

accurate observation might in such cases readily lead to a healthy man being invalided out of the Service.

Dr. Hood's points are well driven home by a large number of illustrative cases, and his little book is eminently readable. It is admirably printed on good paper, but has one serious fault: it is too expensive. In these days, when such a monumental work as Osler's "Medicine" can be purchased for a guinea, seven and sixpence net is a big price for a small book of 117 pages.

R. J. B.

THE BRITISH SANATORIA ANNUAL, 1907-8. London: John Bale, Sons and Danielsson, Ltd. Price 5s. net.

We have received a copy of this handbook of 132 pages, which gives reliable information concerning private sanatoria and sanatoria that are free, or that take patients at reduced fees, or on special terms or conditions, for the open-air treatment of tuberculosis in the United Kingdom. The book is well got up and contains numerous illustrations.

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## Current Literature.

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**Statistical Report of the Health of the German Navy for the Year, October 1st, 1904, to September 30th, 1905.**—This report, which is in three parts, is prepared in the Medical Department of the German Admiralty.

The first part gives an account of the diseases in the Navy, the amount of invaliding, the mortality, and the more important sanitary measures taken on board ship, on land, in home territory and in Kiauchou, with an appendix on re-vaccination in the Navy.

The second part contains special chapters on different groups of disease, such as a chapter on general diseases, one on tropical diseases, another on diseases of the nervous system, and so on. The appendices to this part contain a summary of the major surgical operations performed during the year, and an account of treatment of sailors in health resorts and watering places.

The third part is a series of tables showing the incidence of disease during the year on each ship and station month by month, with data for comparing different stations and different ships with one another.

In many respects the German report follows the lines of the British report on the health of the Navy, but it gives fuller details.

The average strength of the German Navy for the report under review was 40,432 men, including officers and men afloat and on shore in Kiauchou. The only omission is 749 officers and men of the Naval Expeditionary troops in South-west and East Africa. The admission-rate for disease was 366.2 per 1,000 for men on board ship, 589.1 for men on shore, and 462.4 for both classes. The sickness on shore has increased, but the other figures show a decline on previous years. Kiauchou showed, however, a high admission-rate, namely, 834.4 per 1,000.

The report compares these figures with those of the British Navy, which in 1904 had an admission-rate of 754.7 per 1,000, and in 1905 one of 734.71.

The average constantly sick was 27.0 per 1,000, and the average number of days under treatment 20.7 (*i.e.*, days of duration of disease).

A graphic chart shows a marked and steady improvement in the health of the German Navy during the previous ten years. At the beginning of the decade the admission-rates, both on sea and on shore, were as high as 830 to 870, and the combined rate 850, or about half what it is now.

The death-rate for the year 1904-05 was 2.8 per 1,000, as compared with 3.9 per 1,000 in the British Navy.

The invaliding-rate was 47.0 per 1,000, by far the greatest cause of invaliding being heart affections.

There was nothing special to note in the report with regard to outbreaks of epidemics or prevalence of tropical diseases. Infectious diseases, including enteric fever, occurred from time to time, but in small numbers, and were kept well in hand. The incidence of malaria, dysentery and tropical diarrhoea was insignificant, but a long account is given of quinine prophylaxis, &c., of the former.

With regard to nervous diseases there is a marked and steady increase in neurasthenia. The engine room ratings were affected most.

The incidence of venereal disease in the German Navy was 62.4 per 1,000 of strength, showing a steady decrease since 1895-96, when it was 137.2 per 1,000. The report gives a table of comparison between these results and the venereal disease incidence in the Germany Army and British Navy, the latter being 108.8 in 1904 and 121.4 per 1,000 in 1905, and the former 19.6 in 1903-04.

The section dealing with sanitary measures does not detail anything of a special character, but one gathers from it that the arrangements for sufficient air space and feeding are most satisfactory, that the comfort of the men is well looked after, and that measures for supplying pure water, for preventing infectious disease and for disinfecting are not neglected in the German Navy.

W. G. M.

**Hysteria in Military Life.**—M. Conor, Médecin-Major 2<sup>e</sup> Classe, Assistant to the Principal Medical Officer of the 3rd Army Corps in France, has an article, "De l'hystérie dans l'armée," in the May and June numbers of the *Archives de Médecine et de Pharmacie Militaires*, in which he points out that hysteria in the male is no longer a rare occurrence clinically, although in 1816 Villermay stated that, "*l'homme ne peut être hystérique puisqu'il n'a pas d'utérus.*" In an historical review, M. Conor refers to many important articles on the subject, not only in France but also in Germany, Holland, Russia, Spain, Italy and Belgium.

