MEDICO-BOTANICAL SOCIETY.

INQUIRIES RESPECTING THE MODE OF ACTION
OF THE HELLEBORES ON THE HUMAN BODY,
IN GOUT AND OTHER DISEASES.

At the last meeting of the Medico-Botanical Society, a paper with the above title, by Dr. Hancock, was read. The object of the author was to show that the coronopodium of the ancients,—the celebrated anti-arthritic remedy of Alexander and Paulus Ægineta, was a true species of hellebore, one of the natural family ranunculaceæ, and not, as some have supposed, either a veratrum, or one of the colchicaceæ, nor the plantago coronopus. The hermodactyl antiquorum, and our common meadow saffron, are generally considered to be identical; the former, however, possessed little or no purgative property, this having been obtained by its union with other medicines of cathartic power, as scammony, colocynth, aloë, &c.; its emetic action, too, was far milder than that of the meadow saffron, which is a violent emetic purgative, often producing intolerable sickness and distress. Several cases had convinced the author that, notwithstanding the temporary relief colchicum affords in the paroxysm of gout, it is extremely apt, by frequent use, to induce apoplexy.

Led by these considerations to consult the ancient authorities, he had sought for a more safe and efficacious medicine amongst the indigenous plants, and the result completely confirmed his opinions as to the superior efficacy of the hellebore, the identity of which with the coronopodium, was afterwards shown by numerous references and extracts from the writings of Trollian, Alexander, Ægineta, Hippocrates, Gesner, Dodonæus, &c. It would not appear to have been the *white* hellebore (veratrum), as is proved by the violent operation of the latter; besides, it would be absurd to apply the term coronopodium (crow's foot) to a plant having no such characteristic. Furthermore, Paulus recommends purging with black hellebore, or coronopodium, in preference to hermodactyls. The error as to its analogy with the plantago kind is evident, from the fact, that in the plantagineæ there is nothing either of a narcotic or a purgative quality. The only botanist that Dr. Hancock has found to take a correct view of the subject, is Dodonæus, who shows, in very unequivocal terms, that the coronopodium is a true species of hellebore, supposed to be that of Alexander and Paulus Ægineta, and described by Theophrastus as the *elleboras melas*, or black hellebore. It is inferred, then, that the coronopodium is nothing else than what its name denotes in English, *crow's foot*, as taken from the most obvious character impressed on the leaf;

and that it is the latter name by which this natural family of plants is now known throughout England, as well as in most other countries. No doubt, then, can be entertained of the fact of its being either a real hellebore, or one of the ranunculaceæ, all of which, as Decandolle has observed, are strictly analogous in their medical properties as well as in their botanical characters. Further investigations, the author hoped, would throw more light on this subject; be that as it may, a more valuable remedy in gout could scarcely be found, he presumed, than the *helleborus viridis*, or *helleborus niger*, either of which, combined with the root of the *aconitum anthora*, *celandine*, *senna*, and carbonate of soda, has been proved to his satisfaction, to be one of the most salutary and powerful remedies in gout and arthritic diseases, rheumatism, and other chronic disorders.

Dr. MACREIGHT said he should be glad to obtain a substitute for colchicum. He thought Dr. Hancock's paper had pretty evidently established a fact which had never before been mooted, namely, that the coronopodium of Alexander, Trollian, and Paulus Ægineta (found by them preferable to hermodactyls in gout) was either a hellebore, or one of the ranunculaceæ, which natural family, as shown by Decandolle, possesses medicinal properties extremely analogous.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

Tuesday, April 24th, 1838.

Dr. BRIGHT, President.

ON BLACK EXPECTORATION AND THE DEPOSITION OF BLACK MATTER IN THE LUNGS.

By WILLIAM THOMSON, M.D., Fellow of the Royal College of Physicians and Surgeons of Edinburgh.

IN a former communication, published in the 20th volume of the Society's Transactions, the author brought under the notice of the Society a number of instances of black discolouration of the sputa observed during life, and of black infiltration of the lungs and bronchial glands, ascertained after death, in persons who from their occupation were particularly exposed to the inhalation of carbonaceous powders, or gases, such as coal miners and moulders in iron works. It being his intention in a future communication to state the general conclusions relative to the occurrence of these morbid appearances in this particular class of persons, which seem deducible from the information that has hitherto been obtained, and to point out those circumstances which still require further elucidation, it appears to him that there are several collateral topics to which it is necessary previously to

call the attention of the Society. It is to the discussion of these topics that the present communication is devoted.

