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"Je prends le bien où je le trouve."

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Fractures of the Scapula. By L. A. Dugas, M.D., Professor of Surgery in the Medical College of Georgia. (Read before the Medical Society of the State of Georgia, at the Annual meeting in Augusta, April, 1857, and ordered to be printed.)

The object of this paper is to take a hasty view of the injuries to which the Scapula may be subjected, to direct special attention to fractures of the Neck of this bone, and to relate two cases presenting important peculiarities hitherto unnoticed by systematic writers.

Fractures of the Scapula are comparatively rare: a fact that may be attributed alike to the security of its position and to the yielding nature of its attachments. In consequence of its mobility, shocks which might otherwise occasion serious fractures, are rarely followed by anything more than a contusion of the soft parts. A fracture of this bone may therefore be usually considered as indicative of a very considerable degree of violence.

The relative frequency of Fractures of the Scapula may perhaps be inferred from the statistics of Middlesex Hospital and of the Hotel-Dieu. In the former of these institutions, according to Lonsdale, out of nineteen hundred and one cases of Fracture there were eighteen of the Scapula, of which eight implicated the body, eight
the acromion process, and two the neck of the bone. (Pirrie's Sys.
of Surg., p. 146, Am. ed.) At the Hotel-Dieu there were but four
Fractures of the Scapula in twenty-three hundred and fifty-eight
cases. (Malgaigne. Tr. des Fract., &c., p. 498.) On the other
hand, I have seen, in my private practice alone, four cases of
Fracture of the Scapula, although the number of other fractures
has not been unusually great.

Fractures of the Scapula may implicate the body of the bone, its
spine, its processes, or its neck. Let us study them in each of
these regions.

The **body of the scapula** may be fractured by violence directed
against the back of the thorax, such as blows with a club or other
heavy missiles, the kick of a horse, &c. I saw an accident of this
kind resulting from the fall of a portion of the plastering in the
ceiling of a high-pitched apartment. The person was seated, and
was probably leaning forward when the heavy mass fell upon the
scapula. In another instance that came under my observation,
the body of the scapula was fractured by the hoof of a horse in
running over the man. In such cases the true nature of the injury
is considerably masked by the violence done to the soft parts,
which are necessarily very much confused, sometimes considera-
bly ecchymosed, and soon become the seat of tumefaction and
great soreness. The patient will soon find all attempts to use the
arm attended with pain over the whole of the scapular region, and
the careless observer might easily overlook the deep-seated injury.
But if the surgeon will place the fingers of one hand upon the
inferior angle of the bone so as to fix it against the thorax, while
he seizes the shoulder with the other hand and imparts motion
in various directions to the humeral portion of the scapula,
crepitation may be detected more or less distinctly. This may
sometimes be facilitated by elevating the humerus at the same time.

In the first case to which I just referred as having come under
my observation, the patient would herself occasionally feel the
crepitation on endeavoring to carry the elbow upwards or back-
wards, and would compare the sensation to that which might be
occasioned by one edge of the bone slipping over the other. Un-
der such circumstances, the hand of the surgeon applied flatly
upon the scapula, would enable him to perceive the crepitus. By
causing the patient to fold his arms across his breast, the scapula
becomes more prominent, its general shape may be better defined,
and the surgeon may, by measuring its diameters, establish a comparison with that of the uninjured side. Malgaigne (Tom. 1, p. 502) advises the forearm to be flexed and the hand to be carried forcibly back of the thorax, for the purpose of rendering the scapula more prominent, and consequently thus to facilitate its inspection. It must be confessed, however, that although the judicious surgeon will rarely fail to detect the existence of a fracture of the body of the scapula, it is always difficult and often impossible for him to determine the precise locality, shape, and extent of the injury.

The muscular masses between which the body of the scapula lies will usually prevent much displacement of the fragments, unless the inferior angle of the bone be alone separated, in which case the displacement is sometimes very marked. There are, however, some cases cited by Malgaigne and by Lonsdale in which the displacement of the fragments was very remarkable. In these cases the fractures were below the spine and in the long diameter of the bone, so that the action of the Teres major may have caused the displacement of the lower fragment. But this state of things may also be attributable to the combined influence of a laceration of the muscular layers and of the inefficiency of the retentive means subsequently used in the treatment.

In the treatment of these fractures, attention should be directed to the injury of the soft parts, as well as to the solution of osseous continuity. There may be a laceration of the skin alone, or of this and the muscles, down to the bone, thus constituting a compound fracture; or the contusion may have affected the tissues so seriously as to be followed by suppurative inflammation. If there be a compound fracture the wound should be carefully explored, and any detached fragment of bone immediately removed. The edges of the wound should then be approximated by means of adhesive plaster, taking care, in bad cases, to place a small tent in the wound for the escape of any pus that may be formed. In short, this should be treated upon the general principles applicable to other compound fractures. If the laceration does not expose the bone, the case will be managed as other lacerated wounds: by adhesive plasters and cold water dressings. In cases attended with mere contusion, the application of cold water, or of evaporating lotions, will usually suffice to abate the tendency to inflammation. Leeching may sometimes become necessary. Should
suppuration ensue, an exit should be made for the pus as early as possible, in order to prevent its diffusion between the muscles.

At the same time that treatment is being thus directed to the soft parts, measures should be taken to maintain the fragments in their proper position and to prevent any motion between them. Many plans, more or less complicated, have been devised for this purpose. The simplest will, however, be found to be the most comfortable to the patient, and probably as effectual as any other. I would therefore, with many of the best authorities, advise a sling to be placed under the elbow in such a manner as to bring this close to the chest and slightly forwards, at the same time that the force be so directed as to carry the shoulder upwards and a little outwards. By attaching to the ends of the sling slips of bandage, these may be carried around the thorax and arm so as to prevent any motion of the limb. This apparatus is much the same as that I usually apply for fractures of the clavicle, with the single exception that the elbow should not be carried so far forwards in fractures of the scapula.

Fractures of the spine of the scapula may accompany those of the body of the bone, or may exist independently of these. Malgaigne (T. I, p. 499) says, that he knows of no instance in which the spine alone has been broken. Yet they are mentioned by Paulus Egineta, Ambrose Paré, and modern writers of distinction. By endeavoring to fix the scapula while motion is imparted to the spine through the acromion process, or by more direct manipulation, crepitation may be usually produced. In some cases the prominence of the spine will be diminished more or less considerably; but the tumefaction, which soon ensues, may prevent this from being apparent. I need scarcely add, that the treatment of such cases should be similar to that recommended for fractures of the body of the bone, properly so called.

Fractures of the Acromion Process.—The acromion is generally thought to be more frequently broken than any other portion of the scapula. Such is not the result of my observation, for out of the four cases of fracture of this bone which I have seen in my private practice, this process was found to be broken only once. According to the statistics above referred to, the acromion was fractured in eight out of eighteen cases of injury of the scapula. Malgaigne thinks the accident not so common as fractures of the body of the scapula. Yet, from its superficial and exposed posi
tion, it would seem to be natural that it should be more frequently injured than any other portion of the bone.

The acromion may be fractured at any point, from its connexion with the spine of the scapula; and although the fracture is usually transverse, it may be more or less oblique. The extent of displacement will vary according to the seat and completeness of the fracture. If this be near the extremity, and especially if the periosteum be but slightly torn, there may be very little displacement, and the diagnosis will be correspondingly obscure. The difficulty will be increased by tumefaction, and if the patient be fleshy. But when the solution of continuity involves a larger portion of the process, and the periosteum is completely divided, the fragment will be drawn down by the weight of the arm, there will be an obvious drooping of the shoulder, and the finger carried along the upper border of the acromion will more or less readily detect the displacement and seat of fracture. The depression of the shoulder, which might at first induce the suspicion of a dislocation of the humerus, can be easily overcome by pushing up the elbow, and is again reproduced by allowing the arm to hang down. Crepitation may be detected by the fingers placed upon the shoulder while the humerus is alternately forced up and down from the elbow, or carried horizontally, or rotated, as circumstances may require, so as to rub the fractured edges together.

The patient usually complains of the dragging weight of his arm, and of soreness and pain in the affected region, which are increased by efforts to elevate the arm. The inability of the patient to carry the hand to the head, or even to elevate the arm to a less degree, will necessarily be more or less marked, according to the seat and extent of injury to the bone, as well as of the contusion of the soft parts. Indeed, a mere contusion of the deltoid may render these movements very painful, or impossible, in some cases, and thus mislead the careless observer. The only reliable symptoms are the unevenness of the upper border of the acromion, the mobility of the fragment, and crepitation.

The injury may coincide with a dislocation of the acromial extremity of the clavicle, or with a fracture of this bone also. This complication will not materially obscure the diagnosis, unless the detection of the accident to the clavicle be calculated to throw the surgeon off his guard and to induce a neglect of the proper exami-
in the management of this fracture, to use the language of Sir A. Cooper, "the head of the os humeri is the splint which is employed to keep the acromion in its natural situation." This distinguished surgeon advises the elbow to be maintained at a little distance from the thorax, by means of a cushion placed between it and the side, at the same time that it is carried a little backward and pressed upward by a roller-bandage. In this manner the deltoid is somewhat relaxed, and the head of the humerus keeps the fragment properly elevated. He objects, I think very properly, to the axillary pad recommended by some. I would prefer the sling bandage I am in the habit of using in fractures of the clavicle. (See Southern Med. and Surg. Jour., for 1852, p. 69.) This consists of a triangular bit of shirting, with three or four yards of three inch roller-bandage sewed on to each of the acute angles of the cloth. The elbow being placed in the position above indicated, with a cushion between it and the side, is then, by means of the sling carried under it, pressed upwards with the force requisite to restore the fragment of the acromion to its proper place; and the limb is secured in this position by carrying the ends of the sling above and below the opposite shoulder, and the rollers around the thorax, including the fore-arm.

A strip of adhesive plaster carried over the acromion is suggested by Dr. Brinton (Erichsen's Surgery, p. 207) as calculated to assist in retaining the fragments in apposition. A mould might be made with softened paste-board, or strips of linen coated with
starch, to cover the deltoid muscle, and thus to furnish a medium of resistance to the upward pressure of the humerus, which would effectually prevent any displacement of the fracture by the means used to keep up the shoulder.

Malgaigne, who seems to give the preference to an ordinary sling with a roller-bandage to fix the limb against the chest, adds: "if, however, in certain cases it be found that the complete reduction can be better effected by carrying the elbow outwards, backwards, or in any other direction, such means of retention should be adopted as will most effectually accomplish the object." The treatment should be continued about one month.

Fractures of the Coracoid Process.—From the deep-seated position of this process and its protection by muscular masses, in addition to the mobility of the scapula, its fracture is exceedingly rare, and almost always attended with a very considerable degree of contusion. Although few of the systematic writers seem to appreciate the danger of such an accident, history teaches us that it not unfrequently proves fatal. Boyer, Malgaigne, South, Arnott and others, relate cases in which the patients succumbed under the influence of extensive suppurative inflammation beneath the pectoral muscles and in the axillary region, some in very few days—others after more protracted suffering.

The diagnosis of these fractures is not always easily made out. But, in addition to the local pain, we may expect to find the fragment drawn down by the coraco-brachialis and other muscles implanted into this process, unless it be still held up by its ligamentous connexions with the clavicle and acromion, in which case crepitation could be more easily produced than if the separation were considerable. Unless the tumefaction be great, the situation of the fragment may sometimes be distinctly felt by fixing the scapula against the body and carrying the elbow in different directions. We may in the same way sometimes detect crepitation.

Treatment.—By placing the fore-arm in a sling, with the elbow inclined forward, so as to relax the biceps, coraco-brachialis and pectoralis minor, we shall accomplish all that can be done by mechanical means. But the treatment should also be specially directed to the prevention of suppurative inflammation. Cold water dressings and evaporating lotions should be diligently applied for at least ten days, or until the danger has subsided.
Leeches may be sometimes advantageously applied. If suppuration takes place an early outlet should be made at the most dependent point.

It is doubted, by many, that ossific union ever takes place in this fracture. Yet, if the ligamentous attachments be unbroken, the displacement will not probably be great, and we see no good reason why a bony union may not occur. The degree of disability consequent upon this accident will depend upon the firmness of the adhesions the fragment may form.

*Fractures of the Neck of the Scapula.*—The written history of this accident offers a singular illustration of the defects of anatomical language, and of the evil of using terms whose meaning is liable to various interpretations. When *anatomists* use the expression *cervix-scapula*, or *neck of the scapula*, they apply it to a line near the circumference of the glenoid cavity and just beyond the attachment of the capsular ligament. This line does not, therefore, include the coracoid process. But *surgical* writers apply these terms indifferently to the line just indicated and to another, which, commencing at the notch in the superior costa of the scapula, would follow the depression at the anterior termination of the spine, and, running around this narrow portion of the bone, would include the whole of the enlargement which supports the glenoid cavity and the root of the coracoid process. In short, there is here the same want of precision that we find with regard to the neck of the humerus. In both cases anatomists regard the line of junction of the articular surface, or epiphysis with the body of the bone, as *the neck*; while surgeons are in the habit of including within the neck a much larger portion of the bone. Hence the epithets *anatomical neck* and *surgical neck*, used by writers who do not wish to be misunderstood.

I am led to make these remarks, in consequence of an apparent discrepancy between authors of acknowledged ability and experience. Sir A. Cooper, in his admirable work upon Dislocations and Fractures, devotes a special and entire section to "Fractures of the Neck of the Scapula," and relates three cases in illustration of his views. But he sets out with the following declaration:—"When I speak of fracture of the cervix scapula, I mean a fracture through the narrow part of the bone, immediately opposite the notch of the superior costa." There can be no mistake then as to his true meaning. Now let us refer to Prof. Erichsen, and we find only this short paragraph on the subject:
"Fracture of the neck of the scapula probably never occurs, and there can be little doubt that Sir A. Cooper and Mr. South are correct in stating that cases so described are in reality instances of fracture of the upper end of the humerus. There is, according to Mr. South, no preparation in any museum in London illustrating fracture of the neck of the scapula. Indeed, on looking at the great strength of this portion of the bone, and the way in which it is protected by the other parts about the shoulder, it is difficult to understand how it can be broken." Prof. Ericksen does not any where indicate what he means by "the neck," and would seem, from the above quotation, to have committed a singular error in relation to Sir A. Cooper's views. But Dr. Brinton, the American Editor of Prof. E.'s work, without remarking upon this error, adds: "A number of cases of fracture of the neck of the scapula have been reported; in all instances, however, the line of fracture passing behind the base of the coracoid process. (The Science and Art of Surgery, Am. Ed., p. 207-8.) It appears to me very evident that Prof. Ericksen has been misled by the Notes appended by Mr. South to the Translation of Chelius. (See the Am. Ed. of Chelius, vol. 1, p. 601, and p. 606.)

Now the question presents itself: is there ever any fracture of either the anatomical or the surgical neck of the scapula?

In reference to the occurrence of fractures of the anatomical neck of the scapula, I find that the celebrated Jean Louis Petit observes: "Le col de l'omoplate ne peut se casser que très difficilement ... cependant je l'ai vu cassé près du bord de la cavité: on le rédusit facilement, mais ou ent beaucoup de peine à le contenter, et le malade est demeuré estropié." (Traité des Mal. des os. Paris, 1758. Tom. 2, p. 136.)

"The neck of the scapula is not broken without great difficulty. ... Yet I have seen it broken near the edge of the glenoid cavity: it was easily reduced, but very difficult to keep in place, and the patient remained crippled."

In Bell's Anatomy (Am. Ed., vol. 1, p. 78) is the following language: "This head, or glenoid cavity of the scapula, is planted upon a narrower part, which tends to a point, but is finished by this flat head; this narrower part is what is named the Neck of the scapula, which, no doubt, sometimes gives way and breaks." In a foot-note, he adds: "I have met with the accident in practice, and have preparations of the fractured bone, so that there
can be no doubt of this accident sometimes occurring, yet it is very rare."

Samuel Cooper says that "sometimes great pains and a crepitus are experienced on moving the shoulder-joint after an accident; and yet the spine, the neck of the scapula" (the surgical neck), "and all the above parts, are not broken. In this circumstance, it is to be suspected either that a small portion of the head of the os brachii, or a little piece of the glenoid cavity of the scapula, is broken off; which latter occurrence, I think, is not very uncommon." (Dict. of Pract. Surgery.)

