

BRITISH MEDICAL ASSOCIATION.

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British Medical Journal.

SATURDAY, SEPTEMBER 17TH, 1904.

THE PROPHYLAXIS OF MALARIA.

THE discussion on the prophylaxis of malaria in the Section of Tropical Diseases at Oxford, published this week, is interesting from several points of view, but in none more so than in the apparent divergence of opinion as to the efficacy of mosquito brigades in reducing the number of mosquitos and thereby lessening the prevalence of malaria. Another prominent feature brought home by the discussion was the fact that many of the ailments we have hitherto considered to be manifestations of paludism are due to other parasites than the *Anopheles*. Even so-called "malarial cachexia" has been shown to be probably not due to malaria at all, but to the new parasite—the Leishman-Donovan body; and that anomalous ailment kala-azar has been attributed to the same "body." In addition to these, the commonest fever met with in the centre of large cities in the tropics, and termed "urban fever," is considered by some to be more of the nature of a typhoid than of a malarial poison. It would appear also, that the species of *Anopheles* which conveys the malaria parasite prefers fresh water and running streams wherein to deposit its ova, and that it is only the harmless mosquitos, as far as malaria is concerned, that breed in stagnant water and dirty puddles around dwellings. It is therefore argued that the mosquito brigades which have devoted much time and money to the clearing up of back yards, stagnant and foul water accumulations, etc., around houses, have not been doing true prophylactic work as regards malaria but merely reducing the number of mosquitos, harmless and otherwise—an entirely different thing. The experiment at Mian Mir, conducted by Captain James and Lieutenant Christophers, was sharply criticized by several speakers. These officers attempted antimosquito work in a section of the large cantonment of Mian Mir. Their efforts were not, however, crowned with success, for mosquitos continued to abound in spite of the destruction of millions of mosquito larvae. The causes assigned for the failure are that they worked with an insufficient staff, that their operations were performed over too circumscribed an area, that irrigation was being applied to rice fields within the cantonment, and that the mosquitos came in numbers from outside the area of their operations. Several of those who took part in the discussion expressed regret that the experiment had been made, and hoped that limited attempts of the kind would not be repeated, as they tended to cause the public to look askance at any future attempts of the kind, and to hesitate to vote money for the work.

We confess we share this regret, but, at the same time, we cannot deny the fact that much of the work

hitherto attempted by mosquito brigades is being looked at with critical eyes; and there may be some justification for this attitude. The expenditure involved is large. Some thousands of pounds annually would seem necessary to keep down mosquitos even in limited areas and in towns of no great size. In colonies in which the financial struggle is keen a few additional thousands form an important item in their exchequer; and if any doubt is cast upon the efficacy of the work on which the money is spent, there is a great temptation to withdraw the grant altogether. We should be sorry to see this happen, for with the example of Ismailia before our eyes, expensive though it has proved to be, the money has been and will continue to be well spent if malaria can be eradicated or even materially diminished. But few places are so favourably situated as Ismailia for the purpose of mosquito destruction. The area is limited, and once dealt with there is but slight chance of infection from without. In a town in the heart of a malaria-mosquito country, however, infection from without must always be dreaded. Irrigation is the great stumbling-block to mosquito destruction. If irrigation is done away with in India or China famine will result; if it be allowed to continue malaria prevails. Administrators and sanitarians are on the horns of a painful dilemma, and escape may have to be sought for in other prophylactic measures. That there are others we know. Quinine, mosquito-netting of windows and doors, and the separation of European from native dwellings—each of these prophylactic measures has its advocates and its detractors, some on practical, others on theoretical, grounds, so that at present we have no universally applicable means of dealing with *Anopheles* mosquitos and malaria with any certainty of complete success. Perhaps a combination of two or more of the methods in vogue will best serve the object in view. Whilst regretting the publicity that has been given to what appears to have been at Mian Mir an experiment bound to fail, we believe that in the public interest good will arise from the discussion the Mian Mir incident has occasioned.

In regard to malaria prophylaxis, it is evident, however, the end is not yet, and before launching into any large expense it would be wise for municipal authorities to ascertain first if it really is malaria that is occasioning the large spleens and the malarial cachexia—once considered unmistakable signs of malaria—and in the next place to ascertain what prospect there is of destroying the particular species of *Anopheles* that transmits malaria in the locality in question, taking into consideration the possibility of infection from without the area dealt with, and the proximity of irrigation methods of cultivation of the land.

THE LEISHMAN-DONOVAN BODY.

FOR many years previous to Leishman's discovery, Crombie and others in India had been well acquainted clinically with a tropical cachexia resistant to quinine, a disease known by some as Dum-Dum fever, and by Crombie as non-malarial remittent fever. Though Rogers, basing his deductions on the relative increase of the large mononuclear leucocytes in those cases, attempted to prove the disease was really malarial, Crombie and many Indian physicians were equally positive in asserting that it was not so, and their views, backed up by Leishman's recent work, are now known to be correct. It was, in fact, in a soldier invalided home from Dum-Dum for tropical cachexia and enlarged spleen that

Leishman first found a new parasite, and since that date it has been recorded from widely-separated geographical areas—namely, many parts of India, Assam, Ceylon, China, Tunis, Algiers, Arabia, and Egypt. As more careful observations are made in different parts of the world, it is in the highest degree probable that the area will still further be widened; and the mapping out of its distribution is not the least important part of the work that still requires to be accomplished. The most important of the recent advances in our knowledge of this interesting subject is the discovery by Bentley of similar parasites in kala-azar; and there is little doubt that the solution of this mysterious and much-discussed disease is now before us, the difference between it and tropical cachexia with splenomegaly being one only of name.

