed self-infliction. No lesions appeared after her admission, and she had therefore evidently not brought her chemical with her. We had some reason to believe that the active agent was lyeol, combined with friction.

The other case illustrated is perhaps the most instructive of all, and I have to thank her doctor, in the late Sir T. Granger Stewart's words, a "friend and former pupil," for permission to publish in full the correspondence which passed between us about the case; for I think nothing could give a better account of the attitude of the family doctor to such patients. It is the attitude which all of us under similar circumstances tend to adopt.

The correspondence opened with a letter from my friend (Dr. A.) from a manufacturing town in the Midlands, asking me to take under my care in hospital a case which had exhausted his (more than average) ability, and in due course the patient arrived.

The first letter is from Dr. A.'s partner, Dr. B.

I.—From Dr. B.

March 8th, 1909.

Dear Dr. Walker,

As I have had more to do with Miss S. than Dr. A. has, I write a short note about her and her eruption. Six months ago she sustained a small burn with pure carbolic acid on the