The article is divided into five chapters, dealing respectively with the frequency of hysteria in the army, its etiology, its symptomatology, its diagnosis, and its medico-legal aspects.

The increasing frequency of hysteria is illustrated by a table, giving the statistics of soldiers invalided year by year, from 1879 to 1903, for hysteria and nervous affections generally. No cases were diagnosed as hysteria until 1888, but from that year onwards the numbers invalided under that heading have steadily increased from 0.06 per 1,000 to 0.42

per 1,000 of strength, while invaliding for nervous affections generally has increased from 0·73 in 1879 to 2·40 in 1903. Similar facts are observed in connection with other armies.

As regards the etiology of hysteria in soldiers, M. Conor commences by stating that heredity is the chief factor, and that exciting causes are only occasional factors. If the hereditary tendencies of the subject of hysteria are examined into, one finds almost invariably that he belongs to a family affected with nervous complaints. (It may be mentioned here, that so far as the British Army is concerned, we have not the same opportunities or possibilities of investigating the family history of recruits as have the army medical services of armies of countries where military service is compulsory; but previous history is none the less important in throwing light on the diseases that manifest themselves in the recruit shortly after enlistment).

M. Conor notes that the age at which hysteria develops is usually 15 to 25 years, and accordingly includes the age of the young soldier. Hysteria does not develop in soldiers of an effeminate appearance more than amongst men of the sturdy labouring class. M. Conor found it rarely amongst men of higher education and culture, but most frequently amongst workmen, coachmen, agricultural labourers, &c.

Exciting causes of hysteria in the army are noted in detail, with illustrative cases. The chief exciting cause is traumatism, next, injuries by lightning, and lastly, certain emotions produced by military life, such as fear of punishment itself, the effects of field service, venereal diseases, malaria, alcoholism, sunstroke, cold, &c. All these exciting causes are illustrated by clinical cases.

The symptomatology of the disease is well illustrated by cases showing convulsive forms, crises of pain without loss of consciousness, unconscious migration (*automatisme ambulatoire*), paralytic phenomena, hysterical tremors characterised by polymorphism, defects of speech, dyspnoea crises, manifestations of pain, nocturnal incontinence of urine, trophic and vaso-motor affections, &c. A series of cases, collected from various sources, is quoted in connection with these symptoms.

In diagnosing hysteria, M. Conor depends upon examination into family history, previous medical history of the case, the manner in which the symptoms first appeared, and the constant areas of anæsthesia or hyperæsthesia. The importance of utilising these elements of diagnosis to distinguish between malingering and true hysteria is emphasised.

The medico-legal questions are questions that concern compulsory national service, and how far a recruit is to be exempt from service or not in consequence of hysteria. These questions do not affect service in the British Army to the same extent as in Continental armies; but in the latter they are of much importance and involve special technical training. Curiously enough, however, one of the cases cited in connection with the medico-legal aspects of hysteria in the army is taken from the British Army Medical Department Report for 1874, where a deserter was sentenced to imprisonment, afterwards became dumb, and was further punished on the assumption that he was malingering. He remained dumb for three years, and then recovered his speech suddenly and without apparent cause. M. Conor cites this as a case of undoubted military hysteria.

The article concludes with remarks to the effect that the army medical

officer should be practically instructed in nervous and mental diseases, that cases showing areas of disturbed sensations should be specially watched and information regarding them given to commanding officers, and that everything should be done to prevent hysteria by combating alcoholism, venereal disease, &c., and by giving the men proper reading rooms, libraries and entertainments in barracks, in order to cultivate their minds and distract their attention from themselves.

W. G. M.

**Atoxyl in the Treatment of Syphilis.**—An article by P. Salmon on the above subject appears in the *Compt. Rend. de la Soc. de Biol.*, Nos. 10 and 12, 1907.

On the analogy of the effects of atoxyl in trypanosomiasis, Salmon has tried it in syphilis, and had such remarkably good results that he regards it as as useful a specific as mercury. He gives intramuscular injections every second day for two or three weeks of 0.5 gramme (?) of atoxyl in 10 or 15 per cent. solution.

The daily press has given publication to the above and caused much excitement amongst the general public. In consequence of this Dr. Lassar has published a statement in the *Berlin Klin. Wochenschr.*, No. 16, to the effect that he tried atoxyl a year ago without results, and with considerable risk of causing poisonous symptoms.

