A TRULY VIRTUOUS WILL IS ALMOST OMNIPOTENT.

EDITED BY
MILTON M. ANTONY, M. D.,
PROFESSOR OF OBSTETRICS, &c., IN THE MEDICAL COLLEGE OF GEORGIA.

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On the influence of Pain in the production of Death. By
Dr. Samuel D. Gamble, Zebulon, Pike Co. Geo.

[It will be recollected that at the instance of one of the readers of the Southern Medical & Surgical Journal, we lately requested the contribution to our pages, of an essay on the following subject:
"Is any degree of pain, sufficient of itself, to produce death?"
In compliance with that request, the following essay has been forwarded to us.—Ed.]

"Is any degree of pain sufficient, of itself, to produce death?"

If we may credit the writings of many eminent practitioners, pain, when amounting to a certain degree of intensity and duration, is of itself destructive. Difficult and protracted parturition is occasionally fatal from this cause; and even in cases in which neither extraordinary difficulty nor protraction was experienced, a fatal prostration has sometimes supervened, which has admitted of no other explanation. The delivery has been complete without any degree of physical injury, and not more than an ordinary quantity of blood has escaped from the vessels of the uterus. Yet the woman, in despite of the encouragement derived from the consciousness of safety to herself and infant, and of
comfort from the conclusion that her sufferings were at an end, has never rallied, either in strength or spirit; but after an interval, not exceeding a few hours, spent in a low and sinking state, has unexpectedly and with little perceptible alteration, expired.

It is fair to say, that these cases are by some persons differently explained. It has been argued that in a state of exhaustion a very moderate loss of blood is sufficient to induce a fatal syncope, which is very true; an exhaustion so great that even the natural and ordinary circumstances of delivery annihilated the power of recovery. But to what was the previous exhaustion to be attributed, especially where the labour, as above stated, has been neither unusually lingering nor difficult? Others have attributed the catastrophe to presentiment or mental impression, and cases have undoubtedly occurred demonstrative of the fatal effect of this depressing cause. But even where the evidence of this state has been most conclusive, I have been disposed to question its single and unmixed operation to the extent supposed; but coupled with bodily suffering and exhaustion from that cause, its fatal influence is beyond all doubt.

There is a case in which, with an unconfined state of bowels, abdominal after-pain, aggravated by pressure, augments, at no distant period from delivery, to a degree sufficient to induce the belief that puerperal inflammation exists; the pulse is accelerated, and notwithstanding its want of power, and a general expression of feebleness, the practitioner, suspicious of the pain, takes away a full quantity of blood. No satisfactory result is obtained; the pulse and the patient sink together, and a fatal coma succeeds. This is a pain not of inflammation but of irritation, and would have a better chance of relief from laudanum than the lancet.

The following case is extracted, as well illustrating the effect of acute and enduring pain from Dr. Merriman's "Synopsis of the various kinds of difficult Parturition." It is communicated to the esteemed author of that work in a letter from Dr. Gooch.

"Dear Sir,—The following case occurred more than twenty years ago, June 1799, to Mr. Barrett, of Yarmouth, with whom I was then residing as apprentice. I do not relate it from my own observation, but from a manuscript account which he drew up at the time, and which, as too voluminous for your purpose, I shall try to abridge.
The patient was a lady 31 years of age, in labour with her sixth child. On his first examination, Mr. B. found a large fleshy substance, almost filling the vagina; passing up his finger between the front of the tumour and the symphysis pubis, he felt the orifice of the uterus, the anterior segment completely dilated, but the posterior could not be felt because of the tumour. Whilst he was examining, a pain came on, and the distended membranes descended between the tumour and the pubis, and almost protruded externally; another pain ruptured the membranes, when he discovered the head of the child resting on the symphysis pubis. As the head did not advance, he introduced his hand, brought down the feet, and with some difficulty extracted the child; it was born lifeless, but he persevered in inflating the lungs, and in half an hour it cried lustily. Whilst he was occupied about the child, the placenta was expelled, and after waiting for some time, the patient appearing easy and well he left her; this was at seven in the morning. At three in the afternoon he was sent for again; she had had such violent pains that she thought there was another child; but as the abdomen was flat, and the contracted uterus could be easily felt, he assured her to the contrary, and gave her an opiate. When he saw her at eight at night, he learnt that the pains had continued violently: she felt as if there was something to come away, and on examination there was discovered a soft tumour pressing against the os externum. What could it be? He would have thought it was the uterus inverted, but it was the same tumour which he had felt in the morning before the child was born; there was no hemorrhage, the placenta had been expelled spontaneously, and the uterus could be distinctly felt in the hypogastric region. He consulted his medical friends in the town, and sent off to Norwich for Mr. Rigby. She took an anodyne mixture; but the pains continued with violent explosive efforts all night, and the next morning he found her with a languid pulse, and a pallid countenance; a large fleshy, livid tumour had been forced out of the vagina, and every pain brought it more and more into sight; she continued to suffer and to sink through the rest of the day; in the evening Mr. Rigby arrived, but she had expired about half an hour before. The body was opened the next day; the uterus was contracted, but its mouth was dragged down as low as the external orifice, by a tumour which grew from it by a broad base; it was attached to the posterior part of the mouth of the womb, and some way up the neck, was of a livid colour, and weighed three pounds and fifteen ounces. The patient had borne her last child two years before, easily and naturally; but some time before her present pregnancy she looked as large as if she was seven months with child.

This case is curious, not only as a specimen of the rare coin-
cidence of polypus and pregnancy, but as a striking proof that mere pain can destroy life. The labour-pains continued after the uterus was empty, and she may be literally said to have died of a protracted labour which took place after the child and placenta were born. I am, dear Sir,

Yours Truly,

ROBERT GOOCH.”

BERNERS STREET, March 26th, 1820.

Certain forms of mortal injury are productive of sudden excruciating and unremitting pain, such as ruptures of the stomach, gall and urinary bladders. Death ensues in these cases many hours sooner than when the pain is less intense, and before the morbid changes, which take place in consequence of the injury are so far established as to make it credible that the result is to be ascribed to their influence. Mr. TRAVERS gives an account of a case to which he had been called to a gentleman writhing with pain in the abdomen, which he had endured for the space of two hours previous to his seeing him, and described as unlike any he had ever experienced. He accosted the Doctor in these words: “Doctor if you cannot put an end to this pain, it will soon put an end to me.” So true was his prediction, that in twelve hours, from a state of comparative health, (he had been at the theatre the preceding evening,) he was no more. This disease was an ulcer in the pyloric portion of the stomach, which had perforated its coats, and allowed of the escape of its contents into the general cavity.

Oxalic acid, arsenic, and some other poisons, taken into the stomach, seem to destroy life by their action on the nervous system; the characteristic expression of this action is overwhelming pain, and no organic change presenting itself competent to explain the phenomenon of almost immediate death, it is highly probable that pain has the principal share in determining this result. I shall not be understood to question the otherwise fatal effects of such injuries and noxious agents as the above, in considering the acceleration of their issue to be owing to excessive pain.

In what degree pain contributes to the speedily fatal result of the various forms of complicated injury befalling parts not essential to life, and therefore not in their nature mortal, we are only enabled to judge by the expression of suffering. But not to
speak of the difference of temperament in different individuals, it is probable that the expression of suffering, whether more or less, is often a fallacious criterion of the measure of pain actually endured; and that the operation of pain upon the system varies both with the character of the pain, and the state of the system. In all cases pain has its seat in the brain, being only a mode of sensation. It is evidently subject to varieties both in kind and degree, by the texture injured, by the nature of the injury or exciting cause, and by the state of the circulation. Every texture has its characteristic sensation under irritation. The different forms of injury and of inflammation have also theirs. There is a pain of the nerves, and of the muscles, and of serous membranes—a pain of laceration, of division, and of distention—a pain of suppuration, of ulceration, and of scirrhous—and the figurative terms, burning, pricking, shooting or lancinating, throbbing, gnawing, twinging, aching, and many others, are in constant use to express these varieties. We should, à priori, conclude that the pain excited by the mechanical operations of cutting, burning, and bruising of sound parts is essentially different from that produced by any action of inflammation; and that the nervous system excited by fever, or enfeebled by sickness of any kind, would receive impressions of pain widely different from those transmitted to it when overtaken by injury in a robust and healthy state. It is probable that in these contrasted states of the system, very opposite effects are produced by pain; as for example, in one case stupor, and in another delirium; and this is rendered more probable by the fact that anodyne medicines are, more than any others variable and uncertain in their effects, and that pain in different individuals, or at different times in the same, is relieved by remedies possessing qualities diametrically opposite. Such is the effect of the transient bodily pain experienced in the extraction of a tooth, or the extirpation of a wart or corn, as in some persons to produce syncope, retchings or convulsions.

The influence of pain on the stomach to excite nausea and vomiting, and on the kidneys to suspend the secretion of urine is well known. Surgeons have frequent opportunities of witnessing the first of these effects succeeding injuries and operations. The following case came under the observation of Mr. Travers the senior Surgeon to St. Thomas's Hospital, &c. &c.

Case.—A young fellow of unbroken and vigorous constitu-
Influence was thrown into a dungeon at Hayti. Thumb-screws were put upon him, and a jug of water placed by his side, to which however he could not apply his mouth, owing to the confinement and acute pains in his hands. The gaoler, who came to him occasionally, lifted the pitcher to his mouth, at which times he drank freely; in the intervals his mouth was parched; he was restless but dozed a little. In this state he remained upwards of forty eight hours, during which period he never felt the least inclination to void either urine or stool. Some hours after the screws had been removed, he passed a moderate quantity of very high coloured urine, after which the secretion gradually returned to its ordiary state, and he suffered no subsequent inconvenience.

In most instances of death from violent disorganization of texture, little, if any pain is apparently endured. The shock suspends the sensibility of the system without deranging the mental faculties, although their vigour may be considerably abated. But when the symptom of excrutiating and enduring pain is present, unaccompanied by the shock of violent injury, it excites and absorbs the faculties of the mind; renders the sufferer wholly indifferent to external objects, and insusceptible of domestic sympathy and the tender emotions—makes death an object not of terror, but of earnest and unceasing solicitude; and terminates life by exhaustion in a very few hours.

Pain in excess, as I have already observed, exhausts the principle of life, so that either its continuance without intermission, or the super-addition of the slightest shock subsequent to its endurance for a certain period, is fatal. Sir Astley Cooper, in his lectures, relates the case of a brewer's servant, a man of middle age, and robust frame, who had suffered much agony for several days, from a thecal obscess, occasioned by a splinter of wood penetrating beneath the, nail of the thumb, and who, a few seconds after the matter was discharged by a deep incision, raised himself by a convulsive effort from his bed, and instantly expired.

In operations protracted by unforeseen difficulties, as in case of lithotomy in which the stone is of such magnitude as to require crushing, the patient has begun to die upon the table. The same happens in parturition protracted by mechanical impediments, as in the case of a hydrsecephalic fetus, where the nature
of the impediment has been unknown and therefore unrelieved.

Pain, even of the most harassing kind, when periodical, or relieved by intervals of case, as in tic douloureux, can be endured for a long time; but this gradually undermines and wears out the preserving principle, as was proved in the melancholy instance of a late eminent physician, whose remarkably athletic and robust frame became emaciated to a shadow by mere corporeal suffering. "Pains," he was wont to say, "is the greatest sedative in nature."

The first effect of intense and unremitting pain is precipitation of the action of the vascular system, with corresponding sensorial excitement; but neither of these signs is of long duration. The pulse, which has at first a strong bound or jerk, soon becomes small, tremulous and irregular or fluttering; the countenance, the features of which in the first instance are braced and compressed by a strong convulsive expression, quickly becomes relaxed, hollow and ghastly. The extreme preternatural mobility of the muscular system, indicated by great restlessness, disappears, and a state of stupification and indifference to surrounding objects, announces the state of exhaustion. If pain be the result of inflammation, its gradual increase prolongs the stage of excitement. If on the other hand its accession in an extreme degree is instantaneous, as from breach of texture or the operation of any destructive agent upon the system, the stage of excitement is comparatively shortlived. And when the description and extent of mischief inflicted are such and so aggravated as to produce a sensorial paralysis, evinced by partial stupification without absolute loss of consciousness, it so far neutralizes or renders void the effect of painful impressions, as to admit of a direct prostration of the system without reaction. A large loss of blood at the moment of injury tends invariably to this result; that is, it cuts off the stage of excitement.
ARTICLE II.

Remarkable case of Fibro-Schirro Cartilaginous Enlargement of the Ovaria. By G. K. Holloway, M. D., of Warrenton, Georgia.

The subject of Tumours attracting of late the attention of a considerable portion of the medical world, induces us to present the following case as one of extraordinary occurrence; and which, so far as our confined observation and more limited experience and reading extends, is without a parallel in medical science. * We will endeavour to give a brief description of the case so as to enable our readers to come at once to its merits under the following.

History.—Mrs. Bush, of swarthy complexion, blue eyes and black hair, about five feet eight inches high, of nervous temperament but good constitution, was what might be termed a labouring woman, in as much as she had to perform all the domestic drudgery of a large poor family, the mother of seven children, was in the month of February, 1836, in the 37th year of her age; attacked with chynanche parotidiae (or mumps;) it being washing week

* Some years ago we removed from the abdomen of a coloured woman who died in this city, the property of the late Hon. Nicholas Ware, a schirrous tumour, in which the uterus and ovaria were so involved, as not to be distinguishable—no traces resembling either of them being discoverable, a tumour, the parietes of which, when the purulent matter which occupied its central parts was removed, filled a common washing tub and weighed fifty three pounds. We took various measurements of the body of this woman before her death, but have mislaid them. We need not say that her size was enormous. The tumour had been growing more than fifteen years. Her abdomen extended beyond her knees when sitting and was enormously distended laterally. The patient had been in the habit for many years of placing her dinner and other meals thereon and eating from it, as she could not reach a table. For some weeks previous to her dissolution, her abdomen was obliged to be suspended to the joists by strong cords and sacking to sustain its weight and favour her breathing, and she remained in a standing position. Thus she remained night and day until her hitherto enucleated legs became hydroptic, and so enormously swollen that they burst and discharged copiously of hydropic fluid. Apprehending sphacelus of the legs, it was then determined to tap the tumour at a point in the side of the lined alba, now greatly distended, at which a deep and obscure fluctuation could be felt. This was done and half a bushel of thick Sangui neo-purulent matter removed by a large canula. The tumour was too thick and firm to collapse—air filled the place of the matter—fever supervened, and she died three days after paracentesis. On removing the tumour, upwards of a peck more of matter was taken from the cavity.—Editor.
she omitted that part of her business, but the next week laboured hard at the wash-tub and got pretty wet. In the evening of that day she was somewhat feverish, and at night discovered that the mumps had returned, and in the night experienced an acute pain immediately in the region of the ovaria, or as she said, high up in each groin; which (acute pain) continued with more or less violence for a long time, with a gradual enlargement of apparently two hard bodies as she thought, which gradually increased in size for a very long time; attended in the first instance with apparent ascites, and in the latter part of her illness which was long, protracted, excruciating, severe and very painful, with hydrothorax.

During the major part of the time she had no treatment, or perhaps, more properly speaking, she was allowed to have no treatment, not even that of decent humanity.

