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OBSERVATIONS ON FAVUS.

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THE disease which forms the subject of this paper seems to have presented itself under very different circumstances to different individuals, and consequently on various points regarding it many and most contrary opinions have been delivered by equally accurate and trustworthy observers. Seeing that such is the case, the only way to arrive at a knowledge of the most usual characters of favus would appear to lie in observers chronicling the various phenomena of the examples which they have had opportunities of studying. This paper is intended as a short exposition of the different opinions entertained on the most interesting points of the disease, and as a simple record of my own observation and experience of nine cases in Aberdeen. Several other examples of the affection have been seen by me in Edinburgh and elsewhere; but as I cannot recall to mind all the particulars regarding them, they are left out of calculation at present.

Honeycomb or crusted ringworm, or, as it has been variously named, favus, porrigo favosa, tinea favosa,

porrigo lupinosa, tinea maligna, tinea lupinosa, teigne faveuse, and porrigophyta, is an affection of the skin the outward characters of which are in general so marked, and so perfectly distinct from those of any other disease, as to render its recognition sufficiently easy at a mere glance. This at least may be confidently said of favus crusts occurring, as they sometimes do, in other parts of the body than the head; and even in this situation there seldom can be any difficulty in at once recognising them when they are isolated, when they are of recent formation, and when they are not broken up, or otherwise altered in outward appearance, either from age or by the hands of the party affected, or by any applications adopted for their removal. When the crusts occur in the head in a confluent form; when they are accompanied with much inflammatory redness, or with a secondary pustular or other eruption; when they are much disfigured by scratching, or obscured by embedding or entangling of the hair; or when, from age, they are become powdery and split up into numerous fragments—there may be some difficulty in at once making, by the unaided eye, a certain diagnosis: but this can at once be easily and surely established by resorting to the microscope, which reveals to sight thalli and sporules of the achorion Schonleinii, a parasitic plant the presence of which is now generally regarded as essentially characteristic of the disease. It is true we cannot say that it is invariably considered so, for some eminent authors still deny the cryptogamic nature of favus. Thus Dr.

Carpenter, in his "Principles of Physiology," writes—"It has been assumed that the organization is vegetable, because it consists of a mass of cells capable of extending themselves by the ordinary process of multiplication. But it must be remembered that the vesicular organization is common to animals, as well as to plants, being the only form that manifests itself at an early period of developement in either kingdom, and remaining throughout life in those parts which have not undergone a metamorphosis for special purposes. Hence, to speak of porrigo favosa, or any similar disease, as produced by the growth of a vegetable within the animal body, appears to the author a very arbitrary assumption," &c. Again, Mr. Erichsen speaks of its vegetable nature as a pure hypothesis, "founded merely on the outward appearance, sufficiently strong certainly, which the cup-shaped crust of favus offers to lichens, or vegetations of a similar description," &c. Mr. Erasmus Wilson considers that the favus crusts are formed of modified epidermic cells; and M. Cazenave looks upon them as a peculiar secretion of the sebaceous glands, and denies the vegetable nature of the disease.

Supposing we were to reject the cryptogamic theory, and to adopt the opinion of any of the four authorities above named, still we should, now that the microscope plays such an important part in anatomical and pathological investigations, have no difficulty in discriminating between this and any other skin affection, as the appearances and arrangements invariably presented under the

microscope by the favus structures, by whatever name we may call them, or of whatever origin we may consider them, are so peculiar, and so distinct from those of any other morbid structure, as to render the diagnosis of the disease extremely easy and very certain.

The symptoms, pathology, and many other particulars of favus, have been so clearly described by many able dermatologists, that any very lengthy enumeration of them here would be quite superfluous; but as the most discrepant statements are made by different writers regarding many points in connection with the disease, more particularly with respect to its frequency or rarity, its contagious properties, and its connexion with a cachectic or scrofulous habit of body, the following remarks may not be altogether useless.