The author, in the first place, briefly recapitulates the observations and opinions of authors respecting black sputa and black depositions in the pulmonary organs, previously to the time when the class of persons to whom he alludes began to attract attention, thus taking occasion to show that black deposition may occur in the pulmonary organs, independently of the habitual inspiration of an atmosphere peculiarly loaded with carbonaceous matters.

Among those who have noticed the presence of black matter in the expectoration, the author alludes to Hippocrates, Willis, Morton, Haller, Withers, Portal, Bree, Pearson, Chomel, and Laennec. The phenomenon has been differently accounted for by the several authors who have noticed it; for example, by Morton it has been supposed to owe its origin to a secretion from the bronchial glands; by Morgagni, Haller, Withers, and Portal, to a secretion from the glands of the mucous membrane of the trachea; by Bree, to a secretion from the pulmonary air cells; whilst Pearson and Chomel have regarded it altogether of extraneous origin, as a simple deposit from the atmospheric air. Of the first, or those who have considered the bronchial glands as its source, some have regarded it as a natural secretion of those bodies, while others have considered it as a morbid production. Portal distinguishes three kinds of black expectoration, the first depending on inhalation of carbonaceous matter; the second on a fluid secreted by the bronchial glands; and the third on blood extravasated into the air passages. The last of these alone he considers to be attended with danger. They may be readily distinguished, he says, by subjecting them to the action of boiling water, which dissolves with far less readiness the black product of hæmorrhage than either of the other varieties.

Dr. Bree's opinion of its origin seems to have resulted altogether from the consideration of the phenomena of asthma; but though he denied the possibility of its being secreted by the bronchial glands, he thought it possible that it might, in some instances, arise from the glandules which open into the trachea and bronchi. A like difference the author finds to exist in the opinions held by different authors on the causes of the presence of black matter in the bronchial glands; some supposing it to be a secretion of the glands themselves, and poured by them into the trachea; others assigning to the matter a course directly the reverse, and alleging that it is conveyed from the lungs to the bronchial glands by lymphatic absorbent vessels. Of those, too, who have held the latter opinion, some have considered that the carbonaceous matter originates

within the lungs, and others that it is introduced into these organs from without. Reisseissen and Soemmering may be mentioned as the advocates of the former opinion, and Pearson of the latter.

The author next enters at some length into the consideration of the causes of the presence of black matter in the lungs, detailing in succession the opinions held by Diemerbroeck, Haller, Morgagni, Reisseissen, Pearson, Bayle, Laennec, Andral, Becker, Meriedec, and Fawdington. Of these some, as Reisseissen and Pearson, considered it to depend on the inspiration of minutely divided charcoal, which they supposed to be deposited in the air cells, and thence very slowly absorbed by the orifices of the innumerable lymphatic vessels in the air tubes and cells. M. Bayle, on the other hand, regards the black matter met with in the lungs as a product of morbid action, and consequently as generated within the body.

M. Laennec, in his work on mediate auscultation, published in 1819, treats of melanosis of the lungs and black pulmonary matter, as distinct in their nature and effects; his account of the latter corresponding very much with that of Dr. Pearson, to whom, however, he does not refer. According to him we find more or less of the black matter in the lungs of almost every adult, its quantity *generally* increasing with the age of the patient. He believes that the two varieties of black matter may be distinguished not only by their chemical, but also by their more obvious qualities; and remarks, in confirmation of his opinion, that the colouring matter, or melanosis, although it stains the skin black, is very easily removed by washing, whereas the matter expressed from the black bronchial glands takes such a hold of the skin, that if we allow it to dry before attempting to remove it, it remains attached to this texture for several days. M. Andral considers the nature of the black matter to be always the same, the only difference in the appearance produced by it being that, in the case of melanosis, it coexists with an indurated state of the lungs, which is not found to prevail in ordinary discolouration.

In illustration of the part of his paper in which he speaks of the chemical evidence bearing upon the subject, the author cites the experiments of Dr. Henry, page 168, as throwing light upon the subject.

The author, in conclusion, introduces a few cases that have been communicated to him by others, illustrating the occurrence of black expectoration, or of black deposition in the lungs, in individuals whose occupations did not appear to render them peculiarly liable to an accumulation of carbonaceous matter in the respiratory organs, and in whom, at the same time, there existed no traces of a melanotic diathesis.

