the lower races, been always taken as the antithesis of the white man of Europe; and in numerous treatises on the subject, the differences between them have often been either exaggerated or softened down, according to the bias of the writer. The black colour of the skin of the Negro, which is due to an increased number of pigment-granules in the cells of the epidermis, and not to the presence of a black layer between the epidermis and the dermis, as was formerly imagined, is proverbial; but very few negroes, if any, are really black. The Joloffs of Senegambia are described as being "jet black", or even "blue black", but various shades of brown, or even yellow, are more common. The iris is dark-brown, and the conjunctiva yellowish; the hair is always black, except in the not unfrequent cases of albinism, and never attains a great length. Its peculiar character is its flattened elliptical section, as seen under the microscope, and tendency to curl in very close spiral coils, a character always associated, though in varying degrees, with flat hair, giving the general effect commonly called "woolly", or more properly "frizzly", are well known. The curling may be also partially due to the form of the hair-follicles, which, instead of being straight, as in Europeans, are curved in the Negro, thus giving a twist to the growing hair. The size and thickness of individual hairs vary considerably, but they all agree in possessing the lateral flattening. The divisions of the Negro races into two distinct groups—those in which the hair grows evenly scattered over the scalp, called *ericoimi*, and those in which it grows in distinct tufts with bare intervals between, *lophioimi*—though often demonstrated to have been based upon fallacious observations, holds its ground with great tenacity, and is still adopted in most treatises on anthropology. The report of a commission of the Paris Anthropological Society on the growth of hair of a negro, in one of the hospitals of that city, published last year in the Bulletin of the Society, ought to set the question at rest. The beard of the Negro is short and scanty. The features scarcely need description, as they are well known to everyone. Their chief characteristics are the narrow but rather vertical forehead; small, but rather prominent, eyes; full cheek-bones, though not so full as in the Mongolian races, but intermediate between them and the European; flat broad nose; prognathous mouth, with very full and everted lips, often projecting beyond the level of the nose; large white teeth, and a small chin. In stature, there is considerable variation, some tribes, on the west coast especially, being tall and well built, equal or even above the average of Europeans; others, such as the Bushmen and others in the south, are much smaller; and there is also some evidence of the existence of a true race of pigmy Negroes inhabiting the interior, near the sources of the river Nile. Two thousand black soldiers of African descent in the United States of America, during the war, gave an average of 167.8 centimètres, or nearly 2.7 centimètres below the average of whites (170.5 centimètres). The differences in the proportions of the different parts of the body in different races have received much attention from anatomists, and the comparison between the Negro and the standard European is more completely elaborated than between any other races; but, owing to the small number of skeletons, on which alone perfect accuracy of measurement can be obtained, much still remains to be done. As regards the length of the clavicle, Broca and Pasteau find that this bone is slightly longer in the Negro than in the European, being 45.5 in the former, and 44.6 in the latter, that is, as compared with the length of the humerus; but the comparison is not a satisfactory one, the latter bone being, as will be shown, peculiarly short in the Negro. Compared with the femur, which is a better standard, as its proportionate size to the height of the individual is nearly the same in both races, the clavicle appears, as far as can be judged from the materials available for comparison, to be shorter than in the European, as was also shown last year to be the case with the Andaman Islanders. The differences in the form of the scapula have been fully discussed by Broca and Livon of Paris, who have shown that the index of the length compared to the breadth is much higher in the Negro than in the European. The general length of the limbs is in some respects striking and important. All observers agree that the arms of the Negro are longer in proportion to the height of the person than in the case of Europeans. This is illustrated by measurements taken in the American war, which show that, when standing upright, the mean distance between the tips of the fingers and the upper end of the patella was 7.4 centimètres in the Negro, and as much as 12.7 centimètres in the white. The legs are also longer in proportion to the height, though to a less extent. The arms, compared to the legs, are slightly shorter than in Europeans; this is caused by the shortness of the humerus, its length, as compared with the femur, being as 96 to 100 in the Negro, and 73 to 100 in the European. The radius is longer even as compared with the femur or with the height, and, *à fortiori*, as compared with the humerus. The humero-radial index is, therefore, one of the most important characteristic differences between the two races; in Europeans, it averages

74, that is, taking the humerus as 100, in the Negro, 80. The femoro-tibial index presents a similar but less striking difference, being, in the European, 82, in the Negro, 85. Some of these characters, as the humero-radial index, approximates the proportions of the Negro to those of the higher apes; but others, as the shortness of the humerus and the great length of the lower limbs as compared with the height, do not carry out the same proportions, and only present signs of divergence from the European standard, though not of inferiority.

