to have benefited very much from radium, and I think a second dose would be very desirable."

34. *Exophthalmic goitre* in a woman of 32, recommended by Professor Gulland. A mild case of three months' duration. Slight exophthalmos, weakness, nervousness, palpitation, oedema, thyroid slightly enlarged. Medicinal treatment so far unavailing. A dose of 600 mg.h. administered externally as in the last case. This is the second patient referred to in Professor Gulland's letter, in which he described her as being greatly improved. The other three cases of exophthalmic goitre were only given treatment at the end of October, and they have not yet returned to report themselves.

Otosclerosis.—Two cases of otosclerosis and one of middle-ear deafness were treated with radium during the year. They are as follows:

35. A female, aged 52, recommended by Dr. J. S. Fraser. Deaf for twenty-five years, and regarded as hopeless. Dr. Fraser writes: "The raised voice before treatment could only be heard at 6 in. in both ears. After six applications of radium (dose 106 mg.h.) there was no improvement, and the patient stated that the noises had been worse. The raised voice was only heard at 4 in. in the ear which had been treated. This was a case of advanced otosclerosis."

36. Early otosclerosis in a female, aged 22, recommended by Dr. J. S. Fraser, who writes regarding her as follows: "She had been slightly deaf since childhood. Before radium treatment the low voice was heard at 1 ft. in the right ear. Radium treatment was commenced in February, 1914. I saw the patient again in May, after she had had a dose of 125 mg.h. of radium, and was suffering from a considerable amount of dermatitis of the external meatus on the right side, probably due to the radium. I saw her for the last time on November 6th, 1914, and found that the right meatus had quite healed. The hearing was about the same as before—namely, low voice at 1 ft."

37. Case of middle-ear deafness in a female of 45, recommended by Dr. J. S. Fraser, who writes as follows: "Patient had been deaf for ten months and complained of noises in the ears. Before radium treatment the raised voice was heard at 1 ft. by the left ear. After a dose of 55 mg.h. she stated that the noises were not so bad as before. The voice was heard at about 18 in. by the left ear. I do not think that the difference between 1 ft. (before treatment) and 18 in. (after treatment) is of any importance, as a small difference in hearing like this might easily be due to the room being more quiet or to the voice used being rather louder. In conclusion, I am afraid we must report that these cases of chronic progressive middle-ear deafness have not benefited from radium treatment, but this is only to be expected."

38. *Nævus* of the scalp in an infant 1 year old, recommended by Mr. Cotterill. Had been treated by injections of carbolic acid and glycerine. There was a scab in the centre and a raised red ring around. A dose of 115 mg.h. was sufficient to cure this condition.

39. *Paget's disease* in a female aged 72, recommended by Mr. Miles. To right of nipple is a well defined crescentic area, red, slightly elevated, and hard. Glands not palpable. Nipple normal. A dose of 1,200 mg.h. was administered, guarded by silver and cork, so as to spread the effect. The patient has not reappeared for treatment.

40. *Warty tumour* in a girl aged 18, recommended by Dr. Ogilvie. Duration about two years. Has had nitric acid and other applications without benefit. On the left cheek is a wart the size of a threepenny piece considerably elevated above the surface. Radium-treatment begun on March 24th, 1914, and a dose of 58 mg.h. administered. On June 2nd, 1914, the wart was found to have disappeared and the skin to be practically normal.

41. *Leucoplakia*. As this case was only admitted for treatment in December, 1914, it is too early to make any report.

DR. IRVIN S. KOLL, Instructor in Genito-Urinary Diseases, University of Illinois Medical College, has published in the *Journal of the American Medical Association* (January 23rd, 1915) a memoir on the experimental effect of the colon bacillus on the kidney. One hundred experiments were made to show the comparative action between the colon bacillus, the typhoid bacillus, and the staphylococcus under different conditions, these bacterial invasions being compared with the effect of a soluble toxin made from each. The bouillons were injected into the ureter just below the pelvis, into its sheath extraperitoneally at about its middle third, or under the renal capsule. Among the conclusions at which Dr. Koll arrived, the clearest appeared to be the fact that a non-traumatized kidney will, in the absence of ureteral obstruction, overcome spontaneously the invasion of these virulent micro-organisms. The pathological changes are due to a direct toxic action, and the soluble toxins of the organisms are carried to the opposite kidney, where a similar picture is seen.

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THE PHTHISICAL SOLDIER AT THE FRONT.

BY

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It is an interesting fact that in the present war—the largest and bloodiest which has ever been waged—there are men playing their part nobly and well who are or have been the subjects of a disease which at all times claims the greatest number of victims. At a recent meeting of the Sanatorium Subcommittee of the Newcastle Insurance Committee, among the names read out as those of persons requiring domiciliary treatment, I was struck by that of a soldier who had just returned from Mons and the Aisne. As the man was an old patient of mine, having five years ago occupied a bed in my infirmary ward under the care of Dr. A. E. Parkin, then my assistant physician, I have thought that the circumstances under which this soldier took part in the campaign might be not without interest to some of your readers.