Chelius treats of fractures of the neck of the shoulder blade, but I cannot determine whether he alludes to the anatomical or the surgical neck. Vidal evidently speaks of a fracture of the anatomical neck, when he tells us that if the neck of the scapula be broken the glenoidal fragment will be drawn down by the long head of the biceps. He refers to the action of none of the muscles implanted into the coracoid process. (Tr. de Pathol. Ext., Tom. 2, p. 224.) Fergusson teaches that the glenoid cavity may be separated from the body of the scapula, at either the surgical or the anatomical neck and says that he thinks he has seen an instance of the latter kind. (Op. cit., p. 212.) He even illustrates his position by a wood-cut, which is, however, evidently not copied from nature.

While it is very evident from these quotations that some practitioners not only believe in the possibility of a fracture of the anatomical neck of the scapula, but also think that they have seen cases of this accident, their language is not such as to remove all doubt as to their true meaning in those cases in which they refer to actual specimens examined after death. J. L. Petit thinks he treated a case of fracture near the glenoid cavity—but he made no post-mortem inspection, and may therefore have been mistaken. John Bell's language is too ambiguous to authorize us to conclude positively that his specimen was one of this kind. Samuel Cooper, Chelius, Vidal, and Fergusson, have neither of them referred to any specimen, but simply believe that this fracture has occurred. I do not recollect ever seeing a specimen of this kind, and know of no author who unequivocally describes any. We may therefore reasonably infer that if it does ever take place, it must be exceedingly rare.

Let us now advert to the evidence in regard to fractures of the
surgical neck of the scapula. We have already seen that Sir Astley Cooper not only admits its existence, but even adduces the history of three cases of the kind. We have likewise quoted Dr. Brinton on the subject. Prof. Pirrie, after defining the surgical neck, and referring to the doubts of some as to the possibility of its fracture, adds: "Its occurrence has now been proved by dissection. I have seen three examples of this fracture. One was in a woman upwards of forty-five years of age; another, in a man upwards of fifty; and a third, in a lad of sixteen." (Princ. and Pract. of Surgery, Am. Ed. p. 149.) Samuel Cooper admits its occurrence, in his Dictionary of Practical Surgery. It is somewhat remarkable that Malgaigne, in his elaborate work upon Fractures, makes no allusion whatever, to fractures of the neck of the scapula, either anatomical or surgical. Fractures of the surgical neck are distinctly described by Druitt, Fergusson, Prof. Miller of Edinburgh, and others. It is unnecessary to furnish any farther testimony to prove that this fracture may occur, and that it has been studied. But we cannot refrain from reproducing the graphic histories left us by such authority as Sir Astley Cooper.

"Case CCXLIII.—Mrs. R. in February, 1834, was thrown from a gig by the wheel running upon a bank. She was stunned by the fall, and remained insensible some little time; she then found that her head, shoulder, hip, and ankle, on the right side, were much bruised, so much so that she was unable to move either of them, from pain and swelling; the chief bruise on the shoulder was at the upper and back part. Thinking that the stiffness of the shoulder, as well as of the hip and ankle, arose merely from the bruise, no surgeon saw her until ten days after the accident, when she found that notwithstanding the swelling had subsided, she was unable to move her arm. The surgeon, mistaking the case for dislocation, placed his knee in the axilla, and made violent extension; finding, however, that upon removing the knee, the shoulder again assumed its original flattened appearance, he said that there was a fracture somewhere, but could not say exactly at what part; he then placed a pad in the axilla, and put on a figure-of-8 bandage, confining the arm to the side by another bandage. Swelling and inflammation about the shoulder-joint followed the use of the extending force, to such an extent as to render the removal of the bandage immediately necessary. Leeches, cold lotions, and strict antiphlogistic regimen reduced this, and in a week or ten days the bandages were again applied, and continued for six weeks, being renewed several times during that period. At the end of this time all the bandages were removed, and the patient desired gradually to use the arm as much
as she was able; she could not, however, use it in the slightest degree, and even the passive motion made use of, greatly increased her suffering, and produced several attacks of inflammation of the part. These were reduced as before, and she continued the passive motion, under the direction of her surgeon, (notwithstanding that it much increased her suffering) until July, when the pain which the slightest motion gave her had increased to such an extent that she could bear it no longer. In the commencement of August, at the request of her brother, she came to town for further advice, when the state of the case was as follows.

"The right shoulder was flattened, the arm dropped, the coracoid process of the affected side was on a plane nearly an inch lower than the opposite, the head of the bone and edge of the glenoid cavity might be felt in the axilla, and by placing the finger upon the under edge of that cavity, and raising it, the whole arm was reduced to its natural appearance, and at the same time a distinct crepitus was felt. There was some deformity at the top of the shoulder, however still remaining, from the clavicle having been fractured close to its acromial extremity, and from its having united without being reduced; it was the acromial portion which in this case rode over the end of the sternal. A crepitus was also distinctly felt, by placing the fore and middle finger upon the coracoid process, and the thumb on the back part of the shoulder, and thus moving the glenoid cavity from side to side, marking the case clearly to be one of non-united fracture of the cervix of the scapula.

"A thick cushion was therefore placed in the axilla, and the shoulder being raised to its natural position, a bandage was passed under the arm and over the shoulder, being at the same time passed once or twice around the chest to prevent its slipping off the shoulder.

"The arm was confined to the side, and the elbow supported by a pasteboard sling. In this way the patient was made comparatively easy, the natural roundness of the shoulder restored, and she was, enabled to turn and move in bed, which, before the shoulder was fixed, she was unable to do, from the great pain it occasioned.

"Case CCXLIV.—In the year 1829, I was consulted by Mr. Alderman Partridge, of Colchester, respecting a case of this accident, which he described in the following words:

"'Mr. P., of Colchester, met with an accident about five months since by a fall from his chaise. I was requested to meet Dr. Nunn, who had been in attendance for two or three days; and it then appeared to have been a dislocation of the humerus into the axilla, and I could see no reason to doubt but that Dr. Nunn had reduced it; but I must confess that the tumefaction and tension were so considerable, that it became a difficult matter to decide: however, both from what he himself stated at the time, as well as from Dr. Nunn's and my own personal observation, I gave it as my opinion that it was reduced, although that shoulder appeared rather lower
than the other. This I had observed in other cases; but in this instance it struck me to be rather more than common, and led me to conclude (which I stated at the time,) that a considerable portion of the glenoid cavity had been fractured off. I saw him several times afterwards; and although the swelling continued for several weeks, still it became more and more observable that some very serious injury had been done to the glenoid cavity; and when I saw him at about a month or six weeks from the accident, I could, by placing my hand in the axilla, and pushing at the elbow, bring the head of the humerus up and rotate it in the glenoid cavity; and still persisted in my former opinion. I was again requested to see him about a week since, when I found the head of the bone resting, where you will, I doubt not, find it; and conveying to the feel a certain crepitus, which still leads me to suppose that the glenoid cavity has received the injury I have described, and how far the chances go for any benefit by an effort to replace it after such a lapse of time I must leave to you.'

"The degree of deformity produced by this accident depends upon the extent of laceration of a ligament which passes from the under part of the spine of the scapula to the glenoid cavity, and which is not generally described in anatomical books. If this be torn, the glenoid cavity and the head of the os humeri fall deeply into the axilla; but the displacement is much less if this remain whole.

"Case CCXLV.—A young lady was thrown from a gig, by the fall of the horse, in the Strand; and being carried to her house, a surgeon in the neighborhood was sent for, who told her the shoulder was dislocated; by extension all the appearances of dislocation were removed, and he bound up the arm. On the following morning he requested me to see the case, as the arm, he said, was again dislocated. On examination, I found the head of the bone in the axilla, and the shoulder so fallen and flattened, as to give to the accident many of the characters of dislocation; however by elevating the shoulder, and by raising the arm at the elbow, and the head of the bone from the axilla, it was immediately replaced; but when I gave up this support the limb instantly sunk again. I then rotated the elbow, and pressing the coracoid process of the scapula with my fingers, by grasping the top of the shoulder, directly felt a crepitus. Having satisfactorily ascertained the nature of the accident, I placed a thick cushion in the axilla, and drawing the shoulder into its natural position, secured it by the application of a clavicle bandage, and in seven weeks the part united without deformity."

The symptomatology deducible from the above cases, is very plain: the shoulder droops, and the deltoid is flattened in consequence of the falling of the head of the humerus which can be felt in the axilla; the coracoid process is lower than that of the other
side; but the natural relation of the parts is readily restored by pushing up the humerus, and again as readily displaced by allowing the arm to hang down; crepitation may also be distinctly felt by imparting motion to the fragment, by means of the fingers applied to the coracoid process, while the body of the scapula is held firmly by the other hand resting upon it; or, it may be induced by simply pushing up the humerus and glenoid cavity to their proper position, and then rubbing the fragments together by varied movements. In the language of Sir Astley Cooper, "the diagnostic marks of this accident are three; first, the facility with which the parts are replaced; secondly, the immediate fall of the head of the bone into the axilla, when the extension (elevation?) is removed; and thirdly, the crepitis which is felt at the extremity of the coracoid process of the scapula, when the arm is rotated. The best method of discovering the crepis is, for the surgeon's hand to be placed over the top of the shoulder, and the point of the fore-finger to be rested on the coracoid process; the arm being then rotated, the crepitis is directly perceived, because the coracoïd process being attached to the glenoid cavity, and being broken off with it, although itself uninjured, the crepitis is communicated through the medium of that process." (Page 370.)

I will now proceed to give an account of two cases of this fracture which have come under my personal observation:

Case I.—On the 7th of October, 1853, a stout negro man, about nineteen years of age, called Ambrose, and belonging to Mr. Avery, of Columbia county, Ga., was sent to me with a note from my friend Dr. H. R. Casey, who had seen the case. It seems that three weeks previously, while at work in the field, a limb fell from a tree upon the left shoulder of this man. The blow was very severe, and, upon recovering from the shock, the man found that he had entirely lost the use of his arm, but suffered excruciating pain in the shoulder, axilla, and even to the ends of his fingers. The Doctor saw him a few hours after the accident, and found him still suffering intensely and unable to move any portion of the limb; not even the fingers. No arterial pulsation whatever could be felt at the wrist, the limb was rather cool, but sensibility was not destroyed in it, for the patient would feel when pinched. There were no symptoms of concussion of the brain nor of any lesion about the head. The shoulder alone had been stricken,
and this was very much swollen. Opiates were freely administered to relieve the pain, and the limb was placed in a sling.

The following copy of a letter, written to Dr. C., will explain the condition in which I found the patient:

**Augusta, 7th October, 1853.**

**Dear Doctor,**

I have carefully examined the very interesting case sent me by Mr. A., and think that the paralysis was induced by injury to the axillary nerves and vessels which were jammed against the ribs by the head of the humerus, when the blow was received. I think there is a fracture of the neck of the scapula still existing.

I will briefly enumerate the symptoms I have observed: evident depression of the head of the humerus below the acromion; the head of the humerus rotates under the finger continuously with the lower end of the bone, and without crepitation; the depression of the head of the humerus is reduced by pressing up the elbow; crepitation very audible, and easily felt by placing the left hand upon the shoulder, whilst with the right hand you seize the elbow and work it freely, so as to force the shoulder up and down. No crepitus can be induced by acting upon the different parts of the body of the scapula, nor upon the acromion, nor upon the clavicle. By placing your ear, with or without the stethoscope, upon the scapula, the crepitus is very loud. Now, as to the suspended circulation and paralysis, I find no pulsation in the arteries, not even as high as the axilla, although the artery can be felt with its accompanying nerve on the inside of the biceps. The limb is cold, but especially so, below the elbow. Circulation in the veins evident, but slow. The limb is insensible below the elbow, and partially so above. The ulnar nerve may be compressed behind the elbow without sensation.

The patient says that he suffered dreadfully at first, and that the whole limb down to the ends of his fingers was much swollen, as well as that side of the chest, for some time after the injury; and that loss of motion was immediately induced. From these facts, I think myself warranted in the inference above indicated, and also in the belief that the vessels have suffered so much from the contusion as to obliterate the axillary artery.

It is now three weeks since the accident—what is to be done? Suspend the elbow with a handkerchief sling, such as I advise in
fractures of the clavicle, so as to keep the fractured edges in contact, and to relieve the axillary nerves from compression. Give electric shocks daily to the limb, passing the fluid from the back of the neck down to the fingers. This stimulation of the nerves may possibly be useful. Let the man take exercise to brace the system.

Yours, in haste,

L. A. Dugas.

Wishing to know the present state of the case, I addressed a note to Dr. Casey, requesting him to see Ambrose, and to furnish me the desired information. I make the subjoined extract from the Doctor's reply, dated 31st March, 1857:

"I examined Ambrose with Dr. Baily to-day. We think that the coracoid process is not in its proper place, but below this and along with the glenoid cavity. The acromion is intact, and the head of the humerus can be readily felt rotating below. We thought we could detect a slight crepitus, but not very distinctly. The limb is very much atrophied—I should say not half as large as the other. The atrophy extends to the muscles on that side of the chest. The mammary region here is entirely shrunk, while it is very prominent on the other side. Paralysis still extends to the fingers. He still suffers pain occasionally."

Remarks.—I should here observe, that when I saw the patient, I could not feel the coracoid process with sufficient distinctness to act upon it as advised by Sir A. Cooper. Yet the whole chain of symptoms was sufficiently characteristic to leave no doubt as to the true nature of the case. The head of the humerus was depressed to such a degree, as to rest upon the axillary plexus, but could be easily forced up into its proper position; it rotated continuously with the shaft of the bone, and without crepitation; crepitation was easily felt by forcing the elbow up and down so as to bring the fragments against each other. Neither the clavicle, the acromion, nor any portion of the body of the scapula was broken. The seat of fracture could only be in the surgical neck of the scapula.

The lesion of the axillary artery and nerves here noted deserves especial attention, for I am not aware that it has been mentioned by any author in connection with this accident. It is true, that some of them allude to the disability sometimes experienced in the
use of the limb, and which may even lead to loss of motion in neglected cases; but, nowhere do I find any intimation of the sudden production of paralysis, nor of the obliteration of the artery so remarkable in this case, and so evidently caused by the immediate injury done to the nerves and blood-vessels of the axilla.

Baron Boyer, who is perhaps more full in the description of such accidents than any other writer, with the exception of Sir A. Cooper, observes: "But the most serious of all these fractures (fractures of the scapula), are those of the coracoid process and of the neck of the bone: these are difficult to keep in place, and their consolidation is frequently attended with considerable stiffness of the arm, with an impossibility to elevate the limb, with atrophy, and sometimes even with paralysis." (Translated from p. 166—Tom. 3—of Tr. des Med. Chir., Paris, 1831.) Boyer's remarks here evidently refer to the effects of continued disuse, rather than to any immediate injury to the nerves. The same may be said with regard to the views of Sir A. Cooper.

CASE II.—In December last, (1856,) Mr. R. W. Daniel, of Jefferson county, in this State, brought to me a negro man between fifty and sixty years of age, who, in the month of March previous, while felling trees was stricken down by a limb. The blow was principally sustained by the right shoulder, and he immediately lost the use of his arm and fingers. The physician who saw him reports that no pulse could be felt at the wrist at his first visit. My examination of the case, nine months after the accident, revealed the following state of things:

The clavicle had been broken at about two and a half inches from its acromial extremity, but the fracture was united, the sternal fragment overlapping the other. The acromion process had also been broken at its junction with the spine of the scapula, and an uneven union had taken place. The connection between the acromion and the clavicle appeared to have sustained some injury as it was enlarged and uneven. The shoulder drooped so much as to resemble very much at first sight a dislocation downwards. The deltoid was flattened, and the head of the humerus could not be found in its proper place, unless forced up by acting upon the elbow, by which means it could be readily replaced, but would again immediately fall upon releasing the elbow, and permitting the limb to hang down. The coracoid process evidently followed the
upward and downward movements of the humerus. No crepitus could be detected by rotating the humerus when hanging down, but it became very audible when the elbow was forced up and then moved in different directions. The elbow could be placed against the chest while the fingers rested upon the sound shoulder, without any difficulty, so as to establish conclusively that there was no dislocation of the humerus, according to the principle I have established for some years back. (See Southern Med. and Surg. Jl. for 1856, p. 131.)

The patient still suffered almost continual pain along the arm down to the fingers. He represented his sufferings as sometimes excruciating. These were somewhat relieved by forcing up the head of the humerus. He was entirely unable to move any muscle from the shoulder down, and he said that his limb felt benumbed, especially from the elbow to his fingers. He could, however, feel when pinched at any point of the surface. No pulsation whatever could be felt in any of the arteries of the limb, and the temperature of the skin was lower than that of the other arm. The pectoralis major, the muscles of the scapula, those of the shoulder, and indeed of the whole limb were very much atrophied. The man's general health had suffered from long continued pain and want of accustomed active exercise.

