

exactly the same way as a fractured bone, which is planned for the very opposite. The Grand Palais, Paris, lays itself out, amongst other things, for the special treatment of joints stiff as the result of bad treatment, and it is estimated that in six months it has saved £644,000 in pensions and gratuities, and similar institutions are rapidly springing up in this country, on the staff of one of which I hold an honorary position.

My object in bringing the matter before your readers was to induce those who were still practising timorously on the old lines to view their cases in the proper perspective, and I am still hopeful that the number of medical men who unwittingly, but none the less culpably, "manufacture" those cases for us may yet be gradually diminished.

I am, Sir, yours faithfully,

JOHN COLLIE, M.D., C.M.

Porchester-terrace, W., August 24th, 1916.

A SERIOUS FLAW IN THE RETAIL DISTRIBUTION OF MILK.

To the Editor of THE LANCET.

SIR,—Twice recently within a fortnight milk purporting to be "nursery milk" was left at my house in a dirty bottle. This was obvious from the fact that when the milk was poured out the bottom of the bottle was found to be crusted inside with dirty, dried milk. I may mention that the milk was furnished by one of the large London dairy companies. On a complaint being made to the manager of the local branch the girl who brought the milk round confessed that she had given someone else the nursery milk intended for us and had filled a *dirty bottle collected from another house* with milk from the churn and left it with us as nursery milk. When an allowance is made for the dislocation of labour consequent upon the war, it is disquieting to think that our infants are liable to be exposed to such grave risks as are incurred by the procedure above mentioned. It makes one shudder to think of the myriads of bacteria there may be in the bottom of a dirty, unwashed milk-bottle which has stood in somebody's area or back garden, possibly for twelve or more hours, and as often as not in close proximity to a dust-bin or water-closet, and then to think of a pint of milk being put into such a bottle and left at one's house as food for an infant! If such a condition of things obtains in a good residential district where the price of nursery milk is 6d. or even 7d. a quart, it is no wonder that our children's hospitals are flooded with cases of gastro-enteritis from the poorer quarters, especially at this season of the year. Doubtless every week hundreds of infants are stricken down, many of them never to rise again, by the criminal practice of putting their milk into dirty bottles. This, too, when it is of the utmost importance to the future welfare of the nation that as many infant lives as possible, and especially the lives of male infants, should be preserved to make up for the terrible wastage due to the war.

When I interviewed the secretary of the company with reference to my complaint, he admitted that it was a serious matter, but that he could not easily prevent it, although instructions were given to men and girls who distributed the milk that they were on no account to fill dirty bottles with milk from the churns. He asked me what I could suggest to prevent it. In the first place, I would suggest that all persons concerned in the distribution of milk should receive elementary instruction in the potentialities for evil inherent in dirty milk, especially to infants and young children. Secondly, the filling of dirty bottles or cans collected from houses should be absolutely forbidden, and it should be impossible for anyone but an authorised person to have access to the cardboard discs with which the bottles are closed. Thirdly, bottles or cans with "nursery milk" should be filled only at the dairy and sealed with some sort of label to which again only an authorised servant of the company should have access. Fourthly, I would suggest that it should be made a punishable offence for anyone to put milk, and especially milk intended for the food of infants, into a dirty bottle, and that notices to that effect should be prominently displayed in every dairy.

Another point in this connexion which is of importance. The company in question, so the secretary informed me, was pasteurising *all* the milk (general and nursery milk) it was supplying to customers, yet this milk was described as "fresh cow's milk." Customers should be informed when milk is pasteurised, otherwise there is the possibility that it will

be boiled again (milk is always boiled in my own household), with the result that infants fed on twice-sterilised milk run the risk of developing scurvy.

The importance of this subject and the need for an urgent solution are my excuse for writing to you at such length.

I am, Sir, yours faithfully,

Harley-street, W.

DAVID NABARRO.

THE EFFECT OF FRESH HUMAN BLOOD SERUM ON ARTIFICIAL MEDIA.

To the Editor of THE LANCET.

SIR,—In their paper on this subject published in THE LANCET of August 19th, Lieutenant-Colonel L. S. Dudgeon, Mr. F. Bawtree, and Dr. D. Corbett throughout use the term "fresh human serum." They do not, however, give any evidence that there is any special advantage in the serum being freshly drawn. We have, in common with many others, used unheated human serum as an addition to artificial media for a considerable number of years, but our experience has been that the growth of the various pathogenic bacteria is better if the serum used is not quite fresh but has been drawn for a period of a week or so before use. After this time it may be used for many months without appearing to lose its value for enriching media. As evidence of this we may mention that ten years ago when one of us (G. T. W.) was doing a considerable number of opsonic indices with the gonococcus, unheated serum, hydrocele or ovarian agar was used, and it was found to be possible to plant a culture at 10 A.M. and use it the afternoon of the same day. The serum used here was used from seven days to nine months after it had been collected. Serous exudates, such as ascitic fluid or pleural fluid, which are liable to contain numerous cells, are not in our experience as valuable as serum or clear hydrocele or ovarian fluid. The cells or cell extracts possibly produce an inhibitory effect on pathogenic bacteria.

