CASE IV.—C. E., a jeweller, aged 20, was admitted to the Western Infirmary under the care of Dr. Christie on December 11th, 1889. He complained of loss of voice coming on gradually, accompanied by frequent cough, and, recently, marked loss of flesh. The laryngeal mucous membrane was hyperæmic, and the whole inner surface of the interarytenoid mucous membrane was in a state of ulceration. His weight on December 26th was 6 st. 11½ lbs., and on April 15th, previous to dismission, it was 7 st. 12½ lbs., a gain of 15½ lbs. in three months and a half. Here again the ulcer, which occupied a position frequently the site of a tuberculous ulcer, cicatrised, and is at present firmly healed.

It may be argued by some in opposition to these statements, that the increase in weight might be due to the rest in bed, the appropriate food, and the improved hygienic surroundings obtained by residence in hospital. This I was careful as far as possible to guard against, by having patients for a time under the usual ward treatment, noting the weights at stated intervals previous to administering the injection. In some there was slight increase, others remained at much the same weight, while in several the weight continued to diminish. In almost every case from the time at which the injection was begun distinct increase in weight was registered, examples of which I have given.

Temperature.—The last point to which I desire to draw attention is that of reduction in the temperature of the patient. To say that the fever of phthisis may thus be overcome seems a very bold statement, but that it does occur was admitted by those who carefully observed the various cases under treatment. And to my mind it is capable of rational explanation. Dr. Joseph Coats, in his presidential address, delivered at the opening of the Section of Pathology at the meeting of the British Medical Association, held at Leeds in 1889, among other subjects, spoke of the constitutional susceptibility to tuberculosis. "Tuberculosis," he said, "wherever its seat, usually produces constitutional manifestations, fever, emaciation, frequently amyloid disease. It does so not necessarily or usually by the bacillus passing into the blood, but rather by the evolved products doing so. I think it may be said that whatever their seat, the bacilli do not produce tuberculosis by their mere presence, but rather by the poisonous principles which they evolve. These are probably alkaloids, and are soluble in the juices of the body. They are diluted by the fluids, and in this form may be carried away from the local seat, and pass on into the blood. I believe that it is the presence of these products in the blood which is the main cause of the fever and other constitutional phenomena." If then by any means we can overcome the activity of the bacillus, and, if not destroy it, render it at least innocuous, we may hope to prevent the formation of those poisonous products, the absorption of which results in elevation of temperature and the other constitutional manifestations referred to.

The temperature in Case II, previously referred to, was 101.2° F. on the evening of the day of admission. Injections were begun about a fortnight after admission, during which time the temperature ranged from 99.2° F. and 100.2° F. From that time it gradually, though irregularly, descended to normal, at which it remained. M. C., who was under the care of Dr. Christie, I first saw on account of aphonia. On examination I found the faucial and pharyngeal mucosa markedly anæmic, and the laryngeal mucous lining generally, in a similar condition. The ventricular bands were slightly thickened, possibly œdematous in character, both vocal cords were eroded throughout the posterior half of each, that on the left side having passed into a condition of ulceration close up to the arytenoid cartilage, and the inter-arytenoid mucosa was the site of an ulcer. The condition of his lungs was such that Dr. Christie had no hesitation in giving it as his opinion that the lad was suffering from phthisis pulmonalis. On admission, May 7th, 1889, his temperature was 101.8° F., on the third evening it rose to 103.8° F., and for a week it ranged between those points. On the eighth day injections were begun, and three days thereafter the temperature was normal, and was only once above 99° F. (and that four points only) during the remainder of his stay in hospital. In reply to an inquiry, Dr. M'Corkindale, of Lugar, the district in which the patient resides, wrote, on May 11th, as follows: "I saw M. C. yesterday, and on examination found his general health good; he is working regularly and has to travel three miles to it, and does not complain of exhaustion after the day's work is done." He has gained 12 lbs. in weight since leaving the Western. The rapid reduction in temperature in other

cases was more or less marked, and very much on the lines indicated in those quoted.

Other Treatment.—Those patients who were wholly under my care, had, in addition to the intralaryngeal injections, some chalybeate tonic, administered usually in the form of tinct. ferri perchlor., along with a plentiful supply of milk food. No complications arose during the treatment of those cases, which could in any way be traced to the use of the injections, even in advanced cases of phthisis, if we except the glottic spasm produced, which in some cases seemed alarming, while making use of rectified spirits as the solvent.