The other black races agree generally with the typical African Negro in such proportions as he differs from the European, and hence these might be used as valuable distinctive characters in the classification of man; but difficulties arise when the Negro is compared, not only with the European, but with other races generally held to be distinct. Although very few of them have been measured in sufficient numbers to give reliable averages, the indications already show that, in many points, the proportions, though they may distinguish the Negro from the European, do not separate him from others which in many respects are most dissimilar. In the humero-radial index, for instance, the Peruvian and the Malay, judging from the measurements of the skeletons in the College Museum, agree with the Negro rather than with some other branches of the so-called Mongoloid races, as the Eskimo and the Samoyede. But this is a subject for further observation rather than hasty generalisations. Before, however, we can obtain sufficient data on which to base our facts, we must have a considerably greater number of skeletons than we at present possess.

ON LUPUS AND ITS TREATMENT.*

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It is not my intention to occupy much time with details as to the microscopic anatomy of the different forms of lupus. I shall take it for granted that it is well established that the lupus process is one of cell-growth attended by the ordinary phenomena of inflammation. The precise structure of the skin in which the growth begins I shall not seek to determine, but shall rather prefer to assume that it may be developed from indifferent cells, which may have their site either in close adjacency to the glands in the perivascular spaces or possibly in those of the lymphatics. In the determination of priority in this matter, there is still room for the labours of the histologist. The peculiarities of the process when once begun may be assigned with tolerable definiteness, and they are of great importance as bearing upon the selection of methods of treatment. It is an essential feature of all forms of lupus disease, that the cell-growth once originated shall be infective, and shall cause similar disease in the adjacent skin. Lupus is always serpiginous, and it becomes so in virtue of the law of contagion by continuity, or, to express the same fact in more anatomical language, because its cell-structures spread along the perivascular spaces. Whilst thus asserting this tendency to lateral growth as an invariable feature of all that we call *lupus*, it is important to immediately add that it never shows any power of spreading deeply. From beginning to end, it is a disease of skin or of mucous membrane, and only by accident are the deeper tissues ever involved. In this limitation to the structure, it differs definitely from the forms of new growth which we class as "malignant". Its alliance with common inflammation is shown by similarity in exciting cause; for it is often, indeed usually, induced by some slight local injury or irritating influence. Its peculiarities, which are very considerable, are evidently due to the state of cell-nutrition and tendency possessed by the patient, and not to anything special in the exciting causes. It becomes, therefore, of great importance to study carefully its predisposing causes, and upon this head I will submit for discussion the following assertions.

The evidence is overwhelming that lupus, when correctly diagnosed as such, is a malady wholly independent of syphilitic taint. It may be very closely simulated, both in acquired and in inherited syphilis; but in its ordinary forms it is certainly not affiliated to either. It is rather a type-form of disease of the skin which syphilis only imitates; or possibly a yet more correct mode of expressing the relationship would be to say, that it is a disease of the skin due to a constitutional state which may be intensified by syphilis. When lupus follows syphilis, the latter influence may be plausibly supposed to play the rôle of a detector, making manifest in activity processes of disease, the tendency to which but for it might have remained latent. In doing this, however, it always stamps the hybrid malady with its own mark. The cross sometimes favours

* Read in the Subsection of Dermatology at the Annual Meeting of the British Medical Association in Cork, August 1879.

one parent, and sometimes the other; and thus some forms of "syphilitic lupus" may be pronounced offhand to be syphilis, whilst others approach lupus so closely as to puzzle the most experienced observer.