Many of the papers read at the recent discussion in the Section of Tropical Medicine at the Annual Meeting of the British Medical Association at Oxford, and published in full in this issue, have entered into the clinical symptoms in detail; and it may not be out of place, for the benefit of those who have been unable to follow the recent researches, to mention some of those here. Cachexia with splenomegaly is the keynote of the disease. The earthy pallor and pigmented skin at once strikes the observer very forcibly in a case which is at all advanced, and emaciation and wasting will also be prominent. The fullness of the abdomen on examination will be seen to be due to the splenic enlargement, which is often excessive; the liver will in all probability be similarly atrophied, and oedema of the legs may give an appearance of fullness to those parts. Along with these well-marked and easily determined features are associated a remitting irregular temperature, anaemia, with a blood count on the average of 2,500,000 per c.mm., a diminution of the total leucocytes, with a relative increase of the large mononuclear elements, a tendency to haemorrhages from the nose and other parts, and chronic diarrhoea of a dysenteric type. The tendency of the disease is to progress, slowly, it is true, in many instances, but nevertheless constantly until the fatal termination—often hastened by complications—is reached.

Granting that the parasite discovered by Leishman is the cause of this train of symptoms, it remains for us to determine what the organism is, and here at once we are face to face with a difficulty well worth the expenditure of much time to overcome, when it is remembered that at the present time three different views are held by the highest authorities as to the nature and classification of this most recent arrival in tropical pathology. Leishman originally came to the conclusion that his parasite had some connexion with the trypanosomata, that it might be a degenerated form, or, more recently, that it might represent a phase in the development of this flagellate. This view has received strong encouragement quite recently from Rogers, who states that he has developed undoubted trypanosomes from cultures of the Leishman bodies taken from the spleen.

The work of Rogers, a short account of which also appears in the proceedings of the Section, is admirable, but more careful study and experiments are required, and especially confirmation from some independent source, before his conclusions can meet with unanimous assent.

The second view—that of Laveran and Donovan—that the parasite belongs to the genus *Piroplasma*, is not accepted by most of the authorities on the subject. The recent work by Christophers in India, and Manson and Low in London, on the distribution of the parasites in

cells of the different organs of the body, and their constant absence in the red blood corpuscles, would seem to negative Professor Laveran's views completely.

The third view—that of Professor Ross—that the parasite belongs to a new genus of sporozoa, cannot be lightly passed over, especially if we grant that the bodies found by Wright in a Delhi boil are identical with those associated with the name of Leishman. As far as our present knowledge goes, it is difficult to understand how trypanosomes, blood parasites, should subsist, even in a stage or phase of development, in the granulation cells round an ulcer. Wright, so impressed with the resemblance of his bodies to sporozoa, has given them a new generic term, namely, "Helcosoma."

Should his views turn out to be correct, it may eventually be found that tropical cachexia with splenomegaly is a sporidial disease of man akin to the microsporidial disease of the silkworm or the microsporidial disease of fish, the primary point of inoculation being local, and then, as Christophers puts it, a systemic infection of a septicæmic type taking place.

Until we can determine what the parasite is, its life-history outside the body, and how it enters the body, little can be done in the way of preventing the disease. More work, it will be evident, is required, then, to solve these problems, and, until their solution is forthcoming—when, it is to be hoped, the parasite will receive its proper scientific name—Colonel Bruce's suggestion that the bodies should be known as Leishman's bodies has much to recommend it, as the useless multiplication of names only adds to the confusion which, sooner or later, will have to be cleared away.

THE UNIFICATION OF MEDICAL PRACTICE IN CANADA.

At the present time a medical man who obtains a licence to practise in one of the provinces of the Dominion of Canada is not entitled to practise his profession in another province without obtaining a fresh licence from the Medical Council of the province. This has given rise to much inconvenience in Canada, and has also stood in the way of the recognition of Canadian degrees by the home authorities. As our readers are aware, a Bill to create a Medical Council for Canada to examine and grant licences to practise throughout the Dominion and to keep a register of medical men so qualified was passed through the Dominion Parliament by Dr. Roddick in 1902. The Bill provided that before the provisions could come into force the provincial Legislatures should pass adoptive measures; such measures have now been passed by Nova Scotia, New Brunswick, Prince Edward Island, Manitoba, and the North-West territories, and it is understood that during the next session of the Ontario Provincial Legislature a similar Bill will be introduced with every prospect of passing into law, the Premier (Mr. Ross) having stated at the last meeting of the Ontario Medical Association that he was strongly in favour of the Roddick Bill, and would use every effort to have it concurred in during the next session. British Columbia, it is generally understood, will follow the example of Ontario. The feeling among the profession in the province of Quebec is not unfavourable, but the authorities of Laval University, which has its headquarters in Quebec, object to federal interference with education. Owing to the pressure brought to bear by the Laval University the provincial Legislature of Quebec has rejected a Bill authorizing the provincial Medical Board to accept the Dominion qualification. The French-Canadian profession in the district of Montreal is favourably disposed to the measure, and it is believed that the influence of the profession with the University will eventually lead to the withdrawal of its opposition. Meanwhile Dr.

Roddick intends to introduce in the next session of the Dominion Parliament a Bill authorizing the formation of the Dominion Medical Council and the institution of Dominion registration so soon as five provinces have passed Bills authorizing the provincial Boards to accept the Dominion qualification. The Bill, it is believed, will be passed by the Dominion Parliament, and as five provinces have already given in their adhesion its provisions will at once come into force.

