at our disposal; and that the most likely and safest way to effect it is by hydrostatic washing with warm water and a soft tube.

MORPHŒA HERPETIFORMIS:

A NEUROLOGICAL STUDY.

BY JONATHAN HUTCHINSON, F.R.S., LL.D.,
President of the Royal Medical and Chirurgical Society.

(WITH A COLOURED PLATE.)

THE coloured plate which forms the principal illustration of my paper represents the condition of the foot in Mrs. B., a woman, aged 63, who was the subject of morphœa. On the outer side of her foot and ankle, it will be seen that a large, irregularly-shaped patch of skin has become hardened, and assumed a tint of yellow ivory or smooth washleather. To the finger the affected skin felt board-like, and it was quite impossible to pinch it or lift it from the subjacent parts. A certain amount of contraction was present by which the three outer toes were drawn upwards, and the movements of the ankle were much impeded. At the margin of the affected part the skin was a little congested, and on the side of the leg, about 4 inches above the outer malleolus, there was an ulcer as large as a half-crown. These conditions had been present about nine months when the portrait was taken on July 11th, 1893. The woman has remained under my observation since, and I am now, nearly two years later, able to report that the ulcer has healed, and that the whiteness and induration of the skin have to a very large extent disappeared. There remains, however, a tight, almost scar-like, condition of the affected skin, which is of a dusky colour, and adherent to the parts beneath.

We are in a position in this case to trace the progress of an attack of herpetiform morphœa from beginning to end. The patient in October, 1892, first noticed "a reddish ring" on the dorsum of the foot, just above the base of the little toe. Others near to it soon followed, and in the course of about two months the patch was well mapped out. After that there was no lateral extension, but the ulceration did not take place until three or four months later. The morbid processes had attained their height in about eight months, and during the two years which have subsequently elapsed they have been slowly subsiding. The patient has been in fair health throughout, and has had no similar patches elsewhere.

I have now to ask attention to the interesting fact that the portion of skin involved is exactly that supplied by the terminal twigs of the short saphena nerve. This nerve, made up of the two communicating branches from the popliteal and peroneal, passes down the lower half of the back of the calf subcutaneously, and is distributed to the skin on the outer side of the ankle and foot, as far as the roots of the toes. That the outlines of the patch are not much suggestive of nerve distribution is to be freely admitted. They are irregular, and in some parts run almost in straight lines, and the upper boundary is almost square. In explanation of these peculiarities something may be said in a further part of the paper another time.

I have next to ask attention to particulars of the case which the woodcuts on p. 1196 concern. This case was one in some respects exactly similar to that just related, but it went beyond it in several most important features. Both feet were affected, and with almost exact symmetry, and although on the outer sides of the feet the distribution was precisely like that in Mrs. B., that, namely, of the lesser saphena nerve, there were patches on the inner side of the feet as well. These latter could only be explained by supposing that certain twigs from the popliteal, in addition to that which it supplies as its communicans branch, were involved. There is nothing improbable in this supposition, and we may note that the affected parts were as definitely limited as in Mrs. B.'s case, and that in neither was there the slightest tendency to extension of the patches after their limits had been once well declared. The subject of this second case was a drayman, aged 32, residing in Liverpool. He was under the care of Dr. Foulston and Dr. Hugh R. Jones, the latter of whom had drawings made which he was kind enough to allow me to copy. He also procured me an opportunity of seeing the patient for myself, during a visit to Liverpool. The disease had existed eighteen months at the time the drawing was taken, and the patient described it as having commenced by "a speckling of scaly white spots on the skin," which gradually coalesced into white, hard patches. The patches had been present fifteen months before the ulceration occurred. As in the preceding case, the affected portions of skin were somewhat depressed by contraction. Excepting "a little springing and tickling," no abnormal sensations were complained of, and there was no appreciable loss of sensibility. The man was in good health and had no skin disease elsewhere. He remained under observation for some considerable time, but Dr. Jones tells me he has now been lost sight of. It is believed that his disease was undergoing the same retrogressive changes which were noted in the preceding case.

