

not appear to be more effective in itself, but for the bulk of the population in these countries it is much more accessible than it is, say, in Wales or Cumberland. Apart from details, however, one important conclusion emerges from these combined investigations. The former may be said to demonstrate it positively, the latter negatively. In the countries named housing, habits of life, general hygienic conditions, opportunities for outdoor exercise, balance of diet with due consumption of milk during puberty and adolescence, and consequently the general health and development of the population, and the physique of the women (incidence of contracted pelvis, etc.) are all better than the average, while in Wales and the English districts named they are below it. "These are but examples of the broad fact that anything which impairs a sound physique and physiological muscular and bony development is prejudicial to a healthy pregnancy and normal childbirth."

"It is the whole physical upbringing of girls, in infancy, in school age, and in adolescence, to which we must give attention if we would lay enduring foundations of sound physique in women, enabling them to withstand the stresses and strains inseparable from pregnancy and maternity. A healthy race of women does not grow by chance or caprice, nor is it assured by spasmodic and often ill-directed efforts of hygiene after adolescence. It is assured only by the systematic cultivation of the physiological life and obedience to physiological law from birth upwards. The problem of a high maternal mortality rate, especially in a time of rapid social development in an industrial and urbanized community, cannot be solved by any narrow or short-cut methods applied at the last minute. No intelligent community which disregards or is careless of the bodily health of its childhood and adolescent womanhood should be surprised if their physical and mental capacity fails satisfactorily to meet the natural demands of human life. . . . The committee desire to emphasize the necessity for the public recognition of the intelligent application and direction of *all* the medical services, and the vital relation which exists between them and the ultimate reduction of maternal mortality."

ANAESTHESIA IN LABOUR

The chapter on maternal morbidity makes evident the importance of this aspect of the subject, and clarifies the position in respect to certain diseases. Attention should be drawn also to some other pronouncements. With regard to anaesthesia in labour, the committee does not add specifically to what was said in its interim report, but the careful paragraph (p. 43) in which it says they "would regret a general demand for anaesthesia" should be noted, as also the statements that:

"One of the features of Dutch midwifery which most impresses a visitor from Great Britain is the attitude towards anaesthesia in labour. The routine practice is to deprecate entirely the employment of general anaesthesia in normal cases. Even the higher classes who are in a position to command it rarely ask for it. Teachers and practitioners expressed the opinion that recourse to anaesthesia for normal midwifery was bad in that it tended on the one hand to delay the natural process, and on the other to increase the tendency to the adoption of artificial aids to delivery. Midwives are not permitted to use sedative drugs before the birth of the child." Again, "Swedish obstetricians discountenance the use of anaesthetics and analgesics on account of their liability to interfere with the course of natural labour. Midwives never give the anaesthetic."

These facts have their importance in relation to certain recent or present misdirected efforts in this country.

MATERNAL SERVICES AND HOSPITALS

With regard to the development of maternity services and hospitals, the main points made by the report are that new maternity accommodation should, where practicable, be associated with general hospitals; that large maternity units are disadvantageous; that abortion cases should not be admitted to maternity wards; that cases of puerperal sepsis, wherever arising, should be treated

only in an entirely separate block, separately staffed; that young obstetricians and gynaecologists should be encouraged to establish themselves in non-teaching provincial centres; that ante-natal clinics are too often conducted by those who are not practical obstetricians; and that therefore general practitioners and private obstetricians should be much more freely used for ante-natal work. In regard to education, it is noted that post-graduate facilities for older practitioners are inadequate, and that, largely owing to the misuse of material for midwives who will not practise, the number of cases available for the training of medical students is quite insufficient. Action is urgently called for.

Correspondence

ALUMINIUM AND HEALTH

SIR,—With reference to the letter of Dr. Leo Spira in the *Journal* of July 30th, it is evident that Underhill and Peterman think that aluminium is far from harmless. Nevertheless, their findings, as revealed by the figures in their tables for the amounts of aluminium present in tissues after oral administration, are excellent evidence against their own conclusions.

