matter, and portions of the fractured bone were removed. The wound healed without the development of any symptoms of meningitis, and a few days after recovering consciousness the patient was able to resume his usual life; he suffered, however, from some degree of aphasia, and from a more persistent difficulty in writing. Five months after the injury he had an attack of convulsions, probably connected with the renewal of his drinking habits. The position of the cicatrix would indicate that the convolutions injured were the first and second frontal, and in the absence of symptoms referable to the motor cortex it appears likely that there was no extension of inflammatory trouble beyond the area directly damaged.

The persistent disturbances of brain function produced by the lesion are summed up by Roncoroni as follows: Partial verbal amnesia, shown in failure to name familiar objects which the patient recognises perfectly, alterations in the psychic content of what he writes spontaneously, almost total disappearance of mimetic movements of the face, loss of aptitude to perform even the most simple arithmetical operations, failure of volitional energy and initiative. No other alterations in nervous function are observable.

Discussing the case, Roncoroni assumes for the psychic arc the following stages:

(*a*) Constituting the afferent branch: (1) pure, primary sensations, having their seat in the primitive sensory areas; (2) complex sensations of higher evolution, as, *e.g.*, the symbolic representations in written language.

(*b*) Constituting the efferent branch of the reflex arc: (1) re-evocation of the psychic image corresponding to the movement required, as, *e.g.*, in speaking it is necessary to associate the several images, visual, auditory, etc., relative to the object, with the verbal image corresponding to it; (2) re-evocation of the sensory image corresponding to the movements required; (3) motor impulse proper. The stage in this diagrammatic view which the author would locate in the prefrontal area, is the third or preparatory process in immediate relation with the more highly evolved motor functions. This theory would explain why lesions of the prefrontal area do not produce either gross disorders of motor function or distinct disturbances of sensation or intelligence, and why also the results of experimental interference with this area are negative.

W. C. SULLIVAN.

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3. Etiology of Insanity.

Inquiry into Race and Heredity [*Ueber Geschlechterforschung und Erblichkeits hygiene*]. (*Allgem. Zeits. f. Psychiat., B. lxiii, H.* 1.) *Lundberg.*

Dr. Lundberg has been making some investigations in a quiet district in the south of Sweden where the family history could readily be traced. In the last half of the eighteenth century, the race seemed to have been flourishing, and many of the inhabitants gained distinction, some becoming members of Parliament. At the beginning of the nineteenth

century, the times were hard, the people took to drinking, and symptoms of degeneration began to appear, which were probably intensified by numerous close marriages. Now, a hundred years later, the race is in such a sad condition that it looks as if it might become extinct in some places. Alcoholism and consanguine marriages still prevail. There is still great fertility; it is not uncommon to find from eight to ten children in a family. The parents do not welcome this, and the mothers continue to nurse their infants for two or three years, which, however, does not always act as a preventive. While nursing they sometimes use too much alcohol, and often drink strong coffee adulterated with chicory. During the last ten years, there has been a considerable emigration to America and Australia, and as it is generally the healthy individuals who leave; those of lesser vigour are left behind to continue the race. Dr. Lundberg has noted the tendency in some families to regeneration, and the study of these rising families is of even greater interest than the observation of the degenerated ones. Certain nervous diseases, though unlike in symptoms, seem to have a relation to one another; for example, one frequently finds in the same family the children affected by epilepsy, dipsomania, and migraine. On the other hand, periodic psychosis, chronic mania, and dementia præcox are seldom met with in the same family. To have a well-grounded theory about heredity one must proceed slowly, examining individual after individual, family after family, and generation after generation. For a research of this kind Sweden offers many opportunities. The race is unmixed, speaking only one language; the population is in many places stationary in the country, so that a great many members closely akin may be met with. In many places, the weeds have grown and flourish unchecked, so that they choke the good seed. Dr. Lundberg adds that there are whole states in Europe in which degeneracy takes more and more the upper hand. He does not mention what these countries are, but some German writers have assumed that this is the case with France, of which we think there is no sufficient proof. WILLIAM W. IRELAND.

Bischoff on Family Insanities [*Ueber familiare Geisteskrankheiten*] (*Jahrbuch f. Psychiat. und Neurol., B. xxvi, H. 2, u. 3.*) *Bischoff.*

Dr. Ernst enumerates as hereditary nervous diseases Freidreich's ataxia, cerebellar ataxia, the family form of spastic spinal paralysis, progressive muscular atrophy, amaurotic family idiocy, Huntington's chorea, and myotonia congenita (Thomsen's). The subject of his paper under consideration is that form of insanity affecting several members of the same family. Bischoff separates induced insanity from those cases where several members of a family become insane. Being under the influence of one another in induced insanity, the derangement often subsides when the secondary member is withdrawn from the powerful influence of the other. He cites instances, where, without any influence of the one brother or sister being exerted upon the other, they become insane often about the same period of life. This sometimes occurs with twins, of which some instances have been cited. In such cases, we are forced to believe that the insanity is hereditary. Vorster and Sioli held that manic-depressive insanity and dementia