M. C., aged 26, married, a labourer, formerly a coal miner, was a private in the Royal Army Medical Corps in 1906. Five years ago he had pleurisy with effusion, and, as already stated, was treated in the Royal Victoria Infirmary of this city. Subsequently, as there were evidences of pulmonary tuberculosis, he spent six months in the Barrasford Sanatorium as a patient, and later was employed for twelve months in looking after the horses, in leading coals, chopping firewood, and in doing the many small out-of-door jobs which are required at such an institution. His health at this date improved considerably. He returned to Newcastle and became employed as a plater's helper in one of the shipyards on Tyneside. The work of a plater's helper is hard; it proved at any rate too hard for him, for he suddenly broke down in health, and in February, 1913, he consulted Dr. Mitchell, of Walker. Since then he has been sometimes under Dr. Mitchell's care, sometimes under that of Dr. Dickinson, of the Tuberculosis Dispensary, Newcastle-upon-Tyne, to both of whom I am indebted for the opportunity of renewing acquaintance with an old patient.

On August 5th, 1914, M. C. was examined in Aldershot by a medical officer and passed as fit for active service with the R.A.M.C. He was attached to the Connaught Rangers, and on August 15th he was sent to the front. His work, which was hard, was in connexion with transport. He was in the retreat from Mons, and on two occasions was close up to the firing line. When the British retreat was converted into an advance he went on to the Aisne. This was no light task. The army was eleven days on the march, on three of which he carried on his back a haversack weighing 7 lb. Along with the other soldiers he walked some days twenty miles. This he did well, with the ordinary two hours allowed for rest at middle day. Food was not always just to hand when it was required, but when it came up there was plenty of it and it was always good. Previous to going to the war he had had hæmoptysis, but at the front he had good health nearly all the time. He felt perfectly fit and the outdoor life suited him. The prolonged strain, loss of sleep, and exposure to wet and cold ultimately, however, told upon him. He caught what appeared to be a severe cold, but as there were signs of extensive pulmonary catarrh he was invalided home.

He is a man of average development and of smart soldierly appearance. The upper half of the left side of the chest is dull on percussion; here numerous moist small crackling râles can be heard with signs of excavation. The right lung remains almost normal. There is no displacement of the heart generally nor of the apex beat, but the second sound over the pulmonary artery is loudly accentuated.

The case is probably one of many. The presence of tuberculous soldiers at the front is not limited to the British lines. At a meeting of the Société Médicale des Hôpitaux de Paris,¹ M. E. Rist drew attention to the case of a tuberculous French soldier who had been the subject of profuse and recurrent hæmoptysis, of elevated temperature, progressive emaciation, and who during the course of a whole year had undergone artificial pneumothorax treatment at the hands of Dr. L. Bernard, receiving every fifteen days an insufflation of nitrogen. This man was able not only to undergo the fatiguing operations associated with mobilization, but also successfully to finish a number of forced marches, and to take part in at least one battle; all this ultimately rather taxed his strength, yet when he returned to the hospital M. Rist found the artificial pneumothorax still well maintained. It had a positive pressure of 3 cm. of water. This pressure was probably partly the result of a slight increase of pleural effusion. Half a litre of serous fluid was withdrawn and a re-insufflation of nitrogen made. M. Rist states that the patient remains in robust health, he has no fever, no

cough and no expectoration. An effective pneumothorax has enabled this soldier, who a few years ago was attacked with tuberculosis, to take part in a campaign for a month under extremely trying circumstances, and it still finds him in excellent health after such experience.

At the front tuberculous soldiers are not found in the line of the Allies alone. They are just as numerous, if not more so, among the Germans. In the *Times* of February 13th "Eye-Witness," who is at present with General Head Quarters, in describing operations at La Bassee, says:

It has already been mentioned that some of the prisoners captured by us lately have been of comparatively poor physique. In this connexion it is interesting to note that during the last few days a dead German was found having two medical certificates in his pocket stating that he was suffering from consumption. They are both signed by a doctor and are accompanied by an application from the father that his son should not be sent on active service as he was suffering from lung trouble.

No doubt the conditions under which the present war is being carried on are more hygienic than in previous campaigns, but the physical hardships and the mental strain are greater. There is little leisure, little chance of physical repose unless when the men are in the trenches, and even then not always.

The interesting point is that men who are the subjects of tuberculosis have been able to undergo all the hardships of war, and that in the case of the French and British soldiers whose cases I have detailed they have passed through battle unscathed. A circumstance such as this, by robbing tuberculosis of some of its terrors, ought to carry hope into the breast of many a tuberculous subject and let him feel that his day of usefulness has not yet come to a close, but that he is capable of undertaking out-of-door employment even of a harder nature than as a profession we have hitherto been disposed to allow. This ability to endure says much for the present treatment of pulmonary tuberculosis by sanatorium and the open-air method, and is also strong evidence in support of the treatment of suitable cases by the production of artificial pneumothorax.

REFERENCE.

¹ *Presse Médicale*, November 19th, 1914.

THE TREATMENT OF EPIDEMIC CEREBRO-SPINAL MENINGITIS.

