up, making a marked difference in her physiognomy, as may be seen on comparing the two photographs (Figs. 1 and 2), one taken before the other shortly after injection.

The second patient was a woman, aged 41. She was admitted to the Western Infirmary under my care on March 12th, on account of a marked depression of the nose (see Fig. 3). There was a history of syphilis having been contracted seventeen years ago, and five years ago she received a blow on the nose which was followed by a persistent purulent discharge. Two years later she noticed that her nose was "falling in," and she came to the department under my charge at the Western Infirmary, when it was found that the septal cartilage was wholly absent.

On March 14th sterilized paraffin with a melting point of 104° F. was injected in a fluid state into the subcutaneous tissue of the nose by means of a serum syringe. In this case the needle was inserted near the central point of the depression in the middle line. The paraffin was kept in a fluid state by means similar to those used in the first case; fully 1 drachm was injected, and the injected material was confined to the depressed area by digital pressure, and subsequently by the use of celloidin. The depression was so raised and the raised portion so moulded that now her nose is not only presentable, but is a well-shaped feature of her face (Fig. 4).

ON THE SPREAD OF LEPROSY AND AN EXAMINATION OF THE FISH HYPOTHESIS OF LEPROSY AS APPLIED TO KASHMIR.

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It is difficult to estimate the exact amount of leprosy in Kashmir. It is possible that there may be 300 cases in a population of a million. The distribution of the disease is peculiar. It is rare in the City of Srinagar, uncommon in the other towns and villages of the alluvial plain, but is met with, in increasing frequency, in the uplands which skirt the valley and the tributary valleys which debouch into it. With but few exceptions the lepers of Kashmir are either herdsmen from mountainous districts, or agriculturists who have mixed freely with such herdsmen. The distinctive feature of the herdsman's occupation is close contact with cattle, sheep, and goats, and residence in small, crowded, very badly ventilated huts. With regard to sex, it is an interesting fact that the disease is rarer amongst women, who form only about 10 per cent. of the lepers. The disease is also very rare among Hindus, of whom there are about three in every hundred lepers. It is not altogether clear how the disease spreads. Heredity appears to play but a small part. Of 143 lepers 115 gave no such history. In travelling in different parts of Kashmir, if in a given district one leper is found, others will usually not be far distant. This points in the direction of contagion. One theory of the spread of leprosy—the fish hypothesis—has been adopted and put forward by Mr. Jonathan Hutchinson. The suggestion is "that leprosy is in some way connected with the eating of fish in an uncooked and often decomposing state." "It is suspected that fish food of this kind, uncooked, may either carry the bacillus itself or may be the stimulant which excites it to action."

In order to test this theory in Kashmir, let us look into the question of fish consumption. A large amount of fish is taken out of the lakes and rivers of Kashmir. This is consumed in three forms, namely, fresh, dried, and in sauces or powdered relishes.

How is this fish distributed? Large quantities are consumed by the extensive boating population. Very large amounts are sold in the city, where all kinds of fish can be seen exposed for sale. Even the Hindus, in spite of its being contrary to their religion to do so, are accustomed to eat prepared fish in various forms. A certain amount of dried fish finds its way to the villages, but it is not very common there, and the demand for it is relatively small owing to the abundance of vegetables and fresh meat. There is no ground for supposing that the fish consumed in Kashmir households is not partaken of as freely by women as by men.

The next point is the relationship of the distribution of leprosy to the distribution of fish. It has already been shown that thousands of people have eaten fish in various forms

without developing leprosy, which is rarest in the districts of greatest fish consumption. (I have only met with one boatman who was a leper.)

The next question is, Are there any people who have not consumed fish who have nevertheless developed leprosy? In 1892 I completed an inquiry into the diet of 143 cases of leprosy; 79 had eaten fish, either frequently or occasionally, and 64 absolutely denied having eaten fish. In January, 1902, there were 65 lepers in the State Leper Hospital; of these, 22 stated that before developing the disease they had never eaten fish in any form; of the rest, 20 had taken fish in its three forms—namely, fresh, dry, and as a condiment; 1 had eaten it in chutnee, 3 had eaten it fresh or dried, and 19 had eaten fresh fish. Thus we see that quite a considerable number of lepers deny having eaten fish.

That there is nothing intrinsically improbable in the transmission of leprosy by fish may be admitted. Dried or salt fish contains, of course, a great number of putrefactive organisms. It might prove a suitable nidus for the leprosy bacillus. It seems, however, much more likely to be a carrier of leprosy virus, with which it has been in accidental contact, than itself an actual cause *de novo* of the disease, and if the former, then it may be relegated to a minor place as a possible medium of conveyance.