On the general question of the use of aluminium, the last word may not yet have been said, for further investigation may lead to fresh discoveries; nevertheless, there is already ample evidence, not only on animals, but also on human beings, to indicate that aluminium is not more toxic than iron.

I feel sure that if the work which has already been done were widely known, little more would be heard of the dangers of aluminium. It is one of the tragedies of scientific work that the great bulk of it never reaches the ears of medical men, or at least, if it reaches their ears at the time when the work is done, it is forgotten after a few years.

The existing evidence is so clear that I do not feel it is right that those in practice should state that in their opinion aluminium is harmful, unless they have first of all taken the trouble to carry out carefully controlled experiments on a scale which would justify them in criticizing this evidence. After all, the use of aluminium affects a large British industry, and it is easy to see that a scare started by honest but mistaken people may affect large bodies of workmen engaged in the industry. I have no personal interest in this matter, either for or against aluminium, but it seems to me that a grave responsibility rests upon those who are engaged at the present moment in this anti-aluminium campaign.—I am, etc.,

London, W.C., Aug. 3rd.

J. H. BURN.

PATHOGENESIS OF IDIOPATHIC HYDROCELE

SIR,—In an article in the *Journal* of August 6th, calling attention to a revival of the phenol injection treatment of hydrocele of the tunica vaginalis, the author observes that during operative treatment of hydrocele no marked signs of inflammation are to be observed.

It will be conceded that in the obstructive hydrocele of filariasis, and in that occurring after scarring of the inguinal region, no such signs are to be expected or found, as also in the infantile variety and in that accompanying neoplasms. It will similarly be agreed that hydrocele may be secondary to such conditions as pyogenic, syphilitic, or tuberculous infections of the testis and epididymis. What is in dispute is the ordinary "idiopathic" hydrocele with no gross demonstrable

disease of the external genital organs. In the first place, it is to be observed that the fluid is not that to be expected in a mere passive effusion—it is highly albuminous, becoming solid on boiling, as is well known, and is markedly different from the pale, slightly albuminous fluid of obviously obstructive hydrocele.

I have been observing the condition of the testis and epididymis during hydrocele operations for many years, and state emphatically that in no case can one fail to demonstrate signs of infection in the epididymis immediately alongside the testis in the form of oedematous, reddened plaques or patches, which on rubbing with the finger show the "speckling" similarly found over a duodenal ulcer or a peridiverticulitis. The source of infection is in a chronic prostatic-vesiculitis, which may or may not be associated with pyuria or bacteriuria (more often it is not, as in the case of the trigonitis of the female). Some cases of hydrocele, indeed (few, however), react to the exhibition of urinary antiseptics. The source of such non-urethral infections of the prostate is, I believe, lymphatic, and in many cases is due to rectal and anal abrasions and other lesions.

It may be noted in parenthesis that the presence of a slight hydrocele, often bilateral, in an oldish man should always call attention to the possibility of prostatic hypertrophy, and particularly to the intermittent infections that cause such rapid variations in the symptoms of this condition.—I am, etc.,

London, W.1, Aug. 7th.

C. JENNINGS MARSHALL.

BLOOD TRANSFUSION

SIR,—I was greatly interested in Mr. A. M. A. Moore's note on blood transfusion in the *Journal* of July 23rd, because his technique so closely resembles the one I have adopted as the result of a very extensive experience. I differ from him in one or two details, and I am egotistical enough to consider my methods the better.

I prefer the donor to have his arm by his side, since I have found that when it is abducted, as in Mr. Moore's method, it is more tiring for the donor and less steady: as a result, the needle is more likely to be displaced. It is unpardonable to use a venesection needle without first anaesthetizing the skin. The very finest of hypodermic needles—No. 18 or 20—should be used, and personally I prefer a 2.5 solution of novocain. I consider that it is best to inject it into the skin just to one side of the selected vein and not immediately over it, as I find that the resultant wheal tends to obscure the vein. A considerable amount of force is sometimes necessary to push a large-bore venesection needle through the skin, and if it is pushed through immediately over the vein there is a risk that, when the skin resistance is overcome, the needle will suddenly plunge into and through the vein and extravasation of blood result. When this happens it is useless to try to use the damaged vein. If the anaesthetized wheal is made to one side of the selected vein, the venesection needle can be pushed through it slowly and deliberately without any risk of damage. When the point is through the skin the needle is moved so that it lies over the vein. Holding the needle with its bevel upwards and in the same line as the vein, push it into the vein. The whole procedure is deliberate and painless. While, as Mr. Moore says, it would seem more reasonable to insert the needle with the point directed towards the hand, yet I am convinced that in practice the direction of the needle has no influence on the flow, and generally it is simpler to insert it in a proximal direction.