The only prescription made in this case was, that the humerus should be well forced up and sustained in this position by means of a sling bandage carried beneath the elbow and well secured.

Dr. James Bell, who lives in the neighborhood, informs me in a letter, (dated 18th March, 1857,) that the patient has been using the sling since I advised it, that the shoulder appears to be a little fuller, but that he still has no use of his limb, and occasionally suffers extreme pain in the wrist. His fingers are dwindling away and becoming stiff.

Remarks.—It will be observed that, with the exception of the fractures of the clavicle and acromion, this case presents a striking analogy to the one just preceding. In both cases the injury resulted from the fall of a tree, in both instances the blow was followed immediately by paralysis and cessation of circulation in the arterial trunks, and in both the injury to the nerves and bloodvessels has persisted. Both have derived some relief by the support given to the limb, but they still suffer more or less. In
neither case was a retentive bandage applied soon enough to promise union of the fragments, and none has taken place. Both being ignorant and heedless negroes, have doubtless been more or less remiss, in proper attentions to the application of the bandage, and this may account in some measure for the persistence of pain. Would a timely application of suitable bandages have allowed the nerves and vessels to recover from the severe injury inflicted upon them? The question cannot be satisfactorily answered without additional facts and observations.

The deplorable condition of these men, who have not only lost the use of an arm, but are also subject to harrassing pains, which may continue indefinitely, would seem to demand at our hands some measure of relief. Unable to think of anything better, the propriety of amputation has presented itself to my mind as perhaps justifiable under the circumstances.

By removing the weight of the limb which is continually pressing upon and chafing the nerves, it is probable that the pains with which these patients are annoyed would cease. The usefulness of the limb being irrecoverably lost, the only objection to amputation, since it may be done without pain under the influence of anaesthesia, would be its danger to life. This danger would of course be greater in amputation at the shoulder joint, than if it were performed at the insertion of the deltoid muscle, and the latter would probably answer the indication. Amputations in the upper portion of the arm are so rarely fatal in this section of country that the patient might well take the risk for the relief, especially when we consider that the change from a life of laborious exercise to one of even painless inactivity is in itself not without danger. Under the influence of these considerations, I recently proposed amputation to Ambrose, who has now been suffering several years; but he objects to the experiment.
ARTICLE XVIII.

Vesico-Vaginal Fistula.—A Report read before the Medical Society of the State of Georgia, at their Annual Meeting, at Augusta, April 8th, 1857. By P. M. Kollock, M. D., Professor of Obstetrics and Diseases of Women and Children, in the Savannah Medical College.

[Concluded from the May No., page 181.]

Dr. Sims claims that he has originated:

1st. A method by which the vagina can be thoroughly explored, and the operation easily performed.

2nd. That he has introduced a new suture apparatus, which lies imbedded in the tissues for an indefinite period without danger of cutting its way out, as do silk ligatures.

3rd. That he has invented a self-retaining catheter, which can be worn with the greatest comfort by the patient during the whole course of treatment.

Every surgeon who has faithfully studied the method of cure which has been presented to the profession, by Dr. Sims, and the apparatus which he has invented for effecting it—and who has, at the same time, employed it—must be prepared to accord him the fullest meed of praise, as well as gratitude, for the industry and ingenuity which he has displayed, and the very convenient and efficient means which he has placed at the disposal of the Profession, for the management of a disease which has been hitherto found exceedingly incorrigible.

But, while we are prepared to admit that, in the hands of Dr. Sims, and guided by his skill and experience, success may be the rule, while failure the exception; justice to him and others, compels us to state with candour, that such has not been the result in the practice of other surgeons.

The sources of failure are to be found in the suture apparatus. The wires will cut themselves out in certain cases, however much attention may be bestowed, in their introduction at a sufficient distance from the edge of the raw surface, and sufficient depth into the sub-mucous tissue; the lips included between the clamps, will slough, however much judgment may be exercised in drawing them together, and irregularities on the vaginal surface, rigidity from cicatrices, and the situation of either a part, or whole of the fistu-
lous opening, may prevent the clamps from being evenly applied and with sufficient parallelism, to secure their regular and efficient action. In consequence of these occurrences, the patient has to be subjected to a greater or less number of repetitions of the operation; and, perhaps, other means have to be employed for the perfection of the cure. The following case (among others,) will prove the statement which has just been made:

March 16th, 1855. I was requested by Dr. Fickling to visit with him, Chloe, a negro girl belonging to Mr. Baynard, of this city (Savannah). I was informed that, in the month of December previous, she had been delivered of a child after a very severe labour, which lasted for two or three days; since which time, she had not been able to retain her urine. Without much difficulty, an urinary fistula was diagnosed, accompanied with great contraction and rigidity of the vaginal canal.

The death of Dr. Fickling a few days after this, placed the case entirely in my hands.

I had her removed from her owner's residence to my private infirmary, where a more thorough exploration of the case revealed the following condition of things:

The vaginal orifice contracted and rendered extremely rigid and unyielding by the formation of tough bands on each side; a fistulous orifice, three quarters of an inch in its longest (transverse) diameter, at the distance of one and a half or two inches from the external orifice of the urethra; one half inch above this, the finger came in contact with an obstruction, or bridge in the centre of the vagina, on each side of which a narrow passage extended upwards.

The finger, introduced into the rectum, detected what seemed to be the cervix and body of the uterus; but this could not be very distinctly made out.

From the evidence thus obtained, I inferred that there was an adhesion of the vaginal walls at the point of obstruction to the farther passage of the finger upwards, and that the canal was obliterated from that point to the os uteri above.

The condition of this poor creature was most deplorable. The urine passed from her involuntarily and without cessation—bathing the vagina, vulva, thighs and nates, and excoriating them by its acrid properties; causing intense suffering and inability to move about, and exhaling its intolerable stench, disgusting to herself and all in her vicinity.
To rescue a fellow creature from such a state of wretchedness, every generous and humane feeling was irresistibly appealed to; but the attempt seemed hopeless, and was so deemed by most of those who saw her. Encouraged, however, by the results in some very unpromising cases reported by Dr. Sims—where his operation was crowned with success after numerous repetitions—I determined not to be deterred by these very discouraging appearances, and accordingly undertook the treatment.

As the first step towards any operative procedure, it seemed to be imperative that the vagina should be dilated. My attention, therefore, was directed to this object. At this time, the vagina was so much contracted, that the smallest sized speculum could not be introduced, and the fistulous orifice could not be brought into sight.

The patient was so intolerant of pain, that no manipulation of any importance could be performed, without placing her completely under the influence of an anaesthetic agent. She was accordingly made to inhale a mixture of chloroform $\frac{1}{4}$, sulphuric ether $\frac{2}{4}$; and the rigid bridles, on each side of the vagina, incised as freely as was deemed prudent. Dilatation was then attempted by the daily introduction of sponges and gum elastic bougies, and a catheter was retained in the bladder to conduct off the urine from the inflamed and excoriated vagina.

On the 17th of April, the patient being etherized, the fistulous orifice was brought into view by the introduction of Sims' speculum; an incision was made with a long handled scalpel, through the upper extremity of the blind pouch, into which the vagina had been converted by the adhesion of its walls antero-posteriorly. The incision was made transversely, and carefully extended on either side so as to divide the lateral bridles as much as possible. The finger was now passed up into the incision, and made use of for tearing up the adhesions above, and separating the walls as high as could be reached; but no os uteri could be detected by the end of the finger.

The fingers in the rectum and vagina at the same time, and afterwards, a finger in the vagina, and catheter in the bladder, proved that the passage which had thus been effected was between the bladder and rectum, and in the proper locality of the vagina. Lint was now inserted into this passage in order to prevent reunion. The operation was followed by considerable hemorrhage, which continued for some hours.
The process of dilatation was continued until May 10th, when I determined to make an attempt to close the fistulous opening.

The patient was placed on a table 3 feet by 4 feet, in a kneeling position, her body being supported, the head inclined downwards, the nates turned towards an open window, and the sunlight concentrated by a small looking glass on the vulva, so as to throw as much light as possible, into the vagina. The hands, trunk and lower extremities were secured by bandages to the table. As soon as she was profoundly influenced by the anaesthetic, Sims' speculum was introduced, which exhibited the fistula very much obscured by blood and urine, from the inflamed vagina and bladder. This was sponged out, and the mucous membrane raised by the tenaculum, and dissected off by means of a knife and curved scissors. The mucous membrane was removed by excoriation to the distance of an inch in front, and the posterior lip of the fistula was formed by a thick edge of the adherent tissue which had been divided in the first operation.

With great difficulty, owing to the contracted state of the vagina, the silk threads were passed by means of Sims' needle, and the silver wires lodged in their proper places; the leaden clamps were then applied and the edges of the fistula brought into apposition. Sims' catheter was introduced and the patient placed in bed. The bowels, which had been freely purged by castor oil on the day before the operation, were constipated, and patient kept quiet by the free exhibition of opium in two grain pills, her diet crackers and water. The catheter was removed once or twice a day and water, either warm or cold, (according to the weather,) liberally thrown upon the vulva and into vagina, by means of a syringe.

May 14th. Speculum introduced and parts examined. No derangement of the sutures; lips of fistula well approximated in centre, extremities doubtful.

May 17th. Examined: suture at left extremity of clamp torn through anterior lip; no adhesion at left extremity; middle closed. May 21st. Sutures removed; adhesion of one-third at the centre; each extremity open, and urine passing through. These points were so much concealed by the lateral columns of the vagina that it was nearly impossible to freshen the edges, or to apply the clamps properly.

June 4th. Assisted by Drs. Bulloch, Mackall, and Mr. Godfrey a student of medicine, the patient (Chloe) was again placed
upon the operating table, secured in the same manner as before and etherized—the bowels having been emptied, on the day previous, by castor oil.

In consequence of the extreme narrowness of the vagina, the speculum which was found to be inconvenient, was dispensed with, and the dilatation was effected as well as possible by my own finger and those of my assistants.

It was ascertained that about one half of the original opening had been closed by the former operation, at the centre, leaving an orifice at each lateral extremity, through which air and urine bubbled. That, on the left side, was most difficult to reach, being concealed by a rigid cicatrised fold of mucous membrane, which lay parallel with the Ischio-pubic ramus. The paring of the edges of the two openings, although attended with much difficulty, was more easily performed than at the preceding operation.

The sutures (two in number), were passed through the edges of the left opening, extreme difficulty being encountered in disengaging the silk from the eye of the needle, after perforating the posterior lip; and on applying the clamps, the unyielding character of the tissues rendered it impossible to push up the anterior clamp as fairly and squarely as was desirable. The opening, however, appeared to be pretty effectually closed.

Two sutures were also passed in the same manner, but with less difficulty, through the opening on the right, and the clamps were placed very satisfactorily, so that the urine flowed entirely through the urethra. The patient was then remanded to bed with the catheter in the bladder, and the subsequent treatment was the same as after the first operation.

June 8th. Examined; every thing looking well. The clamp on the left side, which gave us so much trouble in the application, seemed to have retired more within the vagina, and approximated the posterior more nearly. The sutures were removed on the tenth day—it having been ascertained some days before, that those on the right side had cut through the anterior lip. I was grieved to find that no union had taken place on either side.

No farther operative procedure was undertaken for closing the fistula, until the 18th of October following. At that time it was found that the upper part of the vaginal canal had reclosed, and that the contraction of the lower portion had sensibly increased. With extreme difficulty a denuded surface was obtained, by means
of the knife, around each fistulous orifice, and leaden wires were passed by means of Sims' needle, the upper thickened fold of mucous membrane was drawn down as well as possible over the openings, and the ends of the wires twisted together.

On the 20th October the parts were examined, and to my chagrin I found the wires broken. They were, accordingly, removed.

October 25th. Patient being placed on the table and etherized, a silk thread was passed, doubled, through the lips of each opening—on the distal end was secured a perforated buck-shot, which was drawn up above the posterior lip; the proximal ends of the threads were then passed through three perforated buck-shot, traction made on the thread, and the lower end tied across a round piece of wood about the size of a pencil or pen-holder. In this manner the edges seemed to be pretty well approximated, and it was hoped that their adhesion would be effected.

On the third or fourth day after this last operation, it was ascertained that the sutures had cut their way out, and they were removed.

So much irritation of the bladder and vagina was the result of these operations, that the patient was kept in bed, and the catheter retained in her bladder. As soon as this subsided, she was allowed to rise and move about.

On examination some days after, it was observed that she had some incontinence, but no passage of urine through the vagina.

Dec. 1st. Her menses made their appearance for the first time since the accouchement, at which this grave accident occurred.

Dec. 21st. The vagina is moistened slightly by a thin fluid of urinous appearance, which flows from a minute point on each side of the vagina. These points were touched occasionally with Nit. Argent. for several weeks. At length a galvanic spark was kindled at each of these points, and in the course of some weeks, every appearance of fistulous opening was obliterated, and the patient was discharged as cured.

Here, then, is a case which confirms what I have asserted—that Sims' suture, ingenious and beautiful as it is, has not proved, in the hands of others, to be "all that could be desired." The reason of its failure was found in the indurated and inelastic condition of the altered vaginal tissues, which prevented the proper approximation of the clamps, and their "imbedding" themselves in the mucous coat, as is represented by Dr. Sims.
Nevertheless, (the case just detailed, and two others which will be mentioned, to the contrary notwithstanding) until lately, I have regarded Dr. Sims' method of suturization, as the most perfect yet discovered, and the one most likely to succeed, and that it would prove triumphant in a very large majority of cases.

During the last winter, I received a small pamphlet entitled, "Remarks on Vesico-Vaginal Fistula, with an account of seven successful operations. By N. Bozeman, M.D., of Montgomery, Ala."

In this pamphlet, Dr. Bozeman describes "a new mode of suture"—original with himself—which he offers to the notice of the Profession, with a confidence founded on the results of the trials which he has made of it. He ascribes the discovery of this new suture to his repeated disappointments of the clamp suture of Dr. Sims, even in cases where, from their favorable nature, failure was not to be expected—and particularly in a case of double fistula, to which it proved so utterly inapplicable, that he was about to abandon the case in despair, when an accident, similar to that which revealed to Newton the Law of Gravitation, pointed out to him the road to success.

In the case of double fistula, to which he alludes, he attributes the failure of the clamps to the irritating effects of the urine on the edges of the fistula; and he says, "I became satisfied that I should never be able to cure the case, unless I could invent some contrivance by which either to close both openings at one operation, or to afford complete protection to the denuded edges of one during the healing process." "To contrive an apparatus that would fulfil one or the other of these indications, required, I supposed, much more inventive talent than I possessed; and after a little thought, I abandoned all hope of providing any thing that would answer the purpose. Sometime afterwards, however, while buttoning my vest, it occurred to me that a somewhat similar process might be applied to such cases as the one above cited, and after turning the matter over in my mind, I determined to put the idea in practice. Accordingly I made a contrivance on the button principle, and applied it in a case where the clamp suture had failed three times. The result was, as it has been in every trial since, as satisfactory as could be desired."

In accordance with the manner of its discovery, and also its mode of action, Dr. Bozeman has dubbed it the "Button Suture;" and remarks, that it is "only a modification of the twisted" suture.
"The essential parts of the apparatus consist of wire for the sutures, a metallic button, or plate, and perforated shot to retain the latter in its place. The wire should be made of pure silver, about the size usually marked No. 93, and properly annealed. A length of about 18 inches should be allowed for each suture.

"The button possesses several peculiarities. It may be made either of lead or silver. The former, hammered out to the thickness of \( \frac{1}{16} \) of an inch, answers the purpose tolerably well. The latter can be made still thinner, and does better, on several accounts; it is lighter, less likely to yield under pressure, admits a higher polish, and allows the wires to be drawn through the holes without dragging."

The size and shape of the button will depend upon that of the fistula. The most common shape is oval. It must be concave on the under side, or that which lies in contact with the fistula; the edges must be slightly turned up, to avoid irritating the vaginal lining, and it must be perforated in the centre with holes proportioned in number to the number of wires which it is found necessary to introduce; and the holes must be of sufficient size to pass the wires double.

Dr. Bozeman recommends that the sutures should be placed about \( \frac{1}{16} \)ths of an inch apart. The size of the perforated shot, should be No. 3 bird shot.