The above two cases illustrate in brief the most important facts which have been established respecting what has hitherto been known as the ivory-patch morphœa. They both show that it has slow stages, alike of development and decline; that it is abruptly and definitely limited to the parts affected and has no tendency to serpiginous spreading; that, after lasting for a certain time, the affected parts are restored to a more or less healthy condition. The first case shows us the disease in its unsymmetrical or definitely unilateral form, whilst in the second changes of a precisely similar character were arranged with almost accurate symmetry.[1]

It is more than twenty years since I gave a special lecture[2] at the Blackfriars Hospital on some of the points of resemblance between herpes and morphœa. At that time the connection of morphœa and the nervous system had been scarcely if at all recognised. I pointed out that the distribution of the patches was in many cases exactly like that of herpes zoster, and ventured the theory that, as herpes zoster is an example of an inflammation of the skin located by sensory nerves, so morphœa is an instance of changes of a more chronic kind and of a very different character, located either by the same nerves, or perhaps more probably by the vasomotor filaments which accompany them. My friend the late Dr. Hilton Fagge, one of the best observers who ever lived, amongst others, expressed some dissent from this view, and I remember that he was good enough to send me a case in which the ivory patches were arranged almost as a circle below the knees, and appeared to be definitely influenced by the pressure of the woman's garters. One of the arguments which I strongly urged in reference to the parallelism between zoster and morphœa was that the latter, like the former, was rarely arranged with bilateral symmetry, and next that the patches of neither the one nor the other, after having once well declared themselves, show any tendency to enlarge their borders or to spread serpiginously. To these two statements many of those who have written on morphœa recently have more or less demurred. I have been shown repeatedly by my friends cases which were considered to be symmetrical, and others in which the patches were alleged to have gone on increasing in size. In spite, however, of these apparent or supposed exceptions, I believe that the majority of derma-

[1] I am obliged to speak with a little doubt on this point, for, although in the Liverpool case both feet were affected, I possess drawings and detailed descriptions of only one. The other is stated to have been like it. The late Professor Rasmussen, of Copenhagen, was I believe the first to describe the microscopic appearances in morphœa. He was in England in 1862, and I had the pleasure of his company for a day in the country. We spoke much of morphœa, but for some time, because I asserted that I had seen six cases, I could not convince him that we meant the same malady, for morphœa was, he alleged, so rare that "no physician had seen more than one example of it." Since then I have no doubt that I have seen forty cases and, thanks to the organisation of special departments at our hospitals and the multiplication of societies for clinical observation, there are now others whose familiarity with the disease may equal my own.

[2] I cannot find that this lecture was ever published even in abstract, no can I assign its exact date. It had for its title :On the Parallelism between Herpes Zoster and Morphœa. A letter from Dr. Hilton Fagge on the subject bears date July 13th, 1867. In 1879 I published in *Lectures on Rare Skin Diseases*, a summary on the same subject, and at page 347 the reader will find a reference to what had previously been written as regards the connection between morphœa and the nervous system.