The reasons for asserting that common lupus is in no relationship with syphilis are briefly the following. It is a disease common in young persons, in whom no possibility of acquired disease exists. It is common in single members of large families, in none of whom any indications of inherited taint are present. Its subjects, with the rarest possible exceptions, never show any traces of inherited taint—they have neither the physiognomy nor the teeth, nor are they liable to keratitis or to nodes. The known subjects of inherited syphilis, as recognised by their physiognomies, teeth, and other peculiarities, are not liable to lupus, nor does it happen to the brothers or sisters of such. When lupoid affections occur to those who are the subjects of inherited taint, they almost always display peculiarities which denote their parentage. Whilst lupus cannot be cured, nor even influenced for good by specific remedies, its syphilitic counterparts cannot be cured without them.

It is scarcely worth while to discuss the question as to whether lupus is syphilis in the third generation, since those who have suggested this hypothesis have never attempted to produce a single fragment of evidence. It may safely be asserted that no such evidence is obtainable, and that the improbability of the theory is infinitely great. I have seen the grandparents of lupus patients in a great many instances, and never in any single one have I recognised the subject of inherited taint. On the other hand, I have, in a certain number of cases, had the opportunity of examining the children who were the known subjects of inherited taint, and I have never amongst such seen a lupus patient. Further, if, as just shown, lupus do not occur in the second generation, what likelihood is there that it should display itself in the third? Whilst there is no reason to believe that syphilis, either inherited or acquired, has anything to do with common lupus, there is good reason for associating the latter with two or three other well recognised constitutional conditions. I refer especially to the state of health known as scrofula, to that which produces relapsing symmetrical skin-diseases of the psoriasis type, and that condition of feeble circulation which favours the occurrence of chilblains. Amongst these three, lupus seems to divide its allegiance, approaching more closely now to one and now to another. The division is, however, by no means equal, and the larger number of lupus cases partake more closely of the scrofulous character than of any other. Next to scrofula probably comes the chilblain tendency, and lastly that to psoriasis. But many other strumous maladies are closely related to congenital feebleness of circulation, and even chilblains themselves are, perhaps, in some sense strumous; and thus we may perhaps, for practical purposes, consider that lupus is scrofulous disease of the true skin, modified more or less in individual cases by other tendencies. From what is sometimes vaguely spoken of as scrofuloderma, it is to be distinguished by the circumstance that the latter almost always begins under the skin in the cellular tissue or lymphatic glands. In such, the skin ulcerates secondarily. There is no form of disease of the true skin beginning in it of a scrofulous nature to which the name lupus is not applicable. It is, I feel sure, impossible to assign any lines of demarcation between scrofulous disease of the skin and lupus, and the attempt to do so is probably a violation of pathological laws.

In order that our conceptions as regards lupus may be clear, it becomes of importance to assert that it is not a specific, not even a well specialised, disease. By this is meant that it is not a disease which always preserves unity of type, or which always acknowledges identity of parentage. It is one which we may describe, but which we cannot define with that kind of accuracy which would enable us with certainty to pronounce, in all cases, whether a given example of skin-disease were lupus or not. Just as insanity is sanity with modifications more or less marked, just as it is impossible always to define avarice and to distinguish it from prudence, so is lupus common inflammation of the skin with modifications, and just so is it impossible always to distinguish it from other recognised forms of skin-disease. The attempt to do so is, indeed, a mistake in clinical observation—an endeavour to make nature fit herself to moulds which are not of her making. These remarks, whilst they apply to the diagnosis of lupus from other maladies, become of still greater importance when we attempt to distinguish the varieties of lupus from each other. Usually this diagnosis of different forms is easy, but in some instances it is impossible, for they run into each other. Any one who has seen half a dozen examples of common lupus and of lupus erythematosus is able with ease to distinguish the one from the other, and both in turn from scrofula, syphilis, and psoriasis; but let him wait awhile and see more, and he will find before long that there are examples of mixed forms of disease which it is impossible to denote correctly without employing hybrid names or qualifying adjectives.

The reason of this is, as already stated, that lupus is not in any of its forms specific; it is not produced by any one definite cause, but is a result of various modifications of vital endowment existing in its subject.

