A

SECOND ESSAY

ON

HYDROCEPHALUS ACUTUS,

OR

DROPSY IN THE BRAIN.

By J. CHEYNE, M. D.

F. R. S. E. M. R. I. A. PROFESSOR OF THE PRACTICE OF PHYSIC IN THE SCHOOL OF SURGERY IN IRELAND; FELLOW OF THE ROYAL COLLEGE OF PHYSICIANS, EDINBURGH; LICENTIATE OF THE KING AND QUEEN'S COLLEGE OF PHYSICIANS, DUBLIN; ONE OF THE PHYSICIANS TO THE MEATH HOSPITAL AND COUNTY OF DUBLIN INFIRMARY, &c. &c.

DUBLIN:

Printed by N. Kelly and Son,

FOR GILBERT AND HODGES, DUBLIN, AND THOMAS UNDERWOOD, LONDON.

1815.

TO

A. COLLES, M. D.

MEMBER OF THE ROYAL COLLEGE OF SURGEONS

IN IRELAND,

ONE OF THE PROFESSORS OF ANATOMY

AND SURGERY,

&c. &c. &c.

THIS ESSAY IS INSCRIBED

BY HIS

OBLIGED COLLEAGUE

AND FRIEND,

J. CHEYNE.

ssay, incorporated with my
Publication upon the same
ill probably be reprinted,
with additional pathological
in the form of a Treatise on
drocephalus. But, in the first
lace, it seemed due to the posses-
sors of my former Essay, to present
them with the practical information
which I had to communicate, in a
separate form. It may be observed
that the following pages relate exclu-
sively to that form of Hydrocephalus
which arises after disorder of the
abdominal viscera.

Dublin, 1st January.

ON

HYDROCEPHALUS ACUTUS.

In a great proportion of the cases of Acute Hydrocephalus, which have fallen under my care, before any affection of the brain could be perceived, there were various symptoms of disorder either of the secerning part of the liver, or of the mucous surface of the stomach and intestines; and, in many of these cases, the Hypochondria, in the early part of the disease, were tumid, the liver was enlarged, sometimes it was the seat of pain, at other times great uneasiness was occasioned when moderate pressure was applied to it, through the integuments of the abdomen.

In many of the dissections which have been made after Hydrocephalus, the liver has been found with the stamp of inflammation; it has been found enlarged, tied to the peritoneum by preternatural adhesions, studded with tubercles, and otherwise deviating from its sound state; vivid remains of inflammation in the intestinal canal have also appeared, and sometimes those con-

strictions and volvuli wh
of irritation and spasm in
lastly, there has been obser
enlargement of many of the M
glands.

Hydrocephalus often follows febrile eruptive diseases, of which I had a remarkable proof in 1808. The most fatal Epidemic, for the time it lasted, which has visited Scotland in the memory of man, was the Measles of 1807 and 1808. In April, May, and June, I attended five cases of Hydrocephalus, all of which appeared within eight weeks after Measles. The Exanthemata, every Physician knows, often leave the bowels in a very disordered state: in Scotland, even the common people universally employ Cathartics to carry away the *dregs* of the Measles. Primary affections of the abdominal viscera, such as infantine remittent fever, are apt to wear the mask of Hydrocephalus, nay, have frequently degenerated into that disease. And Scrofula, which is generally attended with a disordered state of the bowels, often ends in Hydrocephalus.

In many instances, a combination of symptoms which might fairly be imputed to the formation of Hydrocephalus, has

yi[illegible] a timely exhibition of cholagogues, [illegible]nich, while they improved the character of the fœcal discharge, reduced the volume of the liver, and restored the functions of the stomach.

Such were some of the considerations which led me to conjecture that the affection of the brain, in Hydrocephalus, is often secondary: that, in most cases, it is owing to irritation in the abdominal viscera, and [illegible]ly in the liver. This doctrine formed one of the principal features of an essay on Hydrocephalus, which I published in 1808.

I have now the satisfaction of knowing that several professional gentlemen of eminence, both in London and Dublin, have long entertained nearly the same opinion. It is twelve years since Dr. Curry, of Guy's Hospital, in his lectures on the practice of Physic, began to announce an ingenious pathological theory, with respect to the influence exerted by certain diseased states of the liver on the whole constitution, or on some individual organ. From a general view of Hydrocephalus, and a comparison of it with other diseases of the brain, he was led to the conclusion, supported by the most effectual means of cure, that the affection of

the brain though the immediate cause of death, when the case ends fatally, is, in general, only a consequence of inflammatory irritation, with diminished or altered function of the liver. Mr. Thomson, of Sloane Street, found that evident marks of inflammatory action existed in the liver, in nine dissections of Hydrocephalus out of eleven which he had made. In one of the remaining dissections, there was intus-susception of the jejunum, in the other, marks of inflammation through the greater part of the colon. And he asserts, that in a majority of the cases of the disease, the organs of digestion are in fault before the head appears in any degree affected, and he adds, that in every opportunity which he had of observing the earliest approaches of Hydrocephalus, the bowels have become first irregular, the stomach acescent, and the stools, whether procured by medicine or not, have been fœtid or clay coloured, displaying defective action of the liver, and an imperfect formation of the bile. To these observations he has added a faithful account of the manner in which the disorder is transferred from the abdomen to the brain, in those who are predisposed to Hydrocephalus. Lastly, many years ago, Dr. Boyton, the

learned professor of the Institutes of Medicine in the school of Physic, was also led to think that Hydrocephalus originated in the abdominal viscera, from finding that Cathartics were the only means of relief. In the course of a long practice, he has noted fifteen or sixteen cases of Hydrocephalus, nascent or confirmed, which were relieved by purgative medicines, namely, calomel combined with antimonials and the common purgatives.

For some time after the publication of my essay, I received no encouragement, even from my professional friends, to pursue an investigation, whose object it was to establish the secondary nature of the affection of the brain, in most cases of Hydrocephalus. But, at last, finding that I was not singular in that view of the disease, I was led to resume the enquiry and again to court every opportunity of improving my acquaintance with the disease and its anatomy, in hopes of arriving at information of a more satisfactory and conclusive nature. Of late, my opportunities have not been so good as they were formerly. For the last five or six years, I have not had the means of selecting cases which I formerly possessed, nor indeed do I think

Hydrocephalus quite so prevalent in [illegible] as it is in Scotland. However, losses and apprehensions in my own family, and the distress of one or two of my friends, occasioned by this disease, have made it a subject of frequent consideration with me, and have induced me to try new modes of practice, some of which I now proceed to submit to the reader.

A medical writer of considerable erudition, the late Dr. Parr of Exeter, has declared that he can see no means of accounting for the symptoms of Hydrocephalus, but "from "supposing an original defect in the orga- "nization of some part of the brain itself." He rests with great complacency on this opinion, because he thinks it explains, and ought to reconcile us to, "the want of suc- "cess which has attended every plan of "treatment," and in concluding that the disease is incurable, he more than insinuates that those practitioners who imagine they have succeeded in subduing Hydrocephalus, have mistaken some other disease for it.

Dr. Parr does not allege that his idea of the cause of Hydrocephalus is supported by dissection, but he tells us that anatomists

have examined the brain in a very superficial way; for, when "the vessels are found "peculiarly turgid or the ventricles preternaturally filled, they have been contented "with the success of their researches." I cannot allow this charge to pass without comment. The turgescence or emptiness of the vessels, and the quantity and quality of the fluid in the ventricles are, it is true, objects of attention, but surely every experienced dissector looks a little further. He examines the size and form of the cranium; the state of the membranes, with a view to any increase of minute vessels, or any thickening, opacity, adhesion, or effusion of lymph. He examines the substance of the brain, to detect depositions of new matter, collections of pus, or extravasations of blood, or to detect changes of structure, such as unusual solidity, hardness, softness, or pulpiness of the brain; and, in particular, he is attentive to every appearance of diseased action of the vessels of the brain, or any of its parts. He examines the ventricles, to discover enlargement partial or general, or increased vascularity. In the base of the brain, he looks for disease in the larger vessels, for wasting or transparency of the nerves, or tumours pressing on their origin.

Finally, he raises the tentorium, and [illegible] the cerebellum to a scrutiny equally rigorous. If there were any original defect of organization, it could scarcely escape the observation of any man who has the least pretension to be called an anatomist.