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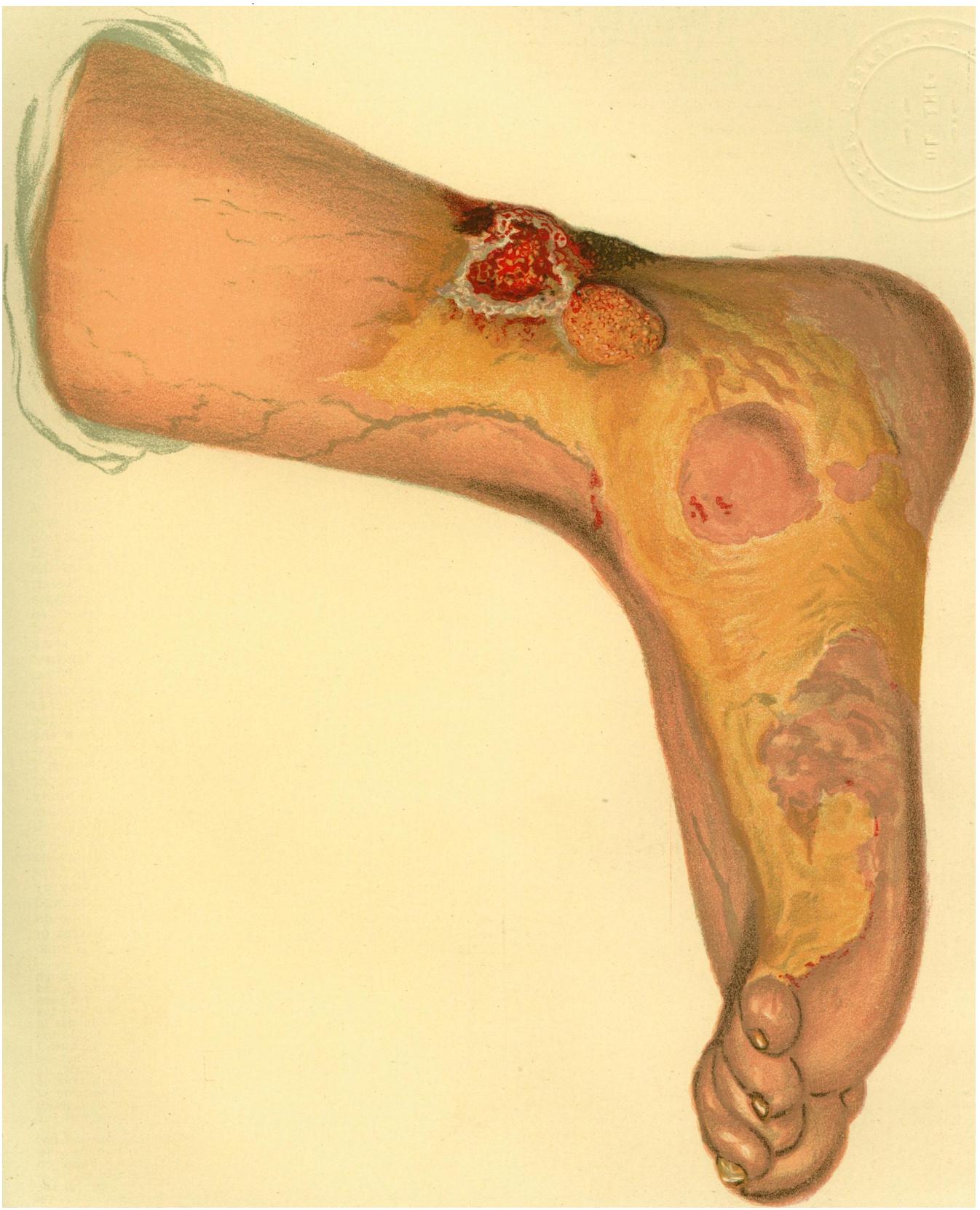

TO ILLUSTRATE MR. JONATHAN HUTCHINSON'S PAPER.

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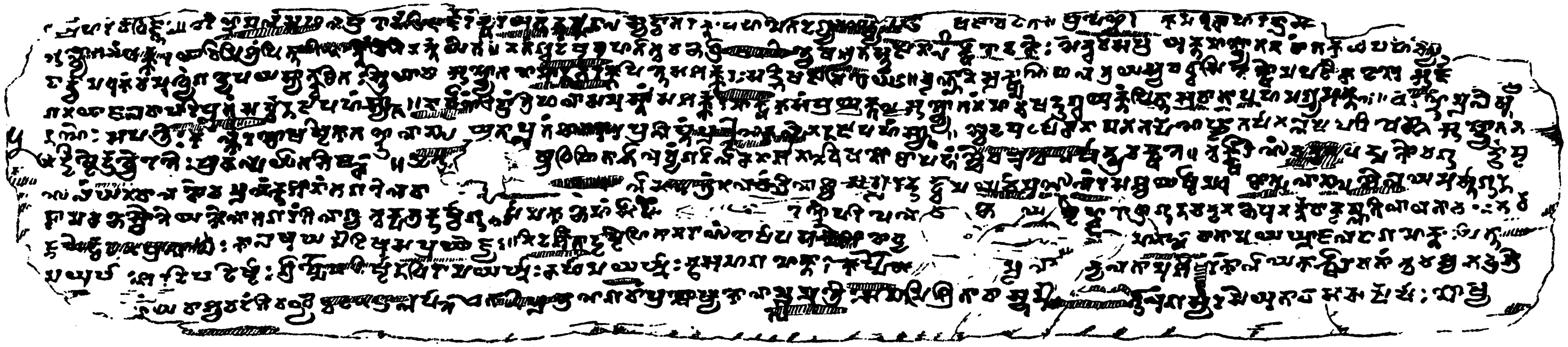
Reverse.



Reverse.