The first steps of the operation do not differ materially from those of Dr. Sims. The position of the woman may be the same. Sims' speculum answers every purpose. And the freshening of the edges may be done in the same manner and with the same instruments. The wires are passed only through the mucous coat of the vagina, by means of silk threads. Dr. B. uses, for this purpose, a stout, straight, spear-pointed needle, and introduces it about half an inch from the freshened edge.
Figure 2 is a representation of the fistula of the most common shape, with its edges pared in the bevelled manner heretofore mentioned, and the silver wires drawn through.

The wires being lodged in their places, the ends are brought together, and the edges of the opening approximated as accurately as possible. For this purpose a steel rod, (Fig. 3,) fixed in a handle, perforated and flattened and raised into a kind of knob on one side at its distal extremity, (called by Dr. B. the “suture adjuster,”) is employed—the ends of the wires being passed through the hole at its extremity, and the instrument run down (the knob downwards) upon the edges of the opening at each point where the wires have been inserted.

The doubled wires are then passed through the holes in the button, and this last pushed down upon the approximated lips of the fistulous opening.

The appearance of the parts after all the sutures are adjusted is faithfully represented in Fig. 4.

A perforated shot is then run on each doubled wire until it comes in contact with the button, against which it is held with sufficient force by strong forceps, and there pinched with the forceps, so as to prevent their slipping back.

The wires are now cut off about a quarter of an inch from the shot, and the ends may be separated and bent down over the shot, which prevents their irritating the vaginal wall as it collapses, and aids in securing the shot.
Fig. 5.

Fig. 6.

Fig. 7.

Fig. 8.

Figures 5, 6, 7 & 8, represent different stages of the application of the button and the shot upon the wire, as taken from Dr. Bozeman’s pamphlet.

Sims’ catheter may now be introduced into the bladder, the patient put to bed, and the after treatment is the same as that recommended by Dr. Sims.

The sutures are not to be removed until the 10th or 12th day.

Dr. Bozeman’s pamphlet gives the details of four cases of vesico-vaginal fistula treated by him with his button suture.

Case No. 1, was of three years standing; the clamp suture had failed after three trials. It was cured by one operation with the button suture.

Case No. 2. Double fistula, of seven months standing—cured by two operations with the button suture.

Case No. 3. Double fistula, of eighteen years standing—two successful operations with the button.

Case No. 4. Double fistula of nine years standing—several failures with clamp suture; cured by the button.

My own experience with the button suture may be illustrated by the detail of two cases; which will also show how much right I have to express an opinion concerning its merits, and to how much weight my testimony is entitled.

Case 1st. Dolly—a negro belonging to Mr. Jacob Waldenburg, of Savannah—was brought from St. Catherine’s Island, her residence, to be treated for an incontinence of urine, which succeeded a very severe and protracted labour. It was ascertained that she had a fistulous communication between the bladder and vagina, about two inches from the vulva, its longest diameter one inch,
situatd transversely to the vaginal axis. An attempt was made to close the opening by Sims' method; but although the case seemed to be well adapted to this treatment, and promised a favorable result, such did not occur—the sutures cut themselves out in a very few days, and, if any thing, she was left in a worse condition than before the operation. Her master, discouraged from any farther attempts to cure her, sent her back to his plantation, where she remained about eighteen months. At the end of that time, she was brought up to Savannah again and placed in my hands.

I found, on examining her, that the fistula was very much reduced in size, and that the longest diameter (about $\frac{1}{2}$ inch) was situated parallel with the axis of the vagina. The mucous membrane was somewhat excoriated around the fistula.

On the 15th day of January, 1857, the bowels having been purged on the day previous with castor oil, the patient was secured on the operating table, in the kneeling position—etherized—Sims' speculum introduced into the vagina, which was lighted up by means of a looking-glass, as has already been described. My assistants were Drs. Wragg and Charlton, and Messrs. McFarlane and Johnson, students of the Savannah Medical College. A semilunar incision was made, with a small double-edged knife, curved on the flat, at the distance of $\frac{3}{4}$rd of an inch from the free edge of the opening, on each side, and the mucous membrane of the vagina dissected off. With a short, curved needle, armed with silver wire, (without the intervention of silk thread,) and fixed in Sims' grooved forceps, three points of suture were made—the needle being introduced $\frac{1}{2}$ inch from the freshened edge, and passed only through the vaginal mucous coat. The ends of the wires were then brought together, the edges of the wound placed in apposition, the double wires passed through perforations in a button made of lead, and secured by the perforated shot. The wires were cut off about $\frac{1}{4}$ inch from the shot, the ends separated and turned down over the shot.

Sims' catheter was introduced, and the patient was ordered opium, in 2 grain pills, to be repeated sufficiently often to allay pain, procure rest, and constipate the bowels. Diet—crackers and tea.

Jan. 16th. Complains of pain in the bowels and nausea, and towards evening vomited, probably the effects of opium, having
taken it pretty freely. Prescribed poultice to bowels and cold water to head—stop opium and substitute paregoric.

Jan. 17th and 18th. More comfortable; anorexia.

Jan. 22nd. Speculum introduced and parts examined—every thing in satisfactory condition. Unusual difficulty in retaining catheter in proper position—it has a tendency to turn; to prevent which, lint spread with cerate is packed around it, the catheter being passed through a hole in the lint, which also protects the vulva and perineum from the action of the urine as it flows from the end of the catheter. Catheter removed once or twice a day, and cleansed, and vulva and vagina well syringed with warm water.

Jan. 25th. Sutures removed. Perfect union of the edges throughout the whole length of the fistula; urine perfectly retained; every part healthy in appearance. The catheter was retained in the bladder five or six days longer.

Jan. 27th. Bowels moved by a warm water enema; and she was allowed to quit her bed on the 30th.

I have been very agreeably surprised at the very satisfactory result of this case; for I felt that my first attempt at manufacturing the button must be rude; and, moreover, after its application, several drops of urine were observed to pass through the middle perforation of the button.

**Case 2nd.** Leah—negro—owned by a rice planter on Savannah river; sent to town to be treated by Dr. J. A. Wragg, the attending physician, for incontinence of urine, one of the sequelle of a difficult labour.

Vesico-vaginal fistula was diagnosed at the distance of 1½ inches from the external orifice of the urethra—its longest diameter rather more than an inch, and situated transversely to the vaginal axis; hernial protrusion of vesical mucous coat, covered with red vascular granulations, which interfered very much with the operations which were performed, and was on one occasion removed with scissors. Her ability to retain her urine for a single moment was almost null, and she experienced the usual amount of excoriation and suffering.

An attempt was made to close the fistula, on Sims' plan, soon after her arrival in town, (during the spring of 1855,) by Dr. Wragg, assisted by several medical friends and myself. This operation resulted unfavorably, as well as a second and third.
The last operation was performed by myself, on the 4th day of July, 1856. The case seemed to be every way favorable for the operation, which was performed with great care and judgment in each case, and the failure was as unexpected as it was vexatious.

As very much depends in such cases, upon the treatment subsequent to the operation, this was followed up faithfully and perseveringly in every instance.

After the last operation, as the edges of the incision became covered with granulations, and the flow of urine had ceased, through the fistula, I was encouraged to hope that union had occurred, and accordingly the catheter and recumbent position were retained, and the constipation of the bowels not removed until the end of fifteen days, when it became evident that the operation had failed.

The patient was returned to her master's plantation for the recuperation of her general health, which had suffered somewhat by the confinement.

January 1st, 1857. Leah returned to town for the purpose of undergoing a fourth operation; and having succeeded so satisfactorily in the other case, I determined to give her the chance of the button suture of Dr. Bozeman.

The fistula was in very much the same condition as when I last operated on her.

The mucous membrane of the vagina was somewhat inflamed and excoriated, and there was calcareous deposits on the edges of the opening, and on the hair of the vulva and perineum. Accordingly, the excoriations were repeatedly touched with nit. arg. and a solution of sulph. zinc (3 j. to Aq. Oj.) was thrown into the vagina twice a day; also, she was put upon the internal use of sulphuric acid (3 j. to Aq. Oj., one wineglassful three times a day,) for the purpose of altering the character of the urine, and preventing farther deposition.

February 19th. The operation was performed,—the patient having been prepared as usual, by previous purging—being etherized and placed in the same position as in the previous operations. Denudation having been properly effected by a transverse elliptical incision with the knife curved on the flat, at a sufficient distance from the anterior and posterior lips of the fistula, and only through the vaginal mucous coat, five points of suture were estab-
lished, by the introduction of silver wire, with a small curved needle threaded directly with wire and not silk.

The edges having been carefully brought together, the ends of the wires were passed through the perforated holes of a silver plate, oval in shape, one inch in length, and five-eighths of an inch wide; the plate pressed down and secured by the shot upon the fistulous opening. The contact of the urine with the fistula was prevented by the introduction of the catheter. Paregoric was freely administered instead of opium.

Examination on the fourth day exhibited a satisfactory state of everything. The sutures were removed on the tenth day, and a perfect cure was witnessed. She was confined to bed, and the catheter retained for six days longer, when the suture points being nearly obliterated, the catheter was removed and she was allowed to leave her bed. I examined her for the last time, on March 21st, and was enabled to pronounce her perfectly cured.

I have thus detailed three cases occurring in my own practice, and treated by suture, on the two principles which may now be regarded as most worthy of confidence; and I think it will be conceded that I may, without very great presumption, claim the right to testify in regard to their respective merits. It is to be remarked that in the treatment of these three cases, nine operations by suture were performed—seven, by the clamp suture of Dr. Sims, and the other two, by the button suture of Dr. Bozeman.

The clamp suture failed in every instance to effect a cure; even in the two cases which seemed as favorable for its success as could be desired. The button suture succeeded perfectly in both cases, on the first trial. The preference must, therefore, be given without hesitation to the latter. And I fully endorse the statement of its discoverer, who claims for it the following advantages:

1st. It protects the edges of the fistulous opening against the irritation of the urine, of the vaginal discharges and the atmosphere.

2nd. It prevents the wires from cutting out.

3rd. It acts the part of a splint, in keeping the approximated edges in close contact, and at rest.

I consider this suture the greatest improvement that has ever been made in the treatment of this class of cases. The surgeon can now approach them with a confidence of success, before unknown. The profession and the public, owe to Dr. Bozeman a
debt of unspeakable gratitude. He has achieved an exploit, of which he has more reason to be proud, than if he were the hero of an Austerlitz or a Waterloo.

It is probable that other surgeons may make some slight alterations, in the employment of this method of operating, to suit their own convenience, and their own peculiar manner of manipulating. I think that the silk ligature, which is used both by Dr. Sims and Dr. Bozeman, for conveying the urine to its place, is an unnecessary complication. I have observed no disadvantage to result from threading the needle directly with the wire.

I prefer a needle smaller, and more curved at the point, than is recommended by either of these surgeons.

I have observed no disadvantage to result from placing the patient under an anaesthetic agent; it insures rest and freedom from suffering. The patient, Chloe, could not have been controlled without it.

The urine very frequently deposits calcareous matter on the edges of the fistulous opening, which has a tendency to prevent union. This may be prevented by medicating the urine, by the exhibition of sulphuric acid, for some days previous to the operation, as was suggested to me by my friend Dr. James B. Reid, who was one of my assistants in several of the operations.

I have had constructed a very convenient operating table, which has served a good purpose in the treatment of the cases which I have reported.

Its dimensions are 3 feet by 4, — 30 inches high. On the table is erected a square frame 2½ by 2 feet, open in the middle, the side pieces 3 inches wide, and 2/4 of an inch thick; — these are supported by legs of the same shape and size as the
sides, which are attached to the frame by iron hinges, so that the frame can be placed at any angle with the legs. The legs are let into morticed holes in the top of the table, so that they can move up and down, and elevate or depress the frame or platform which supports the trunk of the patient's body, and suit it to her height. The extent of elevation is regulated by pegs inserted into holes in the legs of the table.

In this manner, the patient's trunk is supported in a kneeling position—a folded blanket having been thrown over the supporting framework, one end resting on the table, to protect the knees from the hard surface of the table. The arms and legs of the patient are secured by straps to iron rings screwed into the table, and her body by a saddle-girth to the supporting framework; so, that she is incapable of moving in case the anaesthetic does not quiet her sufficiently, as sometimes occurs.

It is usual to allow the urine to dribble from the end of the catheter, and be absorbed by cloths placed under the nates. With all the care that can be exercised, inflammation and excoriation of the vulva and nates will occur, and the patient is kept in a very uncomfortable state.

I have no doubt that an apparatus may be so arranged for receiving the urine, made of some water-proof material, as to prevent this inconvenience.

I prevented it in a measure, in the last two cases reported, by passing the external end of the catheter through a hole in a piece of patent lint spread with cerate, and sufficiently long to cover the lower part of the vulva and perineum.

Coffee a Powerful Antidote. By Dr. Max Langenswartz.

A very few persons, and I believe but a small number of medical men, know that Coffee is one of the most important antidotes to many deadly poisons, and to a great many ordinary drugs. This remarkable fact leads to serious considerations; many patients receiving the right remedies, but not being prohibited from taking Coffee, destroy the intended effects of their medicine, become worse, and lead the physician to change the right treatment into a false and perhaps unhappy one—while the simple knowledge of the above fact would have contributed to meliorate their state and to save them. But far more important is it to know that the fatal results
of many accidental, spontaneous or criminal empoissonments could be stopped almost instantly by administering that simple antidote, Coffee, while the loss of time in calling a physician, &c., is often the only cause of the loss of life.

The following is a list of the principal poisons which, out of a number of less dangerous, find their powerful antidote in the simple coffee, prepared in the manner I shall explain below:

1. Laudanum or opium.
2. Atropin and Belladonna.
3. Aconitine and Aconite.
4. Strychnine and Vomit nut, (nux vomica.)
5. Chelidonin, and the herb chelidonium majus.
6. Caustic lime, \{ and all caustics in general.
7. Potash.
8. Phosphorus and all phosphoric preparations.
9. Solanin. (Principal basis contained in the germs and first shoots of potatoes, and very often self developed, if potatoes remain moistening in humid cellars.)
10. Aron. (Caladium, or aron seguinum.)
11. Brownstone. (Manganum.)
12. Veratrum and the white hellebore. (Veratrum album.)
13. Tansy oil, (or the infusion of tincture of tansacetum vulgare.) The tansy oil has been, and is still recommended by criminal persons, for the purpose of abortion, but it never produced abortion, but frequently kills mother and child together.
15. Coloquints.
16. Poisonment and suffocation by charcoal vapor, and therefore, of course, also.
17. Pyrocyan, (the artificial or chemical development of the same poison.)
18. The spotted hemlock. (Conium maculatum.) The Conein contained in the seed is one of the most horrible poisons I am acquainted with.
19. Iodine.
20. Lycopodium.
21. Cherry-laurel, (Laurocerasus.)
22. Poisonous Sumac, (Rhus Toxicoedendron.)
23. Valeriana.
24. Ignatia, (Ignace beans.)
25. Fly Mushroom, (Agaricus Muscarius, and all kinds of poisonous mushrooms.)

All the effects of those substances are almost instantly destroyed by administering what we call “tincture of raw coffee,” or even by a simple decoction of raw or green coffee, a preparation costing about nothing, and which, therefore, ought to be kept ready in every house and in the poorest family. The following is the very simple way to get that tincture: Take a quarter of a pound of green coffee (common Domingo the best,) and boil it with one quart of water till it is reduced to one pint; then put the whole (berries and liquid, in a quart bottle, add one pint of strong alcohol, and shake it from time to time a little. That’s all. This tincture gets stronger from day to day, and will, if the bottle is well corked, keep for many years without changing. If to the pint of alcohol (about ten minutes before mixing it with the coffee decoction) you add a little spirits or camphor, say two table-spoonsful, you will not only double and triple the anti-poisonous quality of the tincture, but this preparation will then be an invaluable and certain antidote also to the following poisons:
26. Garden Henbuck, or Dog's Parsley, (Aethusa Cynapium) particularly deadly to full-blooded persons, and producing (by confounding it with common Parsley) almost every year, fatal poisonings in all countries.

