

Iodide of quina, taking 156.55 grains of the alkaloid, instead of 164.55. The quantity of brown resinous-like matter is less than in the preparation of the iodide of quina; but it closely resembles it in its physical character, its insolubility in alcohol. The solution is nearly inodorous, has the bitter taste of the cinchonia, and a rather deeper straw colour than the solution of iodide of quina. It is limpid, and answers to the same tests as the iodide of quina.

I have not yet crystallized either of these salts, but I shall do so, and pursue my investigations both respecting their chemical characters and their medical influence, and lay the results before the Society as soon as my time will permit me.

The three other iodides made by Mr Blackwell, are those of *fibrin*, *albumen*, and *gelatin*. I will not anticipate his own account of them, and of many other compounds of iodine and organic bases which he has formed, but merely exhibit them, and demonstrate by reagents the presence of both the components in each of them. All of them are limpid, inodorous, and tasteless, and in my opinion, are likely to prove admirable means of conveying iodine into the system. I have prescribed the iodide of albumen in one case of eczema; and were it proper to draw an inference respecting its remedial value from a solitary case, I should say, with decided success. The nature of these compounds offer new matter of investigation to the chemist, and most probably many of them may display more valuable therapeutical powers than any of the preparations of iodine already in use.

Lancet, March 15th, 1845.

ON THE LIQUOR HYDRIODATIS ARSENICI ET HYDRARGYRI.

By M. DONOVAN, Esq., Dublin.

"Triturate 6.08 grains of finely levigated metallic arsenic, 15.38 grains of mercury, and 50 grains of iodine, with one drachm measure of alcohol, until the mass has become dry, and, from being deep brown, has become pale red. Pour on eight ounces of distilled water; and after trituration for a few moments, transfer the whole to a flask; add half a drachm of hydriodic acid, prepared by the acidification of two grains of iodine, and boil for a few moments. When the solution is cold, if there be any deficiency of the original eight ounces, make it up exactly to that measure with distilled water; finally, filter. The theory of this process need scarcely be adverted to. By the long-continued trituration of arsenic, mercury, iodine, and alcohol, the metals are converted into iodides, which combine. The mass, by solution in water, is converted into anhydriodate of arsenic and mercury. The quantities of the two metals are so adjusted, that when converted into protoxides by decomposition of a portion of the water in which they are dissolved, there will be eight grains of protoxide of arsenic, and sixteen of protoxide of mercury. The quantity of water is such that each drachm measure of the solution will contain exactly one-eighth of a grain of protoxide of mercury. I conceive that the quantity of mercury ought to be double that of the arsenic, in order to ensure a slow and moderate, yet adequate mercurial action, along with the proper effect of the arsenic. Of this *liquor hydriodatis arsenici et hydrargyri*, each drachm measure consists of—water, one drachm; protoxide of arsenic, one eighth of a grain; protoxide of mercury, one-fourth of a grain; and iodine (converted into hydriodic acid) four-fifths of a grain. The colour of the solution is yellow, with a pale tinge of green; its taste is slightly styptic. It cannot be properly conjoined with tincture of opium, or with sulphate, muriate, or acetate of morphia; for all these produce immediate and copious precipitates in it. Hence, if opiates are to be used during the exhibition of this arsenico-mercurial compound, they must be taken at different periods of the day. Tincture of ginger produces no bad effect.

The following formula is proper:—

R: Liquor Hydriod Arsenici et Hydrargyri, Drachmas duas;
Aqua Distillate, Uncias tres et semisse;
Syrupi Zingiberis, Semi-unciam. Misce.
Divide in haustus quatuor. Sumatur unus mane nocteque.

Thus, one-sixteenth of a grain of protoxide of mercury would be taken in each dose, along with two-fifths of a grain of iodine, which, being in the state of combined hydriodic acid, will be much diminished in energy of medical effect. This is no doubt the proper dose to begin the exhibition of arsenic with, but it will soon be necessary to increase it. The division into draughts is

here necessary; first, to insure accuracy in the dose, so essential in the case of this active medicine; and, next, to prevent injury to the ingredients by the use of a metallic spoon as a measure;—the general way in which, unfortunately, the dose of a medicine is determined.—*Braithwaite's Retrospect*.

ADULTERATION OF SULPHATE OF QUININE, AND A METHOD OF DETECTING IT.

The sulphate of quinine of commerce is very frequently adulterated with *salicine*. If the proportion of the latter alkaloid present be half, or even one-fourth, the fraud may be detected by the addition of concentrated sulphuric acid, which produces, with salicine, a characteristic red colour. But if no more than a tenth of salicine is mixed with the sulphate of quinine, this red colour is not developed by the addition of sulphuric acid. In order to detect the presence of salicine in this or less proportions, this alkaloid must be isolated. For this purpose, take three or four grains of the suspected sulphate of quinine, and pour on it about six times its weight of concentrated sulphuric acid, which dissolves the salt, and if salicine be present, forms a solution of a brown colour, just like sulphuric acid soiled by some vegetable matter. To this add carefully and gradually some distilled water, until a white precipitate appears. This will probably be salicine, which will not dissolve in a moderately dilute acid solution of sulphate of quinine. Filter the liquid, and collect the precipitate on a watch glass, and it will now produce, upon the addition of concentrated sulphuric acid, the bright-red colour characteristic of salicine. If too much water be added, the precipitate will dissolve, and only a loose gelatinous precipitate will form, very difficult to separate.—*M. Feltier, Journal de Chimie Medicale*.

PHYSIOLOGY.

ON THE REFLEX FUNCTION OF THE BRAIN.

(From the *British and Foreign Medical Review*, for Jan. 1845.)

By T. LAYCOCK, M.D. Physician to the York Dispensary, &c.

(Read at York, before the Medical Section of the British Association for the Advancement of Science, on 28th Sept., 1844.)

Since it has been generally acknowledged that the brain is the organ of mind, the study of its physiology or laws of action, has acquired a surpassing interest, for whatever men do, in the most comprehensive sense, is connected with its functions. It is, however, as elucidating the nature and treatment of insanity, that its physiology is most interesting to the Physician.

A knowledge of the laws and mode of action of this important organ can only be acquired by scientific observation and induction, and it is encouraging and pleasing to know that the multitude and variety of facts from which inductions may be made are proportionate to the difficulties to be overcome. I am not alluding to mental philosophy, but to the advances already accomplished in comparative physiology, which shows us that the structure and functions of the nervous system in all animals are subject to the same laws of development and action; that a continuous and harmonious whole is formed out of the multitudinous and dejected parts; and that varied and dissimilar as they appear, each may be made to illustrate the other.

Four years have elapsed since I published my opinion, supported by such arguments as I could then state, that the brain, although the organ of consciousness, was subject to the laws of reflex action, and that in this respect it did not differ from the other ganglia of the nervous system. I was led to this opinion by the general principle, that the ganglia within the cranium being a continuation of the spinal cord, must necessarily be regulated as to their reaction on external agencies by laws identical with those governing the functions of the spinal ganglia and their analogues in the lower animals. And I was confirmed in this opinion by finding, after the investigation and collocation of known facts, that observations and arguments like those satisfactorily adduced in proof of the existence of the reflex function of the spinal ganglia, may be brought forward in proof that the cerebral ganglia have similar endowments. In the present paper I purpose to give these proofs connectedly. I must premise, however, that I entered upon my undertaking with considerable hesitation. I felt deeply the magnitude of the subject, and the important results to