With these explanations, which appear essential in order that we may understand each other, and use the same words with the same meanings, I will now enumerate the varieties of lupus which it seems convenient to recognise in practice. Some of these different forms are clinically very distinct, others less so. It may be assumed, I think, that the old division, into *exedens* and *non-exedens*, has been abandoned. More than twenty years ago, I pointed out that these terms, as usually employed, simply distinguish lupus of the nose from lupus of flat surfaces. Whenever the disease attacks the nose, it destroys it, and then gets the name of *exedens*; whereas the same process on a flat surface rarely causes deep loss of tissue, and as seldom gets the epithet. In the days when rodent ulcer was not well discriminated from lupus, it also often did duty for lupus *exedens*. I shall, therefore, take no cognisance of this utterly arbitrary division, nor shall I further attempt to give any definite meaning to the term *hypertrophicus* as applied to lupus.

The first great natural division of lupus cases ought, I think, to be into those which observe the type of *lupus erythematosus* and those which keep to that of the common form. Between these there are such important clinical differences, that some even doubt whether it is wise to continue the term *lupus* for the erythematous form. I do not myself feel any hesitation on this point. The erythematous form is certainly lupus, although it has differences which must be carefully noted. There are, however, such numerous points in common, and so many mixed cases occur, that it would be most unwise to attempt their complete separation. The most important peculiar feature of *lupus erythematosus* is its tendency to symmetrical development. Common lupus is never symmetrical, except by accident; but the erythematous variety is almost always so. The latter begins usually on the nose, produces next two symmetrical, but often not continuous, patches on the cheeks, then attacks the two ears, and next the backs of the two hands. This law of distribution acknowledges but very few exceptions, and it implies, I think, a relationship on the one hand to psoriasis, and on the other to chilblains. Perhaps its alliance with the chilblain diathesis—that is, with congenital local peculiarities of circulation and cell-nutrition—is its most marked feature. But whatever may be the peculiarity which gives proclivity to lupus erythematosus, there can be no doubt that the process, when once begun, is one of lupus. It affects adjacent parts by contagion of continuity, and thus spreads serpigiously; it produces new islands of disease near to the parent one; it persists indefinitely; and when it disappears it leaves scars. As a rule, it attacks patients of about the same age and in similar states of health to those who are the subjects of common lupus; and equally with the latter it is free from any suspicion of being due to syphilis.

As varieties of lupus erythematosus, we may mention *lupus sebaceus*, in which there is frequently no erythema whatever; and *lupus erythematosus hemorrhagicus*, in which the erythema element is intense and produces proneness to bleed. To these might perhaps be conveniently added another very rare one, in which patches which cannot be distinguished from *naevus* spread widely at their edges and ulcerate like lupus.

Of *lupus vulgaris* we may, for purposes of clinical convenience, recognise the following varieties.

I. *Single-patch Lupus*, in which the patient, through a long course of years, has lost the original patch. In these cases, there is rarely much tendency to ulceration, and the strumous diathesis may be supposed to be but slightly marked, and the patient in good health. Often the patch is in one cheek, but it may chance to be on any part of the body.

II. *Many-patch Lupus*.—In a large majority of cases, common lupus shows itself in more than one place. When smaller patches occur near to the parent one, they are probably due to infection from it; but when at distant parts of the body, they may not improbably be quite independent of it, and due to diathesis. For cases in which the multiplicity of patches is great, the patient being spotted over with them, I proposed some years ago the name *lupus psoriasis*; but I now admit that it is not closely appropriate, since the lupus patches are never arranged symmetrically, as are invariably those of psoriasis.

III. *Ulcerating Lupus*.—It is very difficult to apply the term ulcerating so as to distinguish by it any special variety of lupus, since ulceration, in greater or less degree, is present in a majority. There are cases, however, in which the tendencies to common inflammation are so great, and ulceration occurs so early, that the special features of lupus are almost lost in granulation-masses and pus-crust. In these cases, the strumous diathesis is usually strong. The part affected has also some

share in developing the proneness to ulcerate: thus lupus on the feet almost always ulcerates early.

