

physicist, and the manufacturer, and in Great Britain they had every reason to be grateful to the manufacturer, who had helped so much in the solution of many problems, especially in that of protection against the dangers arising from x -ray work. Dr. Melville expressed his appreciation of the activities of the Society of Radiographers and its president, Dr. L. A. Rowden. The toast of "The Guests" was proposed by Mr. Cuthbert Andrews. In a series of biographical miniatures he referred to Sir Squire Sprigge as the doyen of the medical Press. In reply, Professor J. C. McLennan gave an interesting account of the history of Röntgen's discovery and of his own activities in connexion with it at Toronto. Sir Squire Sprigge, who also replied for the guests, said that he had joined the staff of the *Lancet* at the end of 1895, and in November of that year Röntgen made his discovery. He had therefore been present at the accouchement of radiology, and had watched this promising infant grow. The development of the science of radiology had been remarkable. Samuel Weller's statements about the opacity of doors at the trial of Bardell *v.* Pickwick had at the time been perfectly correct, but they were now out of date. Ending on a more serious note, Sir Squire said that the debt owed to the early workers in radiology must never be forgotten.

CORRESPONDENCE

Colour-Blindness and Traffic Signals

SIR,—The danger from colour-blindness may be greatly minimized by a careful selection of the colours used in traffic signals. With the exception of the rare class of the totally colour-blind, all the partially colour-blind recognize some colours with ease and certainty. The colours recognized are different with each class of the colour-blind. A certain variety may fail with one test, but a man who is much more colour-blind may pass it. A man may fail to distinguish a certain red light, but distinguish with ease another red light which looks exactly the same to the normal-sighted. Another variety may distinguish with ease a green light, but fail to recognize another green light which appears very similar to the normal-sighted.

The old terms "red blindness," "green blindness," and "red-green blindness" are quite erroneous, and should be discarded, as stated by a committee of the British Association. As is well known, 50 per cent. of the dangerously colour-blind pass the wool test. A similar result is found with other tests which are not constructed to detect all varieties of colour-blindness. I have often given a demonstration when I have shown that the candidate will fail with a number of tests and pass completely with several others. A colour-blind person does not guess unless he is in obvious difficulty, and this is at once apparent. Unlike at sea, the motorist is helped by the position of the lights, as he can note the order in which they come on or go off, and his distance from them is comparatively short.—I am, etc.,

Board of Trade, S.W., Dec. 9th. F. W. EDRIDGE-GREEN.

Chilblains

SIR,—The season tempts me to draw attention to the value of thyroid (extract. *sicc.* grain 1/4 to 1/2 t.d.s.) in the treatment of chilblains. Pages are devoted, in the appropriate textbooks, to a variety of elaborate and often unpractical measures for this malady, but almost without exception no mention is made of this simple and effective remedy. In the majority of cases a small dose suffices to relieve the patient, and this dose should be taken fairly regularly throughout the winter. I am not blind to the complexity of the factors which may contribute to the development of chilblains, but it has always seemed

manifest to me—in clinical features, distribution, and seasonal incidence—that one important factor is a sluggish peripheral circulation. The effect of thyroid in non-toxic doses is to increase the rate of blood flow through the vessels. I believe that others will confirm my experience that this rational therapy gives eminently satisfactory results—which cannot be claimed for any other measure, including calcium therapy.—I am, etc.,

Leeds, Dec. 14th.

JOHN T. INGRAM.

Eugenics and Mental Disease

SIR,—Lord Horder, in his address on genetics and the doctor, in the *Journal* of December 9th (p. 1057), propounds two questions, to which he himself replies, "Can there be much doubt that we would find the answer in the study of genetics?" I have grave doubts, and would suggest alternative answers which Lord Horder did not apparently consider in his address.

1. "Why does the neurasthenic state dog some people's lives from the very start?"—I would say it does *not* do so, if Lord Horder refers to "neurasthenic" in the psychopathological sense, and if by "the very start" he means infancy.

2. "What do they [patients] really mean when they say, 'I was always very highly strung'?"—I would suggest that they mean by *always*, "ever since I can remember." This may mean puberty or the age of first schooling; rarely does clear memory refer back to the era when character and primary interest-bents are formed. Further, these patients have a need to disclaim responsibility and awaken concern in others, so that the notion of themselves as struggling under an hereditary handicap makes a strong appeal, though it does not help them to get well.

The argument that a mental illness must be hereditary because (a) "it was always there," and (b) "there is no other known cause," is valid only on the assumptions that we have made a thorough investigation of the first five years of mental development and of the child's family environment, and that we know all the causes of mental illness. Such investigation as has been made does not point to the germinal inheritance of mental disease, while our aetiologies of mental disease certainly do not permit us to argue "by exclusion."

The eugenists in general seem to overlook the unique character of mental functioning, inasmuch as it is predominantly conditioned by the environment and life history of the individual, whereas the functions of all other organs are almost entirely conditioned by inheritance. The latter are certainly stimulated by a relatively small variety of nutritional influences; the former (mental function) is moulded by the infinite permutations of culture and social contacts. The brain does not excrete thought just as the liver excretes bile, and arguments based on the causation or inheritance of organic disease cannot be transferred to those individualities of social behaviour and interest which are metaphorically called mental "disease." The whole of the genetic study of mental disease has been vitiated by this oversight, for the specially high incidence of these troubles in certain families can be interpreted in two alternative ways, only one of which the eugenists appear to consider. As I have pointed out elsewhere (*Journ. Neurol. and Psychopathol.*, May, 1922), there is a psychic mode of transmission of mental characters by imitation, suggestion, faulty rearing, etc., which must cause a high percentage of psychotic reactions in certain stocks. Until this "family tradition" has been evaluated as a factor in psychopathogenesis, we cannot say that there is any evidence of the inheritance of mental disease.—I am, etc.,

London, W.C.1, Dec. 9th.

IAN D. SUTTIE.