A TRULY VIRTUOUS WILL IS ALMOST OMNIFONTENT.

EDITED BY

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A Treatise on Malignant Pustule. By Wm. M. Carpenter, A. M. M. D. Professor of Chemistry and Natural History, in the College of Louisiana, at Jackson.

Beautiful as is the structure of man, and perfectly adapted as it may be, to the place which it fills in creation, many of the most serious diseases to which he may be subject, arise, as a necessary consequence of this refinement of organization; for, it is with the animal system, as with machinery, the more complicated it is, the more liable it becomes to derangements, and these aberrations are called disease; and it is a general law of nature, that when an organized being has filled its station a certain time, performed certain functions, and perhaps become unfit for their further performance, it shall give place to others. Man, whom we consider as the chef d'ouvre of organization, soon passes through his bright and ephemeral career, and becomes a denizen of the past; while some of the lower order of animals, as the toad and tortoise, seem to be almost "impervious to the shocks and mutations of time; generations flourish and decay, age after age passes by, and they still drag on their languid and unsympathising existence, denied all the pleasures of life, save life's passive and dream-like perception. They seem to bear a charmed life; the common causes of dissolution cannot quench in them, life's slug-
gish spark! the inexorable death that spares not pomp and beauty, passes by things to which death could bring so insignificant a change."

There are, however, diseases which have no perceptible connexion with those laws of organic life, or with the wear and tear of organism; they shorten the period of man's natural existence, but do not seem to have emanated with the rest of his ills from the box of Pandora, nor naturally to form a part of his rich heritage of misery. Among these, we find those diseases called epizootic; they belong properly to the brute creation, and often make great havoc among the domestic tribes of animals. But this destruction of property is not the circumstance which calls for our attention; the fact of their occasionally making man their victim, gives them a claim upon us, and renders them worthy the attention of the medical profession.

Standing in this list, is the disease termed "Charbon," the one in which we are at present principally interested. It frequently occurs as an epidemic among domestic animals, and is sometimes communicated to man, by inoculation or otherwise, and it then receives, by consent of surgeons who have written upon the subject, the appellation of "Malignant Pustule."

History. It is said to have been observed in this country (Louisiana,) at an early period after its settlement by the French and seems to have made its appearance among the deer feeding among the salt-marshes, near the sea, west of the mouth of the Mississippi river. It afterwards attacked the cattle of the planters on Bayou Lafourche, returning annually, and gradually extending its ravages over those districts, in which the benefits of grazing had been appreciated, and turned to account by the intelligent and enterprising farmer.

This disease, though it appears to have been of comparatively early occurrence in this region, and is now seen in nearly every part of this state, seems not to have been even noticed in the medical annals of America.* Some of the British surgeons

* This treatise was presented to the Faculty of the Medical College of Louisiana, as a thesis, in April, 1836. Since that time, I have had the pleasure of perusing a most excellent article on this subject, in the American Journal of the Medical Sciences, by Dr. C. W. Pennock, who has described this disease in a most lucid and beautiful manner, and has given us many valuable cases.
mention it as endemical to some of the southern provinces of France; but they all coincide in saying that it is never seen in England. It is, however, very common in some of the provinces of France, and occurs very frequently as an epidemic in Lorraine, Franche-Comté and Burgundy. In these countries, we learn from writers on the subject, it is very common in low and marshy regions, becoming epidemic after the great heats of summer, and when from inundation of the meadows, the grass becomes injured, is loaded with dead insects in a putrifying state, and is thus rendered unwholesome, and produces in the animals that feed upon it, diseases of a low and typhoid or charbonic type; the virus of which, when inoculated on man, produces the disease called Malignant Pustule.*

The epidemics of Charbon among cattle, are recognised by planters, by the animals being attacked, when in full health, by a swelling, often seated about the throat, and dying in a few hours, if some efficient remedy is not immediately applied. The common remedy, and the one which seems to be nearly always used with success on animals thus attacked, is, to burn the part with spirits of turpentine.

If an animal which has died in this way be skinned, as is sometimes the case in neighbourhoods where this disease is not common, and the people not familiar with it, fatal consequences are the frequent results, to those who do it. Dogs, buzzards, and all animals which feed upon the flesh, often die of the same disease.