If we consider that the brain may perform all its functions for many years before it becomes a prey to Hydrocephalus, and even that the formation of the disease may be owing to accident or mismanagement, Dr. Parr's assertion will appear equally improbable as it is unfounded. But I feel more anxious to protest against another of his opinions, although casually introduced, namely, that Hydrocephalus is incurable under any plan of treatment; because, while it must obstruct the progress of inquiry and improvement, it is calculated for pretty general reception, as it will probably be adopted, as an apology for their indifference, by all who are without inclination for the study of their profession.

Every disease whose natural tendency is to destroy a vital organ, becomes in unskillful hands, an incurable disease. Thus, for example, Croup may be considered incurable. There are large districts in the eastern and northern coasts of Ireland, in which, I un-

a very child perishes, who is severely attacked with Croup. When we dally with that disease in the first stage, not one in twenty will recover, whereas, if the treatment in the first stage be judicious, there will not be one death in twenty, nor perhaps in a hundred. It is not long since Physicians were more ignorant of the nature of Croup than they are now of Hydrocephalus. The day is perhaps not distant, when, better understanding the nature and import of its early symptoms, Hydrocephalus also may lose much of its danger. Some progress has already been made.

It is well known that Hydrocephalus prevails in particular families, so that many or most of the children perish, and hence a defect of organization has been inferred, and the disease has been accounted hopeless when it appears under such circumstances; but, in truth, it is not so. In families thus predisposed, the early symptoms of Hydrocephalus are very often relieved. It is certain also, that, with a view to prevention, much may be done by correcting every disorder in the natural functions, by carefully selecting a nurse of a temperament as much unlike the mother's as possible, by relieving morbid determina-

tions, or, in desperate circumst[illegible] by instituting new actions in the system. The following is an illustration of what may sometimes be done, in counteracting the effects of a family tendency to Hydrocephalus.

In ———, ten children of the same parents died of Water in the Brain, in the eleventh and last, by the advice of an eminent Surgeon, lately deceased, an issue was established. This child grew up, and became the mother of fifteen children. Seven of these children, in whom issues were not made, died, with all the symptoms of Hydrocephalus. Eight children were alive in 1814, in six of these, issues were made at an early age, and in one of the others, at the time I received my information, an issue was resolved upon, in consequence of a threatening of Hydrocephalus.

Some of the viscera are so protected, that we have no means of proving the existence of their diseases, during the patients life, but by signs of their functional disorder. This is more especially true of diseases of the brain. If a plethoric man, about the fiftieth year of his age, of a full habit of body, and accustomed to indulgencies of the table,

fall down in a fit; if he should afterwards continue insensible, breathe with stertor, and lie with a full slow pulse and flushed countenance, and then recover upon being let blood, there would be no hesitation in saying that he had recovered from a stroke of Apoplexy. It may be safely affirmed, that the diagnostics of Hydrocephalus are as certain as those of Apoplexy, and, if there be any reliance on the testimony of Physicians, there is not a symptom, or combination of symptoms, belonging to Hydrocephalus, from which children have not occasionally recovered. The evidence of recovery from the one disease, is quite as good as from the other. In Hydrocephalus, so long as the pulse continues steady and the breathing natural, we are not to be prevented by the most alarming symptoms, by strabismus, blindness, or even convulsions, from an employment of active remedies. If we succeed in restoring one patient out of an hundred, it ought to be considered a sufficient compensation for uniform, and patient attention to the treatment of the advanced stages of the disease.

At present I am considering the treatment of Hydrocephalus, chiefly after its symptoms are unequivocally established. I have some

satisfaction in thinking that I have already contributed towards fixing the practice in the early part of the disease. From a conversation which I had with my respected friend Dr. Hamilton, of Edinburgh, in 1803, it appeared that he, as well as myself, had used Cathartics, with advantage, for the removal of the precursory symptoms. The confidence which I was then gaining in that practice, was strengthened by a discovery of the following passage in the works of the late Dr. Macbride. "A very eminent and experienced physician of this kingdom, (Dr. Halliday, of Belfast, in a letter to the author, *January*, 1772), having occasion to mention the Hydrocephalus internus, puts the query, "Is this disease ever removed?" and adds, "certain it is, that no child could have "more evident symptoms of it, than a little "one of Mr. ——, whom I visited about "a month ago; vomiting in the beginning, "perpetual stupor afterwards, with a slow "pulse and respiration, pupils astonishingly "dilated, and a total loss of vision; yet he "emerged. His head was blistered, acrid "cataplasms were afterwards laid to his feet, "and he was largely purged with jalap and "calomel; he is now perfectly well." This" continues Dr. Macbride, "appears to be the

...nal scheme of treatment, and, if there "be a possibility of resorption of the serum, "may perhaps sometimes succeed." The author himself, once had the care of a boy, about four years old, where the symptoms were nearly similar, and who escaped after very violent purging by means of calomel and resin of jalap. The bowels had been so insensible to every thing before tried, that it was deemed proper to venture upon this drastic purge."

This passage shews the desperate circumstances from which patients, labouring under Hydrocephalus, sometimes recover, and when I was searching for authorities, it was of great value to me, as it contained a distinct notice, probably the first, of the advantage sometimes obtained from Cathartic medicines. Notwithstanding these obvious inferences, it does not appear that Dr. Macbride, or his contemporaries, employed Cathartics in any other case. It is true, Dr. Quin, in his treatise on Dropsy of the Brain, perhaps the most valuable work which has been published on the subject, recommends Cathartics in such doses as are found sufficient to keep up regular discharges. Calomel is the Cathartic he has fixed upon, all additions to it being avoided lest they should produce nausea.

But in prescribing Calomel in this w[illegible] only end is to remove plethora. Nor does he think it necessary to have recourse to Cathartics when the bowels are free.

Dr. Quin's work did not produce that change in the practice which might have been expected. For a good many years after it was published, Physicians, conceiving Hydrocephalus incurable, were willing to believe that the early symptoms were the effects of dentition, fever, worms, or some other disorder of the stomach and bowels; they temporized as long as they could, and at last when all doubts of the nature of the illness, and all hopes of saving the patient were removed, by the appearance of the symptoms of the second stage, conforming to a common routine, they blistered the head, and, often without any precise object, they began a course of Mercury; some applied leeches to the temples, and others prescribed diuretics, such as digitalis and squill along with Mercury. When a physician begins to despair of success, his loss of confidence is very soon communicated to his patients friends, and his directions, too late to be availing, are neglected, or imperfectly obeyed. Yet, notwithstanding all the defects of the curative process, a few recoveries from Hydrocepha-

place, but when they were recorded, instead of causing more attention to the examination of symptoms, and greater vigour of practice, they appeared so improbable, that the reporter was supposed to have mistaken the nature of the attack.

The following is the treatment which ought to be employed when there is reason to apprehend the formation of Hydrocephalus.

The state of the Hypochondria, the nature of the stools, and the other excretions, the appearance of the tongue, and the smell of the breath, ought to be examined with care. If the patient wince when the right Hypochondrium is pressed, leeches ought to be applied to it, or the margin of the ribs may be cupped and scarified; if there be much pyrexia with head-ach, blood must be drawn from a vein or from the temporal artery. Then Cathartics are to be given, to promote and, if necessary, to alter the secretions: generally calomel, with small doses of some common purge of an active kind, as rhubarb, jalap, or scammony; and if there be a sickly smell of the breath and fullness and uneasiness at the pit of the stomach, an irritation of the mucous membrane of the intestines is denoted, which is sometimes relieved by mild antimonials, these consequently are to

be added to the Cathartics; squill m[illegible] be exhibited with the same view, more especially when the urine is deficient. If the stools be dark green and glairy, most probably the common Cathartics will have little effect, indeed we cannot expect that they will change the nature or appearance of the secretion, which issues from an organ, over which they have little controul.

Even Calomel, the medicine from which most might be expected, is sometimes inert as a purgative, and has no influence over the system as a mercurial, and this seems to arise from want of suitable preparation. In the cases in which Hydrocephalus seems most remarkably to have its source in a disorder of the abdominal viscera, and in which the cure is to be effected by exciting these organs to free secretion, we are generally unable, after the first day or two, to effect that purpose by direct means.

It is a well known law in Pathology, that if a gland be excited beyond a certain point, it is no longer able to perform its secerning function, and when so circumstanced, a stimulus applied to it, instead of restoring secretion, often encreases the vascular excitement upon which its interruption depends. In Hydrocephalus, the biliary secretion is

y languid as well as vitiated, and the presumption is strong, that this condition of the bile depends upon the general vascular excitement of the liver. If the viscera of of the abdomen, and particularly the liver, are in state of high irritation, this irritation ought to be allayed before the stimulus which s their secretions, can be employed advantage, or even with safety. The e practice is, in the first place to reduce arterial action by venesection, or by topical bleeding and blistering, and then to restore the secerning function of the viscera by means of calomel and other Cathartics.

