the normal. But the fever had only lasted 17 days. The lung signs gradually cleared; diarrhoea ceased; the distressing tympanites and hiccough subsided, and his recovery was steady and uninterrupted. Convalescence was not marked by any untoward incident, and on the twenty-third day of his illness he was allowed, after much persuasion on his part, to sit up in his chair.

What was the true nature of this attack? What infectious disease did he, and the other similar patients, suffer from? Was it an abortive attack of typhoid fever?

Against this it may be urged that an illness quite similar in course, duration, and symptoms occurred in the spring of different years, and attacked three other elderly persons.

Now I would point out that typhoid fever in senile subjects is very rare, though not unknown. Also I would repeat that in none of the patients were any rose-coloured spots found; in all the serum reaction of typhoid fever was negative; the stools were not characteristic of that disease; the spleen was in no patient found to be enlarged; the duration of the fever was only 17 days (the shortest) or 19 days (the longest), and the distension of the abdomen was chiefly due to distension of the colon.

It can scarcely be admitted that the attack in each patient was a form of pneumonia due to some micro-organism other than Fraenkel's, though I am convinced that pneumonia may be produced by different varieties of cocci and other septic germs; and in addition I would remind my readers that ulceration of the large intestine, attended by meteorism, is not infrequent in ordinary pneumonia. On the other hand, it will be seen that the fall in the temperature was gradual and not abrupt. Again, the signs characteristic of pneumonia—viz., lividity, rusty spit, and herpes on some part of the face—were absent. It may be suggested that the attacks were really influenza, since they occurred in the spring or late winter, and that the symptoms were protean in each case; but there were no typical pains in the back and loins, nor in the eyeballs, nor in the lower thirds of the extensor surface of the thighs.

The clinical problem is therefore a difficult one, and I am inclined to fall back on the diagnosis that each patient suffered from a septic fever, probably brought about by food prepared in dirty utensils which contained some minute organism, possibly a coccus, which exerted a widespread infection, involving not only the nasopharynx and the buccal cavities, but also the Eustachian tubes which open into the former. Thence the infection extended down the respiratory tract, as well as to the gastrointestinal canal, with the result that the patients had symptoms which might easily be mistaken for typhoid fever or for pneumonia, and the probable cause and nature of the illness overlooked.

PS.—Since the above was written Dr. Herbert A. Smith has recorded in the *West London Medical Journal* of November, 1914, a case somewhat similar to the above. But the attack only lasted eight days, and in this instance the diagnosis of influenza was probably correct.

Seymour-street, W.

EXETER CITY ASYLUM.—Dr. G. N. Bartlett was, at a special meeting of the committee of this institution, appointed medical superintendent. Dr. Bartlett had been previously at Bexley Asylum, and is at present assistant medical officer of the London County Asylum at Horton, Epsom. The salary of the post is £500 increasing to £600 per annum, and, as recently mentioned in THE LANCET, the medical superintendent will be allowed to act as a consultant upon mental cases occurring in the city of Exeter.

GLYCERINE IN BROMIDROSIS, WITH A NOTE ON MILITARY NEEDS.

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Bromidrosis is a condition of offensive sweating, usually limited to the soles of the feet. It occurs most frequently, although not entirely, during the hot months of the year, and it is well known to be highly resistant to treatment. Associated with the condition in severe cases there is usually marked tenderness of the soles, and abrasions and blisters readily form. The condition is attributed to the results of bacterial decomposition of the sweat. The whole of the influences at work in the causation of bromidrosis are not altogether clear; numerous and various bacteria are present in all cases, and probably some essential constitutional factor is in operation in addition to the bacterial infection.

Of 5 cases treated by me 3 were of a mild type associated with the warm weather. These were completely relieved whilst the treatment lasted, but relapsed when it was discontinued. The other two cases occurred in boys of 14, and were of a severe type. The condition had persisted for some months in spite of energetic measures taken to ensure cleanliness, and despite the continued application of drying and disinfectant powders. In both of these two latter cases there were blisters and abrasions, and in both cases the condition was completely cured in the course of three days by the application of glycerine well spread over the soles and toes before the socks were put on, this being repeated each morning as long as was necessary (three times in both cases).