Two other papers were also read, the abstracts of which we have not room for. One of these papers detailed a case of *Pes Equinus successfully treated by Dr. Krauss, by Division of the tendo-Achillis*. Respecting the mode which Dr. Krauss employed for procuring extension, in answer to questions from various Fellows, he said, that his instrument consisted of a foot-plate and two lateral pieces passing to the knee, with joints corresponding to the ankles; each of these lateral pieces consisted of two parts joined by screws, so that different inclinations of the foot-board might be made according to circumstances. The foot was fastened to the foot-plate by means of simple straps, and extension of the foot brought about by means of two straps going from the further end of the foot-plate to the superior ends of the lateral pieces of the leg. In consequence of there having been slight contraction of the muscles at the kneejoint in the case related to the Society, it was found necessary that the instrument should be continued from the knee to the hip, on the outer side of the thigh, and fastened by means of a pelvic band; the instrument on the inner side was carried only as far as the upper third of the thigh, and was attached to its outer fellow by a half circle of iron passing under the thigh. At the outer side of the knee a screw was attached between the portions of the apparatus of the thigh and leg, so that the kneejoint might be inclined to various angles. He had performed the operation in a number of other cases, and never had any unfavourable result, except in one instance, that of a patient twenty-one years of age, and in this case an abscess occurred in the seat of the wound; this, however, soon healed, and a proper cure was effected, though the substance between the divided tendon was more than usually thin.

MEDICAL SOCIETY OF LONDON.

May, 7th, 1836.

REMEDIES IN INTUSSUSCEPTION.

IN a discussion, at this Society this evening, on intussusception, Mr. HOOPER, related a case, in which all the symptoms of this affection were removed by the injection of a large quantity of gruel by the rectum. Dr. BENNETT, had seen this plan pursued in several cases with success. Mr. DENDY had seen a case in which the administration of fluid quicksilver had been of apparent temporary benefit, but the patient eventually perished. Mr. HOOPER said, it was tried in his case, but without any effect. Mr. LINACRE recollected the case of an old gentleman who laboured under all the symptoms of an intussusception, which resisted

all means of relief. Mercury in a fluid state was at last administered in a dose of a pound and a half. In four hours after it was taken a large evacuation took place; the quicksilver was contained in the motion.

UNIVERSITY COLLEGE SOIRÉE, April 25th, 1838.

ON INTENSE COLD, AND THE SOLIDIFICATION
OF CARBONIC ACID BY THILORIER'S APPARATUS.

By PROFESSOR GRAHAM.

PROFESSOR GRAHAM described Thilorier's apparatus as a new physical instrument of great interest and value, and most commodious and simple in its application, in which carbonic acid gas is liquefied by great pressure, and the liquid accumulated. The instrument is likewise so contrived that the liquid may be allowed to escape into the atmosphere, and produce by its evaporation a degree of cold which has never been hitherto approached, and of which an incidental and altogether unlooked-for effect, is the freezing of the liquefied gas itself. It is a *frigorific machine*, the counterpart of the furnace, and susceptible of its appropriate applications in the laboratory. It consists of two hollow cast-iron cylinders of great strength, each about a gallon and a half in capacity, which can be connected with each other by a tube and stopcocks. To charge the apparatus $3\frac{1}{2}$ lbs. of bicarbonate of soda, and 8 lbs. of water, at 100° , with 2 lbs. of sulphuric acid, are introduced into the generating cylinder, and the acid allowed to come in contact with the soda after the vessel is closed; the gas evolved is afterwards allowed to escape into the second cylinder or the receiver, where it condenses into a liquid from the enormous pressure to which it is subject; and by repeating the charge seven times, no less than a gallon of liquid carbonic acid is collected in the receiver. To produce cold and freeze the carbonic acid, a little of the liquid is allowed to escape by a jet and stop-cock from the lower part of this magazine, into a round tin box, pierced with small holes, by which the gas escapes, while the solid is retained. Two-thirds of the liquid generally evaporate as gas, cooling the other third so low as to freeze it. Hence the cold is produced by the evaporation of the highly volatile liquid carbonic acid, relieved from the enormous pressure necessary to preserve it in the liquid form. The pressure necessary to liquefy the gas is thirty-six atmospheres at 32° , and it increases one atmosphere for every degree and a half above 32° .

The solid carbonic acid has exactly the appearance of snow, and possesses the low conducting power of that substance, so that it may be handled, or even placed upon the tongue without danger; and a mass of it