W. G. M.

**The Purification of Water on Field Service.**—By Oberstabsarzt Bachr, Regimental Surgeon of the 36th (Magdeburg) Fusilier Regiment. (From the *Zeitschrift für Hygiene*, February 19th, 1907). Staff-Surgeon Bachr in this paper begins by giving a short historical sketch of the losses suffered by armies owing to water-borne disease. He then gives a very clear description of the various sources of water supply and the characters of each. He next discusses the value of chemical and bacteriological methods of analysis and their limitations. The portion of his paper which is of most interest to army medical officers is that describing the various methods of purification of water which have been experimented with in the German Army. The only chemical methods which he considers useful are those in which chlorine, bromine or ozone are the agents employed. By means of ozone a perfectly sterile water can be obtained. The firm of Siemens and Halske have constructed a portable apparatus for sterilising water by means of ozone, which was supplied to the Russians for use in Manchuria in the late war. The apparatus was, however, captured by the Japanese before it came into use. The diagrams which illustrate Staff-Surgeon Bachr's paper give a clear idea of the process, which, however, appears too complicated for use on service. The raw water is pumped through a strainer to a receptacle, from which it is passed through a coarse filter. It then passes into the sterilising chamber, where it is subjected to the action of ozone, prepared by pumping air, dried by passing over chloride of calcium, into an apparatus in which ozone is produced by electrical action.

The field apparatus is carried on two waggons, each drawn by one horse; the weight of each waggon is about 2,000 lbs. One waggon carries: (a) A benzine motor; (b) dynamo and battery; (c) a pump; (d) a small fan for supplying air to the ozone apparatus; and (e) boxes

with reserve parts. The other waggon carries: (a) Siemen's apparatus for ozone production; (b) an electric transformer; (c) three coarse filters; (d) the sterilising chamber, made of galvanised iron and filled with gravel or pumice stone; and (e) boxes with spare parts.

The apparatus delivers from 437 to 755 gallons per hour. So far as bacteriological tests go this apparatus has given excellent results, but no information is given as to its practical value for military purposes. Staff-Surgeon Bachr next discusses the value of field filters, and points out the practical difficulties met with, viz., the slow delivery of water by efficient filters and the readiness with which they get choked.

He next describes methods of sterilising water by heat: the apparatus first mentioned is on the heat-exchange system, of which the Waterhouse-Forbes apparatus is a well-known type. According to Staff-Surgeon Bachr, experience on active service has shown that this type of steriliser possesses grave drawbacks. The chief defects are that water, if muddy, must be clarified before being sterilised, that the sterilised water has the unappetising taste of boiled water, and that the delivery—40 litres per hour—is not rapid enough for the necessities of the troops. The Medical Department of the German Army has accordingly had a water sterilising apparatus constructed which is free from the defects mentioned. This apparatus has been devised by the firm of Rietschel and Henneberg. The conditions which the Medical Department required to be complied with were:—

- (1) A normal delivery of 300 litres per hour.
- (2) Absolute sterilisation of the water.
- (3) The water delivered not to be more than 5° warmer than the raw water.
- (4) The water to be clarified.
- (5) The water delivered must be aerated.
- (6) Simple means of getting rid of mud and fur in the boiler to be applicable.
- (7) Preliminary sterilising of all parts which come in contact with the water must be possible.
- (8) A maximum weight of 2,860 lbs.
- (9) The frame of the waggon must be of the regulation field service pattern.

An apparatus fulfilling all these conditions was made by the above firm and tested at the autumn manœuvres of 1902, and also in the recent China Expedition. The 1904 model of this apparatus consists of: (1) The boiler for heating water; (2) the cooler; and (3) the filter for removing suspended matters and for aerating the water. The water is raised to a temperature of 105° C. to 119° C., under a pressure of from .3 to .5 atmospheres. From the boiler the water passes into a cooling apparatus, worked on the heat-exchange principle. Finally the water passes through a rose, which distributes it in the form of spray to a filter composed of animal charcoal and pumice stone. Here also it is mixed with air drawn in through a germ-proof cotton-wool filter. As finally delivered the water is clear, sterile, aerated, and only 3° warmer than the raw water. The apparatus delivers 500 litres of water per hour.

Bacteriological investigations made by Proskauer and Schüder have shown that even such a contaminated water as that of the ship canal at Spandau is absolutely sterilised by this process. An improved model,

1905, does away with the necessity of manual labour for pumping, except at the very beginning of the process, by the provision of a steam pump. This model can be attended to by one man.