27. Chalk.
29. Poisonous Lettuce (Lactua Virosa.)
30. Capsicum, or Spanish pepper.
32. Cocculus (Mensipernum Cocculus.)
33. Drosera (Rotundifolia,) or Sun Dew.
34. Euphorbium, or the so-called Wolf's Milk.
35. Black Hellebore.
36. Hen Bane (Hyoscyamus Niger.)
37. Hell Fig (Iatrophia Curcas,) called also the black Vomit Nut; one of the most terrible poisons.
38. Wild Rosemary (Ledum Pallustre.)
39. Moschus (Musk.)
40. Nitric Acid.
41. Muriatic Acid.
42. Phosphoric Acid.
43. Cocks-foot (Ranunculus) of every kind.
44. Poisonous Snow Rose, (Rhododendron chrysanthum.)
45. Garden Ruta Graveolens.
46. Sabina, (called also mother tea,)
47. Ergot, (secale cornutum.)
48. Silica.
49. Bittersweet, (Dulcamara.)
50. Common spunge. (Only the roasted one is employed as a remedy, but I saw very grave accidents to children, having taken pieces of the raw spunge into their mouths.)
51. Mice-pepper, (Staphysagria.)
52. Tobacco and the horrible Nicotine. (The patient can only be saved by our composed antidote of raw coffee, tincture and camphor.)
53. Zinc preparations of every kind.

In a general toxicologie soon to be published, I shall give the antidotes to all other poisons known at present, but it may be useful to remark that, in about all cases of poisoning by metallic substances, (as for example arsenic, copper, verdigris, etc..) the best and the surest is to employ instantly a simple pap of common soap, that is, pieces of soap stamped with water to a kind of paste. A part of this paste diluted with a larger quantity of water, will serve for soap-clysters, which in such cases must be administered every five or ten minutes. If the jaw-bones are spasmodically closed, or the swallowing of the thick paste proves impossible, the same thin or diluted soap water must be administered through the mouth as well as it can.

The compound saving-tincture (of green coffee and camphor) is in the respective cases of poisoning, to be administered naturally and by clyster; the internal dose about ten to twelve drops in a teaspoonful of water every five minutes, and every fifteen minutes when the patient begins to recover. Larger and even very large doses may be given if the danger of life is imminent.

The ordinary cooked coffee (roasted, ground, and boiled or filtered) is in the most cases without any effect, and in some cases even dangerous. In a very few cases only, and particularly as an anti-
dote to opium, I found it highly useful. The principal substance acting so powerfully in the green tincture, is a kind of coffee-oil developed in the raw berries, but almost entirely destroyed by roasting the berries. This oil once withdrawn by roasting, the coffee only contains its exciting principles, which are (without the counter-balance of the oil) of little use. There are few cases where, the nervous system being entirely paralyzed through strong narcotic poisons, artificial excitement is necessary; and this may be the cause that I found large doses of common (roasted and boiled) coffee to act usefully against opium, tobacco, etc.

That coffee, exercising such an astonishing power over strong poisons, must be a poison itself cannot be doubted. If we take a large quantity of boiled coffee without suffering, it is only the habit of taking it from childhood which saves us. People in Turkey take without danger quantities of opium sufficient to kill a dozen of us, because they are in the habit of using it from childhood. In Tyrol, the general habit of hunters is, to take a good piece of pure white arsenic upon their tongue; to protect them (so they say) from getting thirsty.

But a very curious fact is the following:

The celebrated Professor Liebig tells us that the chemical basis of coffee (cof-ein) is absolutely the same as the basis of tea (thein.) Tea should then be an antidote against the most powerful poisons, the same as coffee. But not at all! Tea has no annihilating power whatever, upon them, nor has it upon any poison! It is evident, therefore, that coffee must contain some particular chemical ingredients unknown to the great Chemist. Indeed, a long experience and many experiments have proved to me that coffee acts almost exclusively upon the blood, and has directly nothing to do with the nervous system; while tea, in contrary, acts almost exclusively upon the nerves, and has no direct influence at all upon the circulation. Coffee, entering into direct relation to the blood vessels, must, of course, be an agent upon poisonous material, having the same relation; and the fact is, that about all poisons to which it is an antidote, exercise their direct action equally upon the blood. Besides, (and without speaking here more about the oily substance in coffee, substance of which there is not to be found the slightest trace in the tea plant, the coffee has an extraordinary force of vivifying, while tea has only a blunting one.

I cannot believe, therefore, that cof-ein and thein are one and the same substance. Chemists mostly look at the form, but physicians look at the effect; and nothing but the effect can be decisive. If nature takes the liberty to retain some secrets without leave of certain professors, we must submit. Give coffee to a person poisoned by laudanum, and you will save the patient. Administer tea, and you lose your patient. Coffee is a truly invaluable remedy to re-establish circulation and life in drowned, frozen, suffocated and starving persons, while tea is of no use at all. Hundreds of experi-
ments show that tea, only acting upon the nerves, acts as a resistance, while coffee, removing and reviving the blood, causes re-action. Unfortunately, both resistance and re-action are commonly confounded with each other, even by many physicians, and this is a principal cause of their being unsuccessful in thousands of cases of poisoning.

If our dear fellow colleagues would study a little the antidotes in general, they would, in prescribing certain poisonous ingredients in lawful doses, at least interdict coffee. If, for example, a patient swallows at seven o'clock a spoonful of Iodine preparation, and then takes, ten minutes after, only one spoonful of good coffee, he will at half-past seven have no more Iodine in force in his system than he has whalebone force in his hairs. But certainly the matter I speak of must be coffee, and not that innocent and precious genuine coffee article of certain New York merchants, consisting one half in roasted carrots, another half in succory, and (excuse that new arithmetic) a third half in "smart merchant's tricks." I would prefer to swallow a certain kind of genuine New York tea colored with true Schwein-further-green and containing the most genuine arsenic. If Mr. Liebig will come and live in New York, I shall not quarrel with him at least about the moral identity of certain Cofein and Thein.

Meantime the public may, in case of fatal accidents, profit by the above remarks.—[American Med. Gaz. and Jour. of Health.

History of the art of Embalming from its origin to the present time.
(Translated from the Moniteur des Hopitaux, April 19th, 1855.)

We must go back to the earliest ages, in order to find the origin of preserving bodies, but for its history we must confine ourselves to those traditions which have been handed down to us in connection with the discovery of monuments which have escaped the destructive effects of time. Among the nations of Asia and Africa, where embalming appears to have been a general custom, those holding the first position were the Egyptians and the inhabitants of India. The Egyptians particularly, who left such numerous traces of ancient splendor, seemed to have wished to perpetuate themselves even in death, in strewing upon their soil mummies as indestructible as the superb monuments which concealed them.

Historians and antiquarians still conjecture on the motive which led these people to preserve the dead with so much care. Some attribute it to the belief that the soul, after escaping from the body, wandering about during 3000 years to re-enter it, and that therefore the destruction of the former would compel it to pass into the body of an animal. The more rational believe the practice to have arisen in connection with the principles of hygiene, one of the
branches of medicine that the Egyptians cultivated with so much success. For in these hot regions, only receiving fertility from the overflowing of the Nile, the decomposition of bodies deposited in the earth would soon destroy the purity of the air and spread among the population the seed of the most virulent disease. It is true that the places destined for burial were above the inundations of the river, but in these elevated places the putrefaction of bodies would have been even more fatal; for the winds which prevail in these countries in bringing putrid miasms from a distance would have transported also their disastrous effects. These considerations were too intimately connected with the interests of the public health to escape the enlightened spirit of those who had it under care; thus, Herodotus relates, that during a period of three thousand years Egypt was one of the healthiest countries in the world. Now, subject to the fatal yoke of Mahomedanism, it no longer enjoys this immunity, but it has become the hot-bed of the plague. The various modes of embalming in Egypt might be reduced to the following operations:

1st. Remove from the body all fatty matters and mucous portions by the prolonged action of soda.

2d. After having well washed the body, dry it in the air or in a stove.

3d. Preserve it by employing bitumen, balsams, resins, and salts.

4th. Surrounding it with numerous strips of cloth, smeared with gum or bitumen.

The aromatics employed by the rich, were myrrh, aloes, cannella, and cassia. For the inferior classes, cedar and the bitumen of Judea.

The duration of embalming varied from forty to seventy days, depending much on the drying of the bodies. When the operation was finished, they were enclosed in sarcophagi, and deposited in sepulchral chambers, inaccessible to moisture, the temperature being maintained at about 88 degrees, Fahr.

It is under these favorable conditions that a great number of mummies have been preserved through a long series of ages, and now supply us with sufficiently accurate knowledge of the art of embalming among the ancient Egyptians.

The Indian mummies, exhibited at the Garden of Plants, appear to have undergone an analogous preparation to those of Egypt. After embalming, the bodies were sewed up in the skins of goats, and deposited in catacombs.

In examining carefully the tissues of mummies, an analysis will detect nitrate or carbonate of potash, or sometimes sulphate and chloride of soda, or the iodides of lime and magnesia. During the infancy of the art, drying and aromatic substance were alone employed; later, saline matters entered among the ingredients. Ethiopians, inhabiting a country richer in gum than the rest of the globe, were accustomed to inclose their bodies in a molten mass of this
transparent matter, while the Scythians and Persians covered them with an envelope of wax.

Pliny speaks of the antiseptic properties of honey, and it is related that Alexander the Great, after death, was rubbed with honey before burial.

The Jewish custom was, after washing and perfuming the corpse, to surround the body in the coffin with myrrh, aloes, and other aromatics in large quantities. Saint John tells us that Nicodemus brought one hundred pounds of myrrh and aloes to embalm the body of Christ, the object being to prevent putrefaction, which property these aromatic substances possess in a high degree.

Modern nations following the example of the ancient Egyptians have long practiced evisceration in connection with the use of a number of solid and fluid substances to preserve bodies. Alcohol, essential oils, and compound linaments are most conspicuous; balsamic and aromatic powders with saline substances are also used.

In the middle ages the art of embalming consisted in mixing aromatic substances with salt, with which the bodies were filled. Henry I. of England, was thus embalmed in 1135, long incisions were made in various parts of the body, filled with this composition, then sewed up, the body being then enveloped in a beef’s skin and enclosed in a coffin. The employment of salt for the preservation of the bodies of kings, is well known in history, the sellers of salt claiming as their right to assist at the royal funerals, and bear the bodies of the kings.

In 1658, Louis C. Bils, a noble of Holland, well skilled in anatomy, announced that he had found a way of preserving bodies from putrefaction without evisceration, so that the form and flexibility of the extremities being retained they could be used for dissection. The announcement of this discovery on the part of the first noble who had given up himself to the pursuit of anatomy made a great sensation. At the height of his renown the States of Brabant bought from him five embalmed subjects for 22,000 florins. Zipæus, professor of anatomy at the University of Louvain, to whom they were given, was appointed to receive the secret; but a few weeks had hardly elapsed when the bodies became putrid. Bils, pretending that such a result was owing to the jealousy of the professors who placed his preparations in a damp situation, in order to promote decomposition. Bils’ treatment of bodies was with himself eminently successful; the secret was buried with him.

Ruysch, also a Dutch physician and anatomist of celebrity, tried to eclipse his adversary Bils. He succeeded in injecting pieces, which preserved their softness, flexibility and color. His collection so attracted general attention that it was visited by all the curious of Europe. It is said that Peter the Great, during a visit to this museum, was so attracted by the embalmed body of a little child which appeared to invite him with a smile, that he kissed it. Ruysch sold
his collection, at the entreaties of Peter the Great, for 30,000 florins. Although 79 years old, he immediately recommenced forming a collection, which he succeeded in doing in two years. In dying, in 1731, he also carried off with him the secret of his admirable injections.

Darconville was the first who discovered, in 1762, the preservative properties of corrosive sublimate, but we are indebted to the illustrious Chaussier for the practical use of this drug in preserving animal matter. Beclard, chief of the anatomical works of the faculty of medicine of Paris, applied the sublimate in embalming bodies. Charged with preserving the body of a young man who died with hectic fever, (the parents refusing to have the body opened) after making numerous punctures and incisions in every portion of the body, he placed it in a solution of corrosive sublimate, in which it was kept for two months. When taken out, it was dried for a few days, and then enclosed in a glass case where it remained for a year without smell, or the slightest appearance of alteration. It was then given to the family. The skin was discolored greyish, and the features were somewhat changed from the thinning of the lips, cheeks, eyelids and ears.

Bugliaretti, an Italian physician, united arsenic with sublimate. He injected with this solution the primitive carotid artery, the right jugular vein, the external iliac on both sides, and by using a trocar he forced the fluid into the thorax and abdomen. The results obtained, appeared to be very similar to the preceding.

Dr. Tranchina, of Naples, acquired a great reputation in Italy for preserving bodies. His method consisted in an injection of a solution composed of 4 lbs. of arsenic in 10 lbs. of water. This mode of preservation, very dangerous for dissection, did not serve the purpose of embalming, for the body became livid and atrophied in drying till only a skeleton remained, covered with skin from which the cuticle had pealed.

In 1822, M. Jannal, manufacturer of glue, discovered that a solution of salt and alum would prevent fermentation. With this mixture, in connection with a small quantity of arsenite of soda, he injected the body of a child, which was left on the tables of the Morgue for three months, and from which he attained a great reputation.

It is nearly fifty years since chloride of zinc was first used in England for preserving animal matters. Sucquet took out a patent for preserving pieces, by first injecting them with sulphate of soda, and then plunging them in a solution of chloride of zinc.

M. Granger had been previously acquainted with the antiseptic properties of the sulphate of zinc, and a young savant, M. Gratiolet, conservator of comparative anatomy at the Garden of Plants, had tried it for preserving anatomical pieces. After numerous experiments he abandoned this salt, which did not preserve sufficiently, as the tissues became discolored. The skin resembled parchment, and
the muscles diminished more than a third of their volume. Although injections of this salt tried at the anatomical rooms in Paris were unsuccessful, it is still used by anatomists in preserving subjects.

Dr. Roux, of Nimes, teaches the following system: It is impossible to find an antiseptic, which will preserve all subjects. The following circumstances should be taken into consideration: 1st. The constitution of the subject. 2d. The cause of death. 3d. The temperature. Anatomists must have daily observed in the dissecting room that putrefaction is differently produced: in some subjects it shows itself with extreme rapidity, in others some days elapse, and a few might be kept for even weeks, without much decomposition. From this fact, he concludes that the choice of an antiseptic agent upon the character of the substance which it is intended to preserve—that is to say, upon each subject—should be chemically treated according to the constitution, cause of death, and influence of temperature. After long experience, this anatomist lays down the following rules:

A young animal is best preserved by using a sulphate; a sulphite for an animal at puberty; and a chloride for an adult; and lastly to prevent mould from appearing on the surface, pour over them either some essential oil, aether, or chloroform. There is no universal antiseptic agent. By following these rules, astonishing results will be obtained.—[Charleston Med. Journal.

**Strychnia: its Uses and Abuses.**

"This powerful alkali has figured very prominently of late before the public; and has, in certain instances, been handled, medically, in a manner somewhat remarkably. It is certainly not from any lack of caution as to its use by writers upon Pharmacy and Therapeutics that its powers have been at times very strikingly and dangerously manifested; but it is rather owing to its reckless employment, or to an over zeal in eliciting its effects, that accidents under medical management have happened. Those in the habit of prescribing it, if well instructed, know that it is second only to prussic acid in energy, when given in sufficient quantity to affect the system as a poison. A girl, 13 years old, died in about one hour from taking, by mistake, three-fourths of a grain divided into three pills; and it has ever been asserted that merely inhaling a little of it has proved fatal. Moreover, administered remedially, it sometimes has had an evidently cumulative action, and its effects are very likely to break out suddenly and uncontrollably, unless the greatest care is taken not to give too large doses, continuously. Yet there are instances where, from having long given it ineffectually, the practitioner has become impatient and added, very slightly it may be, to the usual dose, with the result of throwing his patient into strong convulsions. At other times the increase of the dose has even been more rash. Certainly this is an abuse of strychnia."
"We have lately heard of employing strychnia in some cases of insanity. We do not deny that there may be instances where it is demanded—as perhaps in certain concomitant paralytic states; but we are not cognizant of any special action that is predicated of this medicine likely to benefit the mental aberration. In a case of furious mania recently for a short time under our observation, we learned that strychnia had been administered on the outbreak of the affection. We are aware that it has been recommended in certain cases of maniacal aberration—but, as we suppose, in such as exhibited the moping melancholy form, and in hypochondriacal states. We fail to see the indication for its employment in violent, active mania, in young vigorous persons. If we mistake not, there have lately been reports of similar treatment in analogous cases; if our distrust be only ignorance, we beg to be enlightened upon the point. Unless we are thus informed, we put this down as another abuse of strychnia.

