

moral life; and in not a few cases finally the point of distinct aberration is reached. This usually consists of a depressed state, with suicidal tendencies, occasionally with violent excitement and hallucinations;" and he sums up his views with the statement that "In most cases the protracted use of morphia in large doses is followed by psychical alterations of a lasting nature, which may amount to decided insanity."

With these opinions we are not in full accord. Our experience has been much more favorable. We have observed many cases of opium addiction, among them those who had taken morphia in large amounts for several years, yet the number with marked mental derangement has been small. Depression has been common; so, too, irritability of temper; but we recall only one instance in which suicidal or homicidal tendency existed, and but a single case that we deemed "decided insanity." Far oftener physical symptoms presented. In some form, these have been almost constant, so that, on this score also, our observation has been at variance with Obersteiner.

Regarding treatment, one point deserves special mention—that is, the effect of Indian hemp in large doses. In this instance it quite maintained the power ascribed to it by Moreau of removing hallucinations. Again and again, often by the patient, was this noted. Its hypnotic action also was very satisfactory. As a soporific, in ex-opium habitués, cannabis indica is of great value. They may be peculiarly susceptible to its good effect, but certain it is we know of nothing equalling it, and employ it almost exclusively. For details regarding its use, *vide* "The Treatment of Opium Addiction," *Courier of Medicine*, Dec., 1884. Finally, the history of this case is of value as warranting hope of entire recovery under conditions that, seemingly, offer little promise of success.

COCAINE AS A LOCAL ANÆSTHETIC.

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The surprising effects which have been attained during the last few weeks, with the muriate of cocaine, has led me to collect some facts in regard to it, for the benefit of the general reader.

Cocaine hydrochlorate is prepared from the

leaves of the *erythroxylon coca*. The plant grows wild in the mountains of Peru and Bolivia in South America, where it is used instead of tobacco. It is estimated that thirty millions of pounds per annum, are consumed by the natives who chew the leaves made into a ball mixed with lime. When used in moderate quantity, it is said to increase nervous energy, enliven the spirits, and enable the person to bear bodily exertion, exposure, and want of food to a surprising degree.

The physiological action of the alkaloid (cocaine formula $C_{17}H_{21}NO_4$) is apparently identical with that of theine, and caffeine. The alkaloid was discovered in 1855. In large doses it produces cerebral excitement, complete paralysis of sensibility, tetanic spasms, and death. It paralyzes the entire posterior column of the spinal cord and the entire system of peripheral sensory nerves.

The hydrochlorate of cocaine has been used for over two years for the purpose of reducing the sensitiveness of the larynx, but it was not until about the first of September last that its anæsthetic effect upon the conjunctiva and cornea was discovered. The honour of this discovery is due to Dr. Koller, a young physician of Vienna. The discovery was announced at the meeting of the International Ophthalmological Society, held in Heidelberg September 15th and 16th, the report of which appeared in the *N. Y. Medical Record*, October 11th, and in the *Ophthalmic Review*, a little later. Since then the anæsthetic properties of cocaine in ophthalmic as well as in some other branches of surgery has been very thoroughly tested, and with the most gratifying and surprising results. Up to the present, the only salt of cocaine used is the hydrochlorate which is used in solution of from 10 to 20 grains to the ounce. For producing anæsthesia of the conjunctiva and cornea, from two to four drops are applied every three or four minutes until from eight to twelve drops are used. Partial anæsthesia commences within two minutes of the first application, reaches the maximum in about fifteen minutes, and disappears in twenty-five or thirty minutes. Under its influence, the eye-speculum may be introduced, the conjunctiva seized with the fixation forceps, the eyeball fixed in any position, and all the ordinary operations may be performed without pain. When the solution is applied only superficially the anæsthesia does not seem to extend to the ocular muscles or to the iris. Before perform-