Symptoms.—Favus is an affection of the skin usually confined to the scalp, but occasionally found on the trunk, limbs, or face; almost invariably occurring before the seventeenth year, and peculiar to the poorer classes. It is characterized by the presence of more or fewer crusts, which, at first, are of a uniform sulphur-yellow colour, have their superior surfaces slightly concave and pierced in the centre by a hair, and their edges slightly depressed beneath the level of the cuticle, and are surrounded by skin which, for some time previous to their appearing, presents a glazed, red, and vascular look, and is more or less covered with desquamated epidermic scales. The crusts, when isolated, have a more or less distinctly round or oval figure, and have in their upper surfaces a

depression, in form like that of a lupine seed (porrigo lupinosa); but when numerous and confluent, they acquire, from contact with one another, a hexagonal or honeycomb appearance, and hence the term porrigo favosa. In the progress of developement, the edges of the crusts become prominent, and marked by several concentric rings, whilst their upper surfaces gradually lose the concave and assume the convex form. In course of time, there may be observed in the centre of each capsule a whitish spot, which slowly extends into the surrounding deeper yellow portion, and ultimately reaches the edges of the crusts, which gradually sink to the level of the skin, and frequently present numerous cracks or splits. There speedily commences in this central white portion a loss of coherency, or a process of crumbling down into a coarse gritty powder; and when this, in the progress of the disease, has extended to the edges, the capsules lose all definite form, and become broken or split up into numerous pieces, presenting the appearance of one continuous crust irregularly fissured on the surface. The diseased mass crumbles down, and communicates to the fingers, on trituration, a feeling very aptly compared by some to that caused by the crushing of dried putty; becomes a favourite site for vermin and their eggs, and exhales a peculiar odour, which has been likened to that of cats or mice. For some time the disease occasions little uneasiness; but ere long the part affected becomes the seat of a disagreeable itching, which gradually increasing, at length becomes so intolerable

that the patient cannot resist incessantly scratching and tearing at the diseased mass, the consequence of all which is, that in cases of some standing, we usually meet with more or less sanguineous or serous effusion, with secondary pustular eruptions, and at times with violent inflammation, which in a few cases terminates in suppuration, and in other instances in unhealthy ulceration.

Such was the form and such the sequel of phenomena exhibited by all the examples of the disorder which came under the writer's observation; but we have it on the authority of Dr. Bennett that, on some few occasions, the disease, instead of assuming the form already described, becomes disseminated underneath the epidermis, presenting all the outward appearances of pityriasis or chronic eczema, from which affections it is to be diagnosed only by microscopic examination, which brings into view thalli and sporules in various stages of development. With reference to this variety of the disease, the authority already named remarks—"In one instance I found the sporules smaller than usual, and perfectly globular, instead of oval. In others, I have seen the sporules three or four times larger than those of ordinary favus with included nuclei, multiplying fissiparously. Hence the so-called parasitic pityriasis of the scalp I believe to be a modification of favus, and consider it a good rule, in all chronic eruptions on the head, to examine the crusts microscopically."

I would here remark that the admission of parasitic pityriasis as a modification of ordinary favus must greatly

affect the generally expressed opinion regarding the rarity of the affection.

Pathology.—When a recently formed favus crust is carefully examined, it is found to consist of a capsule of epidermic scales, coated in the interior with a finely granular matter constituting a soil on which arise multitudes of a peculiar fungus, named achorion Schonleinii by Gruby, in 1841, in honour of its discoverer Schonlein of Berlin. From the granular mass sprout numerous cylindrical tubes (thalli), which extend themselves towards the centre of the crust, and, branching dichotomously, contain at their extremities (mycelia) numerous spherical or oval bodies termed sporidia. The thalli frequently contain numerous molecules or granules, and are most numerous near the exterior of the crust; whilst the mycelia and sporules, mingled with more or less granular matter, abound at the centre, the whitish colour of which has been ascribed to the aggregation of the sporules. In course of time the thalli and sporules enter the hair-follicles, cause atrophy of the hair-bulbs, and consequently the baldness observed in the subjects of favus, and, as I have myself witnessed under the microscope, at times extend into the body of the hair. The sporules are the bodies from which the plant is developed, and, from the observations of Remak and others, it appears that, in the process of elimination, their investing membrane gives off shoots or prolongations which ultimately become tubes enclosing at their extremities sporules, which in time are pressed out and become free. Seeing

that the peculiar favus matter is found in relation with the derma and the epidermis, filling up the hair-follicle, and at times extending into the body of the hair, it becomes an interesting question to determine what tissue is the real seat of the disease.