1. □पहरी विविद्ध: ॥ एरण्डमूलं सफलप्ररोहं विजर्जरं चीरयुतं त्वजानाम् स्याद्वातरक्तापहमेतदग्र्यमाश्च्योतनं □□षजो वदत ॥ प्रपौण्डर कामधुकहरिद्रा □□□□□□□□
2. आश्च्योतनं शर्करया विमिश्रं पित्तानिलार्त्तिं विनिवर्त्तयेत ॥ नतं श्वदंष्ट्रा बृहती त्वचश्च ह्रीवेरमित्येष शृतस्त्वजानाम् चीरोदकैः सैन्धवसंप्रयुक्तमाश्च्योतनं वातकफापहं स्यात् □□□
3. दार्व्यां मधुकं च मृद्व्यग ग्येपयस्यात्क्वथितः स्त्रिया वा आश्च्योतनो मारुतरक्तपित्ते सशर्करः सद्भिषजा विधेयः ॥ चूर्णानि सूक्ष्माणि फलत्रयस्य बध्वा सिते चौमपटैकदेशे आज□□स्य
4. गव्यया जले वा परिप्लुतं सर्व्वरुजापहं स्यात् ॥ दार्व्वीं हरिद्रां त्रिफलां समुस्तं सशर्करं माक्षिकसंप्रयुक्तम् आश्च्योतनं मानुषदुग्धयुक्तं पित्तास्रवातापहमग्र्यमुक्तम् ॥ एरण्डमूलैस्त
5. ५ रुणैं मपत्रैः कल्कैरथो षष्टिकतण्डुलानाम् घृताप्लुतं शावकरप्रलिप्तं पूर्व्वेण कल्पेन रुजापहं स्यात् ॥ स्वेदपुटपाकनावनतर्पणघृतपानलेपपरिषेकान् आश्च्योतन
6. निर्दिष्टैर्द्रव्यैरेतैः प्रकल्पयीत भिषक् ॥ ऋतु व्याधिहिताभीलुव्यंगनीलीकनाशनान् विषशोथापहांश्चैव मुखलेपान्प्रचक्षते ॥ त्वक्क्षीरिणां चन्दनपद्मकौ च गु न्द्रां म
7. णालं घनवालकौ च मूलं कुशानां तगरैलवा लुता लीसपत्रं नलदं तिलाश्च मसूरदूर्व्वामयवं मृणालं रसश्च यष्टीमधु कोत्पलानाम् शैलेयमुस्तागुरु
8. ध्यामकश्च स्थौणेयकैलातगरं तिलाश्च त्वक्च कुष्ठागुरु ध्यामकश्च मांसी ह रेणु परिपेल व च य ष्टि ह्व रोध्रागुरुचन्दनश्च पुनर्नवा कृष्णतिलालताच इत्यर्धं
9. रुपैर्व्वदनप्रलेपैः कालेषु घर्मादिषु संप्रयोज्यः ॥ निर्दिशता दृष्टिहिता नराणां दोषापहाश्चे शृणु चोच मानान् वातामयघ्नाजलदागमोक्ताः पित्त
10. मयघ्नाः शरदि प्रदिष्टाः ग्रीष्मोपदिष्टा रुधिरामयघ्नाः कफामयघ्नाः कुसुमागमोक्ताः कर्प्पास मूला व्यक्ततामुशी रकालीयका चीरवतां त्वचश्च भद्रश्रि
11. □□□□कं यवाश्च वदंति वर्ण्यान्वदनप्रलेपान् एतानि मूत्रेण गवां प्रशोष्य कोलाम्लमूत्रैः सह मिश्रिता वा स्युर्वा . तुलुंगस्य रसे युता वा ससर्षपाः शोष

TRANSLATION.

The tender roots of the castor-oil plant with its nuts and sprouts, added to the milk of goats, make an excellent lotion which cures *any eye-disease caused by vitiated* air and blood: so good physicians declare.

Prapauṇḍrika liquorice, turmeric................, mixed with sugar, make a lotion which stops any *eye-*disease due to *vitiated* bile and air.

Nata (*Tabernaemontana coronaria*), Śvadaṁshṭra (*Tribulus terrestris*) Vrihatî (*Solanum indicum*), cinnamon and Hrivêra (*Pavonia odorata*): these, boiled in goat's milk and water, and mixed with rock-salt, make a lotion which cures any *eye-disease due to vitiated* air and phlegm.