On the 15th of December, 1836, we saw her for the first time, and was not a little surprised to find a human being alive, in her then situation—she was swelled beyond and thing of which we had any idea—had evidently a large collection of water in the abdomen and apparently two hard oblong round bodies extending nearly across and meeting in the centre of the umbilical region. We immediately advised paracentesis abdominis, which was declined from the fears of our patient, as she appeared at that time very reluctant to quit this vain world. We honestly set before her all the chances for and against recovery, which were received with perfect sang froid indifference. Our advice being declined, we left her the compound powder of super tartrate of potass and jalap, with orders to use it so as to keep her bowels freely open; and recommended sleep to be procured by the judicious use of laudanum, for sleep, she could not. With these directions we made a gratuitous tender of our professional services which were declined both by herself and husband. In the spring of 1837, we believe it was in the month of April, we were again requested to visit Mrs. Bush, and if on our first visit we were surprised at her situation, we were now more than astonished at her enormously increased and unwieldy size. On examination we found the (apparent) two tumours had met or rather (more properly speaking) passed each other, and so very completely filled up the abdominal cavity, that upon using the
usual and common test in those and similar cases, we could discover no collection of water; I began to think that we had mistaken the disease or its nature, if we had not been very positively confident that at the first examination we could and did discover a fluctuating fluid within the abdomen. We again recommended tapping as the surest means of affording relief, as the breathing was sturtorous and laborious; pulse very quick and the countenance haggard in the extreme with great anxiety, but implicitly and positively gave it as our opinion that no cure could be effected or expected at this time. At present the whole system wore evident marks of general dropsy, and the inferior extremities were enormously distended and a fluid could be heard upon turning herself in different positions. Our advice was again rejected, but whether from choice or tutorage is to be inferred from the fact, that the common necessary comforts of life were withheld by a most loving and affectionate husband. Death was not then so near at hand in his humble opinion as to render it certain that life would become extinct on the performance of an operation. His victim must yet suffer a long time, although death would then have been a welcome friend. We departed and report says things, continued to assume an aggravated aspect with increased violence, till the month of February, 1838, when we were again requested to visit the wretched sufferer, who was swollen beyond description. Again tapping was recommended as the only means of affording any possible chance of relief, but with this assurance in our opinion, (for the pulse was rapid, quick, threaded and very feeble)—that the operation would now be productive of instant dissolution; but at the same time that we gave such as our opinion, we said that it was possible that such might not be the fact. To this Mrs. Bush did not object, neither did her truly affectionate husband, but some superstitious old women coming in, said that they had heard a Banshe crying all night, and they were certain that if Mrs. Bush was tapped it would kill her.

The wishes of Mr. & Mrs. Bush were overruled by witchery and superstition, and Mrs. Bush was left to suffer all the direful and distressing affections of tumours and hydropie diseases and the morosed imagination of a most affectionate husband, whose only regret was, that the Father of mercies had not sooner re-
lied him of his constant trouble, a most truly honest and affectionate wife. On this occasion Mrs. Bush fully opened herself to us, complained of the bad, harsh and hard treatment of her husband, but like a christian she forgave her persecutor, and requested that at her death we would make an examination of her body and report her case, if it was worth reporting, to the world. This we promised, and so far as comports with our humble ability we now perform and redeem that solemn promise.

She departed this life, as we have been informed, at 4 o'clock, P. M. on Friday, the 1st of June, 1838; and at 11 P. M., precisely seven hours after death, in the presence of Drs. Wm. P. Butt, Jas. S. Jones, E. M. Pendleton and Students, Jas. W. Willaer and A. Paris, we commenced the autopsis. The general appearance of the subject presented nothing worthy of remark, if we except the appearance of the tumour, the emaciation of the chest, face, superior and inferior extremities, which were literally nothing but skin and bone: countenance haggard, hippocratic and greatly dejected. Calculating to find a large quantity of water in the cavity of the abdomen, we made an incision with the trocar and canula in the most prominent part which was about two or three inches below the umbilicus, after which, upon drawing the trocar from the canula, not a drop of fluid escaped for a second or two and then we were somewhat surprised to see a dirty, thick, curdy, tenacious, brownish fluid or pus come dropping out. Finding that the case was different from what might be, or was expected, a crucial incision was made in the usual manner. Upon cutting through the parietes of the abdomen we came to the tumour closely adhering to the peritoneum and extending longitudinally from a considerable way below the pubis to above the cartilago enesiformis, and laterally from the anterior superior spinous process of the ilium on one side, to that of the other, and very nearly filling up the entire cavity of the abdomen. At first view there appeared to be two tumours, but upon cutting and examining, it was discovered that there was but one tumour, but that one was somewhat inclined to be double. The external appearance of the tumour might be said to be convoluted and globular. Where the tumour was cut into it was evidently somewhat cellular, and some of those cells contained an albumen-
nous matter, some a gelatinous matter, and some contained a semi-fluid very much resembling both in colour and consistenc-
y, semen or sperm. In dissecting out the tumour we came at last, in the posterior part of the abdomen, to a large quantity of dirty looking coffee-ground coloured thick water, which was collected in tubs, and from appearance we would say twelve gallons at least. The tumour when dissected from the body weighed twenty-one pounds. The following is the size of the tumour as measured in the presence of the attending gentlemen:

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<th>Feet</th>
<th>Inches</th>
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<tr>
<td>Circumference of the Tumour around the Abdomen</td>
<td>4 10(\frac{1}{2})</td>
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<td>From Symphysis pubis to Euseforme Cartilage,</td>
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<tr>
<td>From Vertebrae to Narel,</td>
<td>4 3(\frac{1}{2})</td>
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<tr>
<td>Or around the body,</td>
<td>8 7(\frac{1}{2})</td>
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The contents of the thorax abdomen and pelvis, were in turn respectively and seperably examined. In the thorax there was a large quantity of bloody water, at least two gallons. Lungs natural and heart considerably smaller than natural. In the abdomen the intestines were generally inflamed but not extensively: the spleen, pancreas and liver somewhat enlarged: kidneys normal. In the pelvis, the contents generally not diseased, the right ovaria enlarged so as to weigh twenty-one pounds: the right fallopian tube as large as a large sperm candle, the left ovaria and tube of natural size, the uterus somewhat enlarged but healthy in appearance with a patulous mouth. The corpora lutea apparently injected with venous blood, but otherwise healthy.

The abdominal contents lay entirely behind the tumour. We were promised a drawing by an artist, but causes not within our control have delayed and prevented its reception, although we used every exertion in our power to procure the same.

Such was the general necropsy which brings us to our necessarily imperfect remarks on the case.

Remarks. From the time Mrs. Bush was first attacked with a relapse of the mumps, there appeared to have been a violent pain in each ovaria, and an enlargement of both ovaria, when in fact but one was affected, which furnishes very strong grounds to those who adopt the doctrine of sympathy. She continued to menstruate regularly until a short period before her dissolution,
say since February last, and with the exception of the rapidly increasing size and pain of the tumours and accumulation of water, experienced no particular inconvenience. There was one thing very remarkable to every person who made an examination of the case, that all looked upon and regarded the enlargement as two tumours which could be very distinctly felt. This deception might have been caused by convoluted and globular feel and form of the tumour. When Mrs. Bush would lie in any position in the latter part of her illness, the usual test could discover no water, but if she attempted to turn you might then very distinctly hear, plainly feel, and evidently see, that there was a large collection of fluid, and as upon using the customary test we could not hear nor discover any fluid, we were somewhat at a loss how to account for the difference. One thing is very evident, that if at any time from the first time we saw Mrs. Bush, had an attempt been made at paracentesis abdominis, that the attempt would have been futile. Tapping could not have been perfected in the usual way or method, for if an attempt had been made to have drawn off the water, (and all persons looked upon, and considered her case as dropsy, we looked upon it as dropsy of the ovaria,) the trocar or any other instrument which might have been selected for use, would instantly after passing through the walls of the abdomen, have come in immediate contact with a tumour of twenty one pounds weight, large in proportion, and some eight or nine inches in diameter, and at least two feet in length after excision. From what we observed we are now inclined to the opinion that tapping might have been perfected in the inferior posterior part of the iliac region. But the most remarkable part of the history of the case is, that Mrs. Bush had a single sister, who, when about the age of 37, (but who had no children,) was taken in a very similar manner to what Mrs. Bush was, with the exception that the single sister did not have mumps. It is nothing uncommon for there to be a metastasis from the parotid gland to the mammæ, and sometimes to the uterus, but for the metastasis to be to the ovaria, is what we never knew or heard of before.

From the foregoing, it may be very plainly inferred, if not proven, that the assertion of John Hunter was correct, when he said that there was no such thing as hereditary disease, but that
in individuals of the same family, there is a strong tendency or disposition to take one disease of a similar nature.

In the case of Mrs. Bush's sister, no autopsy or necropsy was had. The tumour was evidently of a fibro-schirro-cartilaginous nature.

We have perhaps extended our remarks beyond the usual length of such communications, and should have repressed them if we could have expressed ourselves in more concise and laconic language.

Warrenton, July 11th, 1838.

ARTICLE III.

Successful Amputation of nearly one half of the Lower Jaw-Bone, (4 3-4 inches, including one of its angles,) for Osteosarcoma.—By Paul F. Eve, M. D., Professor of Surgery in the Medical College of Georgia.

My attention was first called to the following case about the middle of last May, by my friend Dr. Philip S. Lemle, a highly intelligent practitioner of medicine, of Louisville, in this State. The patient is a negro woman, about 25 years of age, the mother of one child; she had experienced pain in the left side of the lower jaw-bone for ten years. Some of her friends think that she had suffered even from childhood, what was supposed the tooth-ache. The molar and bicuspid teeth of the side affected had all been successively removed, the last by Dr. Lemle, about four months before the operation. A very large tumour had gradually developed itself around the left half of the lower jaw-bone, and as it was at one time somewhat elastic at one point, had been punctured, from which however, there flowed only a few drops of blood.

Dinah, the patient, was brought to Augusta on the 26th of last May, and placed under the care of Dr. Antony and myself. In a letter addressed to us, it was stated, "that she had been
Amputation of nearly one half of the Jaw-Bone.

...complaining for years of the jaw-ache, which had entirely resisted the usual remedies for the tooth-ache. The presumption, therefore, is, that the disease has been gradually working its ravages for a great length of time." We were particularly instructed under no circumstances to operate, without there existed a reasonable hope of saving her life. It was first determined by us in consultation, to prepare the patient for an operation, which had been decided upon, not only from the existing circumstances of the case, but also from the knowledge of the judicious treatment of the disease by Dr. Lemle, aided by Dr. Jenkins, an old and very respectable physician, also of Louisville. But during the night of the 29th, three days after her arrival, Dinah was nearly suffocated by the pressure of the tumour upon the larynx, and was only able to swallow after the application of ice to it. This at once hastened our preparations for the operation, which was performed on the 31st of May, and certainly not under very favorable circumstances.

Assisted by the faculty, but more especially by Drs. Antony and Newton, the operation was commenced by making an incision from the left angle of the mouth, and extending it in a perpendicular line to the thyroid gland, from which an illiptical one was made to the lobe of the left ear, including the most prominent part of the tumour in the illipsis. Upon cutting through the lip and denuding the lower jaw-bone, we found an effort of nature at separation near its symphysis. Extracting the canine or stomach tooth, the bone was divided by a small saw, half an inch beyond the line marked by the absorbents. The next object was the removal of the inferior maxillary on the affected side from its connection with the temporal bone, or of its division, provided the disease was arrested in it short of this articulation. By careful dissection, a line was perceived and defined by the absorbents in the lower part of its neck. The saw was again employed, leaving only the condyle with a small portion of the neck, and the operation was completed by detaching the insertion of the temporal muscle into the coronoid process of this bone, which was removed with the diseased mass. The section of the lower jaw-bone measured at its base 4 3-4 inches.

The outer surface of the portion of bone removed, was very
rough and denuded of its periosteum, to which latter was attached a large irregular fungous growth, varying in consistency from cartilage to fibrous structure, and extending into the skin and surrounding tissues—there being nothing in this direction like a cyst or even decided limit to the disease. The periosteum of the inner surface of the bone was not completely detached from it, and to it were also adherent large masses of fungus, which had filled the mouth, pushing the tongue to the right side, and projecting down the throat. These had an investing membrane of a delicate structure, and resembled large irregular tubercles. The artery of the lower jaw-bone was entirely obliterated, and its canal was greatly enlarged and made very rough by the action of the absorbents. At both the divisions, however, made by the saw, this bone bled freely, thereby proving that at these places it was sound and unaffected by the disease which had destroyed a portion of its body.

As the patient had fainted several times during the operation, though sustained by stimuli, and as the tumour was not encysted, it was found impracticable to remove every part which had become affected by the diseased action. We had moreover, proceeded in this case upon the principle, that the disease originated in the bone, and that if the root and body of the tumour were extracted, its projections into the surrounding tissues would necessarily be absorbed. A small tubercle was therefore, left under the zygomatic arch, together with some enlargement in the skin over the left carotid artery, and also over the thyroid cartilage.

The application of three ligatures to as many arteries, some eight or ten sutures in the skin, with adhesive strips and patent lint to fill up the cavity made by the removal of the jaw-bone and tumour, with a bandage, completed the dressing; and the patient was placed in bed, after having been on the operating table three hours. Much of this time, however, was consumed in restoring her from syncope.

At 8 1-2 o'clock, seven hours after the operation, found the system of the patient re-acting. Took at 4 1-2, a tea spoonful of common solution of morphine, which afforded much relief, and was swallowed with ease.

June 1st., 5 A. M. Had a pretty good night—drank freely
of cold water—nothing else. Prescribed chlorine tooth-wash for mouth. S, A. M.—Pulse 124. Took a tablespoonful of gruel, not relished; sick at stomach. Quiet the remaining part of this day.

_June 2d_, 3 1-2 A. M. Cannot swallow—fever. Prescribed ice water, warm pediluvium; head to be elevated. S, A. M.—Pulse 124, deglutition easy. 12 M.—Has slept quietly, and desires nourishment. Prescribed gruel. 4 P. M.—Pulse 140.

_June 3d_, 2, A. M. Called to patient on account of sick stomach. Prescribed enema of salt and water, morphine and free use of chloride of soda to mouth. S, A. M.—Pulse 120—patient comfortable. 2, P. M.—Dressed the wound, took off all the plasters—looks well—patient sitting up. 7, P. M.—Pulse 120—took a cup of tea.

_June 4th_, 7, A. M. Pulse 118—patient assists herself in bed and sits up. 5, P. M.—Has appetite; pulse the same. (It has now rained almost incessantly for the last 50 hours.)

_June 5th_, 7, A. M. Pulse 104. Dressed the wound, and continued to do so every other day. Removed to-day all the sutures. Union by the first intention took place at the lip and near the lobe of the ear. The skin in the angle of the wound near the thyroid gland sloughed, and at one or two other points where the stitches had been applied. The patient gradually improved, granulations commenced on the 9th day after the operation, and on the 10th; Dinah walked out of her room.

I have nothing particular to relate concerning the patient up to the 17th, except the difficulty, common with all negroes, of making her comprehend the importance of diet. She would insist upon solid food, particles of which were frequently found in the lips of the wound. She had also two attacks of colic, the result of eating improperly. It was about this time I perceived the skin taking on disease in the region of the pomum adami, and soon two tubercles projected from it into the wound, all of which had cicatrized except this place, where an opening was still kept up, and through which a portion of her ingesta, particularly fluids, would flow out.

On the 21st. of June, I had to leave Augusta for Charleston, to bring home a near relative, saved from the awful shipwreck of the Pulaski, and on my return, saw with regret that diseased action, apparently of the most malignant nature, had not only
Diseases of the Spinal Marrow. [July,

commenced in the skin, but had also invaded the sound cicatrix. Kreosote, iodine, &c. were now freely employed, but seemingly to little purpose, and Dinah left on the 9th of July for the country.

I had the pleasure to hear on the 3rd of August, (more than two months since the operation,) from my patient, who is unexpectedly much improved. She has still continued the internal use of iodine, 9 drops of the tincture three times daily, and dresses the ulcer with chloride of soda. I learn the diseased skin has sloughed off, and the only tumefaction now existing is in the right sub-maxillary gland. There is no enlargement under the zygomatic arch, nor in the course of the left carotid. Her appetite is good, and she takes exercise daily.