On this point the following four opinions have been entertained :—

1st, Some, as Baudelocque, Duncan, Hutchinson, and Willis, consider it as a disease of the hair-follicles or hair-bulbs.

2nd, Others, as Bateman, Thomson, and Rayer, give it as their opinion that the disease is at first confined to the reticular tissue of the skin.

3rd, Others, as Murray, Mahon, and Cazenave, state that the disease is located in the sebaceous glands.

4th, Gruby thinks that the plants grow in the epidermic cells, that the true skin is not destroyed, and that the hair-bulbs and sebaceous follicles are only secondarily affected; and Bennett conjectures that the sporules from which the fungi are developed penetrate into the crevices and underneath the portions of half-detached epidermis, and that they do not spring up at first either below or in the thickness of the cuticle.

From the opportunities afforded me of studying the disease, I have formed the impression that the peculiar matter of favus is an exudation on the surface of the derma; that this exudation becomes the seat of peculiar phytaceous growths, which, in the progress of developement, penetrate the epidermis and become encysted by

its scales; and that the hair-follicles are not the seat of the disease, but only become secondarily affected. That the hair-follicles are not the seat of the disease I have concluded from observing—

1st, That on carefully removing recently-formed favus crusts from the scalp, the only thing to be seen was a slight depression on the derma without any abrasion, which would have been expected were the crust an exudation in the hair-follicle. In the centre of this depression may frequently be observed the open mouth of a hair-follicle, which is more deeply placed in the reticular portion of the corium proper.

2nd, That it is possible to raise from the scalp a crust of short duration, and to draw it over the hair, leaving the latter standing in its follicle.

3rd, That permanent baldness does not invariably follow favus, which would reasonably have been looked for were the hair-follicles the primary seat of such a serious disease. In some instances, the hair, though weak and altered in texture and colour, does appear after the removal of the complaint on the parts which were affected. It has occurred to me that in many cases of favus which have not been left long without treatment, the hair-follicle, from being below the original seat of the exudation, is not obliterated or destroyed, but only impeded or impaired in function, and the hair in consequence temporarily destroyed; but that, on the removal of the disease, the follicle again resumes its wonted function, and the hair in time becomes regenerated.

4th, That favus on some few occasions occurs in parts where it is impossible to detect any hairs piercing the crusts. Thus in one case under my father's care in the Royal Infirmary, there were several large well-developed crusts over the right shoulder-blade of a little sickly boy about nine years old; and in this instance, not only were the capsules not formed around a central hair, but no hairs could be observed penetrating them at any point.

Chemical composition.—In analyzing the matter of favus, Thénard found in 100 parts—albumen, 70; gelatine, 17; phosphate of lime, 5; water, 3; and loss, 5 parts.

Frequency of occurrence.—The disease is generally characterized by those who have specially devoted their time and attention to the study and treatment of cutaneous affections, and by those who have recorded their experience of it in general practice, as being very rarely met with in England. Thus we find Erasmus Wilson, in his treatise on Ringworm, writing, "In the course of my long experience with the St. Pancras Infirmary, I have not seen more than six cases of favus;" and Willis, in his account of the disease, states that "several months will often elapse before a single case of the trichosis (porrigo) lupinosa is observed among the thousands of out and in-patients who present themselves at the different hospitals of the metropolis in the course of every week." Jenner, Hutchinson, and others, all agree in describing it as of very rare occurrence.