...............Indian barberry and best liquorice, boiled in the milk of a cow or a woman, and mixed with sugar, may be applied by a good physician as a lotion in *any eye-disease due to* air, blood and bile.

The three myrobalans, finely pulverised and tied up in a piece of white linen, and soaked in milk of a goat or a woman or in water, are a remedy in all *eye-*diseases.

Indian barberry, turmeric, the three myrobalans, Musta (*Cyperus rotundus*), mixed with sugar and honey, and done up with human milk, make a lotion which is said to be a capital remedy for diseases due to *defects of* the bile, blood, and air.

Together with young roots and leaves of the castor-oil plant, as well as with paste of Shashṭika rice, Śavaraka (*Symplocos racemosa*) steeped in clarified butter, and rubbed on according to the direction in the preceding formula, is a remedy against all *eye-*diseases.

With the same drugs as are prescribed for the lotions, a physician should prepare sudorifics, puṭapâkas, errhines, emollients, potations of clarified butter, plasters and washes.

Plasters on the face are declared to be suitable for complaints of the seasons, to remove moles, freckles and black spots, and to be remedies against poisons and swellings.

(I) The bark of the *five* trees with a milky sap, also sandal and Padmaka (*Prunus paddam*), Gundrâ (*Panicum uliginosum*), leaf-stalk of the lotus, also Ghana (*Cyperus rotundus*), and Vâlaka (*Pavonia odorata*); (II) roots of Kuśa grass (*Poa cynosuroides*), Tagara (*Tabernaemontana coronaria*), Êlavâlu, leaves of Tâlîsa (*Pinus Webbiana*), Indian spikenard, and sesamum seeds; (III) Masûra (*Vicia lens*), Durvâ (*Cynodon dactylon*), Amayava (uncooked barley), leaf-stalk of the lotus, and juice of liquorice and lotus; (IV) Śailêya, Musta (*Cyperus rotundus*), aloe wood, and Jhâmaka, Sthauṇêyaka, cardamoms, Tagara (*Tabernaemontana coronaria*), and sesamum seeds; (V) bark and leaves of cinnamon, Kushṭha (*Saussurea auriculata*), aloe-wood and Jhâmaka, Mâṁsî (*Nardostachys jatamamsi*), Harêṇu (*Piper aurantiacum*), and Paripêlava (a kind of *Cyperus rotundus*); (VI) liquorice, Rôdhra (*Symplocos racemosa*), aloe-wood, and white sandal, Punarnavâ (*Boerhaavia diffusa*), seeds of Nigella and Sesamum, and Latâ (*Ichnocarpus frutescens*): with the *six* face-plasters *described* in the foregoing *six* half-verses *the patient* should be treated in the summer and the other *five* seasons *of the year*. They are declared to be beneficial for the sight. Listen now to me as I explain how they remove the *defects of the* humours of men.

In the rainy season they are said to cure diseases due to *derangement of* the air; in the autumn they are held to cure diseases due to *derangement of* the bile; in the summer they are held to cure diseases due to *derangement of* the blood; in the spring they are said to cure diseases due to *derangement of* the phlegm.

Roots of the cotton-plant, Latâ (*Ichnocarpus frutescens*), Uśîra (*Andropogon muricatus*), yellow sandal, and the bark of *the five* trees with a milky sap, white sandal,..................barley-corns: these are said to make plasters for the face beneficial to the complexion. These *drugs* should be dried and then mixed with the urine of a cow, or with the sour juice of jujube and urine, or they may be dried or mixed with the juice of citron and with mustard (and thus applied to the face).