We think, therefore, that the important factor is the avoidance of heating and not the freshness of the serum. This, however, is a point which, it appears to us, has for years been well recognised by most bacteriologists and has repeatedly been emphasised on numerous occasions. Bumm in 1885, and again Wertheim in 1890, described in detail the method of making up unheated human serum agar in slopes and plates, and showed its value as a medium for the growth of some more delicate bacteria; since then the use of unheated human serum for growing gonococci has been almost a commonplace in bacteriology; it has also been used to enhance the virulence of various bacteria. Recently the epidemics of cerebro-spinal meningitis have again brought the use of unheated human and animal serum into great prominence and provoked considerable discussion at various pathological meetings.

It would appear to us that the reason why some laboratories have failed hitherto fully to appreciate the value of unheated serum is due to the introduction of "nasgar," a medium which, in our opinion, is a very inferior substitute and one which gained popularity by the fact that it saved the necessity of obtaining serum or exudates with strict aseptic precautions, and so was more convenient for those who were not in direct touch with a hospital or students.

We are, Sir, yours faithfully,

G. T. WESTERN,

LUDWIK RAJCHMAN.

Bacteriological Laboratory, London Hospital, August 23rd, 1916.

THE PSYCHO-PATHOLOGY OF WAR NEUROSES.

To the Editor of THE LANCET.

SIR,—With regard to Dr. G. Burton-Brown's letter in your issue of Aug. 19th, if he would kindly refer to my article he will see that it is in Case 7's dream that he says: "I rang down full speed ahead." Dr. Burton-Brown would, of course, not expect verbal accuracy in a dream even about technical matters. There was a reason for the patient's use of the word "speed" in his dream, but the explanation would take me beyond the limits of a letter. What Dr. Burton-Brown thinks I think sailors say has really little to do with what a patient, who was not a sailor, dreams he is saying.

I am, Sir, yours faithfully,

One of H.M. Hospital Ships,
August 22nd, 1916.

M. D. EDER.

THE EFFECT OF FERRIVINE AND INTRAMINE ON SYPHILIS.

To the Editor of THE LANCET.

SIR,—Professor W. M. Bayliss in his letter in THE LANCET of July 29th states that osmic acid was not used to test the reducing properties of the lipoid-globulin particles. Both osmic acid and Sudan III. were used and the results reported in the paper by Mackenzie Wallis and myself to which Professor Bayliss refers. Since that paper was written I have repeated several of my former experiments, and have succeeded in demonstrating that the above-mentioned particles contain oxidising and reducing enzymes. Under the ultra-microscope sera and colloidal suspensions present many similarities; therefore, to compare the adsorptive capacity of a rigid body like charcoal with one of the former seems to me to be quite beside the point. For staining *in vivo*, although alcoholic solutions of dyes may be used, I expressly stated that the best, and therefore the dye most to be recommended, was borax methylene blue. Professor Bayliss does not seem to realise that in the dried films only the dye is dried, and the cells in the examined secretion remain alive for several hours. In using the word permeability, to which Professor Bayliss takes exception, I was regarding the power of the molecule to penetrate the membrane. The penetration of the membrane not only decides the permeability of the cell, but it is regulated both by the amino-groups and by the carboxyl-groups. Later in the letter reference is made to the fact that the presence of amino-groups favours permeability, hence Professor Bayliss here uses the term in the same sense as I did.

In regard to the question of adsorption, I am pleased to see that Professor Bayliss accepts my explanation with regard to the effect of increased size of particles, because, as I have stated, the size and number of the colloidal particles in different sera formed the foundation upon which the whole of my work was based. The importance of the ultra-microscopic examination of sera cannot be overestimated, since the difference between syphilitic and non-syphilitic sera is so striking that no Wassermann nor any other reaction is necessary to differentiate between them. Perhaps it may interest Professor Bayliss to know that medical men in Canada, the United States, and Japan have been responsible for the preparation of substitutes for salvarsan; I cannot understand why medical men in England should be less able than those referred to. In my book I was careful to draw attention to the secret methods of preparing "606," and I cannot see how Professor Bayliss can make out that I have some secret method in preparing intramine and ferrivine. All these chemo-therapeutic compounds are colloids; therefore, although several samples may be chemically the same, their physical action may be quite different. The National Medical Research Committee stated that neokharsivan was chemically the same as neosalvarsan, but nevertheless the supply of the former has been stopped owing to the severe toxic symptoms which followed its use.