Conclusions.—Regarding the action of menthol specially, when thus employed, I think we may consider it to be of a triple character. It is, first, a local anæsthetic. On account of this property, we have relief from cough, and that in a way greatly to be preferred to the older fashion of administration of opiates by the stomach, with their consequent deleterious effects on alimentation. Secondly, administered internally, it is a powerful, though comparatively harmless stimulant. Thirdly, it is an antiseptic, and being of a highly volatile character, it is readily diffused throughout the whole lung. By its use in this fashion, we have an antiseptic brought as closely into contact with the affected surface as it is possible; certainly much more completely than is the case when inhalers are employed. The active ingredient used with an inhaler is to a very large extent absorbed on its way to the lungs, by the moisture on the surface of the tongue, cheeks, fauces, pharynx, etc. Here we place the antiseptic—menthol rendered more powerful by the addition of creasote or guaiacol—within the trachea, from which it readily enters the larger bronchi, and all air inspired, passing over this, becomes laden with the antiseptic, and is carried onwards to the finer ramifications of the bronchi. The active ingredients thus introduced slowly volatilise, and their odour, especially when creasote is present, may readily be detected in the breath, eight or ten hours after introduction. The oil, I suppose, is partially absorbed, but in greatest quantity is, by the cilia of the epithelium, driven upwards through the bronchi and trachea along with the mucous secretion towards the larynx, from which it readily enters the gullet. By this form of treatment the majority of the patients whom I have seen treated have had their sufferings alleviated, and a goodly proportion have not only been markedly relieved, but restored to apparent health.

REPORT OF A CASE OF PAGET'S DISEASE OF THE RIGHT NIPPLE,¹

FOLLOWED SEVEN YEARS AFTER ITS FIRST APPEARANCE BY
CARCINOMA OF THE BREAST; REMOVAL OF BREAST
BY OPERATION; RECURRENCE OF CARCINOMA
IN RIGHT ARM AND AXILLA AND LIVER
SEVEN MONTHS AFTER THE
OPERATION.

By HENRY O'NEILL, M.D., M.Ch.,
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Mrs. L., aged 54 years, married, has had eight children; her youngest child was born twelve years ago. About fifteen years ago, when suckling her seventh child, her breasts became inflamed, and each nipple was fissured. Spirit lotion was applied to the affected parts, and the fissures healed in a few days. With this exception, she states she never had any disease of her breasts or nipples until 1882, when the skin around the right nipple became tender, inflamed, and abraded, exuding a watery discharge. The surface of the skin was smooth, red, and painful.

When first seen on November 25th, 1885, her general health was good. There was no history of cancer, rheumatism, or gout in her family. Her catamenia had ceased two years before. She was nervous, and complained of severe pain of the right nipple and the surface of the right breast, which was ulcerated for 2 inches around the nipple. The base of the ulcer was smooth and red, slightly lower than the surrounding skin, and exuded a copious discharge of thin, acrid, serous

¹ Read at a meeting of the North of Ireland Branch.

fluid, which stiffened linen like the discharge which escapes from an eczematous ulcer. The bowels were regulated, and lin. calceis and zinc oxide were applied to the nipple and breast.

December 2nd. The ulcer of the nipple was still painful, and not healing. Zinc oxide and morphine hydrochl. were ordered to be dusted on night and morning. A wire shield was worn over the breast to prevent any pressure from her dress.

August 8th, 1886. The ulcer was not healing, but the serous discharge was less. The morphine and zinc oxide was applied regularly every day, and the pain was less.

October 18th, 1888. The ulcer of the right breast extended for 3 inches round the nipple, was acutely painful, and was discharging serum freely. A hard mass was distinctly felt beneath the nipple, and was first observed by her in July, 1888. She was suffering from acute suppurative parotitis of the right side, from which she completely recovered in six weeks. She was strongly recommended to have her right breast amputated, but refused until January 1st, 1889, when the swelling and hardness of the right breast had increased. There were several enlarged glands felt in the right axilla. She was in fair health.

On February 5th, 1889, a photograph (Fig. 1) of the breast was taken.

Fig. 1.—Paget's disease of the right nipple.

Assisted by Professor T. Sinclair, Dr. J. A. Browne, and Dr. W. A. Wheeler, chloroform was administered, and the right breast and several enlarged glands (as many as were recognised) in the right axilla were removed. No glands could be felt beneath or above the right clavicle or in front of the right elbow. There was slight hæmorrhage, easily arrested by torsion forceps. The edges of the wound were approximated by three silver sutures, permitting of free drainage for the discharge. The wound was dusted over with iodoform, and dressed with iodoform gauze and wood-wool wadding. The wound healed by granulation, and in twelve weeks the cicatrix was quite firm. The temperature never rose above 100° F., and that only once—on the day after the operation. The pulse ranged from 96 to 84.