Augusta, August 7th, 1838.

PART II.

REVIEWS AND EXTRACTS.

Dr. Gerhard's Clinical Lecture on Certain Diseases of the Spinal Marrow.

Friday, June 15th.—I shall, to day, make a few remarks on the subject of diseases of the spine, which are suggested by the case of a man, who furnishes a very striking illustration of this class of affections. He was admitted this morning, but was in the hospital, three years since, under my care, for an affection of the spinal marrow, the symptoms of which were pain down the spine, extending thence, along the course of the sciatic nerves, more on the left side than the right, accompanied by a slight sense of weakness, across the back, and in the limbs, not, however, amounting to paralysis. This complaint had begun two years before the man entered the hospital, so that the affection dates its origin to a period five years antecedent to the present time. When the man was first in the hospital, he was treated on a systematic plan kept up with much perseverance.
Diseases of the Spinal Marrow.

1838.

He was cupped down the spine, and along the course of the sciatic nerve, from which considerable advantage was derived. Long strips of blister were applied also in the same direction; and counter-irritation was afterwards made by the moxa, an excellent and not very painful remedy for this purpose. A single moxa was applied, every day, in such a manner as to produce a superficial ulcer, so that there were always three or four of these points of counter-irritation. The man went out relieved, and was directed to continue the use of the moxa; this he did not, however, do, and of course the remedy had not a fair chance of success, although the man was, certainly, vastly relieved by its partial application. The patient is obliged to return to the hospital, from the failure of his strength. He now, however, no longer presents symptoms of an affection of the medulla spinalis alone, but of the bones as well as the medulla; the disease having probably originated in the former texture, but, as it was unaccompanied by any distortion, it was impossible to ascertain whether the spinal chord was the original seat of the affection, or not. There is now a tumor in the region of the sacrum, and an obvious prominence of the lumbar vertebrae; and the man now walks like a paraplegic patient, supporting the upper part of his body by leaning forwards, and resting his hands upon his knees. Having lately lectured upon the subject of apoplexy, we may now find it interesting to trace paraplegia in contrast with hemiplegia, or the paralysis depending on the spinal marrow, in contrast with that depending on the brain. Hemiplegia may be the result of simple neuralgia, and is therefore not an infallible indication of cerebral disease; but there are, in such cases, numerous other signs of the nervous character of the disorder, which will prevent you from confounding it with the cerebral paralysis to which I am now alluding.

To study paraplegia to most advantage, it will be best for us to examine the symptoms of injury to the spinal marrow, resulting from fracture of the vertebrae, in which there is complete loss of motion, and of the powers of the bladder and the rectum. The effects of the excessive paraplegia, resulting from an injury of the spinal marrow, are most strongly manifested on the organs contained within the pelvis; and, in consequence of the abstraction of nervous sensibility from the parts, the patient dies from over-distention of the bladder with urine or pus, or else gives way under the irritation attending the sloughing caused by pressure in the region of the sacrum and trochanters. The case under notice has not advanced, by any means, to the condition I have just described. The patient has still some control over the powers of locomotion; but, you saw, this morning, when I directed him to walk, that he did not hobble.
as in hemiplegia, but bent his body forwards, to fortify the muscles of his back, the muscles most difficult to sustain in the act of walking, and to alter his centre of gravity.

The next point to be considered is the loss of nutrition, which has taken place in the lower extremities, particularly in the left leg, which is thinner than the right. This is, of course, owing to the wasting away of the muscles, from long disuse. The change in the sensation of the limbs, is also worthy of notice; in the legs there is a feeling of pricking, or of formication, or of numbness, or the sensation which is caused when the limb is said to be asleep. This arises from the pressure on the nerves of the limb. Spasms may occur in diseases of the spinal marrow, but are not usual when they are chronic.

Let us consider the diagnosis, prognosis, and treatment of this case. First, the diagnosis.—When the man came into the hospital three years ago, we knew that he had an affection of the spine, but we could not ascertain whether the vertebrae were in a carious condition, or not. The diagnosis of disease of the vertebrae cannot be made out, with certainty, at an early period of the affection. But there are usually, as in the present instance, some circumstances, that assists very much in forming a diagnosis, although it can be only an approximate one. When the lymphatic glands of the neck and other parts are in a swollen condition, or if there be other indications of scrofulous diathesis, such as tubercles in the lungs, or that peculiar physiognomy which is so often observed in such patients, we may infer that the disease of the spine is of a secondary character, and dependent on a constitutional taint, developing itself in the bodies of the vertebrae.

The organic diseases of the spinal marrow are numerous, and some of them are with difficulty distinguished from the secondary alterations, just alluded to. Apoplexy of the substance of the medulla is a rare disease—so rare, that I have never seen a dissection of it; but membranous apoplexy, in which the blood is poured into the sheath of the medulla, I have several times witnessed; in both these varieties, the disease is sudden in its onset, and is attended with paraplegia. Where the effusion of blood occurs into the membranes, the paralysis is more extensive, and gradually tends to ascend from the lower extremities, the nerves of which are supplied from the lower part of the spine, towards the upper parts of the body; death follows as soon as the muscles of respiration are palsied. In the apoplexy of the nervous substance, the paralysis is more fixed, and, if not complete, the patient may recover. Neither of these varieties can well be confounded with cerebral hemorrhage, in which there is nearly, if not quite always, palsy of the side of the body only. In the case of the patient just
admitted, as well as in most others who are affected with spinal paralysis, the intelligence is remarkably clear, and more bright than usual, which is another point of distinction between the affections of the spinal marrow and those of the brain. I have already stated, that we can distinguish, with great difficulty, chronic inflammation of the medulla, from the effects of scrofulous disease of its bony covering.

The prognosis, in this case, is not difficult. From the fact of its dating its origin to five years since—from its having been partially arrested, and now returning with aggravated symptoms, there is, we fear, but one termination for it—it will probably end in death. But before the disease of the vertebrae is established, if the early symptoms are combated, there is a tolerable chance of success; now that evident distortion has taken place, indicating extensive bony disorganization, the affection is almost necessarily fatal.

The treatment, proper in this case, applies to all chronic inflammations of the spinal marrow. They are to be managed on the same principles as those of the brain; the treatment is, however, more local in its character. Purging should be employed with a view to act upon the local disease, as a revulsive; instead of diminishing, it rather keeps up the general health. Rest is essential: hence, as in cerebral apoplexy, I would avoid stimulating the organ with strychnine, or remedies of the sort, unless in the very chronic stages; keep it perfectly quiet, by placing the patient on his back, and retaining him there, rigorously. If the symptoms are tolerably active, cupping must be freely employed; but only in a moderate way, if the affection be altogether chronic. After local depletion by cups and leeches, remedies of a more permanent character must be used. There are several which may be tried, and a preference given to that which is found to answer best, in the particular case. From blisters I have derived but very slight advantage. Moxas I have found decidedly the most useful, though I cannot say that they are always permanently serviceable. They have several advantages;—they produce the same good effects as the caustic potash, or setobs, and are much more moderate in their action, and less irksome to the patient; they likewise, from the pain they produce, stimulate the nerves in the least injurious way, being thus of double service—as a counter-irritant and an excitant. They are to be applied frequently, say one every day, and on half-a-dozen different places, which may thus be kept sore; their application being continued, until they produce vesication, but not deep ulceration. In this case moxas were used for two or three weeks; and, in other cases, I have used them for months. If they give intense pain, they may be given up, and other remedies tried, as the caustic, setons, and blisters.
Acute inflammation of the spinal marrow is an affection of rare occurrence. The most unequivocal case I ever saw which terminated fatally, took place at the Children's Hospital at Paris, in a child six or seven years of age. The little girl was very intelligent, and could give a very good account of herself. She had received no injury, and there was no obvious cause of the disease, but the constitutional tendency to it, which was evident from another sister soon after entering with nearly similar symptoms. She entered the hospital, after having been ill for three days. At this time there was stiffness and flexion of the limbs of the upper and lower extremities, which could not be extended without great pain, and this was the only uneasiness felt; when the limbs were touched she did not complain. This contraction continued to increase till death, and was always greatest in the upper extremities, the arms being bent to an acute angle, at the elbow. Upon examination after death, the upper portion of the spinal marrow was found in a softened condition, particularly, just below the crossing of the corpora-pyramidalia. The softening involved both the anterior and posterior portions of the spinal column, thus accounting for the affection of the nerves of motion and sensation according to the theory, at present generally received, which, however, some recent experiments appear to call in question.

The general symptoms, then, of acute inflammation of the spinal marrow, are numbness, pain, stiffness, and rigidity of the muscles, supplied from nerves coming off below the part affected; and if the inflammation is towards the upper portion of the spinal marrow, the contraction is more obvious, in the upper than the lower extremities. If in the case to which I have alluded, the pain had been unaccompanied with contraction, I should not have deemed it a necessary symptom. The functions of the alimentary canal were not altered in a remarkable manner. The appetite was good, and the powers of urinating not impaired, although this cannot be generally the case. The integrity of the cerebral functions, in this patient, sufficiently showed the spinal marrow to be the origin of the symptoms.

The treatment must depend upon the activity of the affection, and the period at which you are called to it. The case of the little girl was not so actively managed in the French hospital, as it would have been by our practitioners. There the treatment was confined to some remedies of a local character; but with us, it would have been looked upon as an affection of a most severe grade, (for the patient inevitably dies, as soon as the disease extends to the neck and the functions of respiration become affected,) and we should have treated it accordingly. A patient of a strong constitution, I should bleed freely, and follow the bleeding up by cupping over the part affected, to an almost
indefinite extent. If the patient be feeble, the depletory treat-
ment must be somewhat modified, and confined to leeching. 
After this plan has been pursued for several days, it is proper to 
attempt to moderate the local symptoms, by blisters, moxas and 
purging, the latter of which, however, is to be looked on as a 
more adjuvant. This affection is not a rare one in children ; 
like most diseases, however, it assumes something of an epidemic 
character, and you will have, at certain periods, a number of 
cases together, and may afterwards not meet with one for several 
years.

There are a number of affections of the spinal marrow, into 
which I shall not enter in this course—some of a very tangible 
character, and others, protem in form and nature. Within a 
few years past, it has been the fashion to ascribe to affections of 
the spinal marrow, an almost endless variety of symptoms— 
some with propriety, but others on very inadequate grounds. 
This subject was investigated, some years since, by Tate and 
Teale, of Yorkshire; and the results of their researches attract-
ed to it considerable attention. Three or four years ago, these 
complaints were more common, certainly, than at present, and, 
and, hence, some of the interest with which they were regarded, has 
subsided.

Under the term, spinal irritation, which has also been given 
to the more indefinite class of affections, I am disposed to include 
two undoubted varieties of disease; first, all cases of neuralgia, 
originating in the spinal column, and extending along the course 
of one or more nerves, and in which there is pain on pressure 
over the corresponding vertebrae. If the pain be greater over 
the vertebrae, than in the muscles affected; if you have, for 
instance, pain over the scapula, and upon pressing the spine, you 
find it more tender than in the muscles of the scapular region, 
you may at once conclude that you have neuralgic rheumatism. 
Secondly, I use the term, also, in those cases of more obscurity, 
in which you have pain in a circumscribed spot, at the anterior 
part of the chest, near the heart, or sometimes, although rarely, 
at the same point of the right side. In these cases, if you find a 
tender spot in the vertebrae, corresponding with this cardiac 
pain, it is fair to infer the existence of spinal irritation. The 
diagnosis becomes more clear, if you have also pain on pressure, 
along the course of the intercostal nerves; although such an 
extension is by no means necessary. Many are disposed to 
account for other functional disorders, by tracing them to spinal 
irritation, cases of palpitation of the heart, in which there is no 
anemia, and where there is pain on pressure over the vertebrae, 
may be referred to this cause. If the latter symptom be wanting, 
you can decide only by the results of treatment.

Affections of the alimentary canal are also traced to the same
cause. You may recollect the prevalence of dyspepsia all over the country, some years ago, when lawyers, clergymen, and all who pursued sedentary occupations, as well as some who led a more active life, were uttering universal complaint on this subject. Much of this undoubtedly depended upon spinal irritation: how far the spinal marrow was connected with the symptoms, was to be known from the evidence of pain on pressure, or by the success of the after treatment. Disorders of the lower bowels are never ascribed to spinal irritation.

Some are disposed to deride the very name of spinal irritation, as applied to the last mentioned disorders; but I think it may still, with propriety, be given to certain groups of symptoms, for want of a better term by which to designate them. Although they are not now met with, so often as they occurred a few years ago, they still present themselves in sufficient numbers to claim a fair share of your attention.

There is one other affection, in which the spinal marrow sometimes plays an important part. This is acute articular rheumatism, in which we find another element in addition to mere neuralgia. In articular local inflammations, if you can detect pain on pressure along the spine, and if the local pain is at the same time increased, cups along the spine, as recommended and successfully used by Dr. Mitchell, of this city, will often prove of signal service.

The diagnosis of the various disorders, dependent on irritation of the spinal marrow, is not a little difficult; and, from the kind of enthusiasm with which the researches of Teale and Griffin were received, ludicrous mistakes are sometimes made, in attributing to this cause, important functional disturbances, in which the spinal marrow is not at all affected, or only in a slight and secondary manner. I shall point out some of the modes of discrimination, in these cases. In affections of the chest, of the lungs or heart, physical examination may be resorted to, to determine all points of doubt. In disorders of the stomach, the best test of the presence of gastritis is afforded by the effects of food, which proves irritant as soon as taken, in chronic gastritis; whereas, in neuralgia, although the ordinary aliment may occasion some inconvenience, slight stimulants, as wine, are both salutary and proper.

The pathology of the class of affections which we are examining, is unknown. The probability is immense, that there is no pathological alteration in the organ, but that the disturbance is altogether functional. Besides, the disorder generally disappears so long before death, as not to allow us to detect any morbid alteration, that may have previously existed. If to this we add the great difficulty attending the pathological examinations of the spinal marrow, we can readily account for our
ignorance on the subject. Physicians, however, generally treat these affections, as if they were known to be inflammatory, by local depletion, and, afterwards, counter-irritation by blisters, tartar emetic, and croton oil. The tartar emetic is a good remedy for this purpose, but a painful one; the croton oil is less painful; and blisters cease to give much annoyance, after one or two applications. This mode of practice is found by experience, to be the most successful, and in our ignorance of the precise nature of the lesions, we cannot do better than pursue it.

I had lately a marked case of obvious functional disorder of the heart, the symptoms of which disappeared, after one or two blisterings to the back. Another similar case, was that of a woman in the hospital of the almshouse, who had been for a long time unavailing treated for gastritis, and severe pain in the region of the stomach, which were relieved at once by one or two cuppings to the spine. About the same time, a friend of mine, a young lawyer, of high promise, offered a well-marked example of a similar affection. He had been treated for it, with little success, by a country physician of skill and experience, when he applied to Professor Jackson, who, just at this time, had become acquainted with the then novel subject of spiritual irritation, and, a few leeches and counter-irritation to the spine, directed by him, effectually relieved the symptoms, which did not return. This simple treatment will often succeed, without resorting to tartar emetic or other irritating remedies.

In cases of organic diseases of the heart, complicated with spinal irritation, Dr. Marshall, who has written an interesting treatise on this subject, recommends the direction of our therapeutics to the cure of the latter. I have seen many such cases, and have often succeeded with great facility, in so far modifying the symptoms, that they have ceased to annoy the patient; for if, in these cases, you remove the functional disorder, the organic lesion often proves of little injury to the comfort of the patient. A gentleman now residing in Washington, consulted me a few months ago, in an analogous case, in which there was considerable valvular disease, with extreme functional disorder of the heart. I succeeded in removing the latter symptoms, which were in this instance, treated without irritants to the spine, and the patient is scarcely conscious of the heart disease. Now, in such cases, the local remedies addressed to the spine, often prove of extraordinary advantage. In diseases of the lungs, less success is to be anticipated, than in those of the heart or stomach. Whenever you find irritation distinctly extending from the spine to the viscus affected, the success of the spinal treatment may
be looked upon as almost certain, and relief will often be almost instantaneous. Last summer we had several cases, illustrative of the good effects of this treatment, and, although none offer themselves at this time, we may look for their not very distant return.