I am surprised to see in Professor Bayliss's remarks about intramine that he fails to acknowledge the help of one drug's action upon that of another. In my book I reported cases which immediately improved under intramine, although they had been uninfluenced by salvarsan and mercury. According to Professor Bayliss's reasoning, "the natural conclusion to be drawn is surely that salvarsan and mercury are useless, while intramine is a valuable remedy." For the past nine months I have been experimenting with colloidal iodine and have found that it increases both the action of salvarsan and intramine. I have given so many injections of these different remedies that I am perfectly convinced that drugs can be employed which mutually increase the therapeutic effect obtainable by either one alone. As to Professor Bayliss's remarks on ferrivine, considering the exact formula is given, the accusation against me of using mystifying nomenclature falls utterly to the ground. It is extraordinary for Professor Bayliss to state that "it is extremely unlikely that such a compound (ferrivine) would have any special action, different from an ordinary ferric salt." In the first place, an ordinary ferric salt is non-colloidal, while ferrivine is; and in the second place, I should not have advocated ferrivine if ferric hydroxide was

as good. It is odd that Professor Bayliss failed to note my remarks concerning the therapeutic action of ferric and aluminium hydroxide.

I find that Professor Bayliss's only argument against me rests on the fact that I have used certain technical terms in a sense which does not meet with his approval. No argument has been brought forward to disprove my theories.

I am, Sir, yours faithfully,

Wimpole-street, W., August 3rd, 1916. J. E. R. McDONAGH.

Obituary.

THOMAS GREGOR BRODIE, F.R.S.,

PROFESSOR OF PHYSIOLOGY IN TORONTO UNIVERSITY.

WITH the death of Dr. T. G. Brodie in London on Aug. 20th is removed one of the outstanding names associated with physiological teaching in this country. Eight years ago he went to Canada as professor at Toronto University; but the European conflict recalled him, and he became a Major in the Canadian Army Medical Corps attached to No. 4 Canadian General Hospital. Dr. Brodie was educated at King's College School, London, and St. John's College, Cambridge, becoming later a Fellow of King's College, London. He was in succession attached to three of the great London schools, becoming demonstrator of physiology at King's College in 1890, at the London Hospital Medical School in 1894, and finally lecturer on physiology at St. Thomas's Hospital. The latter position he laid down to direct the research laboratories of the Royal Colleges of Physicians and Surgeons in London. He then became professor-superintendent of the Brown Animal Institution, and subsequently professor at the Royal Veterinary College in London. During the greater part of this time he directed physiological studies at the London School of Medicine for Women. Shortly before accepting the call to Toronto he was elected a Fellow of the Royal Society and some years later delivered the Croonian lecture on "A New Conception of the Glomerular Activity." In this he clearly showed how the glomerular function presupposes the existence of a firm and inextensible capsule surrounding the kidney, and explained the dependence of the rate of urinary flow on the general blood pressure. To students Brodie made himself welcome by adding his "Essentials of Experimental Physiology" to the parallel works on chemical physiology and histology. The book followed the course of advanced practical physiology at King's College and was noteworthy for its beautiful tracings and curves and other evidence of the author's original work. It has remained for long a students' guide to experimental work in physiology.

THE LATE DR. J. W. ELLIS.—Mr. John William Ellis, M.B., Ch.B. Vict. and Liverp., who died last week, had been Lieutenant-Colonel, R.A.M.C. (T.F.), attached to the 9th Battalion, Liverpool Regiment. He was locally well known as a naturalist, having contributed studies on the coleoptera and lepidoptera of the district, and was at the time of his death one of the honorary secretaries of the Liverpool Naturalists' Field Club.

DEATH OF DR. C. S. TICEHURST.—The death occurred recently at Playden, Sussex, of Dr. Charles Sage Ticehurst, who for many years was medical officer of health for the Petersfield rural district in Hampshire where he held a number of other appointments. Studying at Guy's, he took the L.R.C.P. diploma in 1872 and became M.R.C.S. and L.S.A. in the same year, and M.R.C.P. Edinburgh five years later. In his early days he wrote a good deal, and among his contributions to the medical press was an article on "Tattooing or Tinting Opacities of the Cornea and Sclerotic," which appeared in THE LANCET in 1872. An active and enthusiastic member of the original Volunteer Force, he rose to the rank of Surgeon-Major of the 3rd Volunteer Battalion (Duke of Connaught's Own) Hampshire Regiment, and was the recipient of the Volunteer Decoration.

THE Association of British Chemical Manufacturers, the business of which is being carried on temporarily at the offices of the Society of Chemical Industry, Broadway Chambers, Westminster, S.W., have appointed as general secretary Sir Charles H. Bedford, M.D., D.Sc. Edin., Lieutenant-Colonel I.M.S. (retired), who was formerly professor of chemistry in the Calcutta Medical College and technical adviser to the Government of India.