From all these statements it must be inferred that the opportunities of studying this skin affection in the English metropolitan hospitals are very few, and at long intervals of time.

If now we turn our attention to the accounts from Ireland, we find Dr. Corrigan writing in 1845, that in his experience of it in that country "it is a very rare disease." Dr. Neligan also gives it as his opinion "that this is a rather rare affection—appearing, however, from the observations of those who have written specially on it, to be more common on the continent and in Ireland than in England." He further remarks—"When I first wrote on this disease in 1848, my experience was drawn from a limited number of cases; since then, however, I have had under my care a comparatively large number of examples—twenty-three." This was written by Dr. Neilgan in 1852, so that in the space of four years there came under his charge twenty-three cases of favus.

Having learned so much from the individual experience of well-known authorities in the largest fields of observation in England and Ireland, we come, in the course of our investigations on this point, to ascertain the rate of frequency in Scotland. The opportunities of studying the complaint in Edinburgh must be very different from those enjoyed by observers at the English metropolitan hospitals, for Dr. Bennett, in a commentary on a case of favus quoted in his "Principles and Practice of Medicine," says, "the disease is so common in Edinburgh, that the wards are seldom free from one or more

examples of it in various stages." The truth of this statement will be at once seen by a glance at the subjoined table, showing the number of annual admissions for favus into the Royal Infirmary of Edinburgh over a period of ten years :—

Cases of Favus admitted into the Edinburgh Royal Infirmary.

From 1st Oct.,	1849,	to 1st Oct.,	1850,	admitted	14
„	1850	„	1851	„	9
„	1851	„	1852	„	10
„	1852	„	1853	„	16
„	1853	„	1854	„	15
„	1854	„	1855	„	10
„	1855	„	1856	„	15
„	1856	„	1857	„	4
„	1857	„	1858	„	13
„	1858	„	1859	„	14
				Total,	120 cases.

The rate of frequency in other parts of Scotland will be gathered from the following tables, compiled from the annual reports of the Glasgow and Aberdeen Infirmaries, and showing the number of admissions into these institutions for a period of nine years, and the manner in which they were distributed over that term.

Glasgow Royal Infirmary.

Year.		Cases.
1851	admitted	0
1852	„	0
1853	„	0
1854	„	0
1855	„	2
1856	„	1
1857	„	8
1858	„	3
1859	„	1
	Total,	15

Aberdeen Royal Infirmary.

Year.		Cases.
1851	admitted	4
1852	„	2
1853	„	2
1854	„	1
1855	„	2
1856	„	4
1857	„	0
1858	„	5
1859	„	4
	Total,	24

From the first table it will be seen that there are very frequent opportunities of studying the disease in the Edinburgh Royal Infirmary; and, from the second, that the number of examples of the affection admitted into that hospital has much exceeded the number admitted during an equal period of time into the Glasgow Royal Infirmary. This is a very strange fact, seeing that the population of Glasgow more than doubles that of Edinburgh, and the number of admissions of all kinds during each year into the two hospitals is very nearly alike. It also appears that, although the population of Glasgow exceeds that of Aberdeen by at least 300,000, and although the annual admissions for all kinds of diseases into the Glasgow Royal Infirmary double those into the Aberdeen Hospital, still the number of cases of favus treated in the Aberdeen Royal Infirmary, over a period of nine years, exceeds that treated in the Glasgow Royal Infirmary during a like period by nine. The fact of the disease having been for many years so much rarer in Glasgow than in Edinburgh, and even less frequent than in Aberdeen, notwithstanding that its population more than doubles that of Edinburgh, and is nearly five times greater than that of Aberdeen, would lead one to suppose that there must be some peculiar local influences which powerfully predispose a people to the complaint under consideration. Whether the great difference in the number of examples admitted into hospital in the towns already named be owing to peculiarity of climate, to greater excellence or defect of sanitary arrangements,

