PART III.

HALF-YEARLY REPORTS.

REPORT ON FORENSIC MEDICINE.

By H. C. Tweedy, M.D., Dubl.; M.K.Q.C.P.; Diplomate in State Medicine, Trin. Coll. Dubl.; Fellow and Examiner Royal College of Surgeons; Physician to Steevens’ Hospital.

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I. PETTENKOFER ON "POISONING BY ILLUMINATING GAS."

In the January number of Nord und Süd the distinguished Professor of Hygiene in Munich has given the results of recent observations on this subject.

Orfila’s experiments, and subsequently Gruber’s, in Pettenkofer’s laboratory, have demonstrated that the poisonous properties of coal-gas are due to an admixture of carbonic oxide in the proportion of about 10 per cent. Carbonic oxide affects the blood corpuscles by displacing the oxygen in them and forming a combination with their hæmoglobin. A mixture of 1 part of carbonic oxide per 1,000 of air produces decided symptoms of poisoning, and a mixture of over 4 per 1,000 causes death within 60 minutes. Primarily carbonic oxide appears to affect the blood, but the symptoms are plainly due to the action of the altered blood on the brain and spinal cord. The respiratory centre in the brain appears to be affected at the onset; this is succeeded by weakness and uncertainty of voluntary movements, with stupefaction, followed in severe cases by convulsions and death.
Out of twenty-two instances recorded in Munich, twenty occurred during the winter—a fact which Pettenkofer explains by the supposition that the heated dwellings have a tendency to draw up the soil air into them after the manner of cupping-glasses. He also shows that an atmosphere containing 1 per cent. of coal-gas is poisonous, and that when it rises to between 4 and 6 per cent. life is in great danger.

M. Leudet (Jour. de Méd., Oct., 1883) states that the first effect of the inhalation of charcoal fumes (CO and CO₂) is to produce a condition of unconsciousness, due to their action on the cerebral nervous system, but that transient paralytic affections may be brought about, should the peripheral nervous system be acted on.

II. SUICIDE BY TWICE WOUNDING THE HEART.

Dr. Ramikh records the following case in the Proceedings of the Tula Medical Society, 1882:—A medical assistant inflicted on himself with a dagger six wounds in the left side of the chest. Four of these wounds were found to be only superficial, but the remaining two wounds—one in the fifth intercostal space, and another in the sixth—penetrated into and through the wall of the left ventricle. They were parallel to each other, and almost perpendicular to the long axis of the ventricular cavity, and measured in length nearly one inch each. Dr. Ramikh thinks that it is the first published instance of a suicidal double wound of the heart.

In contrast with this case may be mentioned another, reported in the Edinburgh Medical Journal. The patient was a lady, aged fifty-six, with a strong suicidal tendency. A large shawl-pin, 3 3/8 inches long, was buried in the chest for 2 3/4 inches, at the situation of the apex beat. The symptoms which followed were unconsciousness, widely dilated pupils, rolling of the head, paralysis of the left side, feeble radial pulse on both sides, and slight vomiting. Removal of the needle was followed by rapid recovery. Though the position of the wound would render it probable that the heart had been penetrated, it is not stated that any motion was communicated by the heart to the needle.

III. CEREBRO-SPINAL CHANGES IN STARVATION.

Dr. V. Mankovsky, in the St. Petersburg Inaugural Dissertatation, 1882, publishes the results of a series of interesting experiments on rabbits and dogs. One group of the animals was submitted to absolute fasting; the second group was allowed to drink; the third was only underfed; and in the fourth the