by the Chairman's very pertinent remark about the congenital absence of the love of life. But if that was so, why was insanity not more common? As to the number of suicides in Glasgow there were no data, as far as he knew, from which a proper conclusion could be arrived at. He thought that the younger generation at present on a whole were stronger and more active and perhaps a little bigger than those before them. He did not think that the number of suicides increased in the degenerating classes. He thought that suicides were much more common amongst the educated classes. He thanked those present for having listened to his paper.

(1) "Le Suicide: Étude de Sociologie," par Émile Durkheim, Paris, 1897, p. 86. —(2) "On Suicide in England and Wales," *Journal of the Statistical Society*, March, 1886, pp. 111, 112.—(3) "Suicide and Insanity," by S. A. K. Strahan, M.D., Barrister-at-law, London, 1893, p. 186.—(4) "Ueber Selbstmord und Selbstmordversuch bei Geisteskranken," von Dr. Shuzo Kuré, *Jahrbücher für Psychiatrie*, Band xvii, Heft 3, 1898.—(5) London, 1885, p. 127.—(6) Op. cit., p. 95.—(7) *Psychiatrie: ein Lehrbuch für Studirende und Aerzte*, sechste Auflage, Leipzig, 1899, Band i, S. 286.—(8) "Influenza som Aarsag til Sindssygdom," *Historisk-Klinisk Undersögelse af H. Fehr, Reservelaege ved Sinds-sygeanstalten i Viborg*, Copenhagen, 1898.—(9) *Edinburgh Medical Journal*, December, 1895, and February, 1896.—(10) See a paper by Dr. Mossa in the *Irrenfreund*, Nos. 1 and 2, 1891, and one by myself entitled "Pessimism in its Relation to Suicide," in the *Alienist and Neurologist*, April, 1892.

Unna's Polychrome Methylene Blue Method. By T. Aldous Clinch, M.D.

In the *Neurologisches Centralblatt* for July 15th, 1898, Drs. Luithleu and Sorgo describe a method of staining the central nervous system, which at that time I believed to be new. However, Dr. Wright, in the summer number of *Brain* for the same year, and therefore about the same time, referred to, without describing the same method, so that it is obvious that it had already claimed some attention from neurologists.

The great advantage which, in my opinion, has been justly claimed for this method, is that the material to be examined may be hardened in any of the following liquids: Müller's fluid, formalin, Heidenhain's sublimate solution, alcohol, or mixtures of Müller and formalin, or formalin and spirit, or chromic acid, or other chromium salts with formalin and spirit.

Thin sections having been cut—formalin-hardened pieces on the freezing microtome, and Müller ones, especially if over-hardened after celloidin-embedding on the sliding microtome,—they are stained for twenty-four hours in the cold, or for a few minutes with heat, in polychrome methylene blue. In order

https://doi.org/10.1192/bjp.45.190.466 Published online by Cambridge University Press

to ensure permanence, they are now left in distilled water for twenty-four hours, only one change of water being made. A glycerine-ether mixture is used to decolourise, and the process is best carried out on the slide: the length of time required for this varies with the hardening agent and the length of time that hardening has been going on; it varies from half to ten minutes. The decolorant being poured off, it is then very thoroughly removed by absolute alcohol, which must be frequently changed; the alcohol in turn is removed by origanum oil likewise frequently changed. At this stage blotting-paper may be used with advantage between each renewal of the clearing agent. When, by these means, both the glycerine-ether mixture and the alcohol have been thoroughly removed, the specimen is mounted in balsam.

The methylene blue and the glycerine-ether mixture, the formula of which is not published, can be obtained from Grübler of Leipsig.

I have preparations, now nearly six months old, which show every detail as clearly as when first mounted; but in this, as in all other cases where aniline dyes are used, I keep the specimens in boxes and avoid exposure to light.

Formalin-hardened specimens have acquired such a bad name with regard to permanence that one looks with special interest to see whether preparations stained by this method will be more permanent than the ordinary Nissl specimen is said to be. I must say, however, that though the great bulk of formalin-Nissl preparations fade, yet a few do not do so, and probably with more experience we shall be able to render them all more permanent. The oldest specimens that I have prepared by this method (U. P. M. B.) were hardened for a fortnight in Müller-formalin, and afterwards hardened for a month in Müller. No alcohol was used.

Coming then to the appearance of the sections with different hardening agents, we find that formalin preparations stain with great brilliancy when the hardening has not been too long; but even when it has lasted as long as ten months good results can still be obtained, though in such a case the ground substance of the cells becomes slightly tinted, and the axis cylinders and neuroglia cells and fibres stain pale blue. The Nissl chromatophile bodies stain a blue purple, closely resembling that given by thionin. The myelin sheath of the nerve-fibres occasionally

https://doi.org/10.1192/bjp.45.190.466 Published online by Cambridge University Press

stains red, a result possibly due to water which has not been thoroughly removed. In alcohol and correctly hardened formalin preparations, there is almost complete decolorisation of everything but the nerve-cells.

Müller-formalin preparations show the Nissl granules perfectly in blue, but, in addition, stain the axis cylinders a deep blue and the myelin sheaths a lighter blue; the neuroglia and blood corpuscles stain a greenish tint. Such preparations give an appearance like a poor Weigert-Pal section, but for the study of the grey matter they are much superior. Transverse sections of nerve-fibres show the outer part of the myelin deeply stained as in a Weigert-Pal specimen, but it is clearly seen to be composed of a honeycomb-like structure, probably the same as that known as neuro-keratin.

Addendum (June 3rd, 1899).—At Chester, in February, I expressed the opinion that the nerve-cells, in preparations hardened in Müller's fluid, showed the Nissl granules extremely well; that this is an error further experience has convinced me. I have experimented in numerous ways with preparations of canine and human nerve-cells of various regions with complete failure in this respect. Drs. Leuthlen and Sorgo, however, have distinctly stated that these preparations did so stain, and the first specimens with which I experimented myself supported their view. One of these was shown at the Chester meeting. The error had crept in through an omission in my notes, which I hope may be considered excusable. The specimen was placed for twenty-four hours in formalin, but at the end of that time I changed my mind with regard to the fitness of this reagent for the purpose I had in view, and placed it in Müller's fluid without making any note of the previous stay in formalin. Thus the cells were fixed in the twenty-four hours, and the after-hardening for several months in Müller has not in any way produced deterioration; moreover I incline to think that specimens so prepared present points of superiority over those hardened in the usual way of mixing equal parts of formalin 10 per cent. and Müller's fluid.

Dr. Hamilton Wright has been good enough to draw my attention again to decolourising with aniline alcohol. This reagent, when used for sublimate or alcohol-hardened preparations, is slow and tedious, though giving good results, and I had previously discarded it on that account. I find that for formalin specimens of the cortex it is superior to the glycerine-ether mixture, which acts too vigorously, and that excellent results can be obtained by its means.

The Care of the Epileptic.

By JOHN R. LORD, M.B., Assistant Medical Officer, London County Asylum, Bexley, Kent; late Assistant Medical Officer, London County Asylum, Hanwell.

Introduction.

IN introducing the subject upon which I have the honour to address you, I am actuated rather by a desire to raise a dis-

https://doi.org/10.1192/bjp.45.190.466 Published online by Cambridge University Press