Causes. Though the causes of this disease are sometimes hidden, and the origin in many cases equivocal, there are some circumstances which are almost invariably connected with the commencement of the epidemic in animals, and have been assigned by French authors as causes; they are, low and marshy districts, and very wet and hot seasons. That these may be predisposing causes, is, perhaps, probable; but some other cause, efficient to the production of the disease is still wanting, as will be hereafter shown.

I do not believe that the malignant pustule ever occurs, spontaneously, in the human subject, although M. Bayle addressed a dissertation to the Medical School at Paris, in 1810, in which he gave a series of observations, which he thought went to prove,

* Boyer, Maladies Chirurgicales.
that the disease might develop itself independently of contagion. But if we consider, 1st, that he says, that it was epidemic among the cattle of a village in the immediate neighborhood of the place at which his observations were made, at the same time with the pustular epidemic that he was observing; 2nd, that the disease always presented itself on some part habitually uncovered, and generally on the face; 3rd, that those persons who were confin-
ed within doors were never attacked by the disease—we will readily perceive, that his observations could not have warranted his deductions.

The malignant pustule, is, generally, a purely local disease, appearing, in the majority of cases, to have a local and external cause, as the contact of substances that have been impregnated with the virus arising from carbunculous diseases, or from touching a part that is the seat of malignant pustule. The chief agents, however, of communication, are, probably, flies, which have fed upon the carcasses of animals dead of charbon. There are many well attested cases of the disease having occurred after the bite of these carnivorous flies; which have led many to suppose that it was a peculiar insect whose sting, or bite, produced the disease, whereas they only inoculated it from other animals.

Dr. Samuel Cooper, speaking of it, says,* "The malignant pustule, if the accounts of its origin be correct, is a singular and peculiar disease; for, instead of proceeding from internal causes, like all other carbuncles, it arises from contagion, derived from animals affected with malignant pustule, or carbuncular diseases. The infection is represented as being communicated to the human subject by contact, respiration, deglutition, or the bites of insects. * * Notwithstanding the multiplicity of authorities in support of this account, some doubts may be rational-ly entertained, regarding its accuracy, when it is remembered, that the alleged causes exist in England, yet we have no disease which corresponds exactly to the malignant pustule. The French writers specify want, poverty, uncleanness, marshy situations, and the autumnal season, as predisposing causes. Were all these circumstances, however, adequate, of themselves, to the production of the disease, it would certainly be seen in some parts of this kingdom. There must, therefore, be other things

which contribute to its production, and render it endemical in the southern provinces of France."

In the disease under consideration, there is no predisposition, nor is the supposition of the existence of predisposing causes warranted; for whenever inoculation is effected in man, the disease will occur, independently of idiosyncracy or predisposing causes.

It may be asked, whether the introduction of the virus of carbon into the intestinal canal, would produce the same deleterious effects on the animal economy, as when applied to the external surface? This is a problem very difficult of solution. It has been maintained by many, that the virus has no deleterious effect when applied to the internal surface; and there are many cases on record, which have been brought up to prove the truth of this assertion. Morand, in his Opuscules de Chirurgie, speaks of two butchers of the Hotel Royal des Invalides, who were attacked with this disease, after having killed two beeves, which had been brought from a distance, but which were fat and appeared healthy: the flesh was well tasted, and produced no ill effects on those who ate of it. Duhamel reported a parrallel case to the Academy of Sciences: and the case from Boyer, appended at the end of this treatise, is still further illustrative of this supposition.

On the other hand, Eneaux and Chaussier, in their "Précis sur la pustule maligne," give facts which conflict with those above-mentioned, and tend to show, that the charbonic virus taken into the stomach, has caused gangrenous inflammations of that viscus, and prompt death: that it is less active when taken into the lungs by respiration, but still producing a malignant fever which terminated by fetid evacuations, or other disagreeable effects of this kind of fever. Orfila, also, relates many cases: he says that "a boy undertook to skin an ox that had been killed at a tavern in Gatinois, because it was sick, and inadvertently carried the knife to his mouth. The tongue soon swelled; he experienced a tightness about the chest; the body was covered with pustules, and on the fourth day he died, affected with general gangrene. In the 34th number of the American Journal of Medical Sciences, page 481, we find, under the head of "Observations on Malignant Pustule," an extract from Hufeland's Journal, a communication made by Dr. Wagner, on an epidemic
which prevailed at Striesa, in Prussian Saxony, in 1834, which killed the animals attacked by it in a very short time. He says that the animals all burst, and exhibited the following appearances: the abdomen inflamed, the spleen gangrenous and putrescent, consisting but of a membrane in the form of a sack, containing a thick black liquid; in several places about the neck, were oedematous tumours. M. Wagner gives it the name of "gangrenous spleen," (Milzbrand,) from the state of that organ, as found in all the infected individuals examined; and to the septic principle which appears to generate the malady, "virus of gangrenous spleen, (Milzbrand gift)."