to any difference in the food of the people, or to any diversity in their habits, I cannot say; but statistics establish the fact that, in the most populous town in Scotland, favus has for many years been of much less frequent occurrence than in other towns containing only one half or one-fourth part of the number of inhabitants. For the last nine years there have been, on an average, nearly three admissions every year for favus into the Aberdeen Hospital; and this is a proportion which, although it may not entitle us to call the disease very common, at least justifies us in not characterizing it as of very rare occurrence in this locality. As the estimated population of Aberdeen is only a little above 80,000, it necessarily follows that the number of skin diseases of all kinds admitted into hospital is but small; but one circumstance which struck me much on looking over the reports since 1850 was, that the number of cases of favus exceeded that of herpes, lepra, ecthyma, pityriasis, and some other skin affections which are generally regarded as very common.

The disease must be of very frequent occurrence in France, for Rayer, who describes the disease as commencing in a pustule, says: "Tinea favosa is the most common of all pustulous inflammations of the scalp."

Contagious Properties.—If we believe in the cryptogamic nature of favus, we must also believe that the mode in which the disease is propagated from one individual to another is by the transplantation of the sporules of the fungus. That the disease can be communicated

by inoculation is placed beyond all doubt by the experiments of Hughes Bennett, Remak, and Mahon; and that it does at times spread by contagion is attested by many practitioners. But the question stills recurs, does the disease possess highly contagious properties—does it always arise from contagion, or does it not often arise without any contagion? Very different degrees of contagious power are ascribed to favus by different writers, but the diversities of opinion with regard to this point may be comprehended under one or other of the four following heads:—

1st. One party has expressed the opinion that it is by contagion alone that the disease is propagated. Thus Jonathan Hutchison, in a communication to the *Medical Times* of Dec. 31st, 1859, states that "it is contagious, and, in fact, spreads solely by contagion; but, its fungus being difficult of transplantation, it is but rarely communicated."

2nd. Some, as Erichsen, Neligan, Rayer, Cazenave, Bateman, and Mahon, seem to consider that it is very frequently and very readily communicated by contact. Thus, many of these relate that they have seen numerous instances of the propagation of the disease from children to adults, or from children to children, by kissing, and by the indiscriminate employment of the same combs or brushes; and Mahon states that favus crusts appeared on his fingers from his neglect of ablution after working with a person affected with the complaint.

3rd. Others, as Bennett, believe that it is contagious,

but that it can be inoculated only with great difficulty on healthy persons, and that it does not readily spread amongst them; and that there must be either some peculiar predisposition to the complaint, or else some abnormal condition of the skin, to which the peculiar favus matter must be steadily applied for a considerable time before the disease can be engrafted.

4th. Others, as Erasmus Wilson and Dr. Corrigan, do not believe that it is contagious. Alibert also, in his later writings, seems to doubt the contagiousness of the affection.

During my attendance as a student of the Royal Infirmary of Aberdeen, there came under my observation five cases of favus, none of which could be traced to contagion, and none of which, so far as could be ascertained, ever communicated the disease to another. Within the last six months, two other examples have been admitted into hospital under the care of my father, in whose wards I watched the five cases already mentioned. Both the parties denied having caught the complaint from any one, and did not believe that they ever transmitted it to another. One of these cases was a girl about twelve years old, who stated that her father said he had had the same disease when a boy; but she affirmed that she never saw any one with the same affection, and was sure she did not take it from another person.

Since June of last year, I have, in the course of practice, met with two examples of the disease; one in a little boy, aged six, a member of a very poor family in