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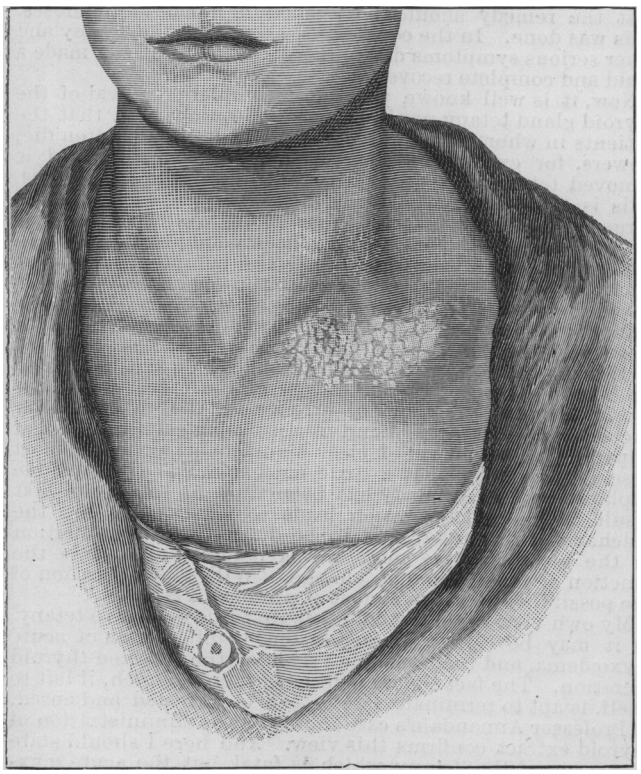
tologists in the present day admit that morphœa is often, if not usually, distributed by the sensory nerves, and that in this respect it has a close resemblance to zoster. For myself, I may say that I have been carefully observing cases ever since my lecture, and that I have been more and more convinced of the general accuracy of what was advanced. I have scarcely ever seen a case in which there were not certain definite deviations from bilateral symmetry, nor one in which the evidence offered convinced me that there had been any real serpiginous spreading.

I now venture with some confidence to propose that the adjective "herpetiformis" should be used in reference to those forms of morphœa which resemble herpes in their distribution. I am sure that this word will be found convenient, and that it will denote an obvious and important clinical fact. A case which was the subject of demonstration at the Clinical Museum a year ago afforded an excellent illustration of what is meant. The group of morphœa spots were arranged in two long oval leashes on the clavicular region, exactly like herpes.



The patches were also made up of separate spots, which, although they had coalesced in some instances, had by no means done so in all. Not long previously I had shown two patients who illustrated the occurrence of zoster on precisely the same regions. The vesicles in these cases extended just across the middle line of the sternum, and in exactly the same manner as the ivory-white spots did in the case of morphœa. A drawing from the museum illustrates the occurrence of morphœa spots in precisely the same region. The term "herpetiformis" must, however, by no means be restricted to cases in which the eruption is in spots. The more common ones, in which it constitutes a single patch, probably differ only in the circumstance that the disease is attended by more severe and deeper changes, and that the spots, originally separate, have coalesced. A very remarkable example of this was recently shown me by Mr. James Startin. The patient was a young girl on one side of whose chest there curved downwards and forwards a long band of morphœa, exactly in the position of common shingles. It was, however, a broad band of induration, and showed only a few separate spots near its edge.

The term "herpetiform" may be suitably applied to all cases of morphœa in which the changes are arranged in bands or after the manner of a corymb or panicle. More than a few of these cases will be found to be bilateral, and in a certain number the streaks may be arranged almost symmetrically. The tendency to be bilateral and to occur on many parts at once is very rare in zoster and very common in morphœa, but does not in the least invalidate the theory of the nerve distribution of the latter. It proves only that many nerves may be affected at the same time, and possibly that in some cases there is a definite tendency for the same nerve trunk on the two sides to suffer. In all cases of multiple morphœa which should be called "herpetiform," it will be observed that there are areas of skin between the diseased portions which are quite healthy, and that the diseased areas are arranged according to the distribution of nerves.

In this the contrast with what is known as "diffuse morphœa" is quite definite. I am by no means sure that there are not connecting links between the two, and I freely admit that there are some cases in which it is exceedingly difficult to give any plausible explanation of the law of distribution. These for the present it may be better to keep apart. We shall find out how to explain them some time. For the present, let us place together and recognise by a distinctive name those in which the distribution is, as I have said, after the pattern of herpes zoster.

We must note as a peculiarity of certain cases of morphœa and as distinctly exceptional to the nerve distribution theory, that we occasionally see the patches placed transversely across a limb. I have mentioned a case which Dr. Hilton Fagge showed me, in which the changes were apparently influenced by the patient's garters. In another case which Dr. George Hastings sent to me in October, 1884, there were patches on the inner sides of the upper arms on both limbs, the long axis of which was distinctly transverse.

In explanation of these and certain other conditions we must admit the probability that, during the inception stage, local irritation may take a certain share in determining the size and form to be finally taken by morphœa patches. In other words the cell elements are for a short time and to a limited extent infectious, and may under the influence of pressure and the like, cause a certain degree of extension beyond the area of distribution of the affected nerve. This can probably take place only in the very beginning, and it never causes more than very limited increase. It may, however, be sufficient to explain the otherwise perplexing conditions of great irregularity in the form of patches, angularity of outline and transverse position as regards the axis of the limb.