OPTICIANS AS OCULISTS.

THE August number of the *British Optical Journal* is mainly devoted to a defence of the action of the Spectacle Makers' Company in its policy of instituting examinations in eyesight testing for its diplomates. This defence consists of an attack upon the medical profession or upon those representative bodies which, having been applied to by the Company for their advice or an expression of opinion, are criticized for having pointed out the objections to the course proposed and since followed by it. The line of argument taken is not marked by any great strength. It is suggested that the opinions in question are only those of small and prejudiced sections who represent the extreme views of those anxious to grasp everything for the advantage of the medical profession without consideration for the interests of the public; but there is no attempt to show that this is true, and to all who know the composition of the bodies concerned this accusation must appear absurd. The report of the Medico Political Committee of this Association comes in especially for adverse criticism, but the basis of that report was the unjustifiable advertisements of Fellows of the Spectacle Makers' Company, and the claims therein put forward. It is not to the point to say that the majority of errors of refraction may be corrected without recourse to drugs when Fellows of the Spectacle Makers' Company claim to possess the proper means for correcting all forms of such defective eyesight; and the last part of the article in the *British Optical Journal* deserves to be quoted as justifying every line of the report and all that has appeared in the *BRITISH MEDICAL JOURNAL*. That article speaks of the "unfortunate, unjustifiable advertising methods used by some diploma holders. To those opticians who have been offenders in this way belongs much of the responsibility for that friction and opposition which the Court of the Spectacle Makers' Company is now called on to meet; and, apart from this inconvenience, it is unquestionable that the good repute of the trade as a whole must and does suffer through these errors of judgement and taste on the part of a few. In the past we regretfully admit there has been a good deal of the wanton exaggeration so much complained of; and the language of hyperbole which has been used has given occasion to our medical critics to hold the optical advertisers in something like contempt. So the reform now urged is one really dictated to every refractionist by consideration of self-respect; and its adoption will be found to establish one of the most far-reaching claims to the respect of others." Yet we complain that these advertisements not only have been frequent in the past, but are still continued (see *JOURNAL*, September 10th, p. 624), while the Spectacle Makers' Company has so far taken no effectual means to put a stop to them. So long as this is the case we must decline to accept the professions of those interested that the establishment of the diploma is only intended to improve the technical knowledge of opticians, nor can we consider that medical men would be justified in taking any part in these examinations or in co-operating in any way with opticians who make these unwarranted claims.

BORATED FOOD AS A CAUSE OF LESIONS OF THE KIDNEYS.

BORAX and boric acid are at the present time extensively used as food preservatives, and the quantities present in certain articles have been proved to be by no means small. For example, milk may contain 2 grams per quart; butter, 2.5 grams per lb.; cream, 1 gram per pint; oysters, 4.5

grams per pint; corned beef and ham each 18 grams per lb.; sausages, 4 grams per lb. These preparations are preferred not only on account of their preservative influence, but because they do not withdraw water as salt does, while they preserve the natural colour. It has also been contended that they do not penetrate the tissues and may easily be washed away by soaking. This, however, appears not to be true. Nevertheless, many advocates of their use, among whom is Professor Liebreich, contend that they are absolutely harmless. In a recent article published in the *American Journal of the Medical Sciences*, Dr. Charles Harrington, Assistant Professor of Hygiene in the Harvard Medical School, contends that the harmlessness of substances which obviously do not produce immediate evil effects can only be demonstrated by much more prolonged experiments than those which have been undertaken. Where the results do not follow immediately it is practically impossible to connect the diseases which might arise with articles of food, especially as the use of these preservatives is so widespread that all of us swallow them without knowing anything about it. It has been repeatedly shown, notably by Dr. Féré, that the medicinal use of borax may produce or aggravate lesions of the kidneys. This has been disputed by Liebreich, who gave boric acid to seven patients in varying amounts and for different periods without producing albuminuria. Two received 28 grams in 7 days; three received 33 grams in 11 days; another 37.5 grams in 22 days; another 39.9 grams in 24 days. In none of these cases did albuminuria follow. Dr. Harrington has endeavoured to clear up this point by experimenting on cats. Twelve cats were selected, and kept under precisely the same conditions. One received no preservatives, six received borax in varying amount, and five received another preservative, which he does not mention. Of the six cats fed on borax, one died at the end of six weeks. The duration of the experiment in four cats was 133 days, and the dose was about 0.8 gram. Of those six cats five showed marked kidney lesions, described by Professor William T. Councilman as analogous to those found in subacute and chronic nephritis in man. Dr. Harrington says that it might be objected that the daily doses of borax were in proportion to weight much greater than a person could possibly receive in food in a day, but he denies this, as he claims that with the amounts given above a man might easily take 7 grams of borax and boric acid at a meal, and this might be doubled in the course of the day. We certainly think there is more in this objection than Dr. Harrington allows. If an average cat weighing 5 lbs. takes 0.8 gram of borax, a man weighing 140 lbs. would have to take 22.5 grams in order to get an equivalent dose. Nevertheless, the evidence tends to show that boron compounds are capable of causing nephritis, and this undoubtedly constitutes a grave objection to the use of these preservatives in such large quantities as 18 grams to the pound of corned beef or ham, and suggests the desirability of the Governments concerned revising their regulations on this subject.

THE CONSCIENTIOUS OBJECTOR.