These brief remarks will prove sufficient for the purpose for which they are intended—to call your attention to an important and very troublesome affection. For fuller details on the subject, which are not now demanded, I refer you to several capital treatises, perhaps a little ultra, in some of the points which they urge. They are those of Tate; of Teale, on Hystera; of the Messrs. Griffin, of Ireland, a more complete and distinct work, in which the protean forms and transient character of these affections, are amply discussed and illustrated by cases; that of Marshall, of Scotland, and, afterwards, of the North of England, (not Marshall Hall,) a valuable work, which has been republished in this country, and from which you can extract much that is excellent, allowing for some exaggeration of views and facts. I say exaggerations, for others have certainly not been so successful, in the management of neuralgic affections, as this author seems to have been.

Should many other nervous affections present themselves during the course of the summer, I shall take them up; but it is probable that our attention will be occupied with more acute and violent affections. Besides, the excellent series of lectures which were given by Dr. Jackson, upon this subject, during the past winter, (which you will find in the earlier numbers of the Medical Examiner,) renders it less necessary for me to enlarge upon the subject of these diseases.—Medical Examiner.

Eclectic Journal of Medicine for May, 1838.

This valuable periodical continues its monthly appearance with great regularity; and its pages shew by their judicious selections and observations the good ability with which it is edited. This work promised well in the beginning, nor has it failed to maintain amply its first promise. We hope it is liberally patronized, not only on account of its able editor, but because it is a work which every medical man should receive—no matter how many other journals may receive his patronage. The number before us begins with an extracted review from the Medico-Chirurgical Review, of the works of Colles, Hunter and Devezie,
on the venereal disease. This review contains a very fair compari-
on of the English and French views of the disease and of
pathological principles generally; with the judicious observa-
tions of Dr. Johnson, the Nestor of the profession at present.
We noticed this subject briefly on a former occasion. The next
article is an extract from the Edinburg Medical and Surgical
Journal for January, 1838, and is an article from Dr. Wardrop's work on Diseases of the heart. It contains an ac-
count of a new mode of increasing the heart's action; which for
its practical value we extract at length.

**A new mode of increasing the the Heart's action—For re-
storing the powers of life in persons apparently dead from
drowning, or in Syncope.**

Some years ago I had occasion to bleed a lady, and abstracted
upwards of thirty ounces of blood, whilst she was in bed. About
three hours afterwards, on attempting to rise, she fainted. The
family being in great alarm, I was sent for, and when I got to the
bedside, I found that another practitioner was in attendance.
He said to me "your patient is dead." The basin of blood re-
mained still on the table, and I was in great uneasiness on
account of the lady's condition, and I confess I also dreaded
the effect of the largeness of the bleeding. Spirits of ammonia had
been sent for, but deglutition was suspended; a flexible tube
was sent for, and I became very much alarmed.

In this state of anxiety of mind, and without having any pre-
cise purpose in view at the time, I desired her husband, who was
almost frantic, to assist me in raising up her head and shoulders
from this supine position. She gradually resuscitated, and in
three or four minutes she became quite revived. I again visited
her late at night, when she said she had great pain in her arms,
and she thought that her husband and I had grasped her arms
too tightly. On returning home and reflecting on the circum-
stances of this case, I concluded that pressure (quite uninten-
tional, however,) on the brachial arteries by impeding the circu-
lation and causing congestion, must have excited the action of
the heart.

On making the experiment, I found, that by pressing the bra-
chial artery, the pulse, though it gradually beat faster and faster,
continued still small and thready, and when the pressure was
removed, it became very full, and continued so for some time.

I can at any time raise the pulse in this way. On repeated
trials, I find that the pulse being first felt so as to ascertain the
progress, it runs nearly thus:—
In 3 1-2 minutes it rises from 68 to 74
5 - - - 68 to 78
7 - - - 68 to 80

So that in seven minutes, twelve beats in the minute can be gained. Is there any medicine known which can do this in so short a time? How valuable, then, is this fact!

It was only yesterday that an eminent anatomist called on me. He doubted the fact. I convinced him by stopping the circulation in his right arm, when in nine minutes his pulse rose to fourteen beats in the minute. I measured his pulse, it was,—

75, and in 3 1-2 minutes it rose to 83
in 5 - - - 85
in 8 1-2 or 9 - - 90

As the laws in the animal system sometimes call in the act of pressure, I conclude that to imitate nature in that respect, and in other instances of disease, especially in such as proceed from great exhaustion, they may be (after the knowledge of this fact) successfully treated.

Before I conclude, I have only to say, that if the tourniquet was known formerly to be of use in disease, I can surely affirm it is not used at the present day, nor for the thirty-six years that I have been in practice in London, either at public hospitals or in private practice.

If the patient is thin and delicate, the force of the operator's thumb will be sufficient to produce the necessary pressure. But if the patient be more muscular, a tourniquet must be applied. It may be objected by saying, "but where is a tourniquet to be had?" A simple and effectual one can be made of a neck-cloth or pocket-handkerchief, and a bit of stick, a pencil-case, or the handle of a pocket-knife.

I have, on this occasion, pointed out the good effects to be derived from this practice, as regards a sudden stimulus to the heart when in case of suspended animation; in cases of persons apparently dead from drowning and in syncope. But much is left to be said of its use in various other instances, where the sanguiferous system requires quick attention, and a remedy fortunately always at hand.—*Edin. Med. and Surg. Journ.*, January 1838.

The next article, from the pen of Dr. Robert Lee, of the British Lying-in Hospital, and taken from the London Medical Gazette, is a brief history of the rare anomaly of a female who had four mammae and nipples, all of which afforded milk. Two of them are about the natural site, and the others are a little above them.
"The author considers the above case as furnishing one of the best examples on record of quadruple mammae in the human subject, and cites from several foreign authors some of the most striking instances he has met with of the same malformation: the cases present no material deviation from the one under consideration. The author remarks, that in some women only one breast has been developed; others have had two nipples placed on one mamma; and a few individuals have had three breasts, two in the natural situation, and a third between them. Only one case has been recorded of five mammae in the human subject."—London Med. Gaz., Jan. 1838.

The next article consists of a report of cases occurring in the Clinque of M. Louis, by Henry Curling, Esq. This report is from the London Medical Gazette for January 1838, and is of practical value; especially as it contains the practice of M. Louis who is now one of the best pathologists of France. The following cases are given:

"Enteritis—Recovery.—A female, aged 30, of a weak constitution, was admitted into La Pitie, under M. Louis, April 12th. She had been attacked on the 2d instant, about noon, with a rigor, which lasted two hours, followed by increased heat. She had likewise vomited, but had neither headache nor giddiness. These symptoms were soon succeeded by pain in the abdomen and diarrhœa, which, with the fever, have continued to the present time. The pain has been confined to no particular spot. On the second day of her illness she had considerable nausea and vomiting, attended with slight pain in the epigastrium, to which she had never been subject. On the third or fourth day, cough was added to these symptoms. For the six or seven days preceding her illness she had a little tinnitus aurium, but it has since ceased, except when she coughs. She has one child; and menstruated about three days ago.

April 12th.—Pulse 94, full; yesterday evening 100; skin hot; eyes hollow; the inferior lip covered with a white crust; countenance expressive of weakness, but there is no appearance of stupor; memory exact; the circumference of the tongue red, white and villous in the centre; nausea increased by drinking; complete anorexia; four stools yesterday; no pain in the abdomen. A little below, and to the left of the umbilicus, there is a swelling about two inches in width. It is hard, fixed, gives no sound, and is not at all painful; respiration quite natural.

Diet. Ptisan, Oii. Extract. Opii, gr. i.

15th.—Feels better, and is in good spirits; has eaten some bouillon without being followed by nausea; pulse 100, regular;
heat natural; no pain in the epigastrum; the tumour is more moveable, and is very close to the neck of the uterus, which is not, however displaced; tongue white and villous; has had one stool.

All these symptoms gradually subsided, with the exception of the diarrhœa, which persisted to the 22d inst. A few days after, she left the hospital convalescent.

**Enteritis—Recovery.**—A man, aged 53, of a moderately strong constitution, was admitted under M. Louis, March 22d, having been ill seven days. His illness commenced with pain in the abdomen and diarrhœa, which have continued to the present time. He has had as many as thirty stools in one day, but no tenesmus. The matter voided was often compared by the patient to white of eggs, and was frequently mixed with blood. He has had considerable fever, attended with perspiration and headache. He ceased working from the commencement, but has not kept his bed. He has never had a similar complaint.

March 23d.—Countenance natural; tongue moist; thirst moderate; has vomited twice; six stools yesterday; abdomen well formed, sensible to pressure; the pain does not follow a transverse direction. Pulse 52; no fever; subcrepitation posteriorly and inferiorly on both sides, but especially on the right.

*Tr. Opii, 3j. m injectione administ.*

The diarrhœa ceased the second day after the administration of the injection, and in three or four days he was quite well.

**Typhoid Fever with Eruption—Recovery.**—A young man, aged 23, of a strong constitution, with black hair and eyebrows, well developed, came to the hospital March 9th. For six or seven days previous to his illness he had had diarrhœa, but had paid no attention to it. He has been obliged to keep his bed the last fortnight. His illness commenced with shivering, cough, and headache, followed by excessive heat and great prostration of strength. The diarrhœa has continued except during the last two days; the fever has not ceased, but he has no return of the rigors. Anorexia and tinnitus aurium are to be added to the symptoms. The sight has been troubled, and he has felt giddy; but he has had neither pain in the abdomen, nor epistaxis.

March 10th.—Lies on his back; face covered with red spots, and has an expression of anxiety; answers questions rapidly and sensibly; sight troubled; eyes injected; nostrils dry; feels giddy; tongue dry in the centre, moist and natural in its circumference; no meteorism; no gargouilement in the right iliac fossa. The chest, axilla, and abdomen, covered with numerous vesicles, half a line in diameter; perspired a little in the night;
several rose-coloured spots are seen on the chest and abdomen; pulse 96 yesterday evening; 100 this morning. A bitter taste in the mouth; no nausea; respiration vesicular; much thirst.

*Antim.* Tartariz. gr. j. *in die sumend.*

11th.—Countenance less injected; has not vomited; pulse 92 yesterday evening, 88 this morning; tongue dry in the centre, but trembles less; tinnitus; fresh vesicles on the chest and neck; desquamation of the skin; four stools; spleen cannot be distinguished.

*Eau de Seidlitz,* half a bottle to be taken during the day.

On the 14th the sudamina were still more numerous, and confluent, particularly about the axilla. The tongue began to clean, and to become moist.

On the 17th he felt a little appetite, and from this period he became rapidly convalescent.

Remarks.—These three cases afford examples of two diseases, enteritis and typhoid fever, which by inattentive observers are often confounded. Though several symptoms of typhoid fever were absent in the last case, those that were present were sufficient to announce its nature. The diarrhœa and excessive prostration of strength at the commencement, the headache, the giddiness, and tinnitus, the presence of sudamina and rose-lenticular spots, could, when combined, be attributed to no other disease.

In like manner, in the second case, the nature of the disease was denoted by the very numerous stools, the little fever, the pulse being only 50; the little prostration of strength (for although the patient ceased working the second day, he never kept his bed); the advanced age of the patient (53); the absence of giddiness, tinnitus, and spots. These symptoms are only observed in enteritis. Pain in the abdomen and diarrhœa, though sufficiently frequent in typhoid fever, are still more constant in enteritis. Headache occurs in forty-nine cases out of fifty of fever, but in not more than two of the same number of cases of enteritis. Among a great number of cases of enteritis observed by M. Louis, only one quitted his work the day of the attack, while the contrary happens in typhoid fever. The rose-lenticular spots, the sudamina, epistaxis, metori sem, are rare in enteritis; not more than one in twenty-three had epistaxis. Vomiting is also rare in enteritis; but it does not often occur in fever before the eighth or ninth day, the period when most of the complications of fever are developed. Enteritis may occur from infancy, may be repeated several times, and may complicate other diseases. Typhoid fever rarely attacks very young or very old indi-
individuals. When M. Louis wrote his work on Fever, 25 was the mean age of the cases he had observed. From a more recent analysis of a still greater number of cases, he finds 23 to be nearer the truth. He has never seen it after 60 years, and very rarely after 50. M. Louis has only seen five fatal cases of enteritis; and, considering its frequency, he does not view it as a dangerous disease.

Though it is impossible to confound well-marked cases of enteritis and typhoid fever, yet as a disease is more denoted by the combination of certain symptoms than by the presence of any one particular sign, so, when some of these symptoms are absent—when they occur in a different order, the diagnosis is often rendered difficult. This occurs in enteritis and typhus fever, slight cases of which are often confounded. And the distinction between them is more important than is generally thought, particularly as regards the prognosis. All the cases of perforation of the intestines which have fallen under M. Louis’s notice were at the commencement very mild, and comparatively trifling.

In the first case the diagnosis was doubtful: the disease commenced by a shivering fit, fever, diarrhoea, pain in the abdomen, succeeded on the second day by epigastric pain and vomiting, and on the fourth by a little catarrh.

The diarrhoea, the depression of strength, and the vomiting, would seem to indicate fever, whilst the slight headache, the absence of giddiness, of spots, and of pain confined to the right iliac region, would rather indicate enteritis.

A white exudation on the mucous membrane of the mouth was considered by the ancients as a very fatal sign; but that it is not always so the first case proves. It certainly is only developed when the patient is very weak, whether from the effects of an acute or chronic disease, and depends upon an inflammation of the mucous membrane. In like manner sudamina are often looked upon as a very dangerous symptom, whereas only one-half of the patients in whom this symptom is present die.

Typhoid Fever—Erysipelas of the Face—Acute Peritonitis from Supposed Perforation of the Ileum—Recovery.—A cook, aged 33, had resided in Paris three weeks, when on attempting one morning (March 22) to get up, she was attacked with vertigo, pain in the head, buzzing in the ears, and chilliness, which obliged her to keep her bed. She arrived in Paris in perfect health, and had not been exposed to privations. These symptoms continued till the 25th, when, being obliged to go out, she fell down from weakness. The next day she vomited for the first time, and had diarrhoea, with pain in the abdomen. On the 31st she entered the hospital, having walked there width cflhtly, supported by two persons.
April 1st.—Memory exact; lies on her back; eyes sunk; cheeks of a livid red colour; vision troubled; tinnitus aurium; great prostration of strength, but not complete; tongue dry and red, not pointed; pulse 120, small and feeble; great thirst; abdomen soft; the spleen cannot be distinguished; pain in both iliac fossa increased by pressure; no pain in the epigastrium; twenty stools yesterday; respiration healthy.

**Diet:** ptisan. Antimon. Turt. gr. j. in die sumend.

2d.—Has had three stools, and vomited four times. Yesterday afternoon the nose became red and swollen; the left cheek soon became in a similar state, and during the night the right cheek. The erysipelas extends as far as the chin; the occiput is painful when pressed, but is not edematous; pulse 112; other symptoms continue the same.

*Eau de Seidlitz, half a bottle.*

6th.—The erysipelas has subsided considerably, and there is abundant desquamation of skin; her menses returned yesterday; no headache; pulse 104; no thirst; feels very weak.

7th.—At half past six yesterday evening she was attacked with an acute pain in the right iliac fossa, accompanied by nausea and vomiting and rigors. At midnight the abdomen was universally painful, the pulse 116, weak and feeble. The pulse is now 140, and very small. Some laudanum was immediately given her. The tongue is projected with difficulty; the cheeks are of a deep violet tint; 40 respirations in a minute; she cannot bear the least pressure on the abdomen; pulsations of the heart imperceptible; two stools after a lavement; only took three spoonsful of soup and a biscuit yesterday.