"It is needless to refer to the frightful and cold-blooded murders, the detailed circumstances of which have made communities tremble. In these cases, the abuse of strychnia has had its uses, in that it has given to the world the elaborate chemical reports and investigations required by the legal necessities of the case. These will stand as invaluable evidence, and will be always looked upon as mines of information. In connection with this part of our subject, we consider it an abuse of strychnia, as of any subtle and potent poison, to have it so easily procured. Druggists should not be allowed to vend this medicine, any more than arsenic, opium, prussic acid, &c., to all applicants indiscriminately. Might not much of this abuse be done away by refusing the sale to all who do not present a physician’s prescription or order? We are aware that much has been written and said upon this point, and also that nothing, of consequence, has been done. Often these deadly articles are as heedlessly sold as the most simple remedies. The small pecuniary gain to the apothecary, levies a large debt of responsibility against him.

"The legitimate uses of strychnia are well known. A powerful excitant of the nervous system, without any specific action on the brain, it has been long acknowledged to be a very valuable remedy in certain paralytic conditions. Combined in minute doses with purgatives, it hastens and increases their action; and it has thus been advantageously employed in some cases of amenorrhea, or of suspended menstruation. We can testify to good service done by it in this way. As a tonic, brucia, the other component alkaloid of nux vomica, has been found perhaps more useful than strychnia. The latter is often prescribed in dyspeptic states, such as are accompanied by pyrosis and gastrodynia. Testimony is strongly favorable to its curative effects in spasmodic asthma. Externally, its employment for amaurotic troubles has been extensive.

"To recur once more to the abuses of strychnia, or, which
amounts to the same thing, of the nux vomica, we cannot refrain from alluding to one which, in view of the strength and unmanageable nature of the agent, should be represented to the too credulous public in the way of a caution. There are those who by the necessity of their position and avocations, cannot have that knowledge of it, and familiarity with this and other giants of the Materia Medica, which fit them for advising or regulating their use. Still very many, in every community, are willing to take from such unskilled persons, compounds containing unknown amounts of strychnia, &c., &c. Thus we have soldisant or retired clergymen advertising that they will furnish a prescription for a preparation containing the active principle of St. Ignatius's bean, and the direction for using the same. All such tamperers with human strength and life are accountable to a higher tribunal than any earthly one, and those who aid and abet them must bear them company thither. It being quite sure that the adoption of these quack remedies by the people, only brings the honest physician more patients, we shall not be accused of covetousness in protesting against them. We do not aspire to coerce people, even by argument and the exposition of the bold and unwarrantable assumption that seeks to medicate—or rather to poison them—they are free agents, but certainly in no other affairs do they act so inadvisedly or expose precious interest so recklessly as in the care (as they understand it) of their health.

"The proper uses of strychnia, as of all medicinal agents, are only thoroughly known by the educated physician. Why does any one desire—or dare—having the manifest peril in view which its improper employment implies—to intrust its administration to the unfamiliar—the adventurer—or still worse, if possible, to their own judgment?

"And we commend to legislative consideration the dangers constantly attendant upon the unrestricted sale of medicinal articles, a fractional part of a grain of which sometimes takes life more quickly than the knife or the bullet. The facility of procuring such materials arms the unprofessional murderer quite as surely, if less covertly, than it does a Palmer."—[Boston Med. and Surg. Jour.

On Secondary Eruption following Vaccination.

Mr. Ross lately read a paper on this subject before the Medical Society of London, in which he contends that the secondary eruption is a legitimate result of the true vaccine disease, and that a marked peculiarity of this as a constitutional disease is a tendency to periodicity.

After some general observations on the obscurity of the subject, the author said: "The propositions which I shall endeavor to establish are—1st. That there are various forms of eruptive disease consecutive to and caused by vaccination; 2d. That these eruptions appear at different periods, and are subordinate to the specific laws
of the vaccinous disease; 3d. That these eruptions are not prejudicial to the person vaccinated, but are rather evidences of the complete impregnation of the system, and of the protective efficacy of the act of vaccination. Notwithstanding the assertions by some authors that vaccination does not cause consecutive disease, the occurrence of such disease has been frequently noticed by medical practitioners; and even its varieties have been designated. Most works on diseases of the skin have some reference to such affections. There is not, however, any methodical analysis on record of such maladies, and they have been regarded rather as unimportant casualties than as legitimate sequences of vaccination. The desire, probably, thoroughly to establish vaccination in the confidence of the public has insensibly led to a depreciation of the after-symptoms, whereas it would have been more philosophical to examine the facts themselves, and to trace their actual connection, if any, with the original disease. There need be no fear that the great value of Jenner's immortal discovery will be impaired by an accurate acquaintance with all its phenomena. The whole number of secondary eruptions noticed by me during the period whilst I was conducting these inquiries was nineteen, and of these the specific character was recorded in eleven; the others were adverted to in general terms as 'secondary eruption;' but I believe that the greater number, or the whole of them, were of the vesicular type. Of these eleven, one was a transient exanthem, three were papular, and seven vesicular. In three other cases an eruption appeared at the end of about three weeks, but whether these cases were attributable to vaccination or not, the evidence is not decisive. The vesicular eruptions varied much in character, sometimes being as small as millet-seeds, and few in number; at other times as large as a crown-piece, and looking as if one vesicle was comprised within the circle of another. The size of the eruption was frequently that of the cow-pox at the eighth day, which, indeed it very much resembled, being a vesicle with a small central depression and circumferential redness. These eruptions were always preceded by fever, which was proportioned in degree to the number of vesicles thrown out. This fact proves the constitutional character of the affection. On this point I may remark that I have several times seen patients suffering from pyrexia and general malaise on the day when in other cases an eruption has usually appeared; but of these I have taken no account. The pyrexia, however, has convinced my mind, that the activity of the virus does not always cease with the drying-up of the pock. Even after the local action has disappeared, there are periodical changes going on in the constitution, which are, according to circumstances, of greater or less energy, and which are manifested by fever and secondary eruptions. The most important point connected with these secondary affections is their periodicity. In some of the cases the eruption appeared on the tenth day from the day of vaccination; in others on the fifteenth day; whilst, in
one case, the eruption was thrown out on the tenth day, it continued for a few days, then disappeared, and was observed again on the fifteenth day. In other instances the eruption appeared both on the fifteenth and twentieth days, or thereabouts. These cases further show the periodicity of the affection, and seem to reconcile the discrepancies between the cases that occurred on the tenth and fifteenth days respectively."

A discussion of some length took place, in which several fellows of the Society joined. The chief point discussed referred to the question whether the secondary eruption was the direct result of the vaccination or merely the consequence of the irritation produced in the system by the introduction of a foreign matter. It was generally considered that the secondary eruption was the result of simple irritation produced in the system by the vaccine virus, and that any other source of irritation might have been followed by the same results; that, in fact, the eruption was due to the development of the same latent disposition in the system to the eruptive disease which manifested itself. None of the speakers had been enabled from observation to connect the eruption with any periodicity in its appearance.

Mr. Ross, in reply, stated that the whole gist of his paper depended on this periodicity, of which he was certain, and without which his paper advanced nothing new. He thought the subject open to investigation, and upon that point was worthy of the serious consideration of the Society.—[Lancet.

Arsenic as a Caustic.

In our preceding No. (p. 97.) we had occasion to comment on the danger of the external application of arsenic. The following remarks from a recent paper (Med. Times and Gaz., Jan. 17th 1857.) by Prof. Simpson, strongly confirm the correctness of our caution.

"Arsenic.—The escharotic effects of arsenical preparations, when locally applied, were known to the ancients, and are alluded to by Dioscorides, Pliny, Celsius, and others. Arsenic is recommended in the form of sulphurat, as a topical remedy in the cure of malignant and recurrent ulcers by various old Greek and Roman physicians, as Galen, Aetius, Scribonius, Largus, etc. In the 15th and 16th centuries it was employed by Fuchs, Valescus, Fernel, and others in the elimination of cancerous parts. They applied it in the form of white arsenic or arsenious acid, diluted and mixed with soot and various vegetable and other powders. In later times it has been used under the same form by many distinguished surgeons in the extirpation of cancerous ulcers and structures. It has formed the basis, also, of most of the secret topical remedies or caustics for the cure of cancers that have at different times been in vogue; as for example, those of Müller, Martin, Von Campen, Chonet, Katzenber-
arsenic has chiefly been employed in later times as an escharotic is an arsénious acid; and the caustic powder or paste employed has usually consisted of a small percentage of this preparation, compounded and diluted with various other materials. The celebrated anti-cancerous caustics of Fré Côme, Rousselot, Justamond, Hellmann, Heyfelder, Anthony Dubois, etc., severally consists of white arsenic, mixed up with cin nabar, dragon's blood, or the resin of the Pterocarpus draco, charcoal, etc., and made, before their application, into a paste or pomade with water, saliva, mucilage, or white of egg. Dupuytren's arsenical powder consisted of from one to five or six parts of arsénious acid, mixed with a hundred parts of calomel. The caustic of M. Manec, which is extensively employed in France at the present day, is formed of one part of arsénious acid, seven or eight parts of cinnabar, and four parts of burnt sponge, formed into a paste with a few drops of water.

"One disadvantage connected with the topical use of arsenic as a caustic is the great amount and duration of local pain and irritation which it often produces. M. Lebert, who has had repeated occasion, as he tells us, to witness and watch the successful employment of Manec's arsenical paste by M. Manec himself, and who believes this caustic to be the best yet suggested, nevertheless states, that when used as an escharotic the immediate action of arsenic is 'one of the most painful means in surgery. Already,' says he, 'at the end of some hours violent pains commenced in and all around the part, tumefaction at first, and subsequently an erysipelatous-like inflammation speedily succeeded the pains, and it is only towards the end of five, six, or eight days that this general and extensive inflammation begins to diminish. During all this time,' he adds, 'the sufferings are sufficiently great to deprive some patients of all rest and sleep, and ten or fifteen days may elapse before these complications disappear.'—Traité Pratique des Maladies Cancerreuses, page 646.

"But a still graver objection exists to the use of arsenic as a caustic, viz., the danger of its absorption into the system, and of its subsequent action as a poison upon the patient, particularly when, as an escharotic, it is applied either too frequently or too freely to a surface of any considerable extent. Besides, there is singular uncertainty in the effects of arsenic when thus locally applied. A patient of Professor Roux's was fatally poisoned by the application, for a single night, of an arsenical paste containing four per cent. only of arsenic, to a small mammary ulcer only one and a half inch in diameter. Numerous instances have been observed in which vomiting, diarrhœa, colic, and other symptoms of arsenical poisoning have followed the external application of arsenical preparations.

'Its use,' says Dr. Pereira, 'is always attended with some danger.' Sometimes the patient has, like Roux's, died after its topical application as a caustic; and with all the symptoms that followed the internal administration of the poison. Medical literature has on record
a large number of such fatal cases. In speaking of the occasional danger attendant upon the local external use of arsenic as an escharotic in cancer, Sir Benjamin Brodie observes, ‘An old medical practitioner, whom I knew in the early part of my professional life, informed me, that it had fallen to his lot to see many of Miss Plunkett’s patients, and that after the application of her caustics, many of them died, from what seemed to be inflammation of the bowels.’

—[Lectures on Various Subjects in Pathology and Surgery, page 335.”

Tubercular Phthisis. By R. E. Haughton, M. D., of Richmond, Indiana.

I now offer for your Journal the views which I have formed after a careful study and analysis of many cases of Tubercular Phthisis, under the following head: The primary pathological conditions of the system which finally terminate in scrofula and tuberculosis. These forms of disease are prevalent to a great and alarming extent in our country, and among our people, and the effort to obtain the primary and exact pathological conditions, and upon such a basis to erect a standard of treatment which will be successful in arresting their progress, and effecting a cure of those maladies, will be regarded as a benefaction to the race. Not that I hope to be able to do so, but to offer my mite to be cast into the great field of pathological inquiry, and to be rejected as error, or gathered up as important truths.

The first stage of phthisis is commonly said to be that in which the physical signs indicate a morbid deposite in the lung. But we must go back in our investigations to an earlier period, when there are undeniable evidences, and this long before the most experienced observer can detect the sounds which indicate an increasing solidity of structure in the lung. There is, prior to this, a peculiar antecedent state of the general system, which acts as a causative agent, originating the altered and pathological state of the blood, and which not only acts as a predisposing cause of tubercular deposits, but elaborates and prepares the material ere it enters and becomes part and parcel of the blood, from which tubercle is to be formed, and deposited in the lung. And here let me say to your readers, to this part of my subject I ask your careful attention, and your more careful and future study. When we go back and investigate the primary conditions of the system, we shall find not only the real and pathological causes of the disease, but in it a hopeful period of treatment, the very period in which we may arrest the most fatal of all the diseases which afflict fallen humanity. It has always been my belief that if we wait till a half organized cacoplastic deposit is made in the lung,
before we are called to treat it, we shall do as we always have done, most certainly fail; we are beginning at the wrong point and casting about us for a remedy, when perhaps organic changes have doomed the patient to premature death. These forms of disease are of two kinds, hereditary and acquired, or in other words accidental. I hold that in those different conditions we have a law of cell growth, or cell development, which is peculiar to the patient alone, whether his disease be acquired or whether it be hereditary. The law of cell growth is very different in the two, though at last tuberculosis is the result.

There is a faulty cell development established in the system, and this exists in the imperfect and incomplete elaboration of the chyle and lymph corpuscles, because the cell membrane fails to exert its transforming power upon the nutrient material, thus furnished in these fluids, and hence the vital operations here are imperfect; and the next result is elaboration of the blood cells, and hence imperfect blood. And in the blood as in all other fluids, its own cell development is peculiar to itself, hence if the materials of nutrition are imperfectly transformed, we have imperfect blood, faulty in all its elements, and unfit to build up and sustain the vital actions which are so fully dependent upon healthy elements therein contained. The blood undergoes changes of its own, a process of growth: a process of development peculiar to itself, and in addition to receiving new material from the food, it gathers up the debris of the tissues, as the elements of their waste and disintegration. The new materials which are supplied to the blood in the chyle and lymph cells are immature products, and if their elaboration be faulty, the blood, though passing through a course of growth and development, cannot change their pre-existing condition; and hence, though this blood development is in progress, it cannot perfect that rich, highly developed material which is demanded by all the tissues of the body, and then we have waste and decay, because healthy elements are deficient. The oxygen of the air cannot replace those elements, and therefore we get an impaired vital energy, and here we discover impaired health without knowing what is about to be developed. But in case of hereditary forms of disease, there is inherited from the parent or parents, that peculiar cell growth which thus has become a law of the economy, and will sooner or later produce its pathological result, viz., tuberculosis. We do not mean here that serofulous or tuberculous material is to pass from parent to child, nor that the child is born with tuberle already within its body, but that a disposition to form blood in such a manner as will produce tubercle, and this law exists in the charter of life which descends from parent to child. In the accidental or acquired forms of disease, there may be a primary derangement in the digestive system, and this may grow out of extraneous circumstances; but the primary trouble does not exist in the lungs, but it exists in the
nutrient system, and may have its origin in impure air, low damp places of abode; and all this teaches a means more efficient in cure than all the vaunted specifics which have ever been used as curative agents, viz., a return to exercise in the fresh air, which invigorates the whole economy, repairs the injuries of the digestive system, and then the use of nutritious, healthy elements of food.

Also in those cases of hereditary taint, the same causes may act as predisposing influences, and cell development being regulated by the same law, or engrafted as it were upon the inheritance of life, thus becomes much more certainly and readily active, and the morbid deposit is as surely a product of this cell development as the patient has sprung from a parent stock who has exhibited either the scrofulous or tuberculous cachexia. An objector may say, but the morbid deposit does not take place in all cases, nor is the diathesis present in many such cases, one generation to which this character of life, this law of cell development has descended, escapes the dreadful fatality. But look again, the next generation, or at farthest, the third or fourth generation exhibits the surest evidence of inheritance; and these types of disease are presented to the observer, leaving no doubt in the mind of the careful investigator as to the original taint, and that the law of type of development is as surely an organic law as any of the economy, though not always so evident as some others. Summing up then, we may say that the scrofulous diathesis has its primary existence in the faulty forms of cell development, which give rise to diseased blood, and this disease of the blood mass is one affecting its growth and development, and this becomes a part of an organic law in the transmission from parent to child; hence the hereditary succession, and it is perpetual as the family likeness. But what is tubercle? A deposit from the blood. This does not answer the question, and it is not easy to answer this question, as the opinions of many eminent observers, who have expressed different opinions in regard to its true character. Chemical analysis, however, gives us an approximate character, or knowledge of it, though it is not definitely settled, because its character changes according to age, condition, and the period of disease. Tubercle is not confined to man alone, but in all animals subject to confinement and deprived of fresh air and wholesome food, will exhibit tubercular deposits in various organs. If this be true, it furnishes us a singular fact, and one of much value in the hygienic treatment of those diseases, and would lead us to look more to their prevention than their cure after being fully developed.