THE Home Office has now issued to the clerks to borough justices throughout the country a copy of the observations which the Lord Chief Justice recently made at the Birmingham Assizes on the duty of magistrates in administering Section 2 (the Exemption Section) of the Vaccination Act of 1898. In the *BRITISH MEDICAL JOURNAL* it has been repeatedly urged that some magistrates err on the side of stringency, and others on the side of laxity. The remarks of the Lord Chief Justice are on the same line. As regards undue stringency, he states that some magistrates appear to think "that they ought to be satisfied that vaccination would be harmful to the child," and that some even "seemed to think that they were entitled to have medical evidence before them that such vaccination would be prejudicial." But what the Act says is that the magistrate has to be satisfied merely that the applicant conscientiously believes "that vaccination would be prejudicial to the health of the child." It is the applicant's belief, not the magistrate's, that is to be the determining factor

in the case. On the other hand, as a check to undue leniency, the Lord Chief Justice points out that an objection to vaccination, "either on the ground of interference with the rights of the subject or the question of parental control," is not valid under the Act; the belief that vaccination would be prejudicial must not be merely general, but must have reference to the particular child regarding whom the application is made. It may be a little difficult to give effect to this last point in practice, as an anti-vaccinating parent may declare that he conscientiously regards the operation as bad for every child on whom it is performed, and, therefore, for his child. However that may be, there is no doubt of the importance of the Exemption Clause being reasonably administered. True, it is difficult to avoid sympathizing with magistrates who have no patience with faddists, whose folly has its effects, not on themselves, but on their helpless offspring. But it is a simple matter of fact that over-severity in carrying out the law is apt to foster rather than to discourage anti-vaccination fanaticism. The purpose of the Exemption Clause is to prevent sham martyrdoms, and since the Act was passed it has occasionally been found possible by experienced agitators to get up an indignation meeting over the case of a parent who has been refused an exemption certificate, and has subsequently been penalized for the non-vaccination of his child. We have often urged that the Vaccination Acts should be obeyed. That applies as well to Section 2 of the Act of 1898 as to the other Sections and Acts, and it applies as well to the magistrate as to the public generally. It is to be hoped, therefore, that in future justices who in the past have gone too far in the direction either of leniency or severity will take heed to the Lord Chief Justice's timely advice.

THE SURGERY OF HEPATIC CIRRHOSIS.

THE surgical treatment of hepatic cirrhosis is closely associated with the name of Talma. An instructive monograph on the subject, prepared by M. Gaston Alexandre, and reviewed in the July number of M. Pozzi's *Revue de Gynécologie*,¹ deserves the consideration of every surgeon who may be consulted by a physician about a case of cirrhosis. Talma advocated suture of the omentum to the parietes in order to ensure adhesions, which became vascular, and thus relieved the portal system. The turning of some of the portal blood into the systemic current has been shown by experience to entail no bad effects. Enough portal blood can pass through the normal channels in the liver, relieved of over-pressure, to afford to the patients the benefits of the natural functions of that organ. In short, the danger of poisoning by portal blood is imaginary. Alexandre enters into clinical considerations about cirrhosis itself. Ascites is the prominent complication, but there are others to be taken into account. Hypertrophic cirrhosis in alcoholic subjects is favourably influenced by Talma's "omentopexy." With atrophic cirrhosis it is otherwise, but the latter is also the least favourable type for medical treatment. Jaundice of a malignant character and chronic vomiting render the patient unfit for abdominal incisions. The alterations in blood pressure entail several unfavourable complications—enlarged spleen, epistaxis, melaena, and haemorrhoids, also "opsiuria," a condition described by M.M. Gilbert and Lereboullet, in which the excretion of urine is relatively greater during fasting than within a few hours after full meals. Definite cardiac and renal lesions are, of course, of grave import; nevertheless, no case of cirrhosis is free from some of these complications. Statistics show that omentopexy is a serious operation. Alexandre has collected 107 reported cases, and hints that many fatal results must remain unrecorded; 58 ended favourably, 20 being registered as ameliorated, and 38 as "cured"; 14 were followed by "recurrence," and no less than 35 died. In 51 cases the bulk of the liver was noted in the reports, 31 being atrophic and 20 hypertrophic cirrhoses. The mortality was 41 per cent. in atrophic cirrhosis, and 15 per cent. in the hypertrophic type. Thus

the operation is dangerous, but Alexandre dwells on the fact that most physicians follow Weir's teaching, that the surgeon should not be called in until there is no chance of cure by medical treatment. It would be better if omentopexy were practised earlier in the course of cirrhosis. Alexandre deprecates operation in advanced cases, especially where there is marked icterus, acholia and albuminuria or pleural effusion. Haemorrhages in themselves imply that operation is urgently called for, and the presence of sugar in the urine is not in itself a contraindication. Alexandre advocates a fairly free abdominal incision, from 2 in. above to 2 in. or 3 in. below the umbilicus, which is avoided by passing the knife nearly an inch to its left. The ascitic fluid must be emptied slowly, and the peritoneum dried by compresses. The viscera should then be very carefully inspected in order to make sure of the diagnosis. The omentum is then drawn down and spread out laterally, but it is important not to drag down or kink the transverse colon. The edge of the omentum is sutured to the parietal peritoneum on the right, the left and the lower angle to the wound. Alexandre deprecates scratching the peritoneum, fixation of the edge of the omentum between the liver and diaphragm, and suture of omentum to the subcutaneous or sub-muscular tissue of the abdominal incision anterior to the parietal peritoneum. Occasionally haematemesis, and, in one case, haemorrhage from the bowel, have followed omentopexy.

ALCOHOL AND INSANITY.