8th.—Pulse 152 yesterday afternoon; now 116. Countenance improved; no nausea; circumvolutions of the intestines can be distinguished; abdomen soft, and without pain, except when pressed; no stool. Tongue slightly moist; red in its circumference) white in the centre.


10th.—Cheeks red; abundant desquamation; no pain in the abdomen, except in the right iliac fossa; tongue red, not very moist; small white spots on the mucous membrane lining the lips, and a white exudation at the roots of the teeth.


For several days she continued in a very precarious state, the pulse being very quick and small; but by persevering in the
administration of opium, and in complete abstinence from all food, she was, towards the end of the month, enabled to get up, although very weak. In the course of another month she left the hospital.

Remarks.—The symptoms at the commencement bore some resemblance to those of ramollissement of the brain. Indeed, it has twice happened to M. Louis to confound typhoid fever with that disease, which he has seen at the commencement attended with no other symptom than excessive prostration of strength. On the fifth day the nature of the disease was announced by the diarrhoea, abdominal pain, vomiting, &c., although many other important symptoms of fever were absent. It is by no means rare to see erysipelas of the face developed during the course of a typhoid fever, whereas it is very rare to see erysipelas preceded by cerebral and abdominal symptoms for twelve days; so that this complication would rather tend to confirm the diagnosis. On the 7th instant evident symptoms of acute peritonitis were present, which M. Louis believed to be caused by a perforation of the small intestine caused by ulceration, and situated about the junction of the ileum with the caecum. Peritonitis so rarely complicates acute diseases, that it may almost be laid down as a law, that if in the course of an acute disease there suddenly comes on a pain, if this pain is increased by pressure, and accompanied by a rapid alteration of the features, or more or less promptly by nausea and vomiting, a perforation of the intestine exists. The probability becomes still greater if the disease is typhoid fever, as it is always accompanied by some degree of ulceration of the intestines. This is the first case of perforation of the intestine, occurring in the course of a typhoid fever, which M. Louis has seen recover. Would not the peritonitis be considered by many physicians, and perhaps justly so, as a metastasis of the erysipelas of the face?

Scirrhus of the Pylorus.—Death—A sempstress, aged 69, previous to the month of November, 1836, enjoyed excellent health; her digestion had always been good; she had never experienced pain in the epigastrum; had always been in easy circumstances, and enjoyed the necessaries of life without having committed any excess in drinking, &c. &c. In that month she was troubled, for the first time, with a pain in the epigastrum, and her appetite at the same time diminished. In December she was attacked with frequent vomitings, and often brought up her food thirty-six hours after eating it. On that account she took hardly any nourishment, and became very thin. The pain in the epigastrum increased during the months of January, February, &c., and came on generally two or three hours after a meal;
the vomiting also became more frequent, the food which had been eaten three or four days before being often rejected unaltered. In the month of April she was admitted into La Pitié under M. Louis, and presented the following appearance:

April 22. — She is in the last stage of marasmus; cheeks purple, and very hollow; superior limbs of a purple hue; pulse very small; pulsations of the heart well marked; tongue villous and white; no diarrhoea or cough; a depression in the epigastrium; pain upon pressure 1 1-2 inches to the right and a little below the umbilicus; also a little above and below the umbilicus a projection having the form of the little curvature of the stomach. Upon pressure being applied, a species of gargouille-
ment is heard; has vomited four times since yesterday a clear fluid; continual eructations of gas; respiration healthy. She remained in the hospital about a fortnight; at the expiration of which period she died. Extensive scirrhus of the pylorus was found to be the cause of the symptoms, but I unfortunately was not present at the examination.

Pain in the epigastrium and anorexia are by no means always the signs of an organic disease of the stomach. They occur also in chronic gastritis, a disease which has not yet been well described, and of which M. Louis has seen but few examples; that is to say, in healthy persons, and occurring as a primitive disease; for nothing is more common than chronic gastritis in the course of phthisis and other similar diseases. But in the latter disease there is seldom vomiting of food taken two or three days before, as in this case. The vomiting was, however, by no means pathognomonic of organic disease; it was composed solely of the food, and was never mixed with blood, so that there was no reason to suspect ulceration of the mucous membrane. The depression at the epigastrium, the projection above and below the umbilicus, and the gargouille-
ment, indicated a distended stomach; the projection being chiefly caused by the lesser cul de sac: The situation of the pain seemed to indicate the pylorus as the part diseased, which was the case. M. Louis does not consider scirrhus an inflammatory affection, or to be a sequel of inflammation. Cancer seldom occurs before the age of fifty, whereas gastritis occurs at all ages. Men are less liable to cancer than women, though they more frequently commit excesses. This, however, proves nothing; for, according to the same authority, women are more subject to acute gastritis than men. Cancer has a predilection for certain parts of the stomach. Thus out of 33 cases

In 16 the cancer occupied the epilorus.

11 - - - - small carvature.
6 - - - - the large do.
The cicatrices of ulcérations of the stomach are never observed in the epilorus; they more usually occupy the posterior surface of the stomach. The parts of the body most subject to cancer, are less liable to inflammation. Out of 65 cases

21 consisted of cancer of the stomach.
22 - - - - uterus.
10 - - - - liver.
5 - - - - lung.
2 - - - - rectum.

No account is here taken of the mamma or testicle. In the lung, which perhaps is the viscus most subject to inflammation, it only occurred in five cases, and in none of these primitively.

Cancer of the Uterus—Death.—A woman, aged 40, the mother of six children, was attacked with hemorrhage from the uterus fourteen months ago, which lasted seven days, and has frequently recurred. She commenced menstruating at 16; her menses were not very abundant, and were always preceded by pains in the loins, which ceased on their appearance. She has had leucorrhœa from the time she first commenced menstruating. Her accouchments have all been natural, and she has generally kept her room five weeks after each. Since the first hemorrhage, the leucorrhœa has been more abundant. She has continued her work, except during the last two days. The hemorrhage was preceded by pain in the loins, extending round the sacrum. She has had a difficulty in making water since her first accouchment, and passes it very slowly and frequently. The pain in the loins and sacrum has augmented during the last week, and the discharge has been red. She has scarcely any rest during this time, on account of the great pain at the anus. Her abdomen is well formed, but pressure in the left lumbar and iliac regions causes pain; pulse 84; chest healthy.

Pulv. Opii, gr. j. nocte sumend.

Inject. Calcis Chlorid. ziij ad Oj.

January 23d.—Has suffered much from pain; less discharge passing her water with facility; no sensation of weight at the uterus; pulse 88; no headache; above the left clavicle are situated several small round spherical tumours which have existed for months; they have caused no pain, and had existed some time before they were discovered: several of the glands in the inguinal region are enlarged.

During the month of February she was examined with the speculum; the neck of the uterus was found indurated and enlarged on the right side, and of a livid tint, presenting a very unequal appearance. She complained greatly of a pain at the arms, which ceased after the application of leeches. Having
obtained admission into Salpêtrière she soon after left the hospital. The symptoms were quite sufficient to denote the nature of the disease. The hemorrhage occurred at the commencement, was considerable, and was repeated four times. In inflammation of the uterus there is often hemorrhage, but it is very slight. When fibrous tumours exist in the uterus, there is also hemorrhage, but by no means so abundant; and it occurs at a later period. Out of twenty-one cases of cancer of the uterus, all of whom died and were examined, in two only was hemorrhage not present, and in one case there was a rose-coloured discharge. Out of the nineteen, in which hemorrhage formed one of the principal symptoms, in 13 it was developed 3, 4, and 5 months after the commencement of the disease. In the remaining six it was the first symptom that was observed, preceding or occurring at the same time as the pain. Age had no influence upon it, for it occurred at the various ages of 23, 60, and 70. The two in whom this symptom was absent, were between 30 and 40. Hemorrhage accompanies organic diseases of various organs, and in none is it so frequently presented as in cancer of the uterus. The mucous membrane is frequently found quite healthy: the bleeding often precedes the pain. The sensation of weight at the anus, which had lasted a considerable time, and was relieved by leeches, must probably depend upon a swelling of the neighbouring parts. The mean duration of cancer of the uterus is about two years or two years and a half. Cancer of the stomach causes death in a much shorter period, in eight or ten months; the great importance of the functions of the organ fully accounts for this.—Lond. Med. Gaz. Jan. 1838.

The next article in the Journal is a letter to the Editor on the subject of the "pernicious effects of enamel cards." The writer objects to the suitableness of these cards for the purposes for which they are used. But the object of the letter is to shew their injurious effects on the manufacturers, and is a serious appeal to the public to decline the use of the article on account of the injuries caused in their manufacture.

The next article is one of more interest, and is the report by M. Martin Solon on the inoculation of morphine as proposed by Dr. Lafargue; and is from the Bulletin de l' Académie Royal de Médecine. The effects of this mode of medecation by morphine are considered by Dr. Lafargue as worthy of consideration, both in their bearing on practical medicine and on medico-legal questions. The following are the effects observed on the introduction of the point of a lancet charged with a watry
solution of morphine, horizontally, one third in depth beneath the epidermis and allowed to remain three or four seconds.

1. About a minute after the operation, a small pimple, with a diffuse rosy areola, and slight itching.

2. In about twenty minutes, the pimple becomes four lines in diameter and one in thickness; flattened. Its color more than that of the skin, it is hard, its areola very red and about an inch and a half in diameter; its heat has increased, and the sensation of itching remains about the same.

3. During the first hour, the pimple and its areola are at their highest degree of development.

4. After this time, the appearance diminished and at the end of two or three hours, the red colour of the skin has entirely disappeared—the pimple becomes flat; but it does not entirely disappear until 12 to 24 hours after the operation.

5. If several punctures are made near one another, in the same manner, the appearance of the pimples are as above described, but the areolae are confluent; the heat and itching considerably increased. The appearances however, disappear in the same time as when a single puncture has been made.

6. The general effects which Dr. Lafargue experienced from thirteen punctures thus made upon the front of his forearm were, heaviness of the head, frequent yawnings, clamminess of the mouth, and an invincible desire to sleep; the quantity of muriate of morphine not having exceeded a quarter of a grain.

The effects just noticed, Dr. L. considers as showing that the inoculation of morphine may supersede the use of plisters and ammoniacal applications, and that it merits employment more particularly where the object of the physician is to produce the local effects of morphine. Its effects as a rubefacient are also very marked.

The local effects produced by the inoculation of belladonna, of strychnine, of sulphate of quinine, were different from those above mentioned. In employing other opiate preparations, such as Sydenham's Laudanum, and solutions of opium in fat, milk, coffee, beer mucus, acetic acid, and gelatine, the proportion of opium being extremely small, the same results were obtained, and no such effects were produced when those substances were introduced without opium.
"M. Martin-Solon repeated the experiments of Dr. Lafargue. From the inoculation of all the common preparations of opium, he observed the same effects as those above mentioned; except that the papulae sometimes acquired a diameter of an inch and a half, and that they became radiated and diffuse. To ascertain whether any other substances were capable of producing the same phenomena, belladonna, strychnine, the gastric juices, chyme, &c., were employed, and the effects which were observed destroyed the exclusiveness which Dr. L. wishes to attribute to the action of preparations of opium.

The conclusion which may be derived from these experiments, may be of some assistance in determining the absence of opium from a fluid which is suspected to contain it; seeing that in all the cases in which fluids containing opium were inoculated (in one instance, the proportion of opium to the solvent was as 1 to 2000), the phenomena described above were observed by both Dr. Lafargue and M. Solon. The development of the papulae, however, be only regarded as presumptive evidence of the presence of opium; seeing that other substances are capable of producing effects so nearly identical as not to admit of any definite distinction.

Dr. Lafargue has also inoculated a concentrated solution of emetic tartar and the croton oil. The former has always produced a pustule similar to that of acne simplex, containing pus, twenty-four hours after the operation; and the effect of croton oil has constantly been the production of a furuncle thirty-six hours after the introduction of the medicine. Neither of these substances has, however, been sufficiently employed to allow of any inference to the advantage which this mode of application possesses over that in general use. Its simplicity, nevertheless, renders such an experiment very easy."—Bulletin de l'Academie Royale de Medecine.

We next come to some observations by Dr. Robert Dick of Glasgow, on the employment of gunpowder as a medicine in various states of the gastro-enteric mucous membrane—from Edinburg Med. & Surg. Journal. Dr. Dick was induced, from theoretical considerations to prescribe this article, and had reason to be satisfied with its effects. The derangements for which it appeared to him to be peculiarly adapted were morbid secretions of the gastro-mucous membrane, depending on sub-inflammatory action, or accompanied by it. In such cases, gunpowder, given in various doses, and with the occasional interposition of ordinary mild laxatives has proved, in his hands, eminently serviceable. Dr. Dick would not be surprised if, given in large doses, and for
a greater length of time than he has prescribed it, it should be found useful as a constitutional alterative, or as a cutaneous drug. He administered from ten grains, indefinitely upwards, several times a day. He found spirituous liquors, pungent condiments, &c. contra-indicated during the use of gunpowder. The gastralgic effects which Dr. D. found these produce, when used simultaneously with gunpowder, he ascribed to what he designates the detergent effects of that substance on the mucous membrane, which, owing perhaps to its charcoal and mixture, it denudes of its attaching albumino-mucous secretion, clearing, and seemingly attenuating that membrane in some measure. It is found in common, ready for use. The best form of administering it is in the dry state, as Dr. D. thinks the liquid form does not suit. No apprehension need be entertained of the charcoal producing any unpleasant consequences. In pica, and in the chlorotic state, large quantities of this substance are eaten with impunity; and further, J. P. FRANK* recommends it as an effectual remedy in flatulence.

The above notices are very general, as the remarks of an individual, who suggests a new remedy ought always to be.

We have long known the extensive use of the article in the country for the promotion of labour pains, and as we have always understood, with very fine effect. We have never prescribed it, in consequence of always having efficient articles for this purpose, the operation of which was well known.

Dr. DICK follows the above with some observations on the use of charcoal, which seem to banish fears of its use, as well as set forth its beneficial effects, with references to certain late authors by whom its use is justified and advocated. We give these observations, with the extract from Dr. CRAIGIE, below, after stating that charcoal has been long and abundantly used in this country as a valuable medicine—perhaps longer than any period referred to by Dr. CRAIGIE in speaking of its history. It had been in considerable use as a domestic remedy, and by some physicians, in New Orleans, and other southern locations in liver irregularities and bilious fevers, previous to publications on the subject by Dr. DANIEL of Savannah, in which his extensive experience in its use was set forth, and its medicinal vir-

* De Curandis Hominum Morbis.
tues strongly advocated. Now, it is a very common article in this country in domestic practice, as well as in that of many of our best physicians, some of whom we know use twenty or thirty pounds a year in their practice. The preparation which comes now for use, is a beautiful powder under the name of Calcined Charcoal.

"In speaking of the therapeutic effects of gunpowder in various morbid states of the gastro-enteric mucous membrane and its secretions, it may be not unseasonable to add to the observations now made by Dr. Dick, the remark, that charcoal in its separate and pure state has been long used by many practitioners with similar intentions, and to fulfil similar indications in the treatment of ague with gastric, enteric, or dysenteric complications. As a short notice of the use of this substance is given in the Elements of the Practice of Physic by Dr. Craigie, without entering into all the details of the history of the introduction of this substance into the practice of medicine, the easiest way perhaps is to quote the account given in that work.