In high degrees of vascular excitement of the liver, as for instance in Hepatitis, Mercury, which is the specific remedy, is beneficial or injurious according to the condition of the liver when it is administered. It is injurious, till, as Mr. Johnson says, "the inflammatory congestion in the liver is relieved by free blood-letting."* I formerly quoted a passage of a similar import from Dr. Macgregor's medical sketches. The power of blood-letting in forwarding the operation of Mercury, might be shewn by a number

* Influence of Tropical Climates, &c. p. 282.

of cases and observations. In the [illegible] Hepatitis, described by Mr. Chisholme,* the practice pursued, with remarkable benefit, was to let blood freely in the first instance; "after the third blooding," he remarks, "we gave from two to seven grains of Calomel, with from one fourth of a grain to a [illegible] grain of opium, three times a day. This practice, continued for two days, brought on a copious salivation, when this was effected, we considered the patient out of all danger, and, it was astonishing how readily cases of the most dangerous tendency, were cured by this method in a few days." I need scarcely observe, that the salivation could not have forwarded the cure. The *tone* of the vessels of the whole system, and consequently of the liver, having been previously reduced by venesection, the glands were again in a condition to obey the stimulus of the Mercury, and the bile was restored. The salivation was merely a collateral effect, and by no means necessary to the relief of the patient. If I recollect right, some satisfactory illustrations of this pathological view, might be derived from the writings of the late Dr.

---

* 1st. Volume, 2d. Decade, Duncan's Medical Commentaries.

...Philadelphia, were it necessary to accumulate quotations.

When ...cephalus appears to be a secondary disease, we begin by attempting to relieve the irritation of the abdominal viscera, which is never fully accomplished until their natural secretions are restored by ...rtics. Perhaps it may not be out of ...observe, though the observation is ...ew, that there is something very defective in the usual divisions of purgative medicines into the mitiora and fortiora, into the stimulating, refrigerating, astringent, or emollient purges, nor is the division of the antients into cholagogues, hydragogues, &c. more satisfactory. A more accurate way of considering Cathartics, was suggested, I believe by Dr. Fordyce, namely, according to the part of the alimentary canal or its dependencies upon which they act, and according to their mode of action, whether by promoting the secretions, or simply by quickening the peristaltic movements. There are however some important considerations which cannot be comprehended in this arrangement, namely, the effects of Cathartics according to the diathesis of the patient: the same medicine in one patient produces an increase of secretion, while in another it

only increases the peristaltic movements; and their effects, according to the state of the organs at the time of their administration: thus, the first doses of a Cathartic may produce but little effect, while the most copious discharges may be produced by its continuance, and vice versa. The Cathartics applicable to Hydrocephalus are those which increase the secretions. We do not remove fœces from alimentary canal, by quickening the peristaltic movements, with but little benefit to the patient. Our object is to change the actions of the secerning vessels, and more especially to encourage and improve the biliary secretion, but in so doing, we must avoid irritating the mucous membrane of the intestines. Hence we ought to be cautious in the use of the rougher Cathartics, as for instance gamboge and jalap, if these, in very moderate doses, do not succeed, other means of evacuation ought to be substituted.

It must be admitted that there are many cases of Hydrocephalus in which bloodletting, although necessary in order to moderate the increased action of the vessels of the brain, and to prepare the abdominal

dicta for mercurials, is contraindicated by the diathesis of the patient and by many of the symptoms of the disease, so that, although we are constrained to begin with blood-letting, general or topical, we ought not to forget that blood-letting alone, even when employed early, is not to be relied upon for the cure of Hydrocephalus. I do not mean to impugn the accuracy of Rush, who has affirmed that Hydrocephalus may be cured by the lancet. Early venesection may perhaps succeed in the cases in which the affection of the brain is primary. Diseases are modified by climate: in Philadelphia, V. S. may succeed better than in Edinburgh or Dublin; in the latter city, I have heard of a case in which blood-letting was successful, but I believe it has generally failed with others as well as with me.

Hence a question naturally arises. Is there any remedy which, while it reduces vascular action, has a tendency to promote the secretions of the stomach and liver? In looking over the Materia Medica, we naturally pause at the class of emetics, during whose operation the bile is poured out, while the action of the heart and arteries is controuled; of these, the antimonial emetics are the most efficacious. We must not for-

get however that, from the state of the circulation in the brain, vomiting is certainly contraindicated in Hydrocephalus. It is the milder antimonials then, which we must have recourse to, by which the secretions of the stomach and liver are often increased, even when nausea is not produced. To encourage a trial of antimony in Hydrocephalus, I shall give an account of a practice, peculiar to this city, which, though originally empirical, admits of explanation upon the principles which I am endeavouring to illustrate, and seems susceptible of considerable improvement.

A respectable clergyman who resides within a few miles of Dublin, had been so unfortunate as to lose three or four of his children of water in the brain. He observed that the Physicians endeavoured to bring on a perspiration, but always without effect, and he determined, should the complaint seize any other of his children, to take the management of the case into his own hands. The opportunity was soon afforded by the illness of one of his daughters, and the remedy he used was James's powder. This medicine had a great effect upon the child, who, though she had all the symptoms which attended the attack of the disease in the fatal

cases, recovered. He gave the child a large dose of James's powder at bedtime, this was repeated every night, and, on alternate nights, as much rhubarb was added as was sufficient to move her bowels. This remedy, it is alleged, has been successful in a number of cases of Hydrocephalus which have occurred since.

This gentleman, although willing to give every explanation in his power, was not so explicit in his account of the effects of the antimonial as I could have wished. He attributed its beneficial influence entirely to its operation on the skin. He had not attended to its effects upon the other secerning organs, and he could not give me any account of the discharges from the bowels or kidneys: whether these were interrupted or disordered, before the use of the remedy, or increased, or in any way changed in consequence of it, he could not specify. He thought the vomiting, which was sometimes brought on, beneficial. Indeed, information, complete in all respects, was not to be expected from a person who had not made medicine his study.

In favour of popular remedies, we know how little public report is to be trusted, however confident its tone. In several cases of

Hydrocephalus, I have known James's powder given both as this gentleman recommended, and also in much larger quantities and in a quicker succession of doses, without relief. But making every allowance for the misconceptions of the ignorant, James's powder has been a valuable auxiliary. Antimonials in combination with Cathartics, and more especially calomel, have appeared to me very useful in those cases of infantine remittent fever, in which the sensorial functions are much oppressed, as also in the commencement of febrile attacks of a less definite nature, which are liable to degenerate into Hydrocephalus. In such cases, adopting with the out patients of the Meath Hospital, a practice which I believe is not uncommon in this city, I prescribe a pill of calomel and antimonial powder, three times a day, interposing, between every two pills, a moderate dose of the common purging mixture of the Hospital, and I think with much advantage.

Antimony and Mercury owe their wonderful powers of relieving the febrile complaints of children, to their influence over the stomach and liver, in reducing increased action and restoring secretion. In combination they are often more efficacious than when given separately. That antimony owes

Fig. 6.

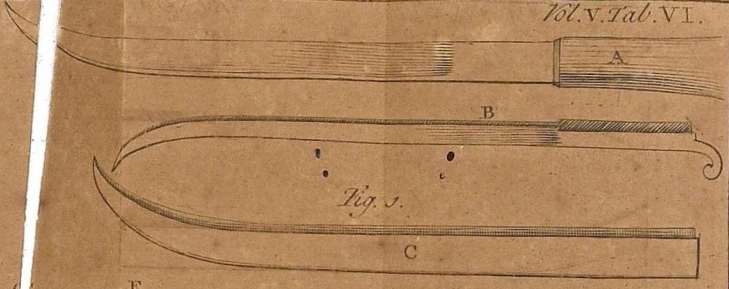

Fig. 5.

Fig. 2.

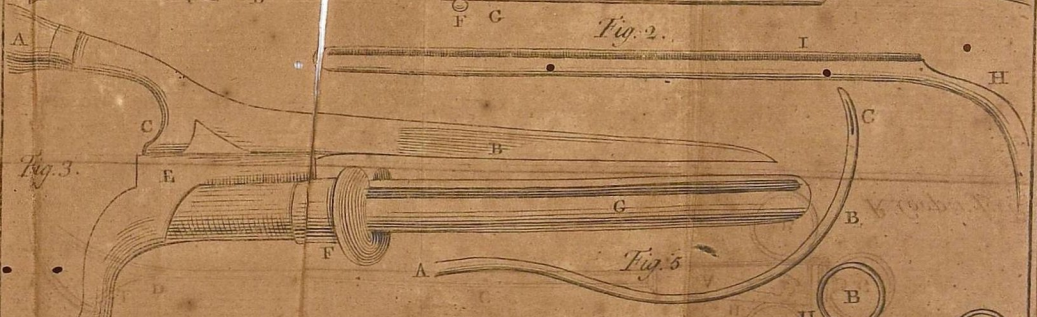

Fig. 3.