a destitute part of the town; the other, in a little girl, aged ten, a pupil at one of the industrial schools of this town. In the case of the boy, the disease showed itself in one or two crusts on the head, and one crust over the right malar bone, and had been thoroughly developed for some time before I saw him. The mother of this child was very positive in denying any contagion, and the boy, so far as I could learn, never affected his sister, nor any of the children with whom he played. The little girl was placed in circumstances peculiarly favourable for estimating the degree of contagious power possessed by the disease, which in her case covered almost the entire scalp. She was a pupil at one of the industrial schools, the children attending which are gathered from the poorest and most destitute class in the town, and when once admitted into the institution, are necessarily brought continually in contact with one another, at lessons, at meals, and at their games, during which a child, having on its head a very contagious disease, would enjoy every facility for its transmission to others; and yet no other child at the institution caught the disease from this little girl, although she remained amongst them without the least restraint for some considerable time after the disease had become markedly developed. I have had opportunities of carefully watching nine examples of the affection here, and I have never in any instance known the sufferer able to trace his complaint to another, and have never heard of either a medical practitioner, of an hospital nurse, a student, or a patient at the hospital,

or of a companion or member of the same family to which the person affected belonged, ever contracting the same complaint. The results, therefore, of my observations and inquiries lead me to conclude that favus is a disease of which many are insusceptible, that it very frequently arises independently of all contagion, and that very little fear need be entertained of its spreading amongst a community.

Having seen these cases, in which the patients' statements as to non-contagion, were never invalidated by any subsequent discovery, and which, during several weeks of careful watching, never occasioned the disease in others with whom they were coming daily and hourly into contact, I cannot but infer that favus very often arises without any contagion, and, if contagious, is very feebly so.

Several careful and trustworthy observers have stated that the disease is found in a few of the lower animals, and hence some believe that they are at times its communicators; but, although it is possible that they might in a very few instances be the cause of the disease in man, still I have seen it in persons who denied having caught it from any of their own species, and in whom it appeared solely in parts where it is difficult to imagine how germs of the disease from any of the lower animals could have found their way. Thus, in one case admitted into hospital under my father's care, the disease presented itself in the form of one or two crusts confined to the upper and lateral part of the thorax, almost immediately within the hollow of the axilla. Now, if we

find that a disease, characterised by the presence of a parasitic fungus, cannot in many cases, after searching inquiry, be traced to contagion from any quarter, we cannot, in my opinion, avoid the conclusion that the fungus is not the sole or the original cause of the eruption.

Some who maintain that favus is a contagious affection account for its not becoming a much more common complaint on the ground that the parasite is very difficult to transplant; but though this may in part be the cause, must there not be some other reason for it?

1st. Because, though it has at times been done, still it is very frequently found impossible to produce the characteristic eruption in an unaffected person, even although every precaution be taken to keep the favus matter for a considerable time in close contact with the skin, entire or abraded.

2nd. Because (as has happened in my own experience) we often fail in an affected person to produce new crusts on a portion of healthy tissue, even although we keep the peculiar favus matter, either in the form of entire crust, or of gritty powder, dry or moist, for some time in close steady contact with it. The attempt to produce new crusts in an unaffected part will frequently fail, even when the matter is slightly moistened, and kept for some time closely applied to the skin denuded of its cuticle.

Granting that the seat of the disease is the hair follicles, and that the germs, to take root, must be applied to parts richly supplied with hair, still it will be

frequently found that the disease does not spread under circumstances most favourable for its doing so. At the time the case already referred to occurred in the Industrial School, there were instances of other scalp affections, and, in particular, two of chronic eczema, in which the scalp presented a red excoriated appearance, and which were characterised by the serous exudation being scanty, and not concreting into thick scabs, but speedily drying into numerous branny scales, which were constantly cast off; and yet, though the subjects of this disorder were for some days constantly in company, and amusing themselves with the favus patient, still they never contracted the disease. The impression produced in my mind by the histories and symptoms of the cases which have come under my notice is, that the fungus, although it occasions a certain amount of irritation, is not the sole or the original cause of the eruption, but a mere accidental growth upon a congenial soil formed of an exudation, which is itself a mere local manifestation of a peculiar constitutional state; in one word, that the disease is owing to a blood dyscrasia; that from the blood there is formed an exudation which is essential to the existence of the fungus; and that, until this peculiar matter be exuded, sporules of the plant applied to the integument must remain inert and undeveloped. I have observed, with regard to all the experiments of inoculating the disease of which I have had an opportunity of reading, that in no instance was the attempt successful, till, from irritation caused by prolonged close application of

the favus matter, either redness, pain, suppuration, or some other sign of the inflammatory process, had manifested itself.