THE question of a causal relationship between alcoholic excess and insanity has for long been the subject of controversy. That a comparatively high percentage of persons addicted to excessive drinking should be found in our asylum population, just as it is—though to a less extent—in our prison population, is on a *priori* grounds to be expected; but the question as to whether in the majority of these cases the alcoholism causes the insanity, or that the alcoholism is only one expression of a pre-existing and inherent mental weakness or instability, is still left open. A reference to the annual reports of lunatic asylums, reviewed from time to time in the BRITISH MEDICAL JOURNAL, will show that the proportion of cases in which intemperance is assigned as a predisposing or an exciting cause of insanity is extremely variable in the different asylums. The average, however, for all asylums returned in the English Lunacy Blue Book for 1902 was 16 per cent. It is therefore with considerable surprise that we read in Dr. Clouston's interesting annual report on the Royal Edinburgh Asylum for 1903 that in 42.3 per cent. of the men and in 18 per cent. of the women excess in alcohol was assigned as the cause of their mental disorder. Not only that, but we notice that the proportion of alcoholics amongst the paying patients of Craig House—who number, roughly, a quarter of the whole—was only 9 per cent., thus making the percentage amongst the rate-paid patients higher still. This proportion is a very rapid increase on former years, as for the five years 1873 to 1877 the percentage of alcoholic cases was only 18.5 among the male and 10.4 among the female admissions. "No explanation," says Dr. Clouston, "will account for this, but the one that certain classes of the population are drinking to greater excess than they did, and in doing so are, many of them, destroying their sanity. Several facts seem to confirm this conclusion, for example, the increase in general paralysis" (previously referred to in his report), "which is now generally admitted to be caused by evil living, the increased drink bill of the Empire, and the increasing arrests for the smaller offences connected with drunkenness." Whatever may be the explanation, he continues: "It is a social scandal of a very alarming kind that nearly one-half of the insanity in men of any district or class should be more or less due to drink even for one year." These statements, coming from so eminent an authority as Dr. Clouston, naturally created some stir in Scotland, and evoked a leading article in the *Scotsman*, which traversed his conclusions and compared his figures with those of the Montrose Asylum, whose Medical Superintendent, Dr. G. J. Havelock,

¹ L'Omentopexie dans les Cirrhoses Hépatiques. *Thèse de Paris*, 1903.

in giving the proportion of cases in which the insanity could be stated as due to alcohol as 8 per cent. of the admissions to his asylum, took occasion to remark that "the insane have had enough unmerited opprobrium to endure in the past without being stigmatized to-day as if they were in the main drunkards and steeped in all manner of vice," and quoted from Sir James Paget's *Clinical Lectures and Essays* the following pregnant words: "To determine the influence of excesses in producing insanity, you must count, not only the insane, but the sane who have committed excesses and retained their mental power." Now it must be admitted that it is almost impossible to get even a fairly accurate and complete account from a patient or his relatives of his family history, partly from ignorance of his forbears, and partly from reluctance to admit what is felt by many to be a blot upon the family escutcheon. In consequence of this, various so-called "moral" causes, worry, domestic trouble, etc., and toxic and autotoxic agencies, may rise into prominence at the expense of the potent influence of heredity, and confound statistical tables, which become thus a stumbling-block to the investigator. In an able and courteous reply to the *Scotman*, which with characteristic acerbity had contended that the increase in alcoholic insanity was "due to the doctors rather than the patients," Dr. Clouston lays stress upon the fact that the decided increase in the special form of insanity known as "alcoholic insanity," which is by its characteristic features clearly distinguishable from any other form, shows that it is "the facts, and not the doctors, who have to be reckoned with." It is, of course, possible that a mental instability is the fundamental factor, and that the alcohol merely decides the mode or venue of the disorder; this explanation is to some extent supported by the statistics of the Psychiatric Hospital of Moscow, which are to the effect that in continuous alcoholic delirium, hereditary predisposition was present in 99.5 per cent. of the cases, a higher percentage than obtains in any other form of mental disorder; whilst Kraepelin, who states that alcohol and syphilis cause a quarter to a third of his asylum admissions, considers, with considerable show of reason, dipsomania to be one of the manifold varieties of epilepsy.

THE NATURE AND CAUSE OF ARTERIO SCLEROSIS.

The problem of the cause of arterio sclerosis has long interested investigators. The results of the pathological and experimental observations made may be conveniently summarized by recalling the effects discovered by different observers on the elements of the arterial wall. The nutrition of these structures is maintained in one of the following ways: either all three coats are nourished by blood derived from the vasa vasorum or the supply of nutrition is twofold, the intima being nourished by the blood within the vessel, and the remaining coats by the vasa vasorum. The latter view is held by those observers who have failed to find branches of the vasa vasorum penetrating the elastic lamina, and so reaching the intima; it does not, however, follow that because the existence of such vessels cannot be proved, no nutrition reaches the intima from the vasa vasorum; indeed, Koester, who established the existence of a rich arterial supply to the muscular coat of the larger arteries, also found minute lymphatics in the same layer, and his pupil, Trompeter, showed the existence of lymphatics in the hypertrophied thickened intima of diseased vessels. In pathological conditions changes may be met with in one or all of the arterial coats. Virchow considered the changes met with in the intima to be due to chronic inflammatory hyperplasia. Cohnheim was of the same opinion, but considered that such changes were restricted to vessels supplied with vasa vasorum. V. Engelhardt supported the view of the inflammatory nature of the changes. Lobstein admitted that the changes were due to a nutritional disturbance, but gave no explanation for them. Marchand, too, was unable to offer any explanation for these changes, which were not inflammatory in the ordinary sense of the term. Rokitsky considered that the thickenings found in the surface of the intima were due to