Fig. 1.

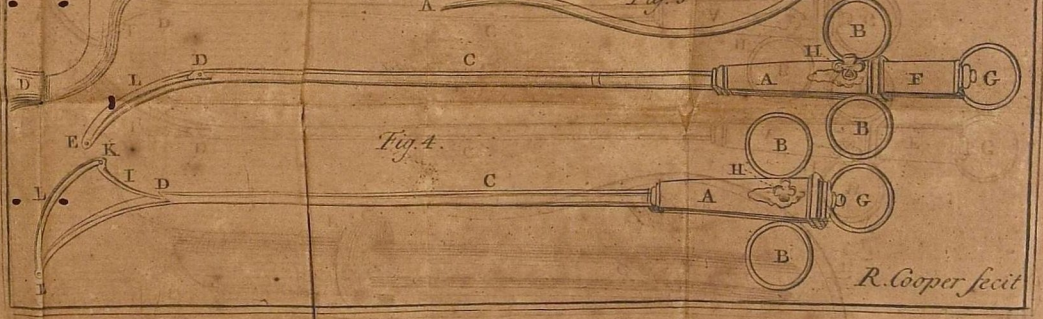

Fig. 4.

R. Cooper fecit

its febrifuge virtue to its effects upon the skin, is as improbable, as that the virtues of Mercury depend on its action upon the salivary glands. Profuse sweating often takes place in fever without relief, and hence it is a rule of practice, not to persist in the use of antimony, when, although it may have produced sweating, it has no tendency to render the tongue moist or clean, and relax the Hypochondria; these being indications of restored secretion. So, also, when we apprehend a tympanitic fullness of the abdomen, which is the most alarming symptom of bilious or gastrick fever, calomel and antimony are to be given with great caution; it is dangerous to push them far; they will increase the evil if they fail of removing it; and hence the practice, after they have had a short trial, of substituing some other stimulus, generally a common purging draught warmed by tincture of Senna or electuary of Scammony.*

---

* With the same intent, namely, to relieve Epigastric tension and irritability, oil of turpentine has been employed with great benefit by the American Physicians, during some of the late visits of the remittent. We are still very imperfectly acquainted with the virtues of Turpentine, in restoring the natural secretions, and thus relieving irritation or inflammation of the mucous membrane of the

In many febrile diseases, the great[est] re[lief] is derived from Antimony, even when it fa[ils]

---

stomach and intestines. In Melaena, a disease which depends upon an excited state of the capillaries of that membrane, I have given turpentine with complete success. In Haematemesis, it is in general use in this city, the practice probably having been derived from Mr. Adair's paper, in the 4th volume of the medical facts and observations. In veterinary medicine I have witnessed its great powers in Colic and Ileus. Its efficacy in certain cases of Epilepsy, probably arises from its influence over the abdominal viscera, and hence I have more than once meditated a trial of it in Hydrocephalus. I should think Turpentine, in large doses, deserving of a trial in all Typhoid fevers accompanied with Epigastric irritability and more especially in the Plague. In Dr. Faulkner's observations on the Plague, in the Edinburgh Medical and Surgical Journal for April 1814, it appears that two patients out of three whose recovery he has recorded, by mistake, had taken an enormous dose of the oil of Turpentine, viz. four ounces. As might be expected, violent Catharsis was the consequence; convalescence took place immediately after. From the practice of the American Physicians, and this, perhaps fortunate, mistake, I was induced to suggest the use of Turpentine in Synochus with Epigastric tension, threatening Tympanites. In some such cases it has been given with success, particularly by my friend Dr. Edward Percival. Oil of Turpentine has been employed in this city, in puerperal fever; of the result, I have heard very contradictory statements. I may venture to hope that the inauspicious circumstances under which it has been introduced to the profession, as a remedy for puerperal fever, will not operate to its prejudice. Dr. Irvine's recommendation of warm oil of Turpentine as an external application in inflammatory affections of the abdominal viscera,

of producing perspiration. A striking proof of which, has been afforded by a mode of practice, in unfavourable cases of fever, which, I believe, was introduced by an accomplished physician of Dublin, the late Dr. Purcell. In fever when extended beyond the usual time, and accompanied with a dry tongue, uneasiness and oppression at the Epigastrium; or, in reduplications of fever with similar symptoms, James's powder is given in moderate doses, generally along with some of the common purges, and is repeated or increased in quantity 'till a sensible effect is produced, which is generally a discharge of black and fœtid stools, and relief is then obtained often without the occurrence of diaphoresis.

If, after due preparation by means of venesection, or topical bleeding and blistering, calomel and James's powder, in combination, or alternated with the common purges, should fail of producing a change in the appearance of the stools or of giving relief to the head,

---

has not been sufficiently attended to. I cannot conclude this Note without expressing a hope that the administration of Oil of Turpentine both as an internal and external remedy, may become the subject of a course of clinical experiments.

new measures ought to be tried. Stools of the same nature with those which are generally passed in Hydrocephalus, are seldom seen in any other disease. They resemble boiled laver, they form a dark green gelatinous mass, with an oily looking surface, and are of a sickly but not fœtid smell; they consist of flakes of inspissated bile, which gives them their colour, and of the mucus of the intestines. Diffused in water, they do not render it turbid and scarcely change its colour, it seems as if the vitiated bile, by irritating the surface of the intestines, occasioned the copious discharge of mucus to which the stools owe their consistence. When these stools once appear, they in general continue, till the disease is terminated by the death of the patient, and though I have known them made more copious, yet their character is seldom changed by a perseverence in the use of drastic purges. Unless the irritation in the bowels is allayed, the biliary secretion increased, and its nature changed, our efforts will be unavailing. Common Cathartics increase the irritation of the bowels, which it is one of our great objects to diminish, and carry the Mercury out of the bowels before it has had time to make a sufficient impression.

Accident led me to what appears a considerable practical improvement. I was attending a boy of seven or eight years of age in Hydrocephalus; the disease might be considered as near the end of the second stage; as he was in great pain, his father, despairing of his recovery, requested that he might have a gentle opiate, which was accordingly given. I had previously remarked to some one of the attendants, who thought him dying, that from the mean duration of the disease, from its stage, and the state of the pulse, he might still live a week; he lived ten days. The opiate he took was the compound powder of Ipecacuan, which was mixed with an equal quantity of Hydrargyrum cum creta. I think he had five grains of each. In an hour or two after taking this medicine, the character of his pulse was improved, it became equal and regular, he enjoyed a respite from pain; the stools became more fœculent. The patient appeared in a tranquil sleep for the next ten or twelve hours, after which period the same medicine was repeated. He passed through the third stage without suffering, by keeping him under the influence of opium, and his life seemed prolonged rather than shortened by it.

I shall add a series of cases in which opium was given; in which, after depletion and in combination with mercurials, or mercurials and antimonials, that medicine appears to considerable advantage. For a a particular account of the way in which these remedies appeared to me to operate, the reader is referred to the observations on the cases.

In order to produce an anodyne effect in diseases of the brain attended with increased activity of the circulation, a very moderate dose of opium will be found sufficient. I lately observed, in a case of Hemiplegia, in which nearly all the medullary matter of the brain was found of the consistence of thick cream, that the narcotic effect of a moderate dose of opium, given to allay pain, was not quite over on the third day after it was administered. Nor does it appear that the dose requires to be large, in order to allay the irritation of the bowels. In excess, opium would probably interfere too much with their peristaltic movements.

It has been said that opium in combination with mercurials relaxes spasm, emulges the biliary ducts, &c. Which way so ever it may operate, it is certain that, in the very irritable state of the stomach which often

attends Hepatic inflammation, Mercurials are scarcely admissible, even after venesection, unless when combined with opium.

If it be wished suddenly to place the constitution under the influence of Mercury, I know but of two means, apparently opposite, namely, blood-letting and opium. In desperate circumstances it often becomes necessary to employ both, with what effect is best known to practitioners in countries in which the most dangerous Hepatic diseases are endemial.

