

He concludes by mentioning a case of his own, in which both verbal and common-motor hallucinations, present in abundance, were ascribed by the patient to outside agencies, and believes that psycho-motor hallucinations are often thus exteriorised. A. W. WILCOX.

*Mirror Writing [La scrittura speculare]. (Il Manicomio, anno xix, No. 1.) Tomasini.*

In this paper, the author records rather summarily a clinical observation of mirror writing, and in connection therewith gives a short critical review of the literature of the subject.

The observation referred to a patient æt. 23, an hereditary degenerate suffering from cocainic insanity characterised chiefly by mental debility without much sensory disturbance. He was a person of superior education, and at the time of his illness was a student of law. His aptitude for mirror writing was discovered accidentally just before his discharge from the asylum; he was trying for amusement to write with the left hand, and, after some unsuccessful efforts to produce the letters in the ordinary manner, he suddenly and in an apparently involuntary way began to trace the lines well and rapidly in mirror writing. He was positive that he had never written in that fashion before. He was neither left-handed nor ambidextrous in respect of any fine movements. A *fac-simile* of his mirror writing given in the paper shows a clear facile hand differing somewhat from his ordinary caligraphy.

The author points out that the sudden manifestation of this aptitude in a right-handed adult not suffering from any functional incapacity of the right hand is rather rare. The phenomenon has been more often met with in hemiplegia with some degree of dementia, in left-handed persons and in children. To explain its occurrence in cases such as that which he records, the author supposes that Exner's graphic centre is represented in both hemispheres, but that normally the left centre is dominant; when for any reason—in this case the paralysing effect of the intoxication—the left hemisphere has lost its functional supremacy, the right graphic centre may come into play. In this way, if, as Abt has pointed out, there are no impeding conditions—*e. g.*, too vivid visual images of the letters to be traced,—mirror writing may result, since the abduction movements which it involves are the true homologues for the left hand of the motions of the right hand in ordinary writing.

W. C. SULLIVAN.

## 6. Pathology of Insanity.

*On the Alterations in the Nerve-fibres of the Spinal Cord and the Spinal Ganglia in some Forms of Chronic Insanity [Sulle alterazioni delle fibre nervose spinali e dei gangli intervertebrali in alcune forme di psicosi croniche]. (Ann. di Freniatr., Giugno, 1903.) Burzio.*

Dr. Burzio has made a laborious investigation of the state of the spinal cord in fifteen cases, which include imbecility, epileptic

insanity or idiocy, primary dementia, melancholia, senile insanity, and secondary dementia. He has not made a special study of the cord in general paralysis and pellagrous insanity, as this has been already carefully examined. In the beginning of his contribution Dr. Burzio cites the previous observations of Stewart, Feist, Mondio, and Petrazzani. In his important work "On the Anatomical and Pathological Differences between Primary and Secondary Degenerations of the Nervous Centres," which appeared in the *Rivista Sperimentale di Freniatria*, vol. xxi, 1896, p. 788, Vassale has shown the general characters of degeneration of the spinal cord in dementia, and admitted their primary nature. After detailing his methods of investigation and preparation, Dr. Burzio describes his fifteen observations. In three of these, two cases of melancholia and one of senile insanity, no lesions were found in the spinal cord; in the others some alterations were found, the most common being degeneration of Goll's tract (eleven times), occasionally combined with degeneration of the crossed pyramidal tract (three times). Hypertrophy of the neuroglia was rare. Degeneration of the nerve-cells of the spinal ganglia was also frequently met with. These alterations in the nerve-fibre of the spinal cord and of the spinal ganglia were sometimes associated with atrophy of the cerebral convolutions and of the cells of the grey substance of the spinal cord, and were often accompanied by a diseased condition of the liver, kidneys, and spleen.

Vassale has laid down that in secondary degenerations there occurs a destructive process, both in the medullary sheath and in the axis-cylinders, which soon leads to a total disappearance of the nerve-fibre; while in the primary degeneration there is a gradual disappearance of the myelin, while the axis-cylinder persists for a much longer time. As the result of his operations Burzio concludes that the degenerations he has noted in the spinal cord of the chronic insane are primary simple atrophies. His view is confirmed by some destructive lesions practised upon dogs. Burzio also finds these lesions analogous to those observed in pellagra, and after intoxication with some drugs and bacteria. This, he thinks, confirms the hypothesis of the toxic origin of the insanities. He regards the degenerations observed in the liver, kidneys, and aorta as further proofs of the action of a toxin within the system.

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*The Pericellular Nerve-mesh in the Cortex [L'intreccio nervoso pericellulare nella corteccia cerebrale]. (Ann. di Freniatr. Giugno, 1903. Roncoroni.*

Entirely distinct from the radiating and tangential fibres of the cortex cerebri Professor Roncoroni describes a mesh of very fine fibrils surrounding the nerve-cells and their protoplasmic prolongations, and sometimes winding over from one neuron to another.

Nissl admits the existence of a continuous fine net of elementary fibres which unites all the nerve-cells in the grey substance of the brain. The fibrils described by Roncoroni are also to be found in the white substance and in the medulla, pons, and crura cerebri, though less abundantly. They are scarce in the olfactory bodies, and cannot be traced in the cerebellum, in the retina, or in the ganglia of the sympa-