"The exhibition of charcoal for the cure of ague, as a substitute for bark, appears to have been practised in 1613 by Calcagno at Palermo, and afterwards by Dr. Calvert, Mr. Mackesy, Mr. Tully, and other English practitioners, in Sicily; and it was used with that intention by Dr. Jackson in the West Indies. In simple ague it seems to produce little or no benefit. But in ague with affection of the gastric, or the hepatic, or gastro-enteric circulation, in ague with anguish at stomach, squeamishness, flatulence, or hiccup, and in dysenteric ague, its sanative influence is unequivocal and powerful. It may be given in doses of from ten to twenty grains, in rice-water or arrow-root, either alone or with six or eight grains of rhubarb, and two or three grains of powder of ipecacuan. It appears to operate chiefly by rectifying disordered secretions of the stomach and bowels. It is probably by its charcoal, that the snuff of a candle, which has been alleged to be beneficial in curing ague, as mentioned by Lind, operates."—Edin. Med. & Surg. Jour.

We are next presented with a very interesting case of apoplectic disposition which appeared hereditary and which had been often palliated by the usual means, as copious depletion, &c. This case is also from the Edinburg Med. & Surg. Jour., and is given by Mr. Law. The case is too interesting to be omitted.

"M. F., aged 37, has for seven or eight years been occasionally subject to violent headache, continuing for some days, and
though not always, very generally proceeding to a hysterical paroxysm, which, along with the headache, is only dispelled by free bleedings of from sixteen to twenty ounces of blood, and sometimes a larger quantity.

She is rather above the middle stature, and of a full habit, without much complexion, the bowels apt to be slow, but the necessary aperients regularly employed. She is rather apt to be sedentary, but partakes most sparingly of sleep, or even the recumbent posture, and takes food as well as liquids in much less quantity than the average of her own sex, avoiding vinous stimuli almost entirely. Catamenia regular.

Every practitioner summoned to her assistance, wherever she may have been residing, has, from the urgency of the symptoms, been led to the use of the lancet, which alone ever relieved her effectually at the time, the blood flowing with unusual force from the arm when I have had occasion to open a vein in this person. In a few hours after one of these full bleedings, she will leave the recumbent position, proceeding with her usual occupations as if nothing had been the matter. These attacks became of more frequent occurrence towards the end of last spring, when it seemed to me, that as it was next to impossible to diminish the ingesta here, and as the degree of exercise necessary to subdue so strong a disposition to plethora would be of very difficult enforcement, independent of other collateral circumstances in this case, arsenic administered in small doses at the commencement of an attack, would, from its sedative (?) influence on the system, lessen what we are contending against, and for a longer time than the bleedings, which are so apt to demand repetition. Accordingly she had a watery mixture prepared with five minims of the arsenical solution in each teaspoonful, directing her to take a teaspoonful in a little more water, morning and evening, just after a meal, when threatened with an attack, and to intermit it entirely when the tendency disappeared.

It is now six months since the trial was first made, the medicine being, according to these directions, only occasionally employed; nor has she ever since suffered, but in a very slight degree, from what had begun to assume a more alarming aspect. She has, on several different occasions, in this time, found it necessary to have recourse to the arsenic for three successive days, but with the same marked benefit, and what may appear less accountable, the disposition to such a disease has been thus controlled under even some increase of appetite, using rather more food than formerly.

I have been informed that one of her parents died of what has been described to me as apoplexy; but if it was so, and there is a hereditary tendency to cerebral disease, the influence of the medicine in this case is not less worthy of attention.

I never for one instant intend to be understood as wishing to
see such treatment substituted for that of the lancet in most ordinary occasions where its use is signal and direct, but there are many others where the above may be successfully employed, either by itself, or in conjunction with, or consequent to some mode of depletion."—Ibid.

Extirpation of the Parotid Glands.

The next and last case which we shall notice, is one in which the Carotid Gland was extirpated on account of disease, in the Toronto Hospital, Upper Canada, by C. Widmer, Esq. surgeon to the forces.

"An elliptical incision having been made in the integuments of the most prominent point of the tumour, its removal was effected without much difficulty, and with little loss of blood, the facility being attributed by the author to the adoption of the method of separating the mass from the lower part upwards. The external jugular vein and external carotid artery being necessarily divided, were immediately secured by ligatures, the latter being tied at both ends. When the removal of the mass had been entirely accomplished, the styloid process, and the transverse process of the atlas, were exposed to view. The result of the operation was quite favourable, the wound being entirely healed in six weeks."—Loud. Med. Gaz. Jan. 1838.

The present No. concludes with a notice of Dr. Kramer's Air Condenser as a remedy in cases of deafness, with a cut, and full description of the condenser—Bibliographical notices of Dr. Coate's Family Adviser—Dr. Steven's Lectures on Lithotomy—Dr. Caldwell's Protest, &c. &c.

Rape.—Pregnancy.

In speaking of external and internal explorations by the touch for determining the fact of the commission of rape, M. Hohl, Professor Extraordinary of the University of Halle, observes, that "unless this examination be made soon after the commission of the crime, it will be to little or no result; and the difficulty will be much increased, if sexual intercourse had previously taken place." This opinion is corroborated by Forbes and Conolly, of the British and Foreign Review, who state, that "for ascertaining the existence of virginity and proving the commission of
rape, we can prove little by mere manual exploration." "The presence or absence," say they, "of the hymen has long been ascertained to be no evidence whatever, for or against the existence of virginity." A case occurred to them a few years ago, of primipara, where the greater part of the hymen was still existing. "The different conditions of the labiae, nymphæ and the vaginal rugæ," say they, very justly, "are much too uncertain to ground any decisive opinion upon; as a slight degree of dyspepsia, or other abdominal derangements, or of leucorrhoea, will produce nearly all the changes which professor Horn considers necessary to observe. The feeling whether the clitoris be still covered by its preputium, needs no observation, as few decided changes take place in the female external organs from only one occurrence of sexual intercourse; and little alteration is produced, until the passages have undergone the extreme dilatation which they suffer during labour."

This view of Forbes and Conolly demands some qualification, before it can be adopted for the diagnosis in question: viz. the determining virginity.

In Descensus uteri, where the uterus descends to the upper boundary of the vestibule, or the location of the hymen, it is indeed often the case that the whole vestibule is as well contracted as in virginity, and notwithstanding the continuance of this state of things for a considerable length of time, the hymen itself is often so little interrupted as to afford no trifling obstacle to the use of the touch for the correction of this species of Aedopstosis; and sometimes this difficulty is so considerable as to render replacement impossible, without a degree of violence so great as to lacerate the hymen. A case of this kind we once witnessed, attended with a violent fit of hysteria, which was characterised by incessant and violent fits of laughter of many hours duration. This occurred in an unmarried female about 19 years of age, and having refused to yield in the least degree to the use of the ordinary remedies in such cases, examination per taxis was instituted, whereon it was found that the distended uterus was in contact with the hymen, the opening through which was not large enough to receive the end of the little finger. Believing that the paroxysm depended on irritation of the uterus from its monthly plethöra, to which was added no inconsiderable obstruction from uterine descent, advantage was taken of a position to favour the
action of gravitation, which, with the pressure of the finger against the hymen and uterus, and the introduction of air, soon enabled the uterus to fall back from its position in contact with the hymen, to the partial relief of the patient. On a repetition of this process, the laughing effort entirely ceased and the menstrual flux appeared. A lunar month elapsed, and another paroxysm, lighter in degree, supervened. This was relieved in like manner. After the conclusion of this menstrual period, a styptic lotion was carefully introduced by means of a womb syringe, above the hymen, which still remained entire, but with some slight dilatation of its foramen. The daily repetition of this for ten or eleven days was followed by no other bad symptoms during our acquaintance with this patient, which was for several years.*

But most commonly, when this disease has lasted for a considerable length of time, the hymen has not only disappeared, but the whole vertibule has become so much dilated by the presence of the os and cervix uteri, as to appear not dissimilar to those who have borne children, and capable of suffering the convenient application of the pessary. Thus then, in determining virginity, and much more, rape, the dilatation is not available. These facts are of deep interest in forensic medicine.

Pregnancy.—This state sometimes becomes a subject of forensic investigation. We have known several instances wherein pregnancy was claimed for the respite of execution, or mutation of penalty, by females under sentence of death. But pregnancy is a subject of deeper and more frequent interest, simply in a medical point of view. It is therefore one, which of all others, as Forbes and Conolly say, should be handled in a clear, concise and practical manner. Professor Hohl divides this inquiry into nine questions of great importance:—

1. Is she pregnant?
2. In what month?
3. Is she pregnant for the first time?
4. Is there more than one child?
5. Is a state of disease combined with pregnancy?
6. Is it extra-uterine?
7. Is the foetus alive?

* It may be well to remark that the subject of this case was a coloured woman, and the case was protracted, severe, unyielding, and apparently dangerous.
8. What is its position?

9. Will the labor be anormal from mechanical obstruction?

"In determining the first question, we will not detain our readers with the long and tedious enumeration of the various points to which the practitioner must direct his attention, and upon which the changes are rung with a degree of persevering repetition that is almost exhausting. It is little short of nonsense to suppose that the state of the os externum and the carunculae myrtiformes, the calibre of the vagina, the swelling of its parietes, its temperature, secretion, the length and condition of its rugae, are points on which we can fix the slightest data for forming our opinion as to the presence of pregnancy. We cannot agree with him that the temperature or secretion of these parts are so much increased during pregnancy: with respect to the former, we might say the contrary; for we have repeatedly found the vagina of a pregnant woman impart a feeling of coolness to the finger, and it must be a well-known fact to every body who is frequently in the habit of examining per vaginam, that the labia are frequently even cold: this is in some measure produced by the moisture of the vaginal secretion, but we cannot think that this is so increased in quantity during the earlier months of pregnancy as in any degree to justify its guiding our prognosis. This certainly applies to the relaxed females of a great metropolis, or those living in the swampy parts of Holland, &c., where it is a known fact that there is much greater disposition to copious vaginal secretion than elsewhere, but we apprehend that the insufficiency of this as a point of diagnosis applies equally to the more robust natives of other districts. We have examined many hundreds of the author's countrywomen during the last months of pregnancy, as well as at other periods, and are not inclined to make an exception in their favour.

In examining a woman to ascertain the existence of pregnancy, it is desirable to place her in such a posture, that we may examine both externally and internally at the same moment, and also ensure as far as possible, the complete relaxation of the abdominal integuments. Some excellent directions have been left us for this purpose by Ræderer, which have been also quoted by the late W. J. Schmitt, of Vienna, in his short but valuable collection of doubtful pregnancy cases. "After the third month, the uterus projects above the pelvis, gradually increases and distends the abdomen; but a careful examination is necessary, in order to distinguish the enlarged uterus from other prominences, because an enlargement of the abdomen from disease may easily be confounded with pregnancy: merely looking at the abdomen will not assist us much in our diagnosis; we must examine by the touch. In order to prevent any chance of uncertainty, the following points should be attended to: we should place the
In ascertaining how far pregnancy has advanced, our attention must be chiefly directed to the circular form of the os uteri, its being closed, the smoothness and softness of its edges, (now no longer lips,) the alteration in the shape, size, and substance of the portio vaginalis; viz. that part of the cervix which projects into the vagina; a distinction which is very useful, and which we have for some years adopted from the German accoucheurs; the increased size, weight, and diminished mobility of the lower portion of the uterus; and lastly, if it be in the latter months, the contents of the uterine cavity and diagnosis of the presenting part: this must also be combined with the external examination of the abdomen, in order to estimate the height of the fundus above the symphysis pubis, the size and form of the uterus generally, and whether the movements are yet perceptible: these are the chief practical points of investigation to which the practitioner must turn his attention in such cases: but, as to the old, oft-repeated dogma of its being necessary to examine the puffiness or turgescence of the vaginal parietes, the diminution in the size and number of its rugæ, the prolapsus-like duplicatures of the anterior wall, its temperature, mucous secretion, &c. &c.,—all this is useless, at least, in practice.

In deciding whether it be her first pregnancy, our chief attention must be directed to the form and condition of the os uteri. An os uteri which has once undergone the dilatation which takes place during labour, seldom entirely recovers its former shape: it becomes unequal, so that, instead of forming a circular depression, with edges quite smooth, like a dimple, as it were, at the end of the cervix, it forms an irregular-shaped margin, with uneven edges, which are generally hard in places, from the little cicatrizes of former labours. These are important points of diagnosis, and have more than once enabled us to assert confidently that the patient had already borne a child, in spite of previous assurances to the contrary. The absence, however, of these effects of parturition,—we mean the perfectly round and smooth depression of the os uteri, as felt in the primipara,—is not always a proof of first pregnancy: we have occasionally, though rarely, met with a similar condition in a patient who had already borne a child. Besides the examination of the os uteri, that of the
perineum, and especially its frenulum, should not be neglected; for this latter rarely escapes being somewhat torn in the first labour. As regards the external examination in determining whether it be her first pregnancy or not, the flaccid abdomen and rugæ in the skin are certainly effects of previous labour, which are worth noticing; but it must be recollected, that their presence or absence are not distinct proofs for or against.3—British & Foreign Review.

We would however warn the practitioner against the danger of a hasty decision on the fact of pregnancy. In medical jurisprudence, even a doubt entertained relative to this fact, should be considered sufficient to justify a respite of capital punishment, until time elapse to dispel it. But the importance of a decision in a medical point of view, is not a matter of such trivial concern, nor so easily passed over. We are well aware of the fact, that most practitioners think it a very easy matter to decide on the existence of pregnancy at almost any time, and especially after the first month; and it is true that a decision made on the light grounds usually depended on, is very often correct. This, however, only proves the want of thorough attention to the nature and effects of other causes than pregnancy in the production of nearly all of what are commonly considered evidences of this state. These are morning sickness, coloured areolæ, swelling of the mammaæ and lactation, expression, absence of menstruation, buffy blood, abdominal and even uterine tumefaction, borborigmi, hysterical symptoms, fickleness of appetite, melancholy, unusual irritability of temper, salivation, acid stomach, depraved appetite, &c. &c., all of which may be, and often are, produced by other causes than pregnancy. The faithful, conscientious and scientific practitioner will find therefore, when he comes to adopt a practice founded on a decision of the question of pregnancy or no pregnancy, a practice which for the former of these states would amount to little less than a culpable neglect of the necessities of the latter; and for the latter, would be highly dangerous to the former—the practitioner, we say, when brought up to the decision of this point, must find that he has, in view of absolute decision, especially in the first four months, one of the most difficult problems in all the practice of his profession. He must not decide in favour of pregnancy by a numerical estimate of the symptoms or otherwise, when it does not exist, because the instant he does this, he is lost to all
other views both of causation and pathological condition. These are therefore allowed to go on in their ruinous, and for a time, hidden operations, until the golden moment passes, beyond which there is no hope. He must not decide against the existence of pregnancy when it does exist, because by such a decision he will, if he attempt any thing like thorough investigation, determine on other views of the pathology, the therapeutic means for which will be calculated, as far as medicinal means may have power of abortives, to terminate in this dangerous and criminal disaster. There is no case which requires more of the diligent study and attention of the practitioner than the early months of pregnancy. Women labouring under this doubt, may not be depended on. They are often deceived by their own supersentiousness or by their desires or aversions; or they may have strong motives uncontrolled by moral principle, which induce them to desire to deceive. We have witnessed the greatest errors in experienced mothers in this regard. We recollect the case of a woman, the mother of many children, to whom we were called for the purpose of her accouchment upwards of 30 years ago. Her abdominal tumour was equal to the 7th or 8th month, and she believed her parturient pains had commenced. She is still alive, but has never given birth to a child, or any other uterine production calculated to make the symptoms. The abdominal tumour subsided spontaneously in the course of a year or two, and her health, though not very good, has been such as to sustain her very well to the present time, and to the age of about 70 years. We could name many other cases similar in their nature, but less conspicuous.