IV. The term *acne-lupus* may be given to the disease when it occurs in scattered spots, like those of acne or impetigo. It is well illustrated in the portraits which I exhibited in the annual museum some years ago. It has also, I believe, been carefully described by one whose recent loss to dermatology we all deeply lament.

V. It may perhaps seem strange to many to suggest the term *eczema-lupus*. The characters of eczema and lupus are generally wholly distinct. There is, however, a very rare form of lupus inflammation of the skin which looks exactly like eczema. The state of the surface is not to be distinguished from eczema, and the diagnosis can be based only on the history that the patch has existed for years, that it slowly spreads at its edge, is amenable to no treatment, and when cured leaves a thin scar. In respect to the extreme thinness of the lupus growth, this form resembles lupus erythematosus; but it is never, like it, symmetrical.

VI. *Lupus marginatus* is a name which I have ventured to give to a very rare and very peculiar form of lupus, in which the margin is extremely thin and delicate, and in which, with no visible ulceration, a very superficial scar rapidly forms in the centre. It is certainly in essential features a lupus; and it differs from lupus erythematosus in not being very vascular, and in having no tendency to symmetry. I have seen but two or three examples of it.

It would not be difficult to mention several other very exceptional forms of skin-disease in which the features of lupus are assumed, and which ought, I think, to be recognised as its congeners. It is to be understood, however, that for the purposes of ordinary practice it is sufficient to recognise the common and erythematous types and to keep in mind that tendency towards scrofula, towards chilblains, and towards psoriasis give peculiarities to individual cases.

It is necessary, in order to complete the subject, to say a word or two as to lupus of mucous membranes. Lupus of the gum is not uncommon, and from the gum it not unfrequently extends to the palate. It is very seldom seen in the pharynx, and I am not aware that it has been traced lower in the alimentary tube. Lupus of the conjunctiva constitutes a rare and very peculiar form of disease. In the rectum and vagina, lupus is probably very unfrequent, and its examples in these regions have not as yet been identified with sufficient accuracy to permit of much being said about them.

If I have been detailed almost to tediousness in particularising the causes of lupus and its alliances with other maladies, I had before me the desire to clear the ground for the establishment of definite principles of treatment. I have tried to prove that lupus is mainly a scrofulous malady; that it is influenced by the causes which induce chilblains; and that in some cases it has an alliance with syphilis. I have asserted further that it has no connection with syphilis. From these data, the rules for treatment, or at any rate for constitutional treatment, are easily evolved. We must improve the patient's state of nutrition by tonics, good food, bracing air, cod-liver oil, and the judicious use of stimulants. To all these, arsenic—the specific for psoriasis—may usually with much advantage be added. We must further protect our patients from the influences which cause chilblains; send him to a warm climate in winter, or, failing that, make him keep the house as much as possible. We must abstain from enfeebling the health by iodides and mercury. But, since the lupus growth is self-infective, it is impossible, when once it has begun, to arrest its spread by attention to the general health. We may perhaps prevent ulceration, but that is often all. As far as the cure of the local process is concerned, it must be effected by local measures, and these measures must be of the nature of destructions. The new cell-growth must be destroyed, eradicated without delay and without flinching. Without doubt, the most important point for discussion in this meeting is as to the best means of destroying the vitality of the lupus growth. I have had considerable experience of these methods—the use of caustics, the actual cautery, and Volkmann's erosion method. All are very good, but I unhesitatingly prefer the last. If caustics are used, they must be used very freely. I have repeatedly seen a patch wholly cured by a single dressing with chloride of zinc or acid nitrate of mercury. As a rule, these remedies were used too timidly or without sufficient painstaking. They give more pain than the actual cautery, but their sores granulate better and heal more quickly. The actual cautery is comparatively painless, can be easily limited, and at the same time made to act deeply. It is very efficient, but its burns are sometimes slow to heal. The erosion treatment appears to give less pain, to be very efficient, and to leave a sore which heals rapidly and soundly. Its introduction will, I think, mark a new era in the treatment not only of lupus, but of rodent ulcer. It is so simple, so easy of employment, and has in it so little that is alarming either to surgeon or to patient, that it is likely in the future to be

employed in the early stages, whilst there is good hope of the complete cure of the disease. Lupus erythematosus is often benefited by solutions of tar and of lead, and the free internal administration of arsenic.