Whenever possible the donor should be asked which arm he would prefer to be used—generally speaking, if he is right-handed the left arm should be used. Not uncommonly he complains after a few minutes that the

combined effect of the pressure of the sphygmomanometer and of opening and closing his hand has tired him. When this happens the surgeon or his assistant should squeeze the donor's forearm rhythmically about thirty to forty times per minute. The method of transfusion described by Mr. Moore fulfils the advice given by that great French surgeon Doyen, "Suppress every manœuvre and every instrument which is not absolutely indispensable." Nowhere is simplicity of technique more important than in blood transfusion.—I am, etc.,

Liverpool, Aug. 1st.

J. BAGOT OLDHAM, F.R.C.S.

TUBERCULOSIS AND THE MILK SUPPLY

SIR,—Had I suggested that any city in Ireland was more sanitary than Belfast I could not have merited a more vigorous reply than that of Dr. Charles Thomson (August 6th). I agree that the convictions for selling tuberculous meat give no indication of the amount of tuberculous meat on sale, unless we know the efficiency or inefficiency of the meat inspection. Even so, an absence of convictions in an area without a public slaughterhouse might indicate the need for inquiry. Government Departments have their difficulties, not least in inducing backward public authorities to do their duty. Yet in certain directions there is apathy. Nor am I alone in that opinion. At the Mansion House on July 11th Lord Moynihan (*British Medical Journal*, July 16th, p. 118), referring to his maiden speech in the House of Lords, stated that the reply of the representative of the Ministry of Agriculture was "jejune and unhelpful," and that "the Ministry did not seem to recognize what a really serious burden of suffering and disease was inflicted upon the people of this country through the drinking of impure milk." Far be it from me to suggest that before making that speech Lord Moynihan should have written to Belfast!

As regards the immunization of adults by tuberculous milk, Dr. Thomson writes: "Surely this dangerous theory as to immunization died years ago of debility at birth." That is rhetoric. Let us consider the facts. The drinking of tuberculous milk is a haphazard method of immunization, but, *faute de mieux*, it may be better than nothing, and having regard to the infrequency of bovine infection in adults it can scarcely be described as dangerous. A non-tuberculous man or animal has never yet been immunized against tubercle except by inoculation with living tubercle bacilli. When Koch first immunized bovines against bovine tuberculosis he inoculated a living culture of bacilli from human sources. The same principle underlies Calmette's prophylactic vaccination with B.C.G. A non-tuberculous man or animal has never yet been immunized with tuberculin or with dead tubercle bacilli for any length of time. That does not affect the value of tuberculin in treatment. In the majority of patients suffering from tuberculosis in the lungs or elsewhere it is possible to raise immunity to tuberculin even a millionfold, and that increased immunity is associated with the disappearance of symptoms. In these cases living tubercle bacilli in the body are, in conjunction with the injected tuberculin, playing a major part in immunization.

Since Dr. Thomson states that the theory of immunization by tuberculous milk "died years ago," I would invite him to read the authorities quoted on page 87 of Dr. P. D'Arcy Hart's recent report (Medical Research Council, Special Report Series, No. 164). Dr. Thomson has invited me to read a book on constitutional law! That invitation I decline, but if ever the opportunity offers I shall be very glad to accept his kind invitation to have a pleasant drive round Belfast.—I am, etc.,

London, W.8, Aug. 6th.

HALLIDAY SUTHERLAND.