It is a point of some importance to determine whether the cases in which a great number of separate spots are present, which become confluent only in part, are exactly of the same nature as those which present a thick, brawny patch with an abrupt margin, and but few if any adjacent satellites.

A similar question arises in other cases in which there is brawny induration or a hidebound condition, but no lardaceous or ivory-like infiltration. My impression is that we should count all these several states, the "morphœa maculosa," the ivory patch, and the hidebound condition when in patches, as partaking of the same nature. I think that they are not infrequently met with together in the same case, and that their difference simply implies different degrees of severity in the local change. It is to be admitted, however, that there are cases of the macular kind which are so slightly marked and so peculiar in their features that it is difficult to know whether they should be accounted as morphœa at all. In this group are to be placed a case which Dr. Vinrace showed me recently, and another which I had myself recorded some years previously.[3] These cases appear to prefer the genital organs, parts which are very rarely affected either by herpetiform morphœa or diffuse scleriasis.

I hope that I shall not be blamed for preferring still to use the old name "morphœa" rather than the new one of "sclerodermia." The latter is a pathological term; it denotes a theory, and is applicable to many affections and to only certain stages of each. The former is a clinical one, is well understood in its conventional signification, and has the great advantage of being almost meaningless as regards pathological theory. Using the word morphœa in its old sense as applicable to all hide-bound conditions of skin, I

[3] Clinical Lectures, vol. i. p. 328; see also the *Clinical Journal*,

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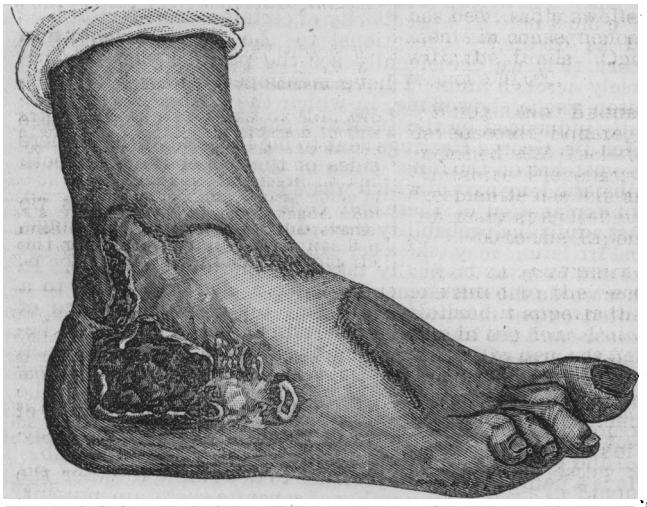
would propose, by suitable adjectives, to discriminate its different forms. For clinical purposes these latter present us with most important peculiarities of character.

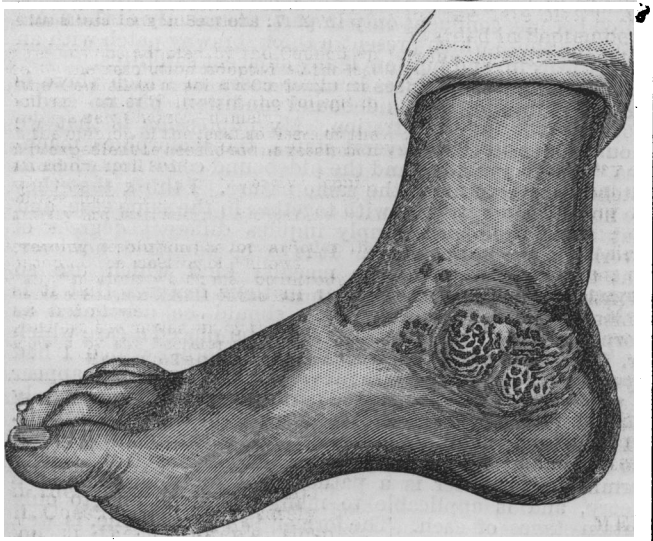
We may perhaps conveniently recognise three principal divisions, under each of which several groups may in the future be arranged:

Division I.—Herpetiform morphœa; the patches being arranged on the pattern of herpes in streaks or bands, and, however extensively bilateral, seldom or never with exact symmetry.