deposits from the blood circulating in the lumen of the vessel; and Traube, following out the same idea, contended that the white corpuscles were responsible for the formation of the deposits. Thoma, on the other hand, advanced views entirely different from those currently held. He contended that deposits in the intima were nothing more than efforts on the part of this coat to fill up the slight aneurysmal hollows resulting from weakness in the external coats of the blood vessel. Amongst French writers Huchard is strongly inclined to the view that all changes of a chronic character met with in the vessel walls are attributable to disturbances of the blood supply through occlusion of the vasa vasorum (Martin). Professor Jores, of Bonn, has recently published¹ the results of a careful histological inquiry into the changes of the inner coat of arteries. They may, he states, take the form of mere hyperplastic thickenings—that is to say, there may be an increase of the individual cellular elements of the internal coat and multiplication of the lamellae of the elastic layer, while even the longitudinal muscle fibres lying in close relation to the elastic layer may be hypertrophied. In other cases the changes found are described as "regenerative connective-tissue growth," implying that it is the subendothelial tissue which shows a more luxuriant hyperplasia than any other element. Still another group is described in which the characters of the above types of change are combined, but we have the impression that other observers would have considerable difficulty in recognizing all the characters sufficiently distinctly to lead to the clear separation of the primary types, let alone this third one. Turning to the question of the causation of these changes, Professor Jores advances the opinion that they are due merely to exaggeration of a reaction which is demonstrable in quite early life—on the part of the intima and other arterial coats in response to a call for increased power of resistance against enhanced blood pressure. Should such demands be excessive then arteriosclerosis results, and if still further developed, fatty degeneration takes place in the tissue that has been thrown up as a defence. Professor Jores has added considerably to our knowledge of the minuter characteristics of the changes known as arteriosclerosis, which, though at first reparative, ultimately assume degenerative characters. We can accept the former part of his results, but we fear he will not find many supporters of his etiological theory, more especially because his explanations refer almost entirely to the changes which begin in the intima. Most observers are aware of Martin's views of the importance of adequate nutritional supply by means of the vasa vasorum, and no explanation of the cause of arteriosclerosis will be considered adequate which neglects to consider the influence of occlusive changes taking place within these small vessels upon the vessel walls to which they are distributed.

THE PSYCHOPATHOLOGY OF EVERYDAY LIFE.

The severance of normal from morbid psychology has for long been maintained by the psychologists of the schools, who, for reasons into which it is unnecessary to enter here, have for the most part—and in no question more than in the great free-will controversy—tacitly ignored the bearing upon normal psychology of the phenomena of morbid mentality. That this separation, however, though of practical use, is arbitrary and essentially factitious, and that there is an unbroken continuity of phenomena and a fundamental conformity of law between these two apparently dissimilar bodies of knowledge, has been successfully urged by modern psychopathologists. The gap is being daily filled up by studies in degeneracy, criminal psychology, and kindred subjects; and Professor Freud's interesting book on the *Psychopathology of Everyday Life*² is a small

¹ *Wesen und Entwicklung der Arteriosklerose auf Grund anatomischer und experimenteller Untersuchungen.* [An Anatomical and Experimental Inquiry into the Nature and Causation of Arteriosclerosis.] Von Prof. D. L. Jores. Wiesbaden: J. F. Bergmann; and Glasgow: F. Bauermeister. 1903. (Demy 8vo., pp. 172, 4 plates. 5s.)

² *Zur Psychopathologie des Alltagslebens.* [The Psychology of Everyday Life.] Von Professor Dr. Sigm. Freud. Berlin: S. Karger; and London: Williams and Norgate. 1904. (Demy 8vo., pp. 92. 3s.)

contribution to the evidence for the fundamental solidarity of normal and morbid mental states. The subjects under investigation are occurrences apparently trivial, but, inasmuch as they throw light on obscure mental processes, of importance; occurrences which every one must have encountered, such as slips of pen and tongue, solecisms, and mistaken and apparently accidental actions. These incidents, in the main personal experiences of the author, are subjected to searching examination, and their mechanism explained. Throughout all these apparently accidental happenings, whether the forgetting of a proper name—the subject first discussed—the insertion of a wrong word in speaking or writing, or a mistake in conduct, any one of which may or may not be instantly recognized as faulty by the subject, accident or chance, the author maintains, has no place. "I believe, indeed," he says, "in external (real) accident but not in internal (psychic) chance." He relates in detail numerous instances in illustration of his contention that all such mistakes are "motived" subconsciously, and are generally related to a definite disturbing influence outside the intended action and connected thereto by some process of association. These views are ingeniously worked out at a length which here precludes a more detailed account. One of the most interesting chapters—the keystone, indeed, of the whole work—is that on determinism and superstition, in which the results of the preceding chapters are summed up; and it is shown that the common characteristic of all these phenomena is that they can be referred to incompletely suppressed psychical material which has become detached from consciousness without, however, being deprived of every possibility of expressing itself. Even the apparently random choice of a name or number is thus, he contends, subconsciously determined. He makes a suggestive comparison between this subconscious determination in the normal and the characteristic attribution by paranoiacs of extraordinary significance to unimportant details in the conduct of others. The category of the fortuitous, of unnecessitated motives, which the normal man predicates of part of his mental processes, is rejected by the paranoiac in the psychical processes of others; that is, Professor Freud says, he probably projects into the mental life of others what is present in his own subconsciousness; or, to put it otherwise, the nexus of determined action and thought, which in normal states remains unconscious or subconscious, rises in the paranoiac into the conscious field. This outwardly projected psychology is also for Professor Freud the cause of a large part of the mythological conceptions of the universe which, he affirms, still persist in the most modern forms of religion. This book deals with a fascinating subject, but it is rather the sidelight thrown on graver issues than the ingenuity displayed in elucidating everyday occurrences which make it noteworthy.