It is possible that many nutrient substances might similarly become sources of danger, such as dried or salt meat, butter, cheese, or milk. It is easy to see that a leprosy milkman might spread infection. Europeans who drink unboiled milk, if they chance to live in a district where leprosy is endemic, might contract the disease in this way. The water supply in many villages in Kashmir is scanty and liable to extreme degrees of contamination. It is well known that the lepra bacillus is frequently present in the saliva and expectoration of lepers. As in tuberculosis this must be considered as a very probable means of its spread. Many of the huts inhabited by lepers and non-lepers are absolutely without ventilation. Under these circumstances contagion or infection is by no means improbable. Children of lepers at birth are free of the disease; but unless separated from their parents they are almost sure to develop it within a few years. Here I believe contagion comes into play. It is true that lepers often deny the existence of any other case of the disease in their district. But a Kashmir peasant is not necessarily able to diagnose mild or early cases of leprosy.

The question of the spread of leprosy is one of great importance in those countries in which the disease is endemic. The measures which we take are, no doubt, governed by our theories. If acceptance of the fish hypothesis leads us to deal with the matter by aiming alone at the inhibition of unwholesome fish food, then it appears to me a mischievous theory. If the disease is to be stamped out the most important measures to be taken are, in my opinion, first, to separate healthy children from their leprosy parents as soon as possible; secondly, to withdraw lepers from the general community as completely as possible; and thirdly, to use such proper sanitary precautions as shall prevent possible infection or contagion; such, for instance, as disinfecting dirty clothing by heat before washing, forbidding expectoration on floors or ground; exercising careful supervision over the free ventilation, exposure to sunlight and general cleanliness of the buildings, inside and out, and of their surroundings, and of the disposal of dangerous refuse. It is important to regulate the contact of healthy attendants with lepers, bearing in mind the danger from their clothing and discharges. In fact, the disease should be treated as no less infectious than tuberculosis, to which it presents not a few points of resemblance.

CASE OF EPITHELIOMA COMPLICATING LUPUS ERYTHEMATOSUS TREATED BY SCRAPING AND HEALED BY THE X RAYS.

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History.—G. R., aged 59, a man of robust physique, formerly a sailor, but now a dock labourer, first came under my care in 1892 suffering from lupus erythematosus of the

Fig. 1.—Taken from a water-colour drawing by Peter Nairn in May, 1892.

Fig. 2.—After excision of epithelioma.

Fig. 3.—Patient in July, with epithelioma of nose.

Fig. 4.—After-treatment by scraping and the x rays.

sebaceous variety affecting both cheeks and nose. The disease presented the most typical "butterfly" outline; its surface was covered by scales of a peculiar greyish, mortar-like character, and here and there horny excrescences were observed. The upper lip was perfectly healthy, but the lower lip was occupied by a huge epithelioma which overhung the chin (see Fig. 1, taken from a water-colour drawing). This was excised with a good result (see Fig. 2).

The patient returned in 1893 with an epitheliomatous ulcer originating from a horny excrescence on the tip of the nose. This was treated with potassa fusa.

The above particulars are taken from Dr. J. J. Pringle's article on multiple epithelioma which appeared in the *British Journal of Dermatology* of January, 1900, from notes supplied by me. I lost sight of the man until he appeared at my clinic at the Liverpool Skin Hospital on July 10th, 1901.

Present Condition.—The lupus erythematosus had not increased in area, was less scaly, and had none of the warty excrescences before mentioned, but was in no sense atrophic. His lower lip presented a well-marked red, glazed patch of the disease, but there was not the slightest evidence of a return of the epithelioma. On the nose, however, was a large, soft, cauliflower growth, involving the whole surface of that organ. This was extremely vascular, and had become so offensive to his fellows that he was compelled to seek advice (see Fig. 3).

Treatment.—Having had a fair experience of the x rays in dealing with malignant growths I decided, first, in order to save time, to remove as much as possible of the growth with a scraper and then submit the raw surface to their influence. On July 11th I thoroughly scraped the nose under nitrous oxide anaesthesia, and as soon as the bleeding was arrested began the treatment. This was confined entirely to the nose, the other portions of the face being protected with a lead foil mask. Ten-minute exposures were given daily, Sundays excepted, until August 21st, when the healing process, which had hitherto been rapid, became arrested, and the newly-formed epithelium melted away. This was evidence to me that the exposures were too long or too frequent, consequently they were postponed until August 31st, when five-minute exposures were given daily until September 7th; these were resumed again on October 5th, when ten-minute exposures were ordered twice weekly through a mere slit in the mask to a fine line of unhealed tissue. The nose was completely healed on October 26th (see Fig. 4). During the treatment an ointment of acid salicylic gr. x , ad. $\mathfrak{z}$ j, and finally lotio rub. were used. At the request of the patient the lupus erythematosus was not exposed to the rays.