The opinion which I had long entertained of the nature of the primary affection in most cases of Hydrocephalus, naturally enough might have suggested the use of all these remedies; the reader however may be assured that it was no preconceived theory, but mere accident, and a knowledge of the practice of some of my intelligent brethren of this place in similar diseases, which led me to the mode of practice which I am now recommending for further trial.

One important consideration yet remains, namely, the means of relieving distress and palliating symptoms.

In a consultation upon a case of Hydrocephalus (the particulars of which were afterwards related to me) when the question of blood-letting was under discussion, one of the physicians observed, "we had better have the child blooded, by so doing his life will not be saved, but he will die easier." This was the remark of a man of shrewd observation. I have long been convinced that patients who die of organic diseases of the brain, struggle and suffer much more when they are not blooded, than they would do otherwise. Nor have I any reason to think that moderate bleeding shortens their lives, but the contrary.

When venesection or arteriotomy is contraindicated, leeches will sometimes greatly relieve pain, as will ice, tied up in a thin bladder, and applied to the vertex. I by no means would undervalue blisters, yet ice in the early part of the disease, is often the more appropriate remedy. The head ought always to be shaved on the first suspicion of Hydrocephalus, that it may be kept cool and be frequently sponged with cold water and vinegar.

The convulsions which attend Hydrocephalus may be removed by affusion, or rather aspersion of the face and neck, with

water. The warm bath, which is usually employed, is more operose, and is by no means so generally efficacious. If however the warm bath be preferred, cold water may also be dashed upon the head and upper part of the body, while the patient is in the bath, by which means I have seen the fit instantaneously removed.*

I have to recommend the injection of a large glyster made by dissolving phosphate of soda or sulphate of magnesia in broth. It may be observed that children, in Hydrocephalus, lie easy for a couple of hours after getting a glyster. When not violently opposed by the patient, a glyster ought to be given every five or six hours, or even oftener. I believe much of the general nervous distress arises from the irritating nature of the fœces in the large intestines.

If I am right in thinking that opium, after due depletion, is a powerful instrument in forwarding the operation of the other remedies, it will be found of inestimable value in Hydrocephalus. If any practitioner of medicine will take the trouble of examining the cases which I am about to relate, he will

* I have been told that by burning a tobacco leaf, or smoking a pipe near the patient, the fit may be stopt.

then be able to appreciate the value of the means which I have been recommending for diminishing the sufferings of the patient.

It is however necessary to shew that while opium relieves distress, its tendency is to promote the efficacy of the other remedies. Parents are reconciled to their child's death by his screams and struggles, his imploring or vacant look. But still, in all the sickness of heart which they suffer, a hope of his recovery lingers behind, which would make them shudder at the mention of a drug which, while it lulled pain, brought dissolution one hour nearer, or deprived their child of a chance of recovery, even though that chance were but one in ten thousand.

CASES

OF

HYDROCEPHALUS ACUTUS.

"Quodcunque videris scribe et describe, memoriae ne fide."

CASE I.

January 20th. 1814.—Aet. 6½, remarkably intelligent, pale, fair, and rather delicate. This was said to be the 8th day of a fever, during which his bowels were irregular, and his stools dark green. Last night he complained of his head; in the beginning of the febrile attack he complained of head-ach, but it was transient.

Slight strabismus, averse to light; he dosed much, awoke collected, but often complained of pain in his head, over the eye brows, with some giddiness; pulse unequal, about 96; he frequently sighed; tongue was moist and perfectly clean; breath of a sickly smell.

Abradantur Capilli,
Applicentur hirudines sex Tempori.
℞ Pulveris Jacobi veri grana tria,
———— Scammonii grana quatuor.
f. Pulvis, tertiis horis sumendns.

Evening.—The effusion of blood after the leeches was profuse. No abatement of the symptoms; he awoke wild and squinting.

Mittatur Sanguis ex Arteria Temporali.

21st.—Strabismus; p. 108; his skin had not become soft. Five stools in the course of the night—chiefly a greenish slime; not more than two ounces of blood obtained, but he seemed easier after.

Mittatur Sanguis e brachio ad uncias Sex.
℞ Pulveris Jacobi grana quatuor,
——— Rhei grana duo, m. f. Pulvis
quartis horis sumendus.
Vesicatorium inter Scapulas.

Evening.—Much Strabismus, stupor, constant sighing, increase of restlessness; pulse weaker.

Intermittr. Pulveres Jacobi, &c.
℞ Submuriatis Hydrargyri,
Sacchari, utriusque, grana duo. m.
Sumat tertiis horis.

℞ Tincturae Digitalis guttas decem,
Spiritus Ætherei Nitrosi,
Syrupi Simplicis, utriusque drachmam,
Aquae semunciam m. f. Haustus,
sextis horis sumendus.

22d.—Light offensive, sound also. He continued to sigh. He was reported to have a habit of sighing; but he has sighed much more than usual. He was restless the greater part of the night; pulse 116; had been grinding his teeth; had voided no urine for 24 hours.

Statim Injiciatur Enema Terebinthinatum.
Perstet in usu Medicamentorum. Augt.
dosis Tincturae Digitalis, tribus guttis, singulis
vicibus.

Evening.—He had an easy day. He did not complain of his head more than once or twice. He was quite collected, at the same time I observed that he was fast asleep in not more than ten or twenty seconds after he had answered a question. He had frequently complained of some pain in his belly which was soft. The glyster brought away but a scanty discharge of fœces. He afterwards passed seven or eight ounces of urine.

℞ Infusi Sennae Unciam
Tincturae Sennae,
Syrupi Simplicis, utriusque drachmam,
Electuarii Scammonii grana quindecim,
Sum. cras mane.

23d.—Dilated pupils, less strabismus, pulse 130; four stools of the darkest green.

Applicetur Vesicatorium vertici
℞ Pulveris Jacobi,
Submuriatis Hydrargyri āā grana duo m.
tertiis horis sum.
Sumat Haustum cum Tincturae Digitalis
guttis viginti.

24th.—Very enlarged pupils. No headach. Pulse 134. Urine very deficient. Scanty stool. Blister succeeded well.

Evening.—A convulsion was threatened, but was instantly checked by aspersion of the face and neck with cold water.

Continuentur Medicamenta.

25th.—Dilated pupil; Coma; Glairy stools; p. 140--50. Slight subsultus. Convulsion was again threatened, but was prevented by aspersion, after which half a grain of opium was given.

Continuentur Medicamenta.
Vesicatorium Occipiti.

26th.—He lay quiet. Convulsion last night again checked by aspersion and opium. He was rubbed with Mercurial ointment.

Continuentur Medicamenta.

27th.—The vessels of the albuginea were varicose, and there was a gummy discharge from the eye. More dilatation of the left than the right pupil. p. 130. The gums appeared tumid. He had a perfectly calm night.

Evening.—Incoherent when roused; tongue clean; glairy stools; straw coloured urine.

On the 28th of January he died. No dissection.

CASE II.

Friday, March 11th. 1814. —— ——, Aet 12, a very promising boy; liable to feverish attacks with disordered bowels. Intense pain and weight of forehead and vertex, leaned on his forehead to ease the weight; face flushed, eyes red; pupils large, sight perfect, noise and light distressing. Frequent sighs; stings of sharp pain in the head, pains in the right shoulder, nape of the neck, back and loins, alternated with that of the head; skin burning; tongue loaded; thirsty; pulse about 70, increased to 100 on the least motion; vomited both drink and medicines. Costive for some days. Abdomen tense; urine scanty and high coloured; scarce any sleep; constant agitation, changing from the bed to the fire.

Was feverish at christmas; recovered apparently, but soon drooped; he was chilly and complained of his right side, sat leaning to his right side owing to pain, and complained of his head. Bowels were neglected. Cough supervened which still continues, and lastly, on Sunday the 6th of March, he was attacked with acute pain in the head.

Hirudines duodecim Temporibus.
Pil: Colocynthidis cum Calomelane,
sumat duas alternis horis.
Enema Catharticum.

March 12th.—A large stool with large balls; head easier; little sleep; vomiting ceased; cough troublesome; agitation still incessant; pulse unsteady.

V. S. ad unc. X.
Pulv: Jacobi gr. tria, tertiis horis.

March 13th.—Cough relieved; fever not abated. Blood buffy and cupped; sweat on the head and neck for an hour, succeeded by shivering and recurrence of heat and pain; Pain mitigated by glyster and Cathartic pills; Eyes more vacant, pupils large—they contracted; p. 60, very intermitting; two motions; urine with a white deposite; bilious vomiting after the third powder.

March 14th.—A consultation held.

℞ Pulveris Antimonialis
Calomelanos āā grana duo. h. s. sum.
Cras, Mist. Purg. e Senna &c.