THE SENSE OF ATTITUDES.

M. PIERRE BONNIER¹ has written a most readable and, in many places, amusing pamphlet, largely dialectic, on self-orientation. By the term "sense of attitudes" he does not intend to define any newly-discovered sense, but wishes merely to replace by it certain terms which are in circulation in the scientific world, such as muscular sense, sense of space (Cyon), kinaesthetic sense, and stereognostic sense. M. Bonnier, who is clearly an out-and-out adherent of the school of metaphysical materialism, tilts against dualistic forms of philosophy which, he affirms, are perpetuated in the expressions of modern psychology, and prevent any rational psychological explanation of time and space cognitions. The book is thus essentially a philippic directed against the generally accepted view of psycho-physical parallelism, and in particular against his dualistic disputant, M. Claparède of Geneva, who conceives the soul to be a thinking and unextended entity, and matter to be an extended and non-thinking reality entirely heterogeneous and disparate. M. Claparède laid himself open to an obvious rejoinder when he affirmed that the principle of

parallelism was at once "a fact of observation and an artifice of method." M. Bonnier stigmatizes this as an intrusion into geometry, only it is a geometry without space. "In what part of scientific psychology," he asks, "can one class as a fact of observation a parallelism between a thing which is somewhere and another which is nowhere?" He readily admits, also, that there is here an artifice of method, just as there is in seeing double by means of squinting, but he cannot see what purpose is served by this experimental diplopia, save an illusory superposition of the abstract on the concrete, of the supernatural on the natural, of the virtual or factitious on the real. In short, things must be somewhere or otherwise are non-existent. This is in effect the fundamental article of M. Bonnier's psychological creed. For M. Bonnier, then, ideas and sensations exist extended in space and have necessarily a form determined by the anatomical and physiological distribution of the neural elements engaged at the time. The notion of space plays the chief part in the mechanism of psychic phenomena because the neural morphology intervenes in thought just as the morphology of the limbs does in gesture, and it is by an immediate recognition of a thing as existing at some point or place that it is recognised as some thing. In every peripheral perception there are two distinct operations, a sensorial perception and a definition of the points thus perceived, both functions residing co-extensively in the same structure. Owing to sensory differentiation and specialization, sensorial modalities have ceased to be reducible amongst each other; for example, a notion of temperature cannot be expressed in terms of colour, but these may be perfectly superposable on the same point in space. Thus the identity of localization under diverse sensorial aspects engenders the substantive notion and gives to it its concrete existence. But if localization is the test of concrete reality, there is nothing better localized than our ego, which is above all a point in space. We should not thus for one instant speak of intelligence as an immaterial thing enclosing other immaterial things, the ideas. "Intelligence, ideas, and sensations are things of gravity, temperature, and defined form, which in man can exist only at a temperature in the neighbourhood of 38° C." We have not space to follow M. Bonnier in his exposition of this difficult and interesting subject, which has for beginning and middle and end "*pour exister, quelque chose doit être quelque part.*" An eminent psychologist once said that it is impossible for any man to transcend the limitations of his own constitution, and M. Bonnier, himself a master of invective, will forgive us if we say that though this dictum appears at first sight to support his thesis, it may, on deeper reflection, be found to carry a particular application.

PROPOSED INTERNATIONAL OPHTHALMOLOGICAL SOCIETY.

MR. W. M. BEAUMONT, Bath, has issued to the tenth International Ophthalmological Congress, which is being held at Lucerne this week, a fly-leaf suggesting the formation of an International Society of Ophthalmologists. He states that the nine International Congresses of Ophthalmology are monuments which record the steps the science has made, and that a comparison of their *Transactions* from the first volume in 1857 to the ninth in 1899 shows how rapid the march of knowledge has been. He thinks that the Congresses would be bound together in unbroken continuity if the intervals were bridged by such an international society as he proposes. There need, he thinks, be no change in the routine of the meetings of the Congress, but believes that "every nationality with its own executive, always in touch one with the other, and always working in unison, would be ready, when its turn came, to prepare for a congress. For a small annual subscription this world's society would issue to every member annually a report, printed in his own language, on the progress of ophthalmology in all parts of the world, with monographs on special subjects by leading authorities. Members of such a society, travelling in foreign countries, would have a bond of union which would give them facilities for

¹ *Le Sens des Attitudes*, by M. Pierre Bonnier. Paris: C. Naud, 1904. Pp. 114.

seeing the work of their *confrères* with but slight formalities, and an 'Entente Cordiale' would be established, which perhaps could be formed in no better way." Such a scheme must have the sympathy of those who recognize how much the progress of knowledge and the application of new discoveries to practice is hindered or delayed in all departments of medicine by differences of language, by national prejudices, and by the multiplicity of transactions and special journals. We should have thought that ophthalmology suffered less than almost any other speciality from these difficulties, but if the ophthalmologists can produce a good working scheme, there can be little doubt that their example will be followed. The risk is that the proposal may result merely in the establishment of one more special periodical.

THE SANITARY INSPECTORS' ASSOCIATION.