By the well-founded doubts which hang about the first four or five months of pregnancy, the practitioner is reluctantly driven, with much mortification of feeling and self-disapprobation, to withhold his positive decision in many cases until the period of quickening. This, in the present state of the science, is to be relied on as the earliest unequivocal evidence of pregnancy. Nor can this evidence be received on the word of the patient alone. The practitioner must feel or see it for himself; and even here he may be deceived. We recollect another case to which we were called some twelve years ago for accouchment. The patient was a monomaniac on this subject. Her husband had been absent, and supposed to be dead for several years; still she main
tained most pertinaciously that she was pregnant and that her
time of travel had arrived. Her abdominal tumefaction was
fully equal to a nine months development. She was of corpul-
tent habit—and appearance of very fine general health. From
her manner we were induced to believe she suffered under
labour pains; but to the internal touch she exhibited nothing
like either labour or pregnancy, whilst to the external, she exhi-
bited a large tumor, much resembling that of pregnancy, and at
one place, just below the scrobiculus cordis, to which she called
our attention, there was uniformly, the appearance of a knee or
elbow which seemed to recede from the touch as soon as the
touch was sufficient to perceive it distinctly. We made no pre-
scription. Four or five years after we were again called to this
woman, whom we found much larger than before. She claimed
then, as confidently, the entertainment of no less than seven
children within her abdominal parietes, which she said had in-
creased at the rate of one for every nine months since we first
saw her. On being assured that such could not be the case, she
was pleased to demonstrate the fact, as she considered it, by exhi-
biting the whole abdominal tumour for inspection, in the hope of
procuring aid from gastrotomy. On this exhibition, seven dis-

c
tinct compartments, or distinct projections very much resembling
those made by the fundus of the pregnant uterus in obliquities.
These were carefully arranged so as to fill all the anterior and
lateral regions of the abdomen. She desired that we should see
and feel the movements exhibited by each of the children. On
inspecting for this purpose, three tumours, each of which she
ascribed to the presence of a foetus, exhibited, by turns, both to
the eye and touch, the appearance of a swelling and rolling motion,
whilst she sat still upon the chair. Whilst thus situated, a
theme of conversation was offered which was thought most likely
to captivate her attention, and lead her mind off from the imme-
diate consideration of her affliction. During this, and whilst
her mind seemed fully engaged in this subject, foreign from the
examination, and whilst she still sat deeply engaged in a well-
connected narrative, relative to loss of fortune, &c., the same
movements were exhibited in as plain a manner as when her
attention was directed to them; and this without any other in-
terruption of her train of thought and conversation, than the
frowns which indicated the pain those movements inflicted. By
her leave we took a friend, an intelligent clergyman,* on the next day to witness the phenomena, all of which were exhibited as palpably as before, whilst this gentleman monopolized her attention by an interesting religious conversation. She remained in our neighborhood for several years, corpulent, and exhibiting all the appearance of very fine general health, and was afterwards often seen in the streets, apparently actively engaged in business. We determined on an autopsy at all hazards after her death, but latterly she has disappeared, and we know not whither she has gone.

Another case of pretty similar import, so far as regards the evidence of the patient herself, we feel disposed to state briefly, because we think the subject of this diagnosis is one that cannot be too abundantly illustrated. The room of a widow lady about 40 years of age, was entered one night whilst she was in bed and asleep, by some ruffian, who, it was believed, was in search of her beautiful daughter, who, as it appeared, was spending that night from home, with a young female friend; and it so happened that her mother occupied her bed. The lady awoke by the feeling of a hand on her face and made an attempt to call for help from across the street; but her throat was immediately seized by the hand of the villain with a distinct threat of death on her making the least noise. He accomplished his purpose and made his escape, with no more discovery of the offender than by the feeling of his head, that he was a negro.

The woman called us the next morning to relate the circumstance and to ask our opinion as to the possibility of impregnation under such circumstances. We gave a negative opinion, but this did not seem to satisfy her mind on the subject. After several months we were notified by her of the fact of pregnancy according to every symptom which she could relate, not excepting quickening. We examined fully and freely by the internal and external touch, and could find nothing but her own fears to lead to the suspicion of pregnancy. Subsequently she engaged me to attend her accouchment. During all the nine months following her misfortune, she emaciated and wore a bad aspect. At the end of nine months, I was called for her accouchment, with assurance of quickening, &c., and could not satisfy her on

Rev. James Shannon, now President of the Louisiana College.
the subject, although her emaciation and abdominal relaxation were such, that by pressure on the hypogastrian region with a force under that which would give pain, the anterior parietes could be easily brought into contact with the umbar spine.

After the nine months had elapsed, this woman daily increased in health and yet lives, a robust and active woman of high sanguine temperament.

After all then, it must appear that we have no evidence for the absolute diagnosis of pregnancy previous to the time of quickening; and this, not merely declared by the woman, but actually seen or felt by the accoucheur is the best evidence which can be afforded. This, when distinguished from other movements, is of course, absolute and unequivocal; but care is sometimes necessary when it is least thought of in such cases.

We pass over the brief and unsatisfactory notice by these gentlemen of the diagnosis of pregnancy, in connexion with a state of disease, of extra-uterine pregnancy, of the dead or living state of the fetus, and the question of the position of the child; and come to "the investigation of various points of interest during labour, which M. Hohl divides into the following questions, viz: 1st. Whether labour has commenced and will go on? 2nd. How far it has advanced? 3d. What are the obstructions to labour? 4. Is there a second child in the uterus? 5. Is the child alive or dead?

On the 2nd of these questions, that is to say—how far has labour advanced, M. Hohl makes the following observations:—

"Attention to this question," says he "is of especial importance, where abortion threatens to take place; because our practice will be considerably influenced by it; our hopes, or despair of averting the expulsion will depend upon it. When the appearance of haemorrhage, with periodical hardness of the uterus, relaxed mammæ, and fallen abdomen, afford reason to dread expulsion of the embryo, the internal examination must be instituted with the greatest caution and gentleness: it will be chiefly directed to the vaginal entrance, the vagina, and uterus; especially the os uteri. With respect to the former, this, as abortion proceeds, will be felt somewhat wider, from participating in the cushiony and soft condition of the vagina, in which we shall find an increase of mucous secretion, (in all probability, more or less mixed with blood,) the temperature increased, and coagula lodging in it. Not unfrequently the anterior wall of the vagina will be felt peculiarly swollen; and, if there be any difficulty
in passing water, we shall feel a long bolster-like mass, which is the swollen urethra. The uterus sinks somewhat lower in the vagina; we feel the external os uteri (os tineæ); and sometimes the os uteri internum also open. Where the opening is large enough to admit of the tip of the finger, it feels as if surrounded by an elastic ring of cartilage; where this is the case, the os uteri seldom closes again: in other cases it is more dilated, and we can feel the ovum presenting. When the abortion is in the second or third month, the practitioner must bear in mind that it may have been retention of the menses, and that therefore what he feels in the os uteri may either be an ovum or a coagulum of blood. To decide this point, he must keep his finger in contact with the substance lying in the os uteri, and wait for the accession of a pain, (for where clots come away, pains like those of labour are present,) and ascertain whether the presenting mass becomes tense, advances lower, and increases somewhat in size; this will be the case where it is the ovum pressing through the os uteri. On the other hand, if it be a coagulum of blood, which it is well known assumes a fibrous structure, it will neither become tense nor descend lower, but be rather compressed. Generally speaking, the ovum feels like a soft bladder, and at its lower end is rather round than pointed; whereas a plug of coagulum feels harder, more solid, and less compressible, and is more or less pointed at its lower end, becoming broader higher up, so that we generally find that the coagulum has taken a complete cast of the uterine cavity. If we try to move the uterus by pressing against this part, it will instantly yield to the pressure of the finger if it be the ovum; whereas the extremity of a coagulum, under these circumstances, is so firmly fixed, that, when pressed against by the finger, the uterus will move also. When abortion happens at a later period of pregnancy we shall be able to feel the different parts of the child as the os uteri gradually dilates, viz. the feet, or perhaps the sharp edges of bones, although we cannot distinguish the form of the head, from the cranial bones being so compressed and strongly overlapping each other."
Theorie des etres organisees renferment les generalites de
la vie organique; par Andre Sniadecki, traduiten fran-

Theory of Organic beings, including the generalities of
Organic life. By Andre Sniadecki, translated into
283.

This work of Dr. Sniadecki so advantageously known in
France since the translation of M. M. Ballard & Dessaix, we
believe, has never been reviewed or noticed this side the Atlantic.
For ages, France, England, Spain, Italy and Germany, stood
erected into literary principalities, and their selfishness contented
them, for the most part, with believing there was little new to
be learned beyond the limits of their respective empires. Mind
has been franchised, the ideas of nations have lost their local
habitations; they are rapidly becoming the common property of
the enlightened species; gathering together in a common centre
from the wide circumference of thinking men, new comparisons
are made, new thoughts evolved, fresh light breaks forth; the
sciences rush forth; and truth triumphant assumes a colossal
and glorious form. In other ages the love of rule and power,
the clangor and glory of war, governed; in ours, it is the glory
of truth. For her praises the triumph of fame is engaged in the
two hemispheres; the triumph of fame, which once delighted to
ring its loudest peals on the path of warriors and conquerors, the
oppressors of the species. It was this spirit which brought the
work of our author from Poland to France, where it now reflects
redeeming honor and lustre on the literature of the author's
native country, which like our own America, has long stood in
degradation in the eyes of all literary Europe.

It is our intention to make such original observations and des-
cantations on the subject of our author, and translate such parts
of his work as will enable our readers to understand its general
scope and tenor, and the substance of his ideas.

Zoogeny, the subject he treats, is of prodigious magnitude, and
lays under contribution almost the whole empire of existing
knowledge. On the one side it lays hold of the arm of chemis-
try, invokes the aid of arycology, physics, zoology, medicine,
statics, mineralogy; on the other, it stretches along the domains
of theology. At first, the existence of the animated universe
was predicated upon the forms and properties of matter, and
depends upon them still for sustentation. This matter, by vir-
tue of which there is life, is not a misshapen, fragmental mass,
resting in space, or flying at random, but enjoys forms of most
perfect beauty, and orders of constitution and adoption, evincing
they were not made for themselves; that their being is not soli-
tary, but that they are only individual parts, materials for a
greater design, a more comprehensive organization. We do not
see them piled up in the chambers of the sky, but disposed of at
vast and different distances from one another, accordingly as we
may judge, to their make and powers of action. The places they
occupy are the best fitted for the displays of their movements
and influences, each part acting on the whole, and the whole,
upon all its parts; each laboring for itself and for the whole, the
integrity and continuation of its being depending upon this
double action. Thus in the great uranic whole, the solar system
is but one unit.

In animal life we can distinguish a great number of individual
parts or actors, digestive organs to appropriate aliment; a heart
to distribute it; lungs to rob the air of its animating fire for it;
a brain to elaborate and irradiate the power and excite move-
ments in every part; thus by its own elaborations forming an
atmosphere about every living atom, and subjecting the entire
economy to its own empire. In the great system of material
life, for so we may call it, we cannot distinguish the same num-
ber of parts or actors: we know of none but suns, planets and
comets, as constituting the bone and sinew of uranic animation.

There are, however, statical considerations to induce the
belief of the existence of other orders of forms, which play in
and enjoy this life, which we have never seen. For, if so many
multifarious forms as we know, enter as constituents in our life,
since the same mind designed both from analogy, why may not
the great material life, from which ours is derived, and upon
which it is engrafted, be made up too of an equal or greater
number of elementary constituents? We know but very little
of the uses of the few different parts with which we are ac-
quainted, in the stupendous economy of this uranic vitality.
Something like the heart in our telluric life, the sun is placed in
the focus, where the radii meet of all the planitary orbits, which
is nearly in the centre of the system they form, which places the
focus of all the system's action some distance from the centre of
his own body, causing elliptical motion in him and them. Thus
as in our life, every part or organism of the uranic economy,
labors continually—labors for itself and for the conservation of
the whole. Stop his motion in either of his foci: on that side
his planets would press toward him, their orbicular movements
becoming more furious: on the other side, langor and sluggish-
ness would ensue. On the one side, the fury and excess of
action would be in proportion to the defect and torpidity of the
other. There would be partial stagnation or congestion of one
part of the system, and raging fury in the other. This state con-
tinuing, the planets could never regain their orbits, the proper
places of their conservative action in their economy.
Again:—As in our living economy, all the motions of uranic life are circular; so that Empedocles was right, when he said, *nature delights in circular motion.* Thus, there is an action or function proper to each world above us, which tends the equilibri-um and good of the whole, whose use or function is necessary and essential to the conservation of the economy, to which it belongs. No part or member is useless or idle; all in their make possess adaptations to participate and respond in the whole's great effort, common fountain of their individual good and being. So in our life; if the absorbents relax their efforts, there is dropsey; the heart, there is capillary stasis; the lungs, there is a crushing of excitement; the brain, radiatory organ, there is defaillance of all the economy. All are essential to each individual part or member, and each to all. It must be so in all circular move-ment, where the motion passes through, and is carried on by different actors. And thus is the great type of movement im-pressed upon the whole universe. All beings then obey its im-pulses, all are formed upon the same great model, all enjoy the same life, performing their parts alike in their respective econo-mies, bearing this conspicuous and specific mark of a solitary origin and creator.

In the opinion of Tasso and others, this same type of move-ment holds in the elder orders of creation.

"Now round his throne, which stood in awful height, 
Roll the fair Cherubim, bright wheels of living light."

Thus life irradiates throughout all being; its streams flow through every sun and planet, and meander through all the limits of space. Thus the earth, which nourishes us, is naught but our fellow creature and our kind sister; the butterfly which disports in the breeze but our pretty neighbor, and the sun-which warms us, our elder brother; all born of the same line-age, all our cotemporaries, enjoying and playing in the same fountain of uncreated life.

To proceed:—In our vital telluric economy, among the higher orders, life everywhere has its triple focus. The number of these foci mark the perfection of life and organization. Under them is placed in dependence respectively the ballance of the organisms composing the animal. In man, these foci, or the lungs, heart and brain, are the most happily and advantageously ballanced, which places him, with considerable interval at the head of the scale. Descending this scale, we behold sensibility and the phenomena of intelligence disappear as these foci dimin-ish in number. In the molusca, they have all disappeared, except some slight rudiments of a medullary or cerebral one. This focus, the most preeminent, which Dutrochet has proclaimed

Jerusalemede. The expression is *living, thinking light,* not expressible in the same line of our English versification.
for the whole vegetable world;* seems to be essential to and inseparable from all life, and accordingly is coextensive with its empire.

The actors or organs composing the individual economy of animals, are all placed in contact, and action plays only through continuity of tissue. In the uranic economy, the actors or organs, so to speak, are placed at vast and exquisitely geometrical distances from one another, and action plays not through continuity of structure, but through empty space to connect all the parts into one operative whole. About each organic part or planet, all motion tends to the centre; so that each enjoys a focus of its own to regulate its individual economy. All these foci are ballanced upon the double central one of the sun, which unites all the parts into a great community—the community of worlds, exciting, coordinating the movements of the whole. We see bone, tendon, muscle, &c. in our life: here we behold our array of regular parts of different orders, qualities and properties—suns, planets, subplanets and planetoides; and space, the cellular tissue which unites them. Here they display their unborn strength, pressing onward without ages. Here, then, is action, subordinate consentaneous action! And if the amount and intensity of life is measured by the amount of movements, how full, how abundant and perfect must be the uranic!! This is the life of Nature proclaimed by Pythagoras and Diodorus, not the life of Kepler, who held the stars to be "beautiful, refulgent, living animals;" but the life, the great and beautiful life of Nature!! the parent life of all that lives and walks and breathes among us!! These forms so symmetrical, so polished and beautiful are not as some thinkers are wont to believe; self-formed or at least self-finished. Rolling or rather wallowing in space a semiliguid mass at first, their poles become flattened, and their equatorial portions elongated by the joint action of the centripetal and centrifugal forces—Idea unworthy of their bearing and philosophy! Like the beautiful forms of animals, they soar beyond the empire of their own system, claim a Creator, and, in their being's make, call our souls and bodies, brother.