The substances which give rise to the clinical symptoms of bromidrosis are to be regarded as products of protein disintegration, resultant on the action of bacterial enzymes. The actual substances present vary in nature and amount from time to time; among the most important are certain aromatic bodies, probably indol and perhaps skatol; these in conjunction with certain fatty acids give rise to the offensive smell, and no doubt help to aggravate the cutaneous lesions. Another and possibly the most harmful body is ammonia. This alkali, even in dilute solutions, has, as is well known, a relatively strong solvent and destructive action on keratin; and it seems probable that it is owing to its action on the skin that blisters and abrasions so readily occur in patients suffering from bromidrosis.

The addition of glycerine and various carbohydrates to the medium in which the indol-producing bacteria are growing prevents the formation of this substance. In addition, in place of an alkaline medium the fermentation of the glycerine leads to the production of a marked acidity. In treatment, then, the application of glycerine, while not inhibiting the growth of the bacteria, might be expected to prevent the formation of indol and other end products of protein destruction, and to substitute an acid for an alkaline medium in contact with the skin of the foot. This expectation was realised in my cases.

Bromidrosis as a clinical entity is probably not common in the army under normal circumstances, but even about 1 per cent. in a large army would make a considerable total of cases, which could probably be treated successfully by the

method here advocated. It is, however, to a wider issue that I wish to direct attention. From time to time we hear of forced marches under conditions in which particular care of the feet, and probably even measures for securing ordinary cleanliness, are out of the question. Under these circumstances bacteria on the feet are likely to flourish, and the deleterious products of their activity to make themselves felt on the skin, with the result that blisters and abrasions readily form and have a very poor chance of healing; this, of course, especially during hot weather. It is suggested that the application of glycerine by preventing the formation of noxious products would enable the skin to be kept in a healthy condition, and for a time would do away with the necessity for washing. In practice the treatment presents no difficulty, involving as it does nothing more than the occasional application of glycerine in relatively very small quantity. I think that the use of glycerine should have advantages over the rather opposite measures often adopted, designed to dry and harden the skin of the feet. One effect of the glycerine, of course, is to make the skin moist; that does not, however, mean that the horny outer covering, which is the true protective layer, has been softened. On the contrary, whilst retaining its protective qualities, the skin is rendered supple, and it would seem fair to argue, as in the case of a material such as leather, that a supple and pliant fabric will wear better than a hard and brittle one. This last point, however, is a matter for experiment, and no doubt some other substance acting on the same principle could be substituted for glycerine if it seemed advisable.

Medical Societies.

ROYAL SOCIETY OF MEDICINE.

SECTION OF OTOTOLOGY.

Introductory Address.—Exhibition of Cases and Specimens.

A MEETING of this section was held on Nov. 20th, Dr. ALBERT GRAY (Glasgow), the President, being in the chair.

The PRESIDENT, in the course of a brief Introductory Address, gave a review of otology and its relationship to bacteriology and the wider subject of pathology. The problems already solved by otology were very great; 20 or 30 years ago but little could be done for a case of suppuration of the middle ear in staving off the ultimate fate of the patient; yet now these cases were successfully treated, either by operation or without. The number of lives saved and the amount of restoration, or at least of improvement, of hearing gave much hope for the future. But there were problems met with in the specialty which remained misty, and that more progress had not been made in their solution was probably due to the discoveries of Pasteur and Lister having so concentrated the attention of pathologists upon micro-organisms and their part in disease that too little attention had been given to the tissues themselves. Yet so widely different were the tissues of various people that even when the degree of invasion of organisms was equal in a number of patients the amount of response was not equal, nor could it be accurately forecast. Disease was the response of the animal to injury, and however plentiful the bacteria there could be no disease without the animal to manifest it. When a certain agency was at work in the human body the response was given a definite name, but it was never the same disease, exactly the same in behaviour. The individual was therefore by far the more important factor, the external factor the less important. Some disabilities were inherited, and no sort of outside influence could produce them; an instance of this was Daltonism

