economic fears, but when patients are carefully questioned it will usually be found that they have not felt well for some time before consulting a doctor. The symptomless extension of pulmonary tuberculosis, found sometimes radiologically among known patients, is another matter, and is explicable by the development of tolerance. Even here careful supervision will usually reveal symptoms and signs—e.g., increased pulse rate after exercise, loss of weight, higher blood sedimentation rate, and so on. It is incorrect also to state that by the time patients come for treatment the disease is in an advanced stage, unless the view is taken that all diagnosable tuberculosis is advanced. It is certainly the case that many persons suffering from tuberculosis are seen with definite symptoms but in whom minimal lesions are detected on *x*-ray examination.

Para. 2.—*X*-ray examination of the chest does not of itself necessarily detect tuberculosis, and this is certainly true of miniature screen radiography, which would no doubt be employed if *x* rays were used on a large scale. All that such an examination could do would be to indicate a departure from the normal, in which case a full *x*-ray and clinical examination should be made. Unfortunately, *x*-ray examination will not detect infection. There is good reason to believe that at the close of adolescence a substantial proportion of the population are infected with tuberculosis, the percentage steadily increasing throughout life. As the number notified or certified at death as suffering from tuberculosis is far less than the number infected, it is evident that a process of spontaneous cure takes place in the majority of those infected.

Paras. 4 and 5.—The statement that re-examination by *x* rays from time to time (each twelve months is quoted with approval in para. 3) is desirable shows that *x*-ray examination can only detect the abnormal when it is present, and is really a confession of its weakness and limitations. If a preliminary examination by *x* rays were made of entrants into industry, students, etc., and the persons kept under regular observation by a medical officer, it is probable that inspection by an expert medical officer, combined with comparative weight and temperature records, would do a great deal to detect the beginnings of disease, and not only tuberculous disease. Again, why should *x*-ray examination, if so useful, be dropped at the age of 18, as quoted with approval in para. 3?

Para. 8.—The last sentence is really a repetition of the last sentence in para. 1, and one or other might be deleted.

Para. 11.—Further experimental work to determine the most suitable type of apparatus is desirable before large-scale manufacture is begun.—I am, etc.,

Leigh, Lancs. GEORGE JESSEL.

Declining Population

SIR,—Everyone will regret that Sir Henry Brackenbury is no longer with us and able to reply to the letter of Dr. Percy Stocks (March 21, p. 394). Against the apparently reassuring figures of Dr. Stocks I would quote the Registrar-General. We find on page xii of his Preliminary Report on the last Census the following statements: "The present rate is definitely insufficient to maintain a stationary population in the future," and, "In recent issues of the Registrar-General's Statistical Review it has been suggested that a current birth rate of about 19½ per 1,000 would be necessary if a future decline in population were to be avoided. The actual level at the moment is 16% below this standard."

The number of the population at present is kept up by the large proportion of old people. It is obvious that eventually the number of children must be the deciding factor. In 1921, according to the records of the Education Office, the average attendance at school of elementary school children in England and Wales was 5,205,485; by 1938 this number had dropped by 678,784 to 4,526,701. A similar and even greater proportionate decline has occurred in private schools. How can we be optimistic in face of such figures as these unless remedies are found?

Dr. Stocks has misunderstood the object of those of us who have called attention to the fall in the birth rate. We do not say "nothing can be done to prevent it," but rather that something should be done. Methods of dealing with the trend of the birth rate require consideration as a whole, but more generous financial consideration to parents of families and extension of physical assistance such as home help to women of any class in all stages of child bearing and child rearing could be put into operation practically forthwith, and would, I believe, have some effect.—I am, etc.,

Eastbourne. W. G. WILLOUGHBY, M.D.Lond.

Diphtheria Immunization with A.P.T.

SIR,—I was greatly interested in the articles on immunization against diphtheria with alum-precipitated toxoid (March 7 and 14), and the authors are to be congratulated on the thoroughness of their investigation. Their findings are of the utmost value, and their recommendations with regard to dosage should be adopted immediately by all authorities responsible for diphtheria prevention.

In Oldham A.P.T. has been in use since January, 1936, two injections of 0.2 c.cm. being given at fortnightly intervals. This was subsequently increased to 0.5 c.cm. for each injection, and later the dosage was altered to 0.2 c.cm. and 0.5 c.cm., which dosage has been used for the last 18 months; the interval between injections remained unchanged until April, 1941, when it was increased to 4 weeks. Before 1940 only children under 8 years received A.P.T., but it has since been given to those under 12 years. During 1940 9 cases of diphtheria occurred in children who had received two injections of A.P.T., 1 within three months of immunization, 3 in the third year, and 5 in the fourth following immunization. As a result of this experience it was decided that all immunized pre-school children and immunized children in infant departments should receive a further "safety injection" of 0.2 c.cm. after admission to school or in their ninth year.

At the end of 1941, in the age group 1 - 15 years, 70% of children had been protected, and the following figures show the success that has been achieved by our methods:

Year	Diphtheria		Immunized Children contracting Diphtheria		
	Cases	Deaths	Total	Received Two Injections A.P.T.	Received Other Material or only 1 Injection A.P.T.
1936–7–8 (average per year)	273	17	—	—	—
1939	72	6	9	4	5
1940	72	7	15	9	6
1941	68	4	11	5	6
1942 (March 31)	9	0	2	1	1

It is essential that diphtheria immunization should be efficient, and unless it is the confidence of the public will be lost. The authors direct attention to the necessity for maintaining immunity where there is little diphtheria infection, and a "safety injection" is recommended during the fifth year and again during the tenth year of life. All children should be protected before or just after the age of 1 year, and welfare authorities should see that all parents are advised of the facilities in their area. Once children are immunized before entry to school it is a simple matter to arrange the "safety injections," which should be done through the school medical department. In many cases they can be combined with or immediately follow routine inspection of entrants and the 11-year group.—I am, etc.,

J. T. CHALMERS KEDDIE,
Medical Officer of Health, Oldham County Borough.

Post-war Planning and Winning the War

SIR,—The medical profession is being forced into the position of devoting far too much time, thought, and energy to post-war planning and far too little to winning the war. It is within the power of medical men to produce tremendous acceleration in the industries of war, by preventing wastage of man-power, minimizing incapacity periods, accelerating recovery from disease as well as injury, dealing with both psychological and physical handicaps, inspiring every patient with a sense of the urgency of his duty, maintaining rigid care in the issue of medical certificates exempting from service, stimulating, coaxing, and goading every man and woman to his or her maximum effort. Nearly two million accidents occur in this country every year, and millions of other patients are incapacitated by sickness. If the influence and inspiration of medical men succeeded in reducing the average incapacity period by only one week, the equivalent of a large army of new industrial workers would be

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