No being in nature enjoys a solitary existence: the essence of what it is, is not in itself; its make necessitates for it the enjoyment of a double life, the one individual, the other, the life of community or of the whole. Thus life impels life, being, being, all clothed with the fulness of uncreated vitality.

Guided by these developments in the study of nature, Truth will come leaping forward to meet us; no other rout will lead us to her sacred repose.

Let us study life in the individual, in its community; then, the older life in material individuality; in the great and higher community of the stars. But alas! "ars longa, vita brevis."

An energy darts from the brain, and voluntary movements

* Recherches experimentales, &c.
are excited. This energy is the nervous or sensorial power, in its nature material, and transmitted by material media, the nerves, to the muscles, where the movements begin. This is mind moving matter. The light from the mountain falls on the retina, the shock penetrates the brain, and the eye sees its blue, craggy top. The light, like the sensorial power, has no transmitting media, but its shock undulates throughout the brain, and there is vision. This is matter moving mind. Emotions of beauty, grandeur and sublimity, awake at the sight. This is matter let through the eye undulating through the soul, proclaiming the law of the individual and universal life of nature.

Again:—From all the sun's substance emanates a prodigious energy; the same sort of energy in upwards of forty mighty globes respond, and all whirling on their axes, wheel around the common centre. The interplanetary spaces are vast, and must be materially vacuous to admit of the motions they do. We see going from the sun no nerves or transmitting media to convey this energy, and yet the everlasting fountain of motion flows on in plenary exhaustlessness. How subtle, how immaterial, nay spiritual and omnipresent is this corporeal energy which darts the planetary bands round their burning focus. And if the old statical problem be true, "that nothing can act where it is not," are we to conclude the interplanetary spaces are an astronomical delusion, and the sun and his train are in actual contact? or with our astonishment confess our utter ignorance? If, therefore, we are entirely ignorant of the manner and instrumentation by which matter moves matter, we can behold a few links in the chain of causes by which matter impels movements in mind, and mind, in matter, and motions are propagated in organic living bodies through the continuity of tissues.

Amid all our ignorance, however, of one thing we may be certain, of which all our meditations confirm us:—all our organization and life here below are sustained by the intercourse they enjoy with the mineral globes that roll over our heads,—with the great uranic body and life. We are able to behold many of these uranic relations and instrumentations; celestial channels, down which life flows to us! which bind our life to the universal material life of nature; and as a subspecies, merge it in it.

Cold appears to be the natural state or quality of the earth's superfice, the home of all our living. The polar coldness evinces it to be inconceivably cold. The fire to warm us nowhere blazes on it. We warm at the fire of another world. This fire evolved from its surface undulates throughout space, the common fire, which vivifies all planetary animation.

It comes to us mixed with another substance not less important to our good, light, with Milton, "nature's eldest born," which we know possesses most powerful control over the molecular affinity of chemical bodies often determining their forms. Over the vital organic forms it exerts not less power; plants
and animals etiolate in its absence, and their vital forces languish. It is upon the encephalic tissue its power is mainly exerted. The value and preciousness of this substance, light, to all nature may be inferred from the beautiful apparatuses she has flung round the distant planets where it is scarce, to economise and gather it up for their use. To enjoy it, they turn on their axes, and, quaffing it in eternal festival, dance round the centre whence it flows. Without the riches of the sun, the earth of herself would not be able to afford a cup of cold water for her children, a useless pauper tenenting useful space. Her chemical fire and volcanic flashes, would only be fit to melt ice or make a noise; not to shape the green grass, to open the flower, to warm the blood, to form and unlock the mystic chambers, and make thought and spirit, and immortality start from breathing matter. All the earth could do, would be nothing without the uranic life, of the instrumentations of which, we will mention a few more. Not only the star of our centre but innumerable others, in regular alternations, dart their influences upon us. Observe the great diameter of our planet’s orbit, and how many stars appear and disappear in its different points, all of which in her great annual flight, she visits, and passes by out of sight, taking in fresh food, refreshing her children she carries with her, at every world she passes. Out of how many glittering, burning cups, does our life drink its being! How boundless the intercourse, and the reciprocal influences worlds exert upon one another!! They were not formed, we repeat it, for themselves.

Again:—It is the establishment of the gravitating foci of all the planets, which causes bodies within a certain distance of their surface to tend to their respective centres; the placing of these foci at various distances from one another, and the centre; and the combining all these foci, fountains of stupendous power and movements into one great active focus or centre near the sun’s surface, that fixes and regulates the relative weight of worlds the different velocities and densities of their masses, or the length of days, nights and years; and the weight of bodies about their surfaces. In this divine code of laws thus framed to govern, and combine the isolated actions of each planet or of the universe, whose type of movement we have said is circular, all life has a radical interest; and a species peculiar to each part of the heliogarchy is necessitated. Do we not see if these general laws decide the state and condition of chemical bodies, of which, it is highly probable, but not determinable in our present advancement of knowledge, molecular and aggregative affinity, electrical and galvanic attraction, and the polar forces, are only modifications or the local results? do we not see, I say, it is upon these bodies, whose characters and qualities are thus determined, life exerts all its influences, and, in which it manifest itself by organization?
The law of distancing or collocating the planetary foci in space, so that each might sustain within certain limits an equilibrium of action from the central focus, is one of the great primary laws of the universe, which is every thing to life; because, as I have shown, this law regulates the weights of the planets, and bodies about their surfaces. The direct mechanism of this influence upon life, is the alteration of the weight of living bodies, and of those, by which they are surrounded. The influence of these foci, all antiquity have recognised; and to many of the morbid as well as the healthy phenomena, they accordingly gave significant names, as lunacy, menstruation, &c. Nor should we be astonished, when we behold what prodigious influence the combination of these, as the sol-lunar, exerts upon our globe, in the atmosphere and the seas, raising mighty tides, and tending to lift up the solid continents themselves. The principles of our existence, however, to a given extent, are accommodated to the variations of the universal laws; for, in winter we know our globe is much heavier than in summer; and that its weight, as well as the bodies of its surface, sustains often temporary variations from the accidental conjunction of other planetary foci with its own. Besides these temporary variations of the regular weight of bodies on our planets surface and that of its own, which, at the maximum allowing $X$ to represent the whole amount, will be nearly $X:3$; the difference in the lengths of her polar and equatorial diameters, causes again the same bodies on different parts of her surface, to have different weights. Thus, clocks which beat seconds in London and Paris, require the pendula to be shortened to do the same thing in the West Indies, because their weights are not so heavy there as in the former places. And thus another disturbing force is offered to the dynamical system of the life she nourishes. It must be the same with all planetary life. There are local causes which alter weight, and powerfully affect life. The atmosphere being expansile and contractile by heat, varies its weight in its meteoric states, as is manifested by the barometer. We see it energetically affected in summer and winter by the ever-varying intensity of the uranic stimuli,—the oceans of heat and light flowing from the sun—ebbing over the face of every planet.

In the flood-tides of these flowing streams, life wakes, toils and advances forward; in the ebb, enjoys the brumal sleep. How obedient, how accurately does life play up, and beat time harmonious to the great horologic movements of the universe! Like its planet, it has its summer and winter, its days and nights!

Now if our life be not one with the life of all material globes, with the uranic life, how came impressed upon it the same form of motions, the great horologic, which is the circular form, of which we have spoken? Why, as we have seen, are the actions of life but the continuation of actions begun in, and radiated from, the solar focus? And if, one day, it shall be proved
that molecular affinity, the galvanic and electric attraction and the polar forces, are only modifications or the local and special effects of that great energy, which combines into one great movement all material worlds, the vital forces, then, will claim the same rank, and account wherefore all the beings of nature are clothed with the same sort of action and movement and life; and confirm to the fullest extent, the great truth now well established, that the Divine Creator, from causes the most simple and unique, produces effects the most multiform and variant. In favor of this view, observe the order and dependence of nature. It was not until after the formation of the dry land and the seas and of the effulgent solar globe, that there was life, and, after life, that there was thought, intelligence. This order still holds: mind placed in dependence puts forth its efforts only in concert with the vital forces; and, life again in dependence, acts in concert with the chemical and statical forces of matter. Active, organized, material existence rose first; then life, for we came from the dust, and, lastly, mind. Then forces, then, which animate matter are simple, while the forces of life are double: 1st. those of matter impelling, 2d. its own; and those of mind, triple, for, besides its own, the two forces of matter and life impel it. In its dynamia, nature’s triple focus terminated all her movements, and all her productive energy. Mind, then, is the highest elaborated of all physical existence, all the energies of the solar system are engaged and active in its production—a flower which blooms here below for another world’s immortality.

What we first asserted, then, is true—all life firmly rests, and is predicated upon the forms and properties of matter; and all the varied forms of nature constitute but one great statical unit or whole—one movement undulates the universe, and all beings partake of it and live—live their life varied in all—live and play in the fountain of uncreated vitality. And do we not see, as before urged, that if life consists in the reaction of its own powers upon matter, to which it gives its own peculiar forms, and in which it displays all its phenomena, must not any change in the properties or influences of this matter, be felt and effect changes in it? Hence in nature’s order, the perfection of the material preceded that of the vital economy, which fixed the fate and perpetuity of life upon the stability of the material properties.

And again:—We have seen that these properties are determined by the different distances of the planets from one another and the centre, and modified by the different lengths of the planetary semidiameters:—that the accidental combinations of their foci, and their elipsoidal motions, which carry them nearer and sometimes farther from the centre modifying their properties, must act as disturbing causes upon dynamical life. Hence, we see every law which influences the material or uranick economy, likewise influences life, which causes it to play off as above, its actions in imitation of the great celestial horologue.
The forces which urge life, are every where unequal, and in perpetual variation. Not only those of statical matter occasioned by its elipsoidal movements, &c. but likewise those of the solar effusion, suffer perpetual variations of intensity from the dip of the planetary axes below the plain of the ecliptic. How momentous to life this dip, this southern dip of our world! how prodigious the consequences of it! compelling its poles alternately to wheel in the cold shadow of perpetual night, and clothing its surface with climates;—momentous, because solar heat and light are essential and primary, present forces; and the consequences prodigious, because it modifies and impresses characters upon living nature to accommodate these climates. This dip, which of itself divides the earth into so many empires, and peoples each with a peculiar life, evinces, most incontestably, as before, the great superiority of the sun over the other forces. Has this axis changed? The elder fathers of the lyre, who sung the golden age, portray the beauties of perpetual verdure, and ever-ripening fruits, where winter now holds his reign. Where are the gigantic pachyderma, the rodentia, the last living races of Cuvier? Has this dip varied and entombed them in the fossil beds, where they are now found? And have its variations in the night of years been continually pouring new streams of life along the path of time, and blotting out the families the earth once nourished? All shows that the sun empires supremely over all the other powers of nature in the causation of living existence. And, if all the functions or actions of what lives be but the actions continued of the material universe expressed and epitomised by living organs or organisms, over which we have now thrown a few thoughts, does our physiology, by isolating as it does the vital economy, hold up the faithful and perfect truth? Nature is simple, is one; and, if understood, one science would cover all her ground. Is it owing to the crooked way through the senses, we have to look at her? I will express a great truth: Man looks at his Creator’s work with inverted vision, sees not the interior make, decomposes every where into many what is one, and “hews out to himself broken cisterns.” An idea is credited by him for a thousand years, another comes and dashes it to pieces. His mind’s chronicle shows that his thoughts are entombed, I may say, in a fossil state, in the thick black crust of years as his generations are in that of the earth. The old ideas, Nature’s abhorrence of a vacuum,” the Pythagarean numbers,” once so popular and familiar, meet us now with the “pale altered visage of another world,” “as the awful faces of other times looking down from the clouds of Crawla.” Why? Because of our proneness to decompose, to misinterpret, to scatter and isolate, which fetter the growth of our sciences; and none has suffered more from this abuse than the one we discuss.
Facts should govern opinions, and not opinions, facts. If changes in the general condition of matter are followed by corresponding changes in the world of life, the laws which govern both are, then, universal, and the fundamental doctrines of our author are proven. But let us hear him in his own words:

"All the beings of Nature," says he, "which are offered to our contemplation, belong to the great whole which compose the universe, and are connected to the earth as an integral part of her system. Animal bodies, beside the laws which govern their own economy, are subjected to the influences of all the other bodies of nature. So close and powerful is this connection which binds all physical existence, that living bodies only can live in the presence of those foreign to them, and perish in a moment if isolated from them. Two phenomena characterize the whole living world, organization and life; and all material bodies present but two great relations, vitafiable (viable,) and now vitafiable. Viability or a tendency to organization is the inherent and inseparable property of a part of the matter of our globe. This viability tends to the production of no particular living form, but equally and indiscriminately to the forms of all life."

Like Newton's gravity which could not move the new worlds until after the Creator's hand had first impelled them, this viability could not have evolved the living forms at first to impel them through the torrent of ages. The Creative force was necessary to develope the genera and the species—to excite, superintend and give direction to its action, which was to become the proximate cause of all life, through all time.

"Life, in its most general acceptation, is the result of certain operations equally physical, which take place between dead matter and matter animated—is a mode of existence peculiar to matter, and can only exist in it. More strictly, it is the result of the reciprocal action of the viable matter deprived of life or disorganized, upon living organic matter.

Throughout its entire empire, life has its peculiar forms, its modal existences, which have continued unaltered and unalterable throughout time. The forms of a blade of grass, of the bones and integuments of an insect or animal, have been, and will continue the forms of all future generations.

This is the work of the organizing force, the spiritual link, which connects all life with its Divine Creator."—We make no comment.

Of psychological physiology, he scarcely touches the arcana. The mind's acts—perceiving, comparing, abstracting, &c., are the proper phenomena for investigation. Of the nature of that which perceives, we never can really know any thing. The properties and actions—the phenomena of things, are above the proper objects of our research. The human mind will never
make a revelation beyond the facts. He evinces himself to be a sound philosopher of the school of Bacon.

But to proceed with his history of the life of our globe.

"In the operation of ages, causes take place, whose tendencies are to diminish the amount of life. Since perpetual organization is essential, and one of the great actions of all life, and the atmosphere being the reservoir, the earth's crust or surface becomes emphatically the spacious theatre of the living world. The action of the winds, the washing and attrition of rivers, the motion of the tides, the underwashing of the sea waters, causing earthquakes, all tend to the entombing (enfouissement) of the viable matter, and putting it beyond the reach of organization and life." Here there is a portion of the viable or organifiable matter incarcerated in the bowels of the earth, no longer peopling its surface with living forms, and is an abridgement of the aggregate amount of what lives. "Nature in her wisdom and infinite resources, provides means for the resurrection again of this matter to organization and actual vitality."

This viable matter, the debris or ruins of what has lived, contains in itself the means of spontaneous combustion. Buried by winds, by earthquakes, &c.—deep in the bowels of the earth, in the course of ages its ignisficate decomposition begins, and gives origin to volcanoes, by which it is again vomited forth, and thrown upon the surface to run through the endless forms of organization and vitality.

In nature's stupendous economy, volcanoes, which destroy so much life, are useful and indispensable to that very life. They are her great instruments, by which she counteracts the causes of vital destruction, sustains the organizable matter on the earth's surface, and keeps the cup of life forever full and flowing.

Those who take pleasure in transcendental physiology, and in the laborious manner in which the Germans study, for whom this work was written, cannot fail to be pleased with the perusal of this volume, and are cordially recommended it.

J. B. G.

June 9th, 1833, Talbotton.

* 'Tout l'ensemble, All living bodies, says Cuvier, are oxydised or burnt bodies. Organization, therefore, is their de combustion in its first process.—Rapport des Sciences, &c.