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IN view of the cases of cerebro-spinal fever occurring in the army and the sporadic cases which are cropping up in different parts of England, I think it may not be out of place to draw attention to the very good results obtained by Drs. Shircore and Ross in the treatment of this disease by soamin in British East Africa. As this paper, which was published in the *Transactions of the Society of Tropical Medicine and Hygiene* (vol. vii, No. 2, December, 1913, p. 83), may not be readily available by all who may be called upon to treat cases of this malady, I will quote fully from it here.

So far as I can discover in looking up the literature of the treatment of epidemic cerebro-spinal meningitis, the first person to use soamin was Dr. T. Arnold Johnston, senior house-physician, Leicester Infirmary. In the *BRITISH MEDICAL JOURNAL* (January 22nd, 1910, p. 193) he reported having injected soamin intravenously in 2 cases of cerebro-spinal fever, one of which was very severe, and both of which recovered. He was led to adopt this line of treatment because of the favourable results reported by officers of the R.A.M.C. in syphilis when this drug was used, and also by others in trypanosomiasis (sleeping sickness). At the end of his paper the author says:

That the recoveries were entirely due to the remedy cannot be proved from such a limited number of cases. The disease certainly was influenced by the injections, and the result compares favourably with the reported cases of serum treatment in cases of equal severity, as described in the papers of Robb, Currie, and Macgregor. As a treatment it is not expensive and the technique is simple.

Epidemics of cerebro-spinal fever are not uncommon in tropical Africa; they have been reported in West Africa

(Gold Coast), Egypt, the Anglo-Egyptian Sudan, and in British East Africa. A well-marked epidemic occurring in the last-named colony in 1913, Shircore and Ross were enabled to study the disease carefully and also to try on a large scale the effects of different lines of treatment. Three methods were adopted: (1) Soamin, (2) serum, (3) lumbar puncture. Here again the authors were led to try soamin because of its value in trypanosomiasis, and also because at first no serum was available.

Out of a total number of admissions to hospital of 143, 127 were treated with the drug (though this is not stated, I believe it was injected intramuscularly), 37 of these being malignant cases, or cases on the third, fourth, or fifth day of the disease. Those dying within 60 hours, that is, a little over two days after admission, are excluded; they never regained consciousness, and though in some a marked reaction to the soamin took place, death always occurred. Such cases the authors believe are beyond any known line of treatment. Excluding the above, then, the remaining cases numbered 90, and of these 56 were discharged cured, while 34 died; this gives a percentage of 62.22 of recoveries. Clinically improvement in the symptoms was seen after the injections, and researches on the cerebro-spinal fluid showed that the meningococci were reduced or even, in some instances, disappeared.

As regards the use of serum, this was found to be disappointing, and after the value of soamin was demonstrated it was given up. When one of the authors unfortunately contracted the disease himself the question of administering serum was not even considered by his colleagues; the soamin treatment was adopted and he recovered.

Lumbar puncture was found useful in relieving headache and restlessness, and the authors thought it might help the action of the soamin.

These results have been confirmed by Dr. Gilks, who also treated some cases of the disease in the same epidemic.¹ Eight cases amongst Europeans were treated, with only one death. Treatment was in every case by intramuscular injection of soamin, which was usually administered in 5-grain doses on each of the first two days after commencement, followed by 3 grains on the fourth day; while, if irregular temperature persisted, occasional further doses were given. No bad effects occurred from the use of the drug. Though the diagnosis of all this series of cases reported by Gilks was not confirmed bacteriologically, yet there is no doubt from the clinical signs that they were examples of the disease.

An analysis of this work would seem, then, to show that soamin has a distinctly beneficial effect upon epidemic cerebro-spinal meningitis, and, such being the case, an extended trial of it in cases now occurring might, it is to be hoped, give results of considerable value.

As soamin is a purer preparation than atoxyl its use is to be advocated.

In the small doses given over the short period indicated by Dr. Gilks, and in those now often employed in human cases of trypanosomiasis, there is apparently no danger, optic neuritis and lesions of this nature only occurring when large doses of the drug are given over prolonged periods.

As regards the method of administration, intramuscular injections seem to act quite well, but perhaps intravenous injection may ultimately prove to be better. A trial on large numbers of cases would be required to decide this point.

REFERENCE.

¹ *East Africa Protectorate, Annual Medical Report for the year ending December 31st, 1913, p. 90.*

DR. SCUDDER, of Boston, Mass., writes in the *Boston Medical and Surgical Journal* (February 4th) on the significance of x-ray examination following operation for congenital pyloric tumour. Posterior gastro-enterostomy does not ensure the disappearance of the tumour, and in three authentic cases the tumour discovered at the operation was detected within nine months after a plastic operation. He collected twenty-six cases in which x-ray examinations were made during the after-treatment. The tumour did not vanish, or at least the pylorus remained obstructed, while the stoma was the only exit for the bismuth meal from the stomach. He thinks that the tumour itself and the changes in the mucosa explain the obstruction in all cases, and that the hypothesis of pyloric spasm must be set aside.