On May 16th, 1889, three months and eleven days after operation, the cicatrix was firm and healthy. There was then no sign of any enlargement of the right axillary glands, or any secondary deposits in other parts of the body.

On September 15th, 1889, I found her in bed, sick and weak, suffering severe pain over the region of the liver and right kidney; small, hard nodules were felt in the skin of the right axilla, close below the lower edge of the cicatrix, and in the skin over the outer condyle of the right arm. The liver was enlarged and the surface felt rough and nodular below the tenth rib. She gradually grew weaker, the liver became more enlarged and painful; the glands above the right clavicle were enlarged. Her appetite decreased until she was quite exhausted, and she died on October 27th, 1889.

REMARKS.—This case is interesting in the following points: 1. On account of its rarity. Bryant² records 3 cases of ulceration of the nipple preceding carcinoma, in 600 consecutive cases. Mr. Henry Morris records 2 in 305 cases. Gross and Oldekop report 5 cases in 370, making a total of 10 cases of ulceration of the nipple observed in 1,275 cases of carcinoma of the breast, or 0.86 per cent. Dr. E. D. Mapother records³ having seen during seven years only 1 case of Paget's disease of the nipple in St. Vincent's Hospital, Dublin. 2. The slowness of its growth, 6½ years having elapsed from the first appearance of the ulceration of the nipple till the cancerous tumour in the breast was first seen. 3. The extensive and rapid recurrence of cancer as secondary deposits in the skin of the right axilla and arm, and in the right supraclavicular glands, and in the liver seven months after removal of the right breast and axillary glands. 4. The necessity for an early diagnosis of this form of malignant ulceration of the nipple. Bryant records 2 cases where he removed the breast and enlarged axillary glands early in this form of ulceration of the nipple with good results.

MICROSCOPIC EXAMINATION BY MR. JONATHAN HUTCHINSON, JUN.—Microscopic sections made through the diseased nipple and scirrhus tumour beneath showed the structure to consist of large cells embedded in a small amount of fibrous tissue, indicating a rapidly growing form of cancer. This soft scirrhus mass had extensively invaded the skin, and projected at parts through the epithelial covering. Surround-

Fig. 2.—Vertical section of epithelium in Paget's disease of the nipple in this case $\times 800$ diameters. *a*, Surface; *b*, level of corium; *c*, coccidia (?).

ing this was an area of skin which had been the seat of chronic eczema, and outside the eczema was healthy skin. The lymphatic vessels were particularly well marked around the alveoli; towards the skin surface was a dense infiltration of small round cells, no doubt in part due to the eczematous condition, this being constant in cases of Paget's disease.

After making and preparing many sections of the epithelium, the scirrhus tumour and scrapings from the surface of the breast, and carefully examining them under the microscope, bodies like coccidia were observed in the epithelium and the scrapings from the surface of the breast, but none were found in the scirrhus tumour. They showed a distinct double contour, this feature being perhaps the best marked one of coccidia, a fairly regular oval shape, sometimes a crenated edge and a narrow end suggesting the "micropyle" of the parasite. It will be seen by examining Fig 2, that they are much larger and more distinct than the epithelial

² *Diseases of the Breast*, 1887.

³ *Papers in Dermatology*, 1889.

nuclei amongst which they lie. The various methods used for staining the sections were Neelson's fluid, picrocarmine, safranin, and logwood. Sections stained with Neelson's fluid showed the coccidia perhaps the best. In the scrapings treated with liquor potassæ, quite a small number were found in comparison with the case reported by Mr. Jonathan Hutchinson, jun., F.R.C.S., in the *Pathological Society's Transactions* for 1890.