This, however, leads us to consider whether or not favus is connected with any peculiar cachetic condition of system, and more particularly with the scrofulous diathesis? The most different opinions are expressed on this point by writers on the disease, some affirming that it occurs amongst the robust and healthy, whilst others affirm that it is confined to the weak and scrofulous. Thus Hutchison writes, "That the state of the patient's health has but little or nothing to do with favouring its outbreak," and "that it has no connexion whatever with struma;" whereas Ericshen states that the disease "is one, the essential nature of which consists in the deposition of that heterologous formation called tubercle." Erasmus Wilson, again, expresses the opinion that "defective nutrition is the real cause of the disease;" and Bennett, "that the pathology of favus is best understood by considering it essentially to be a form of abnormal nutrition, with exudation of a matter analogous to, if not identical with, that of tubercle, which constitutes a soil for the germination of cryptogamic plants, the presence of which is pathognomonic of the disease. Hence is explained the frequency of its occurrence in scrofulous persons, and amongst cachetic or ill-fed children."

Seeing, then, that such discrepant accounts are given, the only method of ascertaining the most frequent characteristics of the disease, and its accompanying habit

of body, would appear to lie in persons, who have had opportunities of observing the complaint, recording the various phenomena of the cases which have come under their notice. Judging from the examples of the disease which have come within the sphere of my observation, I am strongly induced to believe that favus has a very intimate connexion with the strumous habit for the following reasons :—

1. In all the cases there were marked impairment of health; decided depression of the general powers; a thin, weak, and badly-nourished state of body; a sickly white colour; much gastric derangement, more especially acidity, and great irregularity of the bowels. In fact, the general appearance and condition of the sufferers were such as warranted the observers in at once pronouncing them of the scrofulous diathesis.

2. Although the general aspect of all was decidedly strumous, in four there were the following more glaring manifestations of that constitutional taint :—Enlargement of the cervical lymphatic glands of much older date than the eruption; scrofulous enlargement of the submaxillary gland; cicatrices of old scrofulous sores on the arm, and incipient pulmonary tuberculosis.

3. On inquiring more particularly into the histories of the cases, more or less of a scrofulous connexion was always discovered, some one of the patient's family or relatives either being at the time of investigation, or having been affected with some form or other of scrofulous complaint.

4. All the persons affected had been living, for periods of longer or shorter duration, in circumstances well known powerfully to predispose to the strumous diathesis, such as exposure to cold and damp, hardships, overcrowded dwellings, low and confined localities, imperfect or neglected ventilation, and improper and deficient food. One circumstance particularly worthy of notice in regard to the food of the lower classes in this part of the country is, that oatmeal forms the staple article of diet, and that in the case of very many, it constitutes, in the form of porridge or of cake, the three meals of the day. In the case of others, the afternoon repast is varied by barley broth, either plain, or containing some green vegetables, and, at times, scanty fragments of lean meat; but one feature common to all their diets is the exclusion of the oils, the very substances which form our sheet-anchor in the treatment of scrofulous affections.

5, None of the cases were cured by local applications independently of constitutional treatment.

But as many hundreds of persons placed in the same circumstances suffer from phthisis, or some other form of tubercular disease, and yet never become affected with favus, there must surely be some peculiar and powerful predisponent to the disease. I have thought that this might be arrest or retardation of the cutaneous functions; for one feature common to the histories of all the cases which have come under my notice is that the sufferers had been living, or more properly, in the case of some, had been allowed to live, in total neglect of cleanliness, almost

perfect strangers to ablution, and in a state of perpetual filth. From all these circumstances I am disposed to think that favus is a peculiar and not very usual manifestation of the scrofulous diathesis; that the determination to the skin is owing to perverted nutrition of that tissue from arrest or retardation of its functions caused by long continued want of cleanliness, or some other irritating agency; that, though traced in some instances to contact, still it often arises without contagion; and that the parasitic fungus is a spontaneous growth in the peculiar exudation which constitutes a soil congenial to its development.

