EXTRACTUM NUCIS VOMICÆ RESINOSUM.

Alcoholic Extract of the Nux Vomica.

In the year 1809, I laid before the first class of the French Institute a series of experiments which had conducted me to an unexpected result; namely, that an entire class of vegetables (the bitter strychnos) have the singular property of powerfully exciting the spinal marrow, without involving, except indirectly, the functions of the brain. I announced also, at the termination of my paper, that this property might be advantageously applied to the treatment of disease.[a]

[a] "Medicine will probably derive great advantages from the possession of a substance which will act especially on the spinal marrow; for it is well known that many very severe diseases have their seat in that part of the nervous system. The upas, however, does not exist in commerce; and should even experience shew that this vegetable substance is a valuable medicine, how is it to be procured? Experiments should be instituted for the discovery of a substance with properties analogous to those of the upas."

It was by such experiments that M. Delille and myself discovered the properties of the nux vomica and of the St. Ignatius's bean, and which led us to propose the

The last assertion, which was then conjectural, has been for several years verified by numerous experiments made at the bedside. Some time ago Dr. Fouquier published several cases of paralysis cured by nux vomica. I had also given the remedy with like success before I knew that Dr. Fouquier was engaged in similar researches; and it gave me great pleasure to see my work preceded by the communication of so esteemed a physician.

This circumstance, however, did not lead me to relax in my exertions; and I have seen the best effects follow the employment of the alcoholic extract of the nux vomica, not only in cases of both partial and general paralysis, but also in many other states of weakness of the constitution, both general and local.

MODE OF PREPARING THE ALCOHOLIC EXTRACT OF THE NUX VOMICA.

Take a determinate quantity of rasped nux vomica, exhaust it by repeated macerations in

medical employment of the resin of the nux vomica. See "*An Examination of the Action of certain Vegetables on the Spinal Marrow*," read to the Institute, on the 24th of April, 1809, by M. Magendie, Doctor of Medicine, Anatomical Assistant to the Faculty of Medicine. Paris, 1809.

alcohol of 40° (.817), and evaporate it slowly to the consistence of an extract.

Alcohol of much less strength may be used, but the product is proportionably less active.

EXTRACTUM NUCIS VOMICÆ RESINOSUM EXSICCATUM.

Dry alcoholic extract of the nux vomica.

Dissolve in water the alcoholic extract of the nux vomica, made by means of alcohol at 36° (.837); filtrate it, and evaporate on evaporating dishes, as in making the dry extract of cinchona.

PHYSIOLOGICAL PROPERTIES.

A grain (gr. 0.82 troy) of this extract, absorbed from any part of the body, or mixed with food, promptly destroys a dog of considerable size, by inducing paroxysms of tetanus, which by their continuance stop the respiration long enough to produce complete asphyxia.

When the dose is much stronger, the animal appears to perish entirely from the action of the substance on the nervous system: as M. Ségalas has lately demonstrated. (See

the *Journal de Physiologie Expérimentale*, for October, 1822.)

If an animal be touched whilst under the action of this substance, it experiences a commotion similar to that of a strong electrical shock; and this takes place every time the contact is renewed.

Dividing the spinal marrow behind the occiput, and even complete decollation, does not prevent these effects, nor even their continuance for some time. This characteristic action of the alcoholic extract of the strychnos distinguishes it from all other exciting substances at present known.

On dissection no lesion is discovered which can indicate the cause of death.

ACTION OF THE ALCOHOLIC EXTRACT OF THE NUX VOMICA ON THE HUMAN BODY WHEN IN HEALTH.

The action of the alcoholic extract of nux vomica on the healthy human body is identical with that above described; and if the dose be sufficiently large, death speedily follows with the same symptoms. Dissection does not shew any apparent lesion of structure, the traces of the asphyxia which caused or accom-

panied death being alone observable; as I had an opportunity of verifying in the case of a woman who died after taking this substance as a poison.

ITS ACTION ON THE UNHEALTHY BODY.

The effect is still the same on man when affected with paralysis; but what is very remarkable, it is particularly manifested in the paralysed parts: it is there that the tetanic commotions occur, as well as a creeping sensation, which announces the action of the remedy; a local perspiration also breaks out in the same parts, which is not observed in the rest of the body. In cases of hemiplegia submitted to the action of the nux vomica, the halves of the body exhibit a striking contrast; for whilst the healthy side is at rest, the other is violently agitated; tetanic shocks soon succeed, and an abundant perspiration breaks out. In one female the affected side was covered with a peculiar eruption, when the opposite afforded no trace of it: even the two sides of the tongue differ; a decidedly bitter taste being perceived on the one side, whilst the other presents nothing similar.

If a larger dose be given, the two sides of the body participate, but unequally, in the

tetanic effect; so that the patient is sometimes thrown out of bed by the violence of the paroxysm.

The alcoholic extract of the nux vomica, when given in very small doses, has not, like many other remedies, any perceptible effect immediately; and some days pass over before its advantageous or noxious properties can be appreciated.

CASES IN WHICH THE ALCOHOLIC EXTRACT OF THE NUX VOMICA MAY BE EMPLOYED.

These are, all diseases attended by debility whether it be local or general; and paralyses of all kinds, general or partial. Mr. Edwards cured a case of amaurosis with palsy of the upper eyelid by means of the nux vomica; and I have seen very excellent effects from the same remedy in marked cases of weakness of the genital organs, incontinence of urine, &c. I have also given the resin of the nux vomica in cases of sluggish digestion, and in states of extreme debility attended by an irresistible disposition to sleep.

MODE OF EXHIBITING THE RESIN OF NUX VOMICA.

This remedy is best given in the form of

pills, when the practitioner wishes to produce the tetanic commotions; that is to say, when he wishes to have its sensible effect. If each pill contain a grain of the extract (gr. 0.82 troy), one or two may be given at first, and the dose be daily augmented until the desired effect be produced; the medicine must then be discontinued, to avoid accidents. It is better to give the pills in the evening, because night is the best time for observing the phenomena which we wish to produce.

It is sometimes necessary to increase the dose to from 24 to 30 grains (from gr. 19.68 to 24.6 troy,) in the day, before the tetanic convulsions are produced: but generally from 4 to 6 grains (gr. 3.28 to 4.92 troy,) are sufficient.

If the exhibition of the remedy have been accidentally interrupted for some days, it is necessary to recommence with the smaller doses, and to increase them again gradually, as before.

When it is desirable to produce only the slow effects of the remedy, a grain (0.82 troy,) or a grain and a half (gr. 1.23 troy,) in the day, is sufficient; or the following tincture may be used:—

TINCTURA NUCIS VOMICÆ.

Tincture of Nux Vomica.

Take of
Alcohol of 36° (.837) .... 1 ounce (7 dr. 52.56 gr. troy.)
Dry extract of nux vomica, 3 grains (2.46 gr. troy.)

This tincture is to be given by drops, in mixture or in drink, whenever the alcoholic extract in substance is indicated.