or colour-blindness. A less noticeable case was that of arterio-sclerosis, with which could be classed otosclerosis. Some people, however outrageous their lives over a long series of years, enjoyed a green old age without suffering from arterio-sclerosis, while others had it in comparative youth. It seemed as if the initial defect was so strong in the fertilised ovum that it would come to light whatever the conditions of life. In many cases of otosclerosis the exciting agent was such a disease as typhoid fever, prolonged anæmia; even pregnancy might determine its onset. And though the Mendelian law was doubtless true of plant characters and of such inherited qualities as night-blindness, it did not apply to such a condition as arterio-sclerosis, nor, according to Mott's observations, to the neuroses. And probably the reason was that these latter depended largely on the process of repair being deflected from its normal function, such as by the influence of lead or other poison, and this complication by an outside influence naturally prevented it conforming to a law based upon pure heredity. Even in malignant disease there was a certain amount of inherited tendency, but an accident would largely determine the site and time of the manifestation. Knowledge was now fairly definite as to how repair of tissue took place, but he had never yet seen or heard the question propounded, "Why does tissue heal?" Why did not a wound granulate at the edges and remain open instead of closing? The answer to this question would mark a great advance and open the way to the solution of many problems.

Mr. W. M. MOLLISON showed the Brain of a patient who was exhibited at the section last year, he having died some weeks after the operation. The tumour, a glioma, was found in the position assigned to it during life—namely, about the left cerebello-pontine angle. There was an extensive hæmorrhage into the growth, and on one side was a cystic cavity which was opened at the operation.—Mr. C. E. WEST said it was a class of case difficult to diagnose, and presenting a very formidable problem in treatment. He thought the collection of fluid simulating a cyst was cerebro-spinal fluid. He did not think the exhaustion of the patient was due to the loss of cerebro-spinal fluid, for, provided patients were given plenty of fluid, they could stand the withdrawal of quite large quantities of cerebro-spinal fluid. And there was no evidence in the brain of infection of meninges, such as Mr. Mollison feared might have occurred.—Mr. G. J. JENKINS also discussed the case, and Mr. MOLLISON replied.

Dr. V. H. WYATT WINGRAVE exhibited a series of slides illustrating Lumbar Puncture Fluid in Aural Cases, and in his demonstration of them pointed out that in cases which were probably acute exacerbations of old and long-standing trouble the bacteria were nearly always polymicrobial, so varied as almost to present the characters of a throat film. In acute cases there were generally plenty of bacteria, but usually only of one or two varieties, the most interesting being the bacillus capsulatus mucosus. The cerebro-spinal fluid, especially in ear work, might be quite clear at the first or second withdrawal, but subsequent ones were either cloudy or full of flakes. In most cases of severe middle-ear infection the normal alkaline reaction of the fluid was much reduced, or it might even become acid. This had an important bearing on the treatment by urotropine.

Mr. WEST showed a male patient, aged 69, upon whom he had operated for Carcinoma of the Pinna. On admission to hospital he had a large ulcerated septic growth involving the inner aspect of the tragus, the external meatus, and the concha on the left side. The tissues on the posterior aspect of the pinna and over the mastoid region were œdematous and brawny, and one or two small glands could be felt in the upper part of the anterior triangle of the neck. The extensive operation included a radical mastoid, with wide exposure of dura mater above, and removal of neighbouring lymphatic territory. A graft was afterwards applied. The specimen was exhibited.—Mr. JENKINS and the PRESIDENT discussed the case, and Mr. WEST replied.

Dr. DUNDAS GRANT exhibited and demonstrated a Cold-air Labyrinth-testing Apparatus, which consists of a metal tube covered with an absorbent linen webbing and coiled in the form of a hollow cone. The absorbent covering is well wetted with chloride of ethyl, and air is projected through the tube by means of ordinary spray bellows. Inflation is continued until nystagmus is, or ought to be, induced—a period of some 30 seconds. The temperature of the air was about