I must here bring my paper to a close, and leave the subject in the hands of the meeting. Whilst sincerely regretting the incompleteness of my sketch, I can but hope that I have stated the leading points with sufficient clearness to elicit a profitable discussion.

ON THE USE OF IODIDE OF STARCH IN THE TREATMENT OF LUPUS ERYTHEMATODES.*

By MCCALL ANDERSON, M.D.,

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EVERYONE conversant with the treatment of lupus erythematosus must be well aware how obstinately it resists internal remedies. At all events, my own experience hitherto has been that no internal remedy is capable of itself, even in isolated cases, of removing the eruption, although I have known it to disappear spontaneously.

Any medicine, therefore, which, in a certain proportion of cases, is capable of ameliorating this condition, must be hailed with satisfaction; and that will be found to be the case with iodide of starch. I learned this fact in the following way. My friend Dr. Colligan of Paisley sent me a patient labouring under well-marked lupus erythematosus some years ago. We agreed to try from time to time various local applications, which certainly effected some improvement, but altogether failed to eradicate it. A considerable time after this, happening to meet Dr. Colligan in connection with another patient, he said to me: "By the by, do you remember the patient I sent to you with lupus erythematosus? I used all the applications you recommended, but they did not remove the eruption; so I thought I would try the internal administration of the iodide of starch which I had often seen employed for other diseases by Dr. Andrew Buchanan, when I was a student. Well, I gave her a teaspoonful of it three times a day, and in two or three weeks the eruption was gone." I expressed myself equally surprised and gratified, and promised to give it a trial. For a couple of years before this, I had been seeing from time to time a lady, the sister of a medical friend, who suffered from the same complaint in an aggravated form, not only on the face, but also on the head; and, although some impression was made upon the disease by means of local applications, the results of the treatment had been anything but satisfactory. I therefore wrote to the doctor, mentioning Dr. Colligan's experience, and suggesting a trial of it in his sister's case, which he did. Some time afterwards, the lady came to see me, and I must confess that I was astonished to find that in her case too a great amelioration had taken place in her state (although she could not be said to be completely cured), much greater than from the previous persistent use of most of the recognised remedies, and that without the simultaneous use of any external treatment whatever. Since that time, I have in many cases used the remedy in doses of from one to four teaspoonfuls in water or water-gruel three times a day, and while in some no result whatever has followed, in a fair proportion of them much benefit has accrued; so that I now regard it in the light of a valuable addition, though far from an infallible remedy, to our means of combating one of the most obstinate diseases of the skin.

For the introduction of the iodide of starch as a remedial agent we are indebted to Dr. Andrew Buchanan, whose papers upon the Physiological and Therapeutical Effects of Iodine (*London Medical Gazette*, vol. xviii, page 515, and vol. xix, pages 41 and 80) will well repay perusal. Owing to the irritant local action of other preparations of iodine, he was led to look out for some new medicinal preparation which might be less acrimonious in its local action, while its absorbability and alterant virtues were not diminished, and for this purpose the iodide of starch suggested itself to him; and there can be no doubt that by employing it much larger quantities of iodine can be introduced into the system, even to the extent of over seventy grains daily. The following is the formula for its preparation: R Iodi gr. xxiv; amyli ʒj. Triturate the iodine with a little water, gradually adding the starch and continuing the trituration till the compound assumes a uniform blue colour, so deep as to approach to black. The iodide should be dried with a heat so gentle as to run no risk of driving off the iodine, and it ought to be kept in a well-stoppered bottle. On no account should spirit be used in its preparation instead of water, as sometimes recommended. The dose is a heaped-up teaspoonful in a draught of water or water-gruel thrice daily; but it may be safely increased, even up to an ounce in some cases, if necessary to make an impression on the disease. I have

* Read in the Subsection of Dermatology at the Annual Meeting of the British Medical Association in Cork, August 1879.