



Method of preparing denarcotized laudanum

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METHOD OF DETECTING MINUTE QUANTITIES OF OPIUM, IN
SOLUTION: BY R. HARE, M.D.

Through the discoveries of Sertuerner, it is now well known that opium contains an alkaline substance called morphia, to which it owes its efficacy in promoting sleep and relieving pain: also, that this alkali is naturally in union with an acid called meconic, which produces a striking red colour with solutions of red oxide of iron. Nevertheless, this property has not been proposed as a means of detecting opium; which has probably arisen from the circumstance that the meconate of iron does not precipitate. I have, however, contrived a method by which a quantity of opium not exceeding that contained in ten drops of laudanum may be detected in a half-gallon of water.

My process is founded on the property which meconic acid has of precipitating with lead. Hence, by adding a few drops of acetate of lead to any infusion, containing any quantity of the drug in question, not more minute than the proportion above mentioned, an observable quantity of the meconate of lead falls down. The precipitation, where the quantity is small, may require from six to twelve hours, and may be facilitated by a very gentle stirring with a glass rod to detach the flocks from the sides of the recipient, which should be conical, so as to concentrate them during their descent. The meconate being thus collected at the bottom of the vessel, let about thirty drops of sulphuric acid be poured down on it by means of a glass tube. Let this be followed by as much of the red sulphate of iron. The sulphuric acid liberates the meconic acid, and thus enables it to produce, with the iron, the appropriate colour which demonstrates the presence of that acid, and consequently of opium.

EASY MODE OF OBTAINING MECONIC ACID: BY R. HARE, M.D.

If to an aqueous infusion of opium we add subacetate of lead, a copious precipitation of meconate of lead ensues. This being collected by a filter, and exposed to sulphuretted hydrogen, meconic acid is liberated. The solution is of a reddish amber colour, and furnishes by evaporation crystals of the same hue. A very small quantity produces a very striking effect in reddening solutions of peroxide of iron.

Instead of sulphuretted hydrogen, sulphuric acid may be used to liberate the meconic acid. The presence of the former, in excess, does not seem to interfere with the power of reddening ferruginous solutions; but any excess of sulphuric acid may be removed by whiting, which is not acted upon sensibly by the meconic acid. Yet the acid procured in this way did not crystallize so handsomely, or with so much facility, as that obtained by sulphuretted hydrogen.

METHOD OF PREPARING DENARCOTIZED LAUDANUM: BY
R. HARE, M.D.

Agreeably to the observations of the French chemists and physicians, the unpleasant effects of opium reside in a principle called
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narcotine; and Robiquet has informed us, that by digestion in æther, the drug may be depurated of that noxious principle. It struck me, as soon as I became acquainted with the statement of Robiquet, that it was of the utmost importance to humanity to have it tested, and the result made known to my countrymen, if favourable.

Some opium, shaved by rubbing it on the face of a jack-plane, was subjected four times successively to as much æther of the specific gravity of $\cdot 735$ as would cover it, allowing each portion to act upon it for about twenty-four hours.

The opium was afterwards subjected to as much duly diluted alcohol as would have been adequate to convert it into laudanum, of the common kind, had it not been subjected to the æther. In the æther which had been digested on the opium, a deposition of crystalline matter soon commenced. The stopple being removed, and the mouth of the containing vessel, (in this case a common French tincture bottle,) being covered with blotting paper, in a few days nearly the whole of the liquid evaporated spontaneously, leaving much crystalline matter mixed with colouring matter. The former is, no doubt, the principle distinguished by Robiquet, since called narcotine.

The digestion of the opium with the æther is conveniently performed in the Papin's digesters, which are sold at some of the hardware stores in this city.

The æther should be kept near the temperature of ebullition.

The first use which was made of the denarcotized laudanum, was by way of an enema of thirty drops, in the case of a child tortured by ascarides, to whom it gave early relief, inducing a comfortable, and apparently natural sleep, and causing subsequently no unpleasant symptoms. The second instance was a case of severe headache, which was relieved in about thirty minutes, by ten drops taken into the stomach. A refreshing slumber succeeded, which was not followed by any of the distressing sensations to which the patient has always been subjected, after taking common laudanum.

Dr. Hare then subjoins some cases of the successful exhibition of denarcotized laudanum, by a medical friend.

ON THE OCCURRENCE OF GALENA IN THE INFERIOR OOLITE :

BY MR. W. LONSDALE.

In widening the road between Frome and Buckland Denham in the autumn of last year, the workmen laid open a section about fourteen feet deep in the inferior oolite. The stone was broken *in situ* into irregular fragments, which in some instances were parted by a mere fissure, and in others were separated to the distance of six or eight inches. Near the centre of the section occurred a perpendicular vein six feet wide, of a stiff blue clay. From some distance on each side of this vein, small strings of galena appeared ramifying through the interstices of the stone, occasionally filling them entirely, and then exhibiting the appearance of a breccia of oolite cemented by lead; but most commonly crystallized carbonate of lime supplied the place of the ore. Specks of galena were likewise disseminated