March 15th.—Made less complaint though his distress evidently was considerable; he sighed, moaned, and cried out, but immediately forgot the painful stings, and relapsed

either into a torpid state, or was incessantly agitated and required his posture to be changed. P. under 60, but very irregular; had some vomiting; had passed glairy stools and urine with white deposite. Give beef tea.

Mist. Camph. cum Aqua Acetatis Ammoniae.

March 16th.—More flushed and feverish; p. 100, unsteady and irregular; stings of pain in his head, shoulders, and back.

March 18th.—Upon which day it was that Dr. Crampton, Professor of Materia Medica, under whose care the boy was, told me he had a patient in Hydrocephalus, whom, if I had a mind, I might go with him and see. The preceeding reports are in Dr. Crampton's words. The following are transcribed from my case book.

No complaint of the head; he lay with his face turned from the light; he sighed, and complained of a most acute pain of the right Acromion Scapulae. This pain had not remitted for several hours; there was considerable tenderness all along the margin of the liver, but especially in the left portion of it, in the Epigastrium. Pulse irregular, unequal, 76, hurried by turning in bed; stools of a dark muddy green; Urine not very deficient.

Applicr. Hirudines sex regioni hepatis.
℞ Pulveris Jacobi grana duodecim,
Calomelanos grana novem,
Opii grana duo,
Conservae q. s. s. f. Pilulae sex. Sumat unam quartis horis.

March 20th.—Tranquil, more dull; he sighed three or four times during our visit; he had one sharp sting of pain which he said was in his head and back; p. 80; Tongue furred, brown and dry. Shortly after the bleeding with leeches, the pain in the shoulder ceased.

Cont.

March 22d.—With difficulty roused. Pupil dilated; slight strabismus. P. 100, more irregular; tongue moist at the edges; large liquid stool; urine free and with a copious sediment; for the last two days he has had profuse sweats from his neck. Was taking at the rate of a scruple of Calomel in 24 hours.

Continuentur Pilulae.
Hab. Pulveris Fol. Digitalis gr. iss. tertiis. horis.

March 23d.—Great langour; his sight is perfect, as are all the animal functions, he answered slowly but with a distinct apprehension. Pulse, before he was stirred, not

more than 60. Tongue at the edges clean and moist. Abdomen soft, no stool. The perspiration from the head continues, night cap after night cap drenched. In an hour, or two after the first dose of Digitalis, he began to pass urine profusely, and continued to pass it every hour and half. In the night he took a pint of warm jelly.

Contr

March 24th.—Tranquil; was taking nourishment in abundance. Excretion of sweat and urine profuse. No stool.

Contr

Sumat Pil. Purg. e Colocynthide, &c.

March 25th.—In the afternoon of the 24th he became very cold. There was something too eager in the grasp of his hand, when his mother laid hold of it: it seemed almost convulsive, then jactitation came on.

Comatose; p. 120; respiration slow and irregular; very profuse perspiration and urine continue; he took sustenance.

In the evening he died without a struggle.

Dissection, 1 *o'Clock*, *March* 27th.—On the surface of the brain, there was no increased vascularity nor effusion: it was remarkably

dry, nor was the substance of the brain vascular nor moist; it was firm. The roof of the right ventricle, which was uniformly distended, was elevated considerably above its proper level; the left ventricle was less distended; all the ventricles were full of fluid: they contained about three ounces. All around the ventricles, the brain was pulpy: without firmness or consistence. There was a very considerable mass of coagulable lymph lying under the optic nerves, which, at first, looked like a collection of fatty matter. Some fluid escaped upon slitting up the Tentorium.

There was a firm and extensive band of adhesion at right angles to the broad ligament of the liver, connecting the whole of the convex surface of the liver, which lies to the right of the broad ligament, with the Peritoneum. There were many white tubercles of various sizes, with which the whole of the surface of the spleen was studded; the largest less than a small pea.

There were many recent adhesions between the pleurae. The serous membrane of the heart was opaque; under it, particularly towards the apex, on the surface of the left ventricle, there was an extensive layer of coagulable lymph.

CASE III.

20th *October*, 1814. —— ——, 17 months old, was weaned at 13 months, after which his bowels were disordered. This was supposed the 11th day of his illness. My friend Mr. J. Moore, who had attended him for three days, apprehensive of the tendency of his complaint, had given him very brisk purgatives. Calomel, Scammony, and Jalap; he had also given him James's powder. The child was affected with retching, vomiting, and a bound belly, when Mr. Moore first saw him.

He was dosing with his eyelids half shut; black under the eyelids, with a death-like settledness of the countenance. He sighed constantly. Lips chappy; tongue white and moist; p. 126--30; stools dark green and slimy; abdomen full, right Hypochondrium tender, liver enlarged; the margin was felt about an inch and a half below the margin of the rib no evening exacerbation. As two of the double teeth were about to appear, his gums were scarified.

Hirudines sex Tempori.
℞ Submuriatis Hydrargyri,
Pulveris Jacobi, āā grana duodecim,
Opii granum. m. et divide in partes octo aequales. Detur una tertiis horis.

21st.—He had squinting in the night; was still dosing; tongue clean and moist; pulse 116; he had passed a number of looše mucous stools, of a dark green colour.

22d.—He had a very restless uneasy night; Strabismus; an immense discharge of the same unpromising kind of fœces; p. 140--50.

℞ Submuriatis Hydrargyri grana duodecim,
Pulveris Jacobi grana sedecim,
Opii grana duo. m. et divide in partes octo.
Abradr. Capilli.
Vesicatorium amplum Vertici.
Cras mane, habeat Haustum ex Infuso Sennae, &c.

23d.—Squinting; dosing; sighing; p. 120; fœces of the same description. Had taken a sufficiency of nourishment: the broth of two chickens.

℞ Hydrargyri cum Creta semidrachmam,
Opii grana duo. in partes octo.
Sumat unam tertiis horis.

24th.—Discharge from the bowels more scanty.

Sumat statim Infusi Sennae drachmas quinque
cum Tincturae Jalapae et Syrupi Scillae,
utriusque semidrachma.
Perstet in usu pulverum.

25th.—Peevish and uneasy, he had a fixed squint; he lay picking his mouth after a disturbed night; p. 120; abdomen subsiding, discharge free; urine reported very copious.

Injiciatur Enema Terebinthinatum.
℞ Hydrargyri cum creta drachmam dimidiam,
Opii in pulverem triti, grana duo cum semisse.
in chartas octo.

26th.—Restless night. Pupils greatly contracted, eyes staring; p. 126; tongue clean; respiration frequent; the stools were more of a bilious colour; had more fullness of the abdomen.

Injr. Enema Infusi Colocynthidis.
Perstet in usu pulverum.

27th—No strabismus; pupil much contracted and the eye staring; vision lost, the eye did not follow any object which was moved before it. No suffusion of the albuginea; pulse 120; respiration less frequent; belly softer; fifteen or twenty stools, some of them nearly natural and large, in others a bloody mucus; urine free; the blistered

surface was still discharging greatly. Nourishment largely taken.

℞ Opii grana duo,
Hydrargyri cum creta semidrachmam.
in partes octo.

28th.—No sighing, nor squinting; eye looked well; vision doubtful, they alleged that the eye followed any thing bright; p. 126; a cough resembling whooping cough; twelve stools; urine copious; some pustules about the face, and a scarlet rash on the arms, probably from the blister, which continued to discharge purulent matter in considerable quantity.

29th.—Fixed squint; restless, peevish, and screaming; p. under 120; five or six small stools, belly more tumid; urine copious.

Repr. Haustus Purgans.
℞ Opii, granum cum semisse,
Hydrargyri cum creta semidrachmam.
in partes octo.

30th.—Fretful; less Strabismus; pupil of a natural size; vision undoubted; no sighing, respiration natural; p. 108; eight or ten stools; urine copious.

℞ Opii granum,
Hydrargyri cum creta grana viginti quatuor.
in partes octo.
Habeat Enema Terebinthinatum.

31st.—Occasional Strabismus; extremely fretful; manner natural; p. 108--12; three or four scanty motions; urine free.

Hanstus Purgans.
Continuentur Pulveres.

November 1st.—Symptoms were as on the 31st. Debility very great. Stools copious; edge of the liver was to be felt about half an inch below the margin of the ribs, pressure upon it no longer gave pain; no mercurial fœtor in the breath. Madeira whey and animal jelly.

Continuentur Pulveres sine opio.

2d.—He screamed almost all night, exceedingly fretful; only one scanty stool; p. 96; omit the wine whey and jelly, return to chicken broth.