PSOROSPERMOSIS.—In 1889 Darier demonstrated a monocellular parasite belonging to the class sporozoa—Order, psorospermia—as being always present in the skin and gland ducts in cases of Paget's disease of the nipple and *acné cornée*. Dr. Louis Wickham's monograph on this subject⁴ is well known. The parasites were seen by these observers in various stages of their growth. At the first they consisted of amœboid masses like cellular protoplasm. The cell containing the parasite increased in size, and had a more irregular shape. At a certain time the parasite became encysted, and its capsule, at first clearly defined, became quite round, thickened, and bright. A distinct large nucleus was then seen in the cell, having a round body and double contour, and in the central protoplasmic contents were observed two or three nuclear bodies, which were pseudo-navicellæ. These distinct well marked bodies are the coccidia or psorospermia in their mature state. A ready means of examining coccidia under the microscope is to scrape the affected part with the blade of a knife, and add to the scrapings one drop of liquor potassæ. This is a valuable means of diagnosis in Paget's disease. The presence of these parasites among and within the epithelial cells and ducts determines the various degrees of inflammation and cell proliferation. This inflammation is kept up constantly by the parasite, and causes the increased growth of the epithelium. The cancer which frequently follows Paget's disease of the nipple develops in the breast from the lactic ducts, or in the skin from the gland follicles. The new growth is a pavement epithelium, which may be lobular, tubular, or alveolar. Paget's disease of the nipple should be treated in its early stages by antiparasitic remedies, as recommended by Darier, and so prevent the development of cancer.

VITILIGO AS A SEQUELA OF INFLUENZA AND ERYSIPELAS.¹

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As vitiligo or leucopathia acquisita is not a very common disease in this country, and as every direct outcome of erysipelas and of the recent epidemic of influenza is interesting, the following case seemed worthy of being brought before your notice.

M. B., married, aged 41, had a severe attack of influenza with much pain and tingling in her hands and feet, and then, five or six days later, erysipelas of the face, for which she was attended by my partner, Dr. Collier, in January, 1890. Soon after her recovery, and ever since (these notes were taken in July), she has noticed tiny spots on her wrists, hands, arms, and legs. They were attended by no pain or irritation of any kind. They have gradually increased in size to their present condition, several remaining together to form the larger patches. They also occur on her body, both back and front, but I could not find the slightest trace of them on her face and neck, while her hair was of a uniform and very dark black. She has naturally a dark complexion, and her face, neck, hands, and forearms are also much browned by the sun.

The edges of the white patches are distinctly deepened in colour, and are not merely darkened by contrast. The colour of the patches varies from a dull white in the smaller ones to a pinkish hue in those of larger size. There is no loss of tissue in the patches, and the patient has perfect sensation in them. The smallest spot I could distinguish was about the size of a pin's head. As will be seen by the photographs, the spots occur on both flexor and extensor surfaces indif-

ferently. They are very splashy in appearance, as though hastily daubed on with an overfull brush of white paint, but on examination under a small magnifying glass the edges even of the most irregular patches will be found to be parts of circles with the convexities directed towards the ordinary pigmented portions of the skin. There are no solitary black spots, nor indeed anything suggestive of Addison's disease. She has no history, and bears no marks of syphilis. She has been a fairly healthy woman, and now suffers no trouble with this complaint—which she ascribes to her commencing change of life—beyond her singularly piebald appearance.

She suffers somewhat from indigestion, flatulence, and oc-

casional attacks of urticaria on her forearms and legs; this produces, after the wheals have subsided, tiny pimples; whether these are the starting points of the spots of vitiligo is uncertain.

Most of these cases of acquired vitiligo have followed some acute febrile disturbance; typhoid fever, scarlatina, and remittent fever have all been succeeded by this complaint so directly as to leave no doubt that the latter was dependent in some way on the former, and in my case the immediate antecedents were influenza and erysipelas.

When a disease produces no pain or inconvenience, but only a mild surprise and a hope that it is not "catching," treatment obviously is in abeyance. In the case of a gentleman who had some few patches on his wrists and hands, I have recommended that they should be tattooed to match the healthy skin. And, of course, when the white patches become so extensive as to leave narrow boundaries of unaltered skin between, then the pigment may be dispelled from these, and a uniformity of tint be once more gained.

CHARD RURAL (Population, 23,000).—Measles Epidemic and School Closure : Tuberculosis and Cancer : Influenza.—Mr. Edward Stephens's report for 1889 is brief, as the year was uneventful and the returns very satisfactory. The deaths registered from zymotic diseases were considerably below the average, and the general death-rate of 13.0 per 1,000 was satisfactory. The only epidemic recorded was one of measles of a mild type, which necessitated the closing of several schools, but no case ended fatally. Mr. Stephens thinks more attention should be given to diseases of a tuberculous nature and to cancer, the deaths from this latter disease being unusually large. During 1890 this district suffered severely from an epidemic of influenza, but few of the cases terminated fatally. Scarlatina was also prevalent, spreading from Seavington into Dinnington, Loper, Stocklinch, and Ilminster. The death-rate for 1890 was 17 per 1,000.

⁴ *Thèse de Paris*, 1890.

¹ Read at the meeting of the Midland Branch of the British Medical Association at Boston.