The same firm also makes a steriliser on the same principle for the use of small units or detachments. This steriliser weighs only 100 lbs., and can either be carried in one packet on a waggon, or in two packets on a pack animal, or by two men. It yields 100 litres per hour, and begins to deliver sterilised water eighteen minutes after being set in operation.

Surgeon-General Schian reports, with reference to his experience with these sterilisers in South-west Africa, that where they had to deal with clear water they worked in an absolutely satisfactory manner. He remarks that their construction was hardly strong enough for the conditions of campaigning in Africa, and also that it had not been possible to furnish every small detachment with one of them. The question of the provision of a sufficient number of these sterilisers in future is one for the military authorities to decide, but in Staff-Surgeon Bachr's opinion the problem of water sterilisation in the field is satisfactorily solved by their use.

J. G. McNAUGHT.

**The Serum Treatment of Bacillary Dysentery.**—(MM. Vaillard et Ch. Dopter, *Annales de l'Institut Pasteur*, April, 1907). In this paper, which is a sequel to one by the same authors published in the *Annales de l'Institut Pasteur*, May, 1906, an account is given of the results obtained by the serum treatment in 243 cases of dysentery treated during the summer of 1906. These cases fall under two categories: the first consists of 200 cases treated in various parts of France (Paris, Lyons, Bordeaux, Toulon, Toul and Brittany); the second consists of 43 cases of dysentery occurring in insane patients in the asylums at Maréville and Quatre-Mares.

In the first group of cases the mortality amounted to 5 per cent.; excluding, however, a number of cases which only came under treatment when in a desperate condition; the mortality amounted to 2 per cent. The authors consider that the results are extremely satisfactory, and quote statistics showing that the mortality of dysentery in different countries varies from 7 per cent. to 50 per cent. Not only does the use of serum lower the mortality, but it brings about an immediate alleviation in the symptoms, and a rapid recovery. The earlier in the illness it is employed the better. Cases of moderate intensity may only require doses of 20 cc., but in severe cases the serum should be given in doses of 50, 80, or 100 cc. In only one case did the serum produce symptoms (generalised erythema and fever) which necessitated its use being abandoned.

The second group of cases consisted of 16 insanes treated at the asylum of Maréville, and 27 at the asylum of Quatre-Mares. Among the former there were two deaths, and among the latter five deaths. The serum was not given in sufficiently large doses in the most severe cases, but the doctors who treated the patients report an immediate and rapid improvement in the majority of cases.

The authors sum up their conclusions as follows: The serum should be used as soon as possible after the onset of the illness, in doses proportionate to its intensity. In dysentery of ordinary type 20 cc. or 30 cc.

may be sufficient; but in severe attacks it is necessary to inject 40, 60, or 80 cc., or even more, at once, and repeat the injection the next day. If the intestinal symptoms do not then sufficiently abate, the use of the serum should be continued in decreasing doses till the number of stools is reduced to a few in the twenty-four hours.

Not only is the serum effective from the point of view of cure, but by cutting short the disease it lessens the period during which infection may be spread. The authors advise that in regions, such as Brittany, where dysentery is epidemic, the serum should be used as a prophylactic.

J. G. McNAUGHT.

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## Correspondence.

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### HOUSE FLIES AND THEIR WAYS AT BENARES.

TO THE EDITOR OF THE "JOURNAL OF THE ROYAL ARMY MEDICAL CORPS."

DEAR SIR,—With regard to my paper published in the August number of the Journal, on "House Flies and Their Ways at Benares," will you kindly add a note to the effect that, since that paper was written, I have obtained *Musca domestica* from larvæ bred in an artificial latrine containing human excreta mingled with earth. My observations so far lead me to believe that the various flies, intimately connected with man and his surroundings, which breed in ordure, affect mainly fresh ordure; that stale manure is of little account as food for the larvæ of such flies.

I am, Sir,

Yours, &c.,

F. SMITH,

Major, R.A.M.C.

Benares,

August 5th, 1907.

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### WANTED, AN EXPLANATION.

TO THE EDITOR OF THE "JOURNAL OF THE ROYAL ARMY MEDICAL CORPS."

SIR,—In a letter in the August number of the Journal, *re* the absence of mosquitoes at Sarant Wadi, Colonel Forman asserts that he knows of no place on the plains of India, other than Sarant Wadi, where one can sleep without curtain or punkah throughout the year; and he gravely doubts if such a place exists.

My experience of India is almost entirely confined to Madras and Burma, yet I know of at least one such place in Southern India, viz., Malapuram, in Malabar. I served in that delectable place for about thirteen months (1900-1901), and during that time no one while in the