Division II.—Acroteric morphœa, in which, although the whole skin may suffer more or less, the beginning and the greatest severity of the disease are almost invariably at the extremities. No location in streaks, symmetry always marked, and Raynaud's phenomena not unusual. This form is met with almost solely in adult women, and shows no tendency to spontaneous cure.

Division III.—Hide-bound conditions of skin, in which the subcutaneous tissue rather than the skin itself is implicated. In this division are to be placed for the present certain cases which differ more or less definitely from both the preceding, and concerning the exact relations of which it is very difficult to speak. There are no ivory patches, nor are the extremities preferentially affected.





These woodcuts show the state of the foot in the Liverpool case of morphœa affecting the saphena nerves. They are copied from drawings lent by Dr. Hugh Jones

In illustration of Divisions II and III I have before me some very interesting and important cases. They must, however, for the present be left aside, as it is the purpose of the present paper to deal only with the herpetiform class.

(*To be continued.*)

A CASE OF TETANY TREATED BY THYROID EXTRACT.

By BYROM BRAMWELL, M.D., F.R.C.P.Edin.,
Assistant Physician to the Edinburgh Royal Infirmary, etc.

About a year ago I was asked by Professor Annandale to see a patient in whom tetany had developed after removal of the thyroid gland. The case was being treated with small doses of thyroid extract. The spasms were very severe, and the small doses of thyroid extract had not produced any apparent benefit. Professor Annandale's object in asking me to see the patient was to ascertain what quantity of the thyroid extract it was advisable to give in such a case. I advised that the remedy should be pushed in much larger doses. This was done. In the course of a short time the tetany and other serious symptoms disappeared, and the patient made a rapid and complete recovery.

Now, it is well known that after complete removal of the thyroid gland tetany not infrequently develops, and that the patients in whom this form of tetany is developed often die. Gowers, for example, says: "When the whole thyroid is removed tetany supervenes in about one-sixth of the cases. This is the average of a series of cases reported by various surgeons, which have varied from 7 in 70 (Wölfler) to 12 in 53 (Billroth). All the patients have been young females still in the developmental period of life. The symptoms of tetany set in during the first ten days after the operation. It does not follow partial extirpation. It has been observed in association with atrophy of the thyroid and myxœdema. This remarkable relationship to thyroidectomy will be considered further in connection with the pathology of the disease."[1] And, in speaking of the pathology of the disease, he says (p. 707): "The frequent occurrence of the disease after excision of the thyroid gland is a pathological fact of great importance but not yet of clear significance, although most observers consider that a toxic mechanism is the probable explanation. The malady has been thought to be the first result of the process which leads to myxœdema and the 'cachexia strumipriva,' and to be due to the accumulation in the blood of some material, as mucin, which it is the function of the thyroid to change. With the admission of the possibility of this we must at present be content."

My own view of the pathology is that this operative tetany, as it may be called, is merely one manifestation of acute myxœdema, and that it is the result of the arrested thyroid secretion. The fact that this form of tetany, which, if left to itself, is apt to terminate fatally, can be arrested and cured, as Professor Annandale's case shows, by the administration of thyroid extract confirms this view. And here I should state that it is not the tetany which is fatal, but the acute myxœdema—that is, the arrested thyroid secretion—of which the tetany is only one manifestation.

The striking and prompt benefit which was produced in Professor Annandale's case made a profound impression upon my mind, and I said to myself mentally, "If arrest of the thyroid secretion can produce operative tetany, and if the administration of thyroid extract can cure operative tetany, may it not be the fact that ordinary (idiopathic) tetany is due to a deficient thyroid secretion, and that ordinary (idiopathic) tetany can be cured by the administration of thyroid extract?" I mentally determined to try the remedy in the first case of idiopathic tetany which came under my notice.

On March 20th, 1895, Dr. Young, of Dundee, wrote me as follows: "Would it be too much trouble to tell me if anything more might be done for the little fellow W., who was in your ward suffering from tetany last April? He has been taking large doses of bromide of potassium without any effect, and, although fairly well during last summer, he is now much as he was when you saw him."

The patient, a boy aged 8, was under my care in the Edinburgh Royal Infirmary from April 5th to 25th, 1894. The

[1] *Diseases of the Nervous System*, Vol. ii, p. 706.

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