I have stated that consumption and scrofula were induced primarily by imperfect cell growth, which elaborates the nutrient material, which is furnished and emptied into the blood, and hence the blood is changed; for how is a stream to be purer than its source? But now we come to take another step in making out a correct and reliable basis or pathology of these troubles. The
blood is sent to the lungs loaded with these impurities, which result from imperfect elaboration. For what purpose? For aeration; to come in contact with the oxygen of pure air, that it may be purified for the purposes of the general system. But what do we find? The blood which is sent to the lungs is venous blood, containing, in a healthy condition of the system, the waste products of the tissues, and now here is an increased amount of labor for the lungs, in the increased products of imperfect cell development; viz., imperfect chyle and impure blood, and there is a fixed and definite chemical relation between the elements of the blood and the oxygen of the air, and only a certain amount of oxygen can displace so much of the impurities of the blood, hence a failure is the result in this important function, which added to the one described in the imperfect elaboration of the primary fluids, increases the difficulty, and these impurities again pass the round of the circulation. One of the elements contained in the blood is carbon, as an element of the oxygenation of the tissues. This takes the place of the oxygen which should pass the round of the systemic circulation, and hence we have imperfect chyle, imperfect blood, imperfect aeration of blood, and next we have failure of all the vital processes.

Here will begin more rapid wasting or emaciation, which is so marked a symptom of consumption. This imperfectly vitalized blood, thus circulating through all the organs, deposits elements in the glandular structures, which is soon seen in what is known as the serofulous cachexia. Defective aeration of the blood then comes in to perpetuate the trouble already begun, and is one of the conditions, not first, as some modern writers have it, not singly and alone as is thus taught by the same writers, but one of the conditions, and only perpetuating a difficulty which begun in the cells which furnish the papulum of life, and which this process of aeration cannot remove. Taking the chain of events thus occurring, and we can erect a pathology and treatment which is more preventive than curative, and which is indicated to us in the causes thus brought to view. The doctrine of the inflammatory nature of tubercles, is now taught and believed by many, but it will not bear the test of post obit. examinations, even in all cases, especially of those who have died from other diseases, while tubercles were present, revealing the fact that the pulmonary structure was perfectly healthy, and free from inflammation contiguous to these deposits. Professor Gross, in his able work on Pathological Anatomy, treating of tubercle, says: "In a former edition of this work I expressed the opinion that tubercles are always of inflammatory origin, and a more thorough investigation of the subject has only tended to confirm this conclusion." We have no doubt but what tubercle may be the result of inflammatory diseases which have enfeebled the body, impaired the vital elements of the fluids of the body; but this will not account for all the cases which occur
without previous disease in any organs so far as observed, yet it is developed, and so insidiously that the patient is hardly aware of disease before he is a confirmed consumptive. Carpenter, in his late edition of Physiology, says: "that in persons who are of the serofulous or strumous constitution, have an imperfectly elaborated fibrine, and contains an unusually large number of colorless corpuscles, while the red corpuscles are in unusually small proportion. We can understand then," says the same writer, "that such a deficiency in plasticity arises from defect in the nutritive processes, and whereby is made worse, and hence this great tendency to cæplastic deposits, without inflammation." This is my own view of the nature of this deposit, but admit the influence of inflammation in increasing the tendency to rapid deposits after the cachexia once exists. My view is strengthened as regards cell transformation or cell growth, imperfectly elaborated fluids in chyle, lymph, and blood, from this view taken from Carpenter: "The most frequent of all the degenerations of lymph," he says, "being when the lymph is placed in any unfavorable condition from the first, for its development and result is a plastic, or cæplastic material, which again after finding its way into the blood, is secreted and deposited by cell growth in the structure of the lungs, and we have an irritation as the result of deposit, and finally inflammation is set up locally around these deposits. Softening takes place easily, being unorganized, products, and pus and a plastic material, which was contained in the crude tubercle as it came from the blood, or from the admixture of blood and lymph, originally very imperfectly elaborated.

Further evidence of the doctrine taught in this paper is this. The material unorganized as it is, which is provided for the healthy nutrition of all the different structures of the body, is converted under the controlling influence of vital action into living cells, and all those chemical and physical forces, by the operation of cell force is converted into vital power. But Carpenter says again, "It is inherent in the very nature of the living organism, that this instrumentality should exist but a limited time. The changes," he continues, "involved in the process of organization, have the effect of rendering the organic structure less and less instrumental in determining this metamorphoses of force, and thus a time arrives when the capacity of development is exhausted, and these forces no longer turn to account in vital activity, begin to exert a destroying, disintegrating power." Hence, then in the process of cell growth these chemical forces are known to exert their influence, and if the cell force is not active enough to resist the forces so operating, we have imperfect nutrition, imperfect fluids as the result of this cell force, and we need have no doubt as to the origin of the disease which grow out of such conditions. The cell force, which is operating, may be perverted, nay, is so, by such influences, and this perversion ends in the deposit in many cases of
these unorganized, cacoplastic deposits, which are frequently found in many of the tissues of the body. Treatment, principally hy-
gienic.

If then these views, any of them, be correct in regard to the pathological conditions of tuberculoses, what are we to expect from the use of remedial agents? So far, the curative agents have proved abortive, and the mortality of consumption still increases. This mortality grows out of causes before hinted at, and are not single or alone. Hereditary taint, propagated by intermarriage with those who are thus strumous, and strumous diathesis, indu-
ced in the same way by such ties between blood relations, are cau-
ses not to be slightly overlooked. Again, the habits and customs of American society, are efficient causes, among which are fash-
ionable life, the attendants of which, are poor ventilation, indolent, inactive habits, gross abuse of the digestive organs, spending many hours upon downy couches when day has called to active life, habits and customs in regard to dress, especially among the female portions of society, and a host of others which might be enumera-
ted, all enervating and depressing the vital force which steadily diminishes in its resistance to the influence of such causes, and the lungs among the vital organs are prone to suffer. But when the disease is developed, what are the indications, presented to any medical man who is honest and desires to do his patient the most good? The first indication, is to remove as many of these causes as may be removed, and to instruct each and every sufferer in reference to the violated physical laws of their being, so that through ignorance, they shall not be guilty of violation of any known law. Second, to invigorate the general health. How shall it be done? Attention to all the laws of health, exercise in the open air, when there is ability to take it. These are among the most prominent remedial influences, and when regulated under judicious advice, will do more to arrest the progress of this fell destroyer than all the remedial agents ever taken in the stomach. Upon this point we have authority, Dr. Marshall Hall, Dr. Phy-
sick, and many others equally eminent, and the records of expe-
rience prove that this disease is thus arrested, and robust health has been attained. I might cite cases in my own observation, and from the medical records, but I will not. These influences change the action and the conditions of nutrition and respiration, the two functions which are principally affected or which present the primary lesions, nutrition leading first in the chain of events and respiration next. By way of illustration of these things, I will remark, that being connected by hereditary descent with a family who have suffered much from consumption, and having myself suffered, I have demonstrated, that in my own case the forgoing remarks on exercise in the fresh air and free expansion of the lungs are remedial. Three sons in as many years have fal-
len victims to this disease, hereditary transmission easily traceable,
though leaping over as it were one generation to fasten its remorseless grasp upon the next. I stood in the very same relation to that transmission that the brothers did who have fallen. I used the means which I propose, I did not impair the functions of the stomach with drugs; horse-back exercise, and counter-irritation, free expansion, and that in the open air, are the means to which I am indebted for vigorous health. But an objector may say you did not have this disease. Then some eminent men have made false diagnosis, and the symptoms which generally mark the disease betrayed us. Again the temperament of the individual exerts an influence. Those brothers were all of them of the temperament marked by fair skin, light hair, blue eyes, the very subjects which are the victims too commonly. I possess a very opposite temperament, and while they inherited the temperament also, I did not. Marriage relations then modified the strongly marked predisposing causes, and I escaped and they were victims. But enough on this point.—[Nashville Jour. of Med. and Surgery.

Absorption of Roots of Permanent Teeth.

In the Austrian Journal of Practical Medicine, Dr. Heider gives the following account of the absorption of the roots of the permanent teeth.

The cause of the absorption of the roots of the deciduous teeth at the period of the second dentition, has been the subject of many observations and numerous hypotheses. All that we as yet know, with certainty, in respect to it, is, that there exists an intimate connection between the development of the permanent teeth, and the absorption of the roots of the deciduous teeth. In what, however, this connection actually consists, is not yet clearly explained. This much, however, is certain, that at the period of development of the permanent teeth, their enveloping sacculi become more vascular, and come in immediate contact with the roots of the deciduous teeth, and consequently play a very important part in the absorption of the latter—nay, in all probability, are the sole agents in effecting it. A renewed examination of the surface of the deciduous teeth, at which absorption takes place, shows that this is always on the side that is inclined towards the advancing tooth; and that when not merely the compensatory tooth, but its neighbor, comes in contact with the same deciduous tooth, two perfectly distinct surfaces of absorption, corresponding to the points of contact of the new teeth, are presented by the former, showing that both the advancing teeth in contact with it had contributed to the absorption of its root. Another fact places the correctness of this explanation of the means by which the absorption of the deciduous tooth is effected beyond doubt. When the permanent tooth is not developed, or its development takes place in a wrong situation, the corresponding decid-
uous tooth is not shed, but keeps its place in the jaw in after life. This is often found to be the case with respect to what are known popularly as the eye teeth. The deciduous teeth are consequently shed one after the other, just in the order in which, by the development of the corresponding permanent teeth, their roots are absorbed by the latter.

The foregoing facts have been known to dentists for some time, but much less familiar are they with the fact that the root of a sound permanent tooth may be absorbed in the same manner as the root of one of the deciduous teeth, by the abnormal development beneath it of another permanent tooth.

In my collection I have six permanent teeth, the roots of which have been in this manner entirely or partly absorbed. Five were extracted by myself, and the persons from whose mouths they were taken, remained under my observation; for one I am indebted to my esteemed colleague, N. Terzer. These teeth are divisible into two groups: the one, where the posterior root of the second inferior molar tooth was absorbed in consequence of the expansion of the crown of the adjoining wisdom tooth; the other, in which the root of the outer incisor was absorbed by the intruding crown of the so-called eye tooth. In all the surfaces at which absorption has taken place, present precisely the same appearance as those of the deciduous teeth, when these have been cast at the usual period. Especially is this observable in the second inferior molar teeth. In one we have the commencement of the absorption process, in a concave semicircular depression on that part of the root which was in contact with one of the projections on the obliquely situated crown of the adjoining wisdom tooth; in another case, one half, and in a third, the entire root is removed by the development beneath it of the dens sapiens. In all these cases, the extraction of the affected tooth was rendered necessary by the intense pain suffered by the patients, connected in one with inflammation of the periosteum of the root, and in the two others with exposure of the nerve.

Equally characteristic is the surface at which absorption had occurred in the incisors. In one there is an oval depression on the posterior surface of the root, near the neck; and in the other two the root is entirely removed, and one of them exhibits a cavity corresponding to the point of the encroaching eye tooth. The removal of the affected tooth, which in one case was already very loose, became necessary, in order to give room for the development of the approaching eye teeth.

These observations show, conclusively, that the process by which, at the period of the second dentition, the roots of the deciduous teeth are removed, is neither specific nor restricted to the first set of teeth but that it may be called into action in the case of the permanent teeth, and cause the removal of their roots also, and that it is dependent partly upon the structure of the dental tissue, and partly upon the increased vascularity of the outer portion of the sacculi of
the approaching teeth. The process has great similarity to that which occasions the absorption of the bones in consequence of the development of tumors in contact with them, and the two are probably identical.—[American Jour. Medical Science.

Dr. Simpson's Morphia Suppositories.

Mr. Spencer Wells has introduced into use at the Samaritan Hospital, a form of morphia suppository, used with great advantage by Dr. Simpson of Edinburgh. Mr. Wells has found it a most convenient form of suppository after operations on the vagina, rectum, uterus, or perineum of women, both in hospital and private practice, and especially so after operations on the male genito-urinary organs, as lithotrity, in cases of retention of urine, irritable structure, &c., and after division of fistula in ano, or the removal of piles or prolapsed mucous membrane of the rectum by the ecraseur. They act much more efficiently than the soap and opium in common pill use as a suppository, and are seldom or never expelled from the rectum after their introduction above the sphincter. They are made extremely well by Messrs. Duncan and Flockhart, of Edinburgh, and supplied by them at a very reasonable rate, of various strengths. But as they are likely to come into more general use, we append the formula on which they are prepared. The following is for the half grain suppository: Take of acetate of morphia, 6 grains; sugar of milk, 1 drachm; simple cerate, half a drachm, or as much as may be sufficient to make a proper consistence, and divide the mass into twelve suppositories. Then dip each suppository into the following mixture, to form a coating: Take of white wax 1 part, lard plaster 2 parts; melt together. The best way is to insert a needle into the apex of the suppository, dip it into the melted wax and lard, and immediately afterwards into cold water to harden it before it loses its shape. 'The shape is conical, like a pastille. It is easily introduced by the finger, or more nearly by the ordinary ivory suppository syringe. Mr. Coulson has also used these suppositories lately in several lithotrity cases, and has found them of the greatest benefit in allaying the irritation which often attends the passage of the fragments of calculi through the uréthra.—[Med. Times and Gaz.

Treatment of Erectile Tumors by Nitrate of Potash.—M. Mangenot, having accidentally heard of the dispersion of a cutaneous congenital nèvus by means of the application of nitrate of potash, resolved to try its efficacy in the case of his own infant; the nèvus in this case, though small, increasing in size. The moistened finger was dipped in the powder, and the nèvus gently rubbed with it. A small bulla, as observed in herpes labialis, was formed, and the tumor shrank away, so that one other application sufficed for its entire suspension. In four other cases the same results have followed the use of the nitrate of potash for nèvi of the face, and in a fifth case, in which a nèvus, four centimetres in diameter, existed on the shoulder, the same application removed it in two months.

EDITORIAL AND MISCELLANEOUS.

MEDICAL COLLEGE OF GEORGIA.—At an adjourned meeting of the Board of Trustees, May 2nd, 1857, on motion of Dr. Ford, the following preamble and resolutions were unanimously passed:

The letter of Prof. G. M. Newton, resigning the Professorship of Anatomy being before the Board—

Resolved, That his resignation be accepted, under the assurance that any effort to induce his withdrawal of the same would be unavailing.

Resolved, That we here record our testimony to the faithfulness, zeal, and ability with which Prof. Newton has uniformly discharged the duties of his chair.

Resolved, That as a mark of personal regard, and of our high appreciation of his services, Prof. G. M. Newton be, and he is hereby appointed, Emeritus Professor of Anatomy, with the request that whilst exonerated from formal and stated duty, he will yet continue to lecture to the classes whenever his leisure and inclination may permit.

Resolved, That a copy of these resolutions be furnished Prof. Newton.

It was then, on motion, Resolved to proceed to fill the vacancy occasioned by the resignation of Prof. Newton:

Whereupon, Dr. Henry F. Campbell, was unanimously elected Professor of Anatomy.

On motion of Dr. Garvin, it was

Resolved, That the Professorship of Surgical Comparative and Microscopic Anatomy, heretofore held by Prof. Campbell be, and it is hereby abolished; and that the title of the Professorship of Anatomy be changed to that of "Anatomy, Special and Comparative."

The Board then adjourned.