Treatment.—Not to mention the various measures and appliances recommended for the removal of the hair by those who consider favus to be a disease of the hair-follicles, two distinct methods of treating the complaint may be briefly noticed.

1. Some who consider that the disease is not associated with any particular diathesis, and whose experience it has been to meet with examples of it in states of moderately good or even rude health, look upon constitutional remedies as altogether unnecessary in ordinary cases, and rely for the removal of the affection entirely on local applications, recommending the adoption of certain substances believed to possess the power of destroying vegetable life, such as mercurial ointment, sulphur ointment, sulphur and ammonio-chloride-of-mercury ointment, creosote, and various other preparations.

2. Others insist on the necessity of administering

constitutional remedies conjointly with the employment of local means, and follow and recommend this method of treatment from the belief that the growth of the plants already formed may be destroyed by the adoption of certain local measures, but that the existence of the exudation or soil congenial to the development of the cryptogam is owing to a peculiar vitiated condition of system which must be corrected by appropriate means before a continuance of the disease can be prevented.

The two great indications to be fulfilled by local remedies are—

1st. To remove the crusts from the portion or portions of integument affected.

2nd. To prevent the developement—to destroy the life of the fungus.

The first indication is very easily accomplished by the use of warm poultices, or other emollient applications.

The fulfilment of the second indication has been attempted on two different principles, both of which have undoubtedly been effectual in many instances:—

1st. Some have succeeded in checking the growth of the fungus by keeping constantly applied to it certain irritating substances, as creosote, sulphur ointment, sulphur and ammonio-chloride-of-mercury ointment, sulphurous acid lotions, and other preparations, the beneficial action of which is attributed to their having inherent in them certain properties powerfully and directly injurious to vegetable growth.

2nd. Others have been equally successful in effecting

the death of the parasite on the principle of entirely and steadily excluding the air from it, and for this end they use substances which, in themselves, are by no means injurious to vegetable life. Thus Bennett instituted the local application of cod-liver oil with this view; and expresses the believe that common lard or any other oil would be equally efficacious.

As all the cases which have come under my observation here have been distinctly connected with a cachetic or scrofulous habit of body, one important indication of treatment has been the correcting of this condition by the employment of constitutional remedies. For this end, the adoption of all means calculated to maintain a proper condition of the digestive organs, and to improve the general strength, the injunction of free ventilation and exercise in the open air, the rigid enforcement of personal cleanliness, and the administration of nourishing diet, tonics, and cod-liver oil, are indispensable. In one word, in the various cases which I have carefully watched under my father's treatment, and in one or two under my own particular care, I have found the energetic adoption of the ante-scrofulous regimen and remedies with all their details, together with the local application of cod-liver oil, recommended by Bennett, attended with such thoroughly satisfactory results, that I would unhesitatingly have recourse to their exclusive employment in any case for the future.

Summary of Conclusions.

1. That favus is essentially characterized by the presence of a fungus, which is easily discovered by the microscope.

2. That it is peculiar to the young, and confined to the poor and destitute.

3. That it is most commonly met with on the scalp, but occasionally on other parts of the body.

4. That the hair-follicles are only secondarily affected.

5. That it is by no means a rare disease in Scotland, being exceedingly common in Edinburgh, and having been more so for several years past in Aberdeen than in Glasgow.

6. That it is generally considered more common in Ireland than in England.

7. That it is a blood disorder, and that the fungus is not the sole nor the original cause of the eruption.

8. That many are insusceptible to it; and that it is feebly contagious, and very often arises independently of contagion.

9. That the previous state of health has an important bearing on its outbreak.

10. That it is intimately connected with the strumous diathesis.

11. That want of cleanliness strongly predisposes to it.

12, That, for its removal, general as well as local treatment is necessary.