℞ Infusi sennae uncias tres,
Tincturae Jalapae drachmas tres,
Syrupi Simplicis drachmas quinque,
Carbonatis Sodae scrupulum,
Tincturae opii guttas duodecim.
m. Sumat cochleria duo ampla tertiis horis ad alvi Solutionem.
Continuentur Pulveres.

3d.—Extremely restless and agitated. His tongue was red, and generally lolled out

inviting drink, of which he had taken an immensity; lips particularly at the angle chapped. He had been sick in the night and vomited. Many large discharges from his bowels.

℞ Boracis semidrachmam,
Aquae ferventis uncias duas cum semisse,
Syrupi Simplicis semunciam,
Tincturae opii guttas triginta. m.
Sumat cochleare amplum pro dosi.

Evening.—P. 82; tranquilized completely by the first dose of mixture. Anodyne and purgative mixtures to be given according to circumstances.

5th.—Again intolerably fretful; belly loose and flatulent.

℞ Magnesiae scrupulum,
Olei Carui guttas quatuor,
Spiritus Ammoniae fœtidi guttas viginti,
Aquae Menthae unciam cum semisse,
Syrupi simplicis semunciam,
Tincturae opii guttas viginti m.
Sumat cochleare medium subinde.

8th.—The Carminative mixture gave great relief; often cried three or four hours without ceasing; pulse was natural and expression also, with the exception of a degree of strabismus; bowels required to be regulated

by medicine; entire change of diet, to asses milk.

12th.—Consistent and natural stools, with a due quantity of bile. He took five half pints of asses milk a day with Naples biscuit.

20th.—Began to regain flesh, a very slight squint perceptible.

December 1st.—Strabismus was scarcely observable; nights restless; in other respects in perfect health.

20th.—In much better health than he had been for five or six months.

Observations on the Cases.

If these Cases should appear of a tiresome length, I hope for the Readers pardon. I could easily have abridged them, but I thought it better in a matter of much practical importance, to incur the charge of tediousness, than the risk of being inaccurate, I therefore copied them verbatim from my case book.

Case I. According to the report which was made to me by the gentleman who had charge of this patient before I was called into attendance, his illness began as a remittent fever accompanied with great disorder of the bowels; on the first attack of the fever, the stools were dark green and glairy, and procured with difficulty. It is well known that symptoms of Hydrocephalus, when they arise in the course of an acute disease, such as infantine remittent, are seldom relieved.

This was a case but little favourable to a clinical experiment. I had wished to try the effects of opium in Hydrocephalus, but

I was withheld partly by a slavish fear of consequences, partly by doubts of its efficacy, 'till the patient was in the third stage of the disease; even then the opium was of service. The convulsions were kept off, the strabismus was less observable, the pulse, I thought, became fuller, and the operation of the other remedies was not interrupted.

In the cure of Hydrocephalus no time ought to be lost in attempting to remove the irritation of the villous membrane of the intestines, which was not accomplished in this case, and which is seldom accomplished; in general the stools obstinately continue mucous; I have several times seen blood in the stools, and I have known prolapse of the anus with so much tenderness, that a glyster pipe could not be introduced.

I examined the stools which this boy passed more than once, they consisted of mucus and flakes of a green substance which was bile, probably vitiated. The great quantity of mucus discharged was a proof that the irritation of the villous coat was extensive. Perhaps this irritation is a part of the disease, or the bile, though unfit to regulate the alimentary canal, may irritate the mucus follicles, and the quantity of mucus may be owing partly to this circumstance, and part-

ly to the action of the cathartics. It has often been remarked, that in order to procure stools in Hydrocephalus, cathartics are required in large doses, in quantities sufficient powerfully to stimulate the intestines, so as to quicken their peristaltic movements. But, however drastic the purgatives may be, commonly they expel nothing more than the bile, which had found its way into the alimentary canal, and the intestinal mucus, part of which they create; they seldom re-establish the functions of the vessels which pour out the natural secretions.

Case II. The febrile attacks to which this boy had been subject, used to yield to Mercurial purges, a mode of treatment which was not pursued in the illness which began about Christmas; after that illness the abdominal viscera fell into great disorder which continued two months, and at last the head became permanently affected: the cough, occasional head-ach, irregular state of the bowels, langour and depression, were all subsequent to the pain in the right side. But it is unnecessary to insist upon the disorder of the abdominal viscera in this case, few will allege that it was of a secondary nature: in this case at least, it is pretty evident that the series of diseased actions began in the abdomen.

Notwithstanding the vigorous practice of the first week, which probably conduced to the mildness of the subsequent part of the disease, there remained on the 18th. manifest proofs of inflammation of the liver.

On the 18th the disease of the brain was in an advanced stage, and the patients strength was reduced; general blood-letting was not thought expedient; emptying the vessels in the neighbourhood of the liver gave great relief; we agreed to combine opium with James's powder and calomel, expecting thereby to increase the powers of the latter, but we were without any very sanguine hope of removing the disease. On the 17th the stools were mucous; after the 18th they were fœculent, and there was no irritation in the bowels, nor screaming; there were no convulsions. The animal functions, especially on the 23d and 24th, were scarcely disturbed. In short, the medicines completely fulfilled the expectations with which we had prescribed them: while the liver yielded a more healthy bile, the perspiration from the head and neck was prodigious, such as I had never witnessed, and the urine began to flow, soon after the first dose of the foxglove. The constitution made a surprising rally, indeed it did every thing short of throwing off the disease: for

two days the excretions bore a strong resemblance to those which generally attend a favourable and complete crisis.

With respect to the dissection, there was nothing remarkable in the brain. The brain is often firm, even when that part of it, which forms the parietes of the ventricles, is pulpy, and it is not uncommon to find coagulable lymph about the base of the brain. The liver was connected with the peritoneum, by one of the most extensive bands of coagulable lymph I ever saw formed by inflammation, yet there was little appearance of disease in the substance of the liver; seemingly it had recovered from the inflammation, which certainly did exist in the early part of the complaint. This I believe is often the case, the liver is relieved, while the organs which it draws into disease are destroyed. So, also the brain has been relieved without complete relief of the liver: I lately heard of an attack of Hydrocephalus which was cut short by opening the temporal arteries and removing eight ounces of blood, in which, for at least two months after, the child was costive; and all the common purgatives were ineffectual unless in large doses. It has been asserted that the organ originally and principally affected in fevers has recovered, even when

the fever proved fatal. "I may be permitted to remark with regard to dissections," says Dr. Irvine, in his account of the diseases of Sicily, "that the tolerably sound appearance of a viscus after death from a fever, which has continued for a number of days or weeks, does not by any means prove that no disease existed in it, in the commencement of the attack. It is possible that the brain may be affected in many cases at first, so as to influence the progress of the disorder, but from the subsidence of that affection, in the later periods, no mark of its existence may be discernible after death."

These remarks are applied only to the cases of Hydrocephalus, in which the abdominal viscera are manifestly disordered before the brain becomes affected.

Case III. The strength of this child was much reduced by weaning-brash and whooping cough. From the delicacy which they had left behind, it was not easy to ascertain the date of the disease of the brain.

This also was one of those cases in which the abdominal viscera were disordered long before the brain became affected. There was probably some peculiarity in the childs constitution, which exposed him to an attack of Hydrocephalus, two of his cousins, by the father's side, died of that disease.

On the 20th of October the disease was between the first and second stage. In the beginning of the 2d rather than the end of the 1st. Somnolency, imperfect vision, and strabismus, sometimes occur several days before the pulse becomes slow.

This was a case in which neither the diathesis of the patient, nor the nature of the attack, nor yet the stage of the disease, encouraged us to expect much advantage from general blood-letting; local bleeding seemed indicated, and to remove every cavil the gums were scarified. Indeed, altho' the gums were neither inflamed nor tender, the operation was probably of some use, as one of the molares penetrated the gum soon after.

The state of the abdominal viscera was our first and principal care. The liver could be felt enlarged and tender; it seemed probable that the mesenteric glands were also enlarged, as the mouths of the absorbents which pass through them, had long been acting upon an imperfectly concocted mass. Our objects were to promote and improve the secretions of the liver, and to counteract the irritation produced by a morbid state of the bile, upon the alimentary canal, and the system of the lacteal absorbents.

We began with but a small quantity of opium lest it should interfere too much with the peristaltic movement of the bowels. The discharge from the bowels not being checked, but, on the contrary, becoming more free, and the general irritability of the system being great, the quantity of opium was increased to two grains in twenty-four hours; after which the quality of the discharge from the bowels was improved, and the child became calm though the disease was unsubdued.