L. A. DUGAS, Secretary pro tem.

PROFESSOR NEWTON.—In giving place to the above kind expressions of the Board of Trustees, it can scarcely be expected that we will refrain from recording our own personal tribute to one, with whom for fifteen years, we have been a co-worker in the same field, and whose place in the Faculty we are now called to occupy. Sustaining towards him for many years, the near relation of Prosector and Demonstrator, we have had ample opportunity of knowing and appreciating his merit, as the perfect Anatomist—the urbane Teacher—the erudite Lecturer,—may he be as happy in retirement, as he has been useful in public. Difficult, we are fully aware, will it be for us to fill his place, but among our qualifications for the task, we do highly value the advantage, of having had ever before us, such a model in the Art, as Professor George M. Newton.
American Medical Association.—Our present number comes forth, without the minutes of the last meeting of this body. We have the promise of advance sheets, properly revised and corrected, but they will not arrive in time for our present issue, and we, therefore, defer any extended notice of the meeting, until these promised papers come to hand.—But there are certain things connected with the sojourn of the delegates at Nashville, which require neither paper-record nor revision, because they are indited upon the hearts and memories of all, in characters which can not be effaced, for such impressions are ever genuine; we refer to the brotherly kindness, the open-armed reception, and the genial hospitality of the Profession and Citizens of Nashville. Long may the association live to enjoy these pleasing recollections, among the graver ones, of such good cheer, such gratulation and interchange of kind feeling; and, when in the course of time they again appoint Nashville as their place of meeting, “may we be there to see,” and mingle in an anniversary celebration of the “good time” enjoyed in May, 1857.

On the Constitutional Treatment of Female Diseases. By Edward Rigby, M.D., etc., etc., Fellow of the Royal College of Physicians; Senior Physician to the General Lying-in-Hospital; Examiner in Midwifery at the University of London. Philadelphia: Blanchard & Lea. 1857. 12mo. pp. 256. (For sale by T. Richards & Son.)

The above is the title of a compendious, but sufficiently comprehensive treatise, on Female Diseases and their treatment; the subjects discussed, and the high character of its author, will secure for it the favorable consideration of the profession.

Lectures on the Principles and Methods of Medical Observation and Research for the use of advanced Students and junior Practitioners. By Thomas Laycock, M.D., F.R.S.E., F.R.C.P., Professor of the Practice of Medicine, and of Clinical Medicine in the University of Edinburgh, etc., etc. Philadelphia: Blanchard & Lea. 1857. 12mo. pp. 209. (For sale by T. Richards & Son.)

This useful little work, just issued from the press of Blanchard & Lea, consists of a series of lectures upon subjects, most important to the student and to the young practitioner. We consider such works not only important for the objects which they profess to accomplish, viz., to assist in correct observation and research, but their perusal and study more than any other class of reading perhaps, add to the power of generalization, that quality of mind which is so necessary to the Physician, and which, above all others, is thought to fortify and dignify its possessor. We commend the book to all; it is of convenient size, and in our humble opinion should be the pocket companion of every earnest student of medicine, till all its principles have been well conned, and thoroughly assumed as the very habit of his medical reflections.
Treatment of Hooping-Cough by Enemata of Assaéetida.—M. Ancelon, after passing in review, in the Annales de la Flandre, other modes of treating hooping-cough, on which occasion he greatly underrates the value of Belladonna, among the narcotics, indicates his decided preference for assaéetida given per anum. He declares it to be a reliable and an heroic remedy, in the second and third periods of the disease. Little can be expected from it in the first period. Much of its efficacy will depend on the dose and mode of administration. To infants eighteen months to two years old, three injections should be directed, each of them containing, in the smallest possible quantity of vehicle, fifteen grains of assaéetida and two drops of Sydenham’s Liquid Laudanum. The first of these is to be administered in the evening; the second on the following morning; and the third in the evening, from twelve to fifteen hours after the second enema. M. Ancelon believes that in the second period the disease can be at once and entirely arrested. The third period presents greater difficulties and requires longer persistence in the use of the remedy, which must be continued twelve to fifteen days consecutively, while we associate with it as adjuvant, frictions on the skin with dry flannel or that which has imbibed oil of turpentine. M. Ancelon directs attention to the fact of which he has satisfied himself, that neither opium nor assaéetida, when given separately, produced any decided effect. Having had, as he believed, a certain remedy at hand, he was not disposed to make trials of sulphuric acid or of alum.

[Assaéetida has long been a familiar remedy in this country, in hooping-cough, at least as far as the teachings and writings of Dr. Chapman extended. With him this medicine was a favorite in this disease, and especially in combination with one of the alkalies; but although no stranger to it use as an enema, he did not so formally and emphatically recommend it in this way as is done by M. Ancelon.

Some salutary hints are furnished by this writer in the impromptu treatment of two infants in violent paroxysms of hooping-cough. The first was six months old, and when visited it was in a room heated to an extreme degree, and a prey to an epileptiform fit of coughing. Snatching it up instinctively in his arms, M. Ancelon took it to the window, which he opened; the season, that of winter, was remarkable for its coldness, and he exposed the little being to the air of a temperature of sixteen degrees below freezing-point. A deep inspiration and some easy coughing soon indicated a cessation of the fit. On the second occasion, the same good result was obtained by dashing cold water on the face of the little sufferer. These, the author judiciously adds, are extreme palliatives, which give time for recourse to regular treatment. —North American Med. Chir. Review.

Varicose Veins treated by Needles and Subcutaneous Section.—Those students who follow the practice of Mr. Erichsen, at University College Hospital, must have seen him treat varicose veins, we may say, scores of times, by passing pins under the veins, and then applying a figure of 8 suture over them, generally in three places. This produces obliteration of the vein, and some days later the vein is divided subcutaneously, and in three or four days the cure is complete. This was repeated on last Wednesday, on a young woman with this condition of the veins of the left leg. At King’s college Hospital, a few days back, we saw a case treated by Mr. Henry Lee in the same manner. He passed the pins under the veins on the 7th inst.; on the 10th he divided the veins subcutaneously; on the
11th he removed the pins; and on the 17th the patient was out, well. The subdivision of the veins after obliteration is a process for which the profession is solely indebted to Mr. Lee as the first to recommend it, and the advantages of such a proceeding cannot but strike the most superficial observer. Mr. Erichsen’s practice in these cases differs from Mr. Lee’s in that he removes the pins altogether when he divides the vein between them. We do not recollect any single instance, in the large number which we have seen treated, of any bad effects following this plan of treatment. The great secret in the success is to avoid puncturing the vein, and this is effected by lifting it up, and passing the pin well under it. — [Lancet.

*Treatment of Nevus.*—(John Colvin, in Dublin Medical Press.) I read lately a discussion in the Medical Press concerning various modes of treating naevi of different parts; I beg to say that a plan adopted and used at the county infirmary here, several years ago, has proved so successful, and is attended with so little trouble, as to supersede either excision, ligature, or indeed almost any other plan. The plan I alluded to is, to touch the surface of the naevus with a pencil of the kali pur. c. calce, which generally causes a slight effusion of dark grumous blood; the part is then covered with some pieces of dry lint previously ready, and if necessary, gentle pressure applied for a short time; this, however, is seldom necessary. In a few days, the part touched sloughs off, and it is again gently touched in the same way, until all the unnatural part is removed, when the ulcer is healed by a little simple ointment. This mode is equally efficacious in the case of solitary naevus, or when they are gregarious, as sometimes happens. There was a child in the infirmary lately, with a naevus occupying the lower lip, and spreading to the gum; I treated it as stated, and it left nearly quite well in a fortnight or so. — [Nashville Jour. of Med.

*Phytolacca Decandra in Granular Conjunctiva.*—Dr. C. S. Fenner, of Memphis, Tenn., highly extols (N. A. Medico-Chirurg. Rev., Jan. 1857) the efficacy of the phytolacca in preventing relapses in inflammation of granular lids:

“Regarding,” he says, “these exacerbations, accompanied with circumorbital pain, soreness of the periosteum and scalp, as of rheumatic origin, about two years ago I was induced to give a trial to the phytolacca decandra or poke, from its well known efficacy in relieving rheumatic affections, and the result has far exceeded my most sanguine expectations. With the aid of this remedy, I have been enabled to effectually cure cases of granular conjunctiva, that, without it, would have resisted all my efforts; indeed, with me it has proved almost a specific for the exacerbations attending this complaint. Patients fully under the influence of the phytolacca, often expose themselves and take a severe cold without affecting the eyes in the least. I make use of the root, and prescribe it either in the form of a very strong decoction, or tincture; the former I prefer, as less liable to nauseate or act on the bowels. I direct a half peck of the root, cut in small pieces, to be put into a kettle, to which is added four quarts of water, to be boiled down to one quart and strained. Of this a wineglassful may be taken every two or three hours. Some patients require more than others. The dose should be sufficient to produce a fulness of the temples and head a few minutes after it is taken, and patients soon learn to know the quantity required to produce this effect. Besides the fulness of the head, it causes
flushing of the face, a general glow and perspiration over the entire surface of the body, often fulness of the stomach, and occasionally nausea. After having been used four or five days, it usually acts on the bowels, when an opiate should be administered as occasion may require, and the quantity of the decoction diminished for a time, to be increased, however, on every unfavorable change of the weather, or the slightest symptom of a relapse. I have not yet seen a severe recurrence of acute inflammation in this disease, where the patient was kept fully under the influence of the phytolacca. If there is ulceration of the cornea, or much opacity, I usually prescribe a pill composed of one grain of calomel and the fourth of a grain of opium, to be taken every night. I know of no remedy so efficacious in promoting absorption of lymph deposited in the texture of the cornea as mercury; either in the form of calomel or blue mass, or, if these remedies are found to act on the salivary glands, I use the corrosive chloride, combined with the compound syrup of sarsaparilla. The latter form of mercury rarely salivates; it may be continued for months, and is particularly adapted to strumous cases attended with severe photophobia. If the system has been much reduced, and is in an anemic condition, the preparations of iron will be of service.

Amputation at the Hip-joint.—Dr. Geo. C. Blackman records a case of osteo-ccephaloma of the femur, involving two-thirds of the shaft of the bone, in which he performed amputation at the hip joint. At the date of the report, fifty-four weeks after the operation, there were two or three fistulous openings, probably communicating with the cotyloid cavity; but no appearance, as yet of a return of the disease.—Western Lancet.

Ovariectomy.—Dr. Nelson Winton records (Buffalo Med. Journal, Dec. 1856 a case of ovarian tumor, successfully removed by extensive abdominal section, with recovery of the patient.

Another case, also successful, is recorded (Peninsular Jour. of Medicine, Oct. 1856) by Dr. Edward Batwell, of Detroit.

Dr. Fries reported to the Cincinnati Medical Society Nov. 10, 1856,) a case of ovarian tumour in which he had made the small incision through the abdominal parietes, tapped and then withdrew the sac. The woman was rapidly convalescing.—[Western Lancet.

The Distinction between External and Internal Piles.—It is a common mistake with students to confound external with extruded piles, and to call them internal which are out of sight, and those external which are visible. We need not say that this is an utterly false nomenclature. External piles are those which form without (external to) the circumferential margin of the sphincter, and are consequently always covered with skin; internal ones are those which are within the sphincter, (not above it,) and are covered by mucous membrane. External piles consequently are always dry and cuticular, internal ones moist and slimy. The external have a light uniform bluish tinge, varying according to the density of the skin over them; internal ones are bright and florid, or from all the shades of florid to those of livid and purple, according to the intensity of their congestion. External piles almost never bleed; internal ones almost always do so. External piles are dilated haemorrhoidal veins; internal ones, as we shall presently see, are of a very different nature. External piles may be cut away with impunity, while to tie them would risk phlebitis and purulent
absorption. Internal piles may be tied with safety, while to excise them is to risk fearful, and, it may be, fatal hemorrhage. It is most important to understand clearly that the difference is one of kind and not of mere position.—[London Hospital Notes.

**Glycerine and Borax in Cracked Tongue.**—Dr. Brinton has under his care an inveterate cracked tongue, which (like that of the late Charles Matthews) had baffled all attempts at alleviation for many years. It could not be referred to any syphilitic poison, and rendered eating, and especially speaking, very painful. Dr. Brinton made use of a favorite remedy of his in such cases, viz., borax dissolved in a lotion of glycerine (Price’s Patent Candle Company’s) and water (two scruples, one ounce, and four ounces, respectively). It at once gave marked relief; and after a few days, during which it was the only remedial agent, the improvement seemed increased by iodide of potassium and bark, taken internally. The patient has now considered himself well, and discontinued the lotion for some weeks, and the cracks are only visible as depressions in the mucous membrane.—[Lancet.

**The Operation of Occipitotomy.**—Dr. E. P. Bennett, of Danbury, Conn., (Am. Jour. Med. Sciences) has the following exceedingly judicious remarks on this subject:—"In regard to this operation, I would suggest a few remarks to those who may hereafter venture on it. In the first place, let the new beginner never venture on a doubtful case; but select, if possible, one in which there is a degree of constitutional vigor, not old, or reduced by frequent tappings. If possible, always operate before your patient is tapped at all, for two reasons. Ist. Tapping is apt to be followed by adhesions, more or less extensive, which of course increases the danger of subsequent inflammation. 2nd. The fluid being usually albuminous, the patient is reduced in strength in direct proportion to the number of tappings, and is therefore less able to bear the shock of an operation of such severity. It is generally easy to determine, by the progress of the case, whether it is an encysted or abdominal dropsy; but even if you cannot be certain, you lose nothing by cutting carefully into the abdomen. If you find a sac, well and good, go on; if not, why you can let out the water, and close up the wound. Operate early in the disease as possible. Evacuate the bowels freely the day previous, then keep them closed by opium, or some of its preparations, for five or six days. If the patient menstruates, operate two or three days after the menses cease. Enjoin strict regimen and quiet. Keep the room of uniform temperature. Draw of urine for the first five or six days. Use sufficient anodyne to allay all pain, and use as little chloroform as possible in the operation."

**On Exploration by Commotion.**—M. Cruveilhier observes that, in all cases of jaundice, as in all other diseases in which he suspects the liver to be affected, he is in the habit of exploring this organ by "commotion." For this purpose, the patient is placed on his seat, and the right side of the thorax is percussed from above downwards, the patient being desired to express himself when aware of unusual sensation or pain. It is very rare in recent icterus, and especially in febrile icterus, for the patient not to announce a marked sensibility as soon as the percussion excites a shaking of the liver. By this means too, an abscess of the liver, the consequence of a fall from a high place, has been diagnosticated. M. Cruveilhier has also
applied this mode of exploration to the kidney, spleen, heart, and even the uterus. For the brain, it may be put into force by suddenly pulling at a handkerchief that is held closely between the teeth. In this way it has been advantageously used in many cases of cerebral disease.—[Archives Générales, and Virginia Med. Journal.

_Nux Vomica in the Treatment of Sick Headache._—Dr. J. B McCaw (Virginia Medical Journal,) gives some interesting facts in regard to the successful use of extract of nux vomica, and the ignatia amara, in those distressing ailments, sick headache. He began with a minimum dose, which was increased to one-fourth of a grain every night. In all the cases in which he employed it the effect was gratifying. The effect of these remedies should be closely watched.—[Med. and Surg. Reporter.

_Digitalis in certain Affections of the Bowels._—Dr. Ware stated that he had found this remedy of great benefit in the following case: The patient was a woman who suffered from dyspepsia, and had become somewhat reduced in strength by child-bearing. She had an affection of the bowels, which consisted in excruciating pain, coming on in paroxysms, together with diarrhoea and vomiting. The pulse was also extremely frequent, varying from 120 to 140. She bore opium badly. Dr. Ware, thinking the quickness of the circulation might keep up the irritability of the system, ordered digitalis, and this remedy was continued until the pulse was reduced to 54 beats in the minute, where it was kept by the remedy for a considerable time, and the patient recovered.

_Habitual Constipation._—Dr. Haughton says: “In obstinate cases of this kind you will find the following a very capital pill: half a drachm of extract of henbane, one scruple of extract of colocynth, and three grains of extract of nux vomica, made into twelve pills, one to be taken night and morning.”

_Alum as a Remedy in Croup._—A correspondent of the New Hampshire Journal of Medicine states that for three years he has used alum in croup, and in all that time has not seen a fatal case which was treated with it from the beginning. He usually gives about ten grains, once in ten minutes, until vomiting is induced, using at the same time tartar emetic or the hive syrup freely—the latter subduing the inflammation, while alum has more of a repulsive action.

_Ligature of the External Iliac for Aneurism of Femoral Artery._—This operation has recently been successfully performed by Dr. Mercier, of New Orleans.—[New Orleans Med. and Surg. Jour.

ERRATA.—The following errors occurred in the May No. in the article on Vesico-Vaginal Fistula, By Dr. P. M. Kollock, which the reader will please correct:

| On page 269, 11th line from top, for “cause,” read curse. |
| “cunningest,” read cunningest. |
| “finally,” read firmly. |
| “1856,” read 1836. |
| “potosh,” read potash. |
| “Roohuyseen,” read Roohnuyseen. |
| “range,” read erige. |
| “known,” read known. |
| “assistant,” read assistant. |