Microscopical Examination.—This was made by my colleague Dr. MacKenna. Portions of the tissues removed by the curette on July 11th were preserved in 2 per cent. formalin, hardened in alcohol, embedded in paraffin, and cut. The sections were stained with logwood and eosin, and on microscopical examination presented the following appearances. There was great proliferation of the epithelial cells, which penetrated deeply in long branching columns into the subjacent connective tissue. In the connective tissue surrounding the epithelial columns there was considerable leucocytic infiltration. Scattered about the field were homogeneous masses surrounded by closely-packed and flattened epithelial cells with elongated nuclei—the "cell nests" typical of a squamous epithelioma. The microscopical examination therefore confirms the diagnosis of epithelioma made from the clinical history and phenomena.

REMARKS.

The development of epithelioma on lupus erythematosus is a very rare disease, and I would refer those who desire further acquaintance with the subject to Dr. Pringle's article. But it is rarer still for any one to have the opportunity of treating three separate developments of this disease after intervals of six and three years as has fallen to my lot.

Of course exception may be taken to the line of treatment pursued—namely, that scraping was adopted as a preliminary, and that valuable and efficient dressings were used; but I would ask:—Would these have produced such an excellent result without the aid of the x rays?

MEMORANDA:

MEDICAL, SURGICAL, OBSTETRICAL, THERAPEUTICAL, PATHOLOGICAL, Etc.

ON HAEMORRHAGE INTO THE BURSA PATELLAE.
I HAVE lately had under my care a second case of what I believe to be a rare affection, namely, haemorrhage into the bursa patellae. Both examples occurred in Sisters of Charity, and were doubtless due to pressure. In both the swelling was large and painful, and the skin red and hot, so much so that many surgeons would have felt justified in making a free incision. I preferred to introduce a large aspirator needle and drew off bright liquid blood, and then carefully strapped the joint with plaster and applied a bandage. The interior of the bursa appeared to be rough when the two surfaces came together, and the haemorrhage was free, so that I had to empty the bursa a second time before I completed the strapping. I renewed the strapping in a week, and again three or four times at the same interval, and then dismissed my patient with a bandage.

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CASE OF DOUBLE DISLOCATION OF THE STERNAL ENDS OF BOTH CLAVICLES BACKWARDS.

I CANNOT find any case recorded of simultaneous dislocation of the sternal ends of both clavicles backwards. The accident occurred at the Royal George Mills, Greenfield, on February 4th, 1902, and is probably worth reporting.

On arriving at the scene of the accident, I found the patient—a heavily built man of 40—in a dazed condition. He would not answer questions, but kept repeating that he "could not breathe," and moaning as if in pain. Examination showed some scalp wounds situated rather behind the occiput, and what at first sight looked like a dislocation of the sternum, its upper edge being, apparently, projected forwards almost the width of two fingers. Of course in reality both clavicles were symmetrically displaced backwards. The accident was caused by a fall down a lift, and the man was seen to alight on the back of head and shoulders.

The reduction was accomplished by placing the man on his back, with his chest thrown upwards with pillows. His elbows were then drawn upwards and outwards, whilst pressure with the hand was exerted to press the upper edge of the sternum, downwards and backwards. The clavicles, with an interval of about a minute, snapped forwards into their places. Then a firm pad was applied, and the patient progressed, without incident.

It appears difficult to understand the backward dislocation of the clavicles, when the force was, apparently, delivered from behind the sterno-clavicular joint. I think this is the probable explanation: the man had a well developed chest, with a sternum bowed forwards. His head must have been bent forwards at the moment when he struck the floor. He fell 16 ft. and the weight of his body—177 lb., must have driven the sternal ends of the clavicles in the line of the least resistance—downwards—behind the sternum.

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PINCE-NEZ IN OPHTHALMIC PRACTICE.

IN the *BRITISH MEDICAL JOURNAL* of March 22nd, p. 710, Dr. Joyce has drawn attention to a very important matter in connexion with pince-nez, namely, that epiphora is caused by the compressing force dragging on the tissues at each side of the nose, and so displacing the puncta.

Until we have a better appliance than the present nose piece the ophthalmic surgeon can prevent this displacement by directing the patient to close the eyes whilst adjusting the pince-nez. If one pinches up the skin on the nose between the finger and thumb, imitating the action of the compressing force of the pince-nez, he will find that when the eyelids are apart the puncta are visibly displaced, whereas when the eyelids are in contact no displacement takes place by this action. Those who have worn this form of frame for some time