THE autumnal meeting of the Sanitary Inspectors' Association was held last week at Bournemouth, where the members were the guests of the Mayor and Corporation and the Bournemouth Medical Society on several occasions. On the first day the Chairman gave an address on the inception, progress, and aspirations of the Sanitary Inspectors' Association, and said that its main object was to help sanitary inspectors to carry out their duties honestly and fearlessly; they wished to improve their position and obtain the recognition to which their arduous and responsible duties entitled them. On the second day Sir J. Crichton-Browne, President of the Association, gave an address, in which he contrasted the health conditions of Bournemouth and Middlesbrough. He pointed out that in Bournemouth the mortality of children under 1 year of age was only 81 per 1,000, the lowest of all the seventy-six great towns of England and Wales, whereas Middlesbrough had an infantile mortality of 186; in Middlesbrough that mortality was increasing, while in Bournemouth it was decreasing. He cited other facts which supported his contention that Bournemouth held a sanitary primacy among the large towns; its cause was to be found partly in the natural advantages of situation and partly in the absence of artificially-introduced conditions, such as smoke and overcrowding, by which health was impaired; but the most important cause was the systematic recognition by the inhabitants and the local authorities of the fact that the prosperity of the town depended upon its salubrity. He quoted the testimony of Mr. Cooper, the Chief Sanitary Inspector, to the effect that the bakers had met the requirements of the new Act affecting bakehouses in a public spirited way; of Dr. Nunn, M.O.H., who had reported that the local Dairymen's Association had not only approved of the regulations drafted during the year, but had suggested that local authorities outside the borough should be communicated with, in order to induce them to accept similar regulations and periodical inspections of dairy farms; of Mr. Tanner, Borough Bacteriologist, who had described the success of the admirable system of throat swab examination in cases of diphtheria and throat diseases of a doubtful nature; of Mr. Cripps, the Public Analyst, who had drawn attention to the improvements which had taken place during the last three years in the quality of foods and medicines; and of Mr. Christie, the Inspector under the Foods and Drugs Act, who had noted a steady decrease in the percentage of adulterated samples submitted to analysis. In conclusion he said that the housing problem was not yet solved, overcrowding in great cities was as embarrassing as in the walled cities of the past; there was need of redoubled sanitary energy, and therefore of improved education for the sanitary inspector, who would be supported, as he had never been before, by science and the good will of the public. Dr. Snow, in proposing a vote of thanks to Sir J. Crichton-Browne for his address, said that the high infantile mortality of the country was a reproach. He attributed it mainly to three causes, first, that many mothers did not care to fulfil their maternal duties; secondly, that there was great ignorance, especially among the poorer classes as to the proper feeding of infants; and, thirdly, a difficulty, especially in some large cities,

of procuring a pure milk supply; he also condemned the use of preservatives in food. Dr. E. P. Philpots, who seconded, advocated the appointment of special women-inspectors to look after the welfare of children, and the establishment of crèches and dépôts where humanized and sterilized milk could be obtained. Sir James Crichton-Browne, in reply, referred to the recent experiments in America, showing that the prolonged use of preservatives, such as boracic acid, in milk was injurious. The poor, however, had often no proper place in which to keep milk, and the whole matter was one which required most careful consideration.

HOSPITAL SHIPS IN NAVAL WARFARE.

ON the initiative, as would appear, of the French Government, an international conference is to be held at the Hague, probably in December, to draw up regulations with regard to hospital ships in naval warfare. The chief object will be to revise existing international rules so as to leave no doubt with regard to the neutrality of hospital ships. The need of such ships in actual warfare is, of course, now everywhere recognized; Japan has two hospital ships, and Russia has recently commissioned the *Orel*. Hospital ships have been commissioned on several occasions in the British Navy for the transport of sick and wounded of the army. At the present time the Royal Navy possesses only one hospital ship, the *Maine*, which, since its employment during the South African war, has been reconstructed, and is now attached to the Mediterranean Squadron. It is, we believe, found extremely useful and convenient, especially in the case of the smaller ships, such as torpedo-boats and destroyers, which have no sick-bay; patients are received on the *Maine*, and treated there, and the ship makes occasional trips to this country when a considerable number of invalids need to be brought home.

PROTECTION OF CHILDREN IN SPAIN.

A NEW law for the protection of children under the age of 10 years has been passed by the Spanish Cortes. The administration of the law is entrusted to provincial and local *juntas* or committees, under the control of a Central Superior Council. The committees are to include elected representatives of scientific societies, charitable associations, and working-class organizations. The need of such a law is shown by the fact that, according to the most recent official statistics available, the number of children under 5 years of age who died in the forty-nine provinces of Spain in 1900 was 229,348, being 42.72 per cent. of the total mortality. Among older children the death-rate was also high.

INTERNATIONAL CONGRESS ON ACCIDENTS AMONG WORKMEN.

AN International Congress on accidents among working men is to be held next year in Belgium. The questions proposed for discussion are: Traumatic lesions and post-traumatic affections; the organization of first aid for the injured in large towns and industrial centres; the uniformity and centralization of medical statistics. The General Secretary of the Congress is Dr. Poels, 2, Rue Marie-Therese, Brussels, to whom all communications relative to the Congress should be addressed.

INSPECTOR-GENERAL OF HOSPITALS AND FLEETS HERBERT MACKAY ELLIS, R.N., took over the duties of the Director-General of the Medical Department of the Royal Navy in succession to Sir Henry F. Norbury, K.C.B., on September 12th. He received his medical education at St. George's Hospital, and entered the service in September, 1875; he served with the Royal Marine Artillery throughout the campaign in Egypt in 1882, being present at the two engagements at Kassassin and at the battle of Tel-el-Kebir; for his services in Egypt he was promoted to Staff Surgeon. He was Fleet Surgeon in H.M.S. *Victoria* when she was sunk off Tripoli in collision with the *Camperdown* in 1893.