Nothing is more encouraging in Hydrocephalus than to find an increase of the excretions: the state of the urine on the 25th. afforded a dawning of hope; on that night the restlessness returned, and the quantity of opium was further increased. On the 26th the pupils were contracted, and the next day it struck us that the great contraction of the pupils was owing to the opium; it was therefore gradually diminished and we began to perceive we were gaining ground. The secerning function of the liver being restored, its swelling subsided, the symptoms of diseased brain and pyrexia gradually disappeared; on the 31st we considered the specific disease of the brain as terminated.

The rapid decrease of an enlarged liver may frequently be remarked in the diseases

of children, I have more than once remarked it in Hydrocephalus, or at least in cases which threatened to end in that disease; on the other hand, when Hydrocephalus was about to terminate unfavourably, the liver has rapidly increased in bulk, of which the following is a proof, related by the gentleman who attended the patient. "In Mr. ——'s child an enlargement of the liver took place which was not observed 'till four days previous to the death of the patient. The progress of the enlargement was such, that in the course of these four days, the edge of the right lobe nearly touched the spine of the ilium, and the left could be felt about an inch above the umbilicus. The child was only ten days ill, and, from the commencement, the abdomen was examined daily, and particularly the region of the liver, and until the period of the disease, above mentioned, no enlargement of that viscus could be perceived."

We are directed by a late writer on Hydrocephalus, Dr. Smyth of London, to apply caustic to the Bregma. In the present instance however, such an application was not admissible as the ossification was incomplete.

Blisters applied to the scalp, seldom vesicate, but if they are well prepared, they produce as much inflammation and discharge

from the teguments of the head, as from any part of the body. In acute diseases blisters are considered, and with good reason, more effectual as counterirritants than issues however made.

On former occasions I had remarked that, even when the morbid action of the vessels of the brain was subdued, a considerable time elapsed before health was established. A perfect cooperation of the different organs, in which health may be said to consist, is not soon restored after a disease of the brain; this, I believe is the true cause of various interruptions to convalescence, which I used to attribute to mismanagement.

From the degree of debility which we remarked on the 1st of November, we again began to entertain doubts of the child's recovery, we apprehended aphthae or some return of visceral obstruction; a change of diet was attempted with wine instead of opium, but as his attendants thought the change injurious, we returned to the opium and chicken broth. Various means were used with temporary benefit, until the 9th. when, fearful of hectic from obstruction in some of the abdominal viscera, medicine was laid aside, and every thing trusted to asses milk, after this second change his recovery was uninterrupted.

I have frequently referred to an irritation of the mucous membrane of the intestines in Hydrocephalus, which. in connection with an excited and non-secerning liver, opposes difficulties, generally, insurmountable to the curative process, and I have been led to conjecture that this state of the abdominal viscera, not only prevents the operation of of remedies, but, in some constitutions, causes and maintains the disease of the brain.

This irritation of the abdominal viscera may be considered as a variety of that disorder which has been called, by foreign writers, a surcharge of the bile, a bilious or gastrick saburra, *embarras gastrique*, &c. It seems a dangerous disorder when there is any thing in the diathesis which renders a child liable to disease of the brain. The symptoms of this disorder, in addition to the general symptoms of fever, are, a furred, white, or grey tongue, a bitter or unpleasant taste in the mouth, very sickly smell of the breath, complete anorexia, sometimes instant vomiting of food or drink, tension of the Hypochondria; defect of the excretions, hot dry skin, scanty high coloured urine, bound belly, or colourless or mucous stools. When

these symptoms are abating, or soon after, the stools are bilious, and then they become natural. This disorder may be illustrated by the following example.

On Sunday the 2d of April, a child four years of age, who had an issue in his arm, struck the issue against the corner of a table; next day it was much inflamed and threatened to slough; on Tuesday the slough was formed, and in the evening partly detached, and the glands of the axilla were swelled. On Tuesday forenoon he was pale, frequently retched, and had a burning skin and white tongue, nothing would lie in his stomach, his breath was of a sickly smell. He had two grains of calomel given him. As the day advanced he became more and more flushed, towards evening his face was suffused, and, upon waking from an unrefrshing slumber, he was observed extending his arm in the way children do when they are about to take a fit, at the same time he was incoherent, and his eyelids were convulsively affected. He went to sleep again and awoke in convulsions. In less than half an hour he was let blood to the amount of four ounces. The effects of the loss of blood, together with a dose of James's powder and calomel, which he took after the first threatening of convul-

sions, made him faint, and produced a loose stool. In three hours after blood-letting no tendency to convulsions could be observed, twice in the course of the night he had one grain of calomel and two of James's powder and glysters, his stomach retained weak beef tea with acetate of soda. He had stools on Wednesday morning, one of which I examined; it consisted of mucus with dark green flakes, and was precisely like the stools so often passed in Hydrocephalus. His stomach was irritable all that day; tongue white, febrile distress considerable; in the evening he had a small dose of calomel which was rejected almost immediately. In the course of Thursday, he took two drachms of Magnesia in lemon juice. In the evening he passed bilious stools. On Friday he was well. It is perhaps worthy of remark, that the sickly smell belongs to the whole of the mucous membrane of the intestines: one of the glysters of weak broth, after having been retained for some time, was rejected without any of the contents of the bowels, and it had acquired the sickly smell of the breath.

The disorder of the bowels is frequently the consequence of an injury of some distant organ, in which case it has been conjectured, that the gastro-hepatic system becomes affec-

ted thro' the medium of the brain. But it may be observed that although the brain is probably disordered while it is thus transmitting disease, yet that the symptoms of an affection of the brain, when such are induced, seldom appear 'till the irritation of the abdominal viscera has been established. The affection of the brain would seem chiefly to depend upon the reflex impression.

It has been alleged that the disorder of the abdominal viscera which occurs in so great a majority of the cases of Hydrocephalus, altho' it may seem to take the lead, is in fact subordinate—is but a symptom of a disease of the brain which has not yet displayed itself. I shall not call this opinion in question, provided it be admitted, that the most effectual way of preventing the developement of Hydrocephalus, is, by correcting this subordinate affection of the abdominal viscera. If, in Hydrocephalus, the first of the series of diseased actions is in the liver, we may hope, by early subduing the increased vascular action of that organ, and by improving the biliary secretion, to relieve the patient, provided the disease in the brain has not gone too far: Unless the brain admits of being relieved through the medium of the abdominal viscera, Hydrocephalus, I

apprehend, will still continue a reproach to medicine, as it was in the days of Whytt and Fothergil.

It has lately been asserted by Dr. Blackall, in his work on Dropsies, that Hydrocephalus is a "common result of large doses of calomel given in infantine diseases and scrofulous habits." He is of opinion that the very free use of calomel produces an aggravated Hydropic diathesis, in which case, in children, the dropsy is disposed to fix in the the brain.

The indiscriminate use of calomel, or the use of calomel as a domestic medicine, I have always reprobrated as a very dangerous innovation. Mercury ought never to be given unless by the special direction of a Medical practitioner, and I believe no regular practitioner of Medicine would prescribe Mercurials, in a case in which, mere evacuation of the alimentary canal being the object, a common purge would be sufficient. Mercurial courses often bring latent diseases into activity, such for instance as struma, consumption, insanity, and perhaps Hydrocephalus also, though I have no recollection of any such occurrence. It is but right however to add, that I recollect many cases, in which I

was persuaded that the patient would have been saved, had Mercurials been administered during the state of indisposition which ended in Hydrocephalus. I already mentioned that five children, patients of mine, in 1808, were victims to Hydrocephalus after Measles; with these a Mercurial course was not in question as a cause of Hydrocephalus, at that time, unfortunately, I was unacquainted with the efficacy of small doses of Ipecacuan and Calomel, in the Peripneumony, as well as the dysentery which attends or follows Measles, and I cannot help thinking, that of about one hundred of my patients who died of Measles in 1807 and 1808, more than a half might have been saved, had I been more skillful in the use of Mercurials.

Case I. was that of a boy, not in the habit of taking any medicine, who had come from the country shortly before his last illness. In Case II. Dr. Crampton attributed the illness to a want of those Mercurial purges which had relieved the patient, in former attacks of the same disease which he had, about Christmas. With respect to Case III. the complaint occurred after Hepatic obstruction consequent upon weaning, which when severe, I have seldom been able to remove speedily and effectually, without a course

of mild Mercurials. These Cases, I need scarcely observe, were not inserted to invalidate Dr. Blackall's assertions.

THE END.