He says, that the disease was communicated to man, not only by inoculation, but in many cases also by ingestion: that in some cases, the flesh when eaten produced only serious indisposition, without any external eruption.

The disease described in this article, is frequently epidemic in some parts of the continent of Europe, and is described by French writers, under the name of "sang de rate"; it is very different from the epizootic, which gives origin to the disease commonly called by surgeons malignant pustule. Dr. Wagner seems to confound the malignant pustule, with some of the other carbunculous affections, which differ from it very widely, but which resemble, in many of the main points, the disease described by him. When we take these facts into consideration, and many cases of equivocal origin, which have occurred in this country, it is rendered highly probable, that it may be communicated in this way, or, at least, that this principle, whatever it may be, that produces the disease under consideration by inoculation, may, when applied to the internal surface, produce carbuncular diseases of a serious character. Let this be as it may, the inhabitants of districts in which this disease is epidemic, cannot be too careful on this point, and should always reject flesh or milk to which the least suspicion is attached.

Symptoms. In order to be more exact in their descriptions, the French writers have divided the disease into four periods: but the symptoms run into each other very much; and in this country there are but few cases in which the disease passes regularly through all the stages. The following is an abridged translation from Baron Boyer's Maladies Chirurgicales, with
such modifications as I have found necessary, in order to adapt them to the disease as occurring under my own observation.

First period. "The septic virus having been applied to the surface, penetrates the integuments; but its action is at first so feeble that it rarely attracts any attention; in fact, there is, as yet, neither redness, heat, nor tension, in the part which is the seat of inoculation; the subject experiencing only a slight itchiness or pricking, which is but occasional: soon the epidermis becomes elevated in the form of a serous vesicle, at first of the size of a millet seed; it augments gradually, becoming brownish; opens spontaneously, or is torn by the patient in scratching; a few drops of a reddish serosity escapes, and the itching ceases for some time, or gives place to smarting and pain.

Second period. "The poison passes the proper skin, the irritation ceases, and there may now be felt a little, hard, and circumscribed, moveable and flattened tubercle, about the size and shape of a lentil. The colour of the skin is not yet altered, except in the centre, and under the vesicle it is yellowish, or a little livid, as is seen in some of the psoric or venereal pustules; the patient now experiences sensations of heat, smarting, and gnawing; the engorgement spreads; the parts become turgid, and a more or less extended circle is formed around the spot, the periphery of which is sinused and salient, and always covered with little phlyctene; filled with an acrid serosity. The disease now assumes a dangerous character. It is at this time that the attention of the person and his friends is called to it, as something serious, and the assistance of art becomes necessary. The central tubercle becomes brown or blackish, and the gangrene, which has already taken place, rapidly spreads.

Third period. "The gangrenous point quickly extends in a sudden and most alarming manner; the vesicular areola enlarges, and forms around the gangrenous part an elevated ring, which makes it appear sunken in the centre; the engorgement has its seat principally in the cellular tissue; it is neither oedematous nor inflammatory; it has more the character of emphysema, which it simulates, sometimes, still more closely by the crepitation, which no doubt depends upon the gangrene, as it is only perceived after this has made considerable progress; and it has been said (by Boyer) never to accompany this disease. The tumour is hard and elastic, and the skin is red, erysipelatous and
shining. The heat and pain give place to a numbness and sensation of weight, and the mortification extends insidiously in the subcutaneous cellular tissue.

Fourth period. "This period varies much, according as the termination of the disease is fatal or favorable; if the former, the disease extends to the neighbouring parts, the engorgement becomes enormous, and the mortification penetrates deeply." Soon symptoms of internal disease are developed, and the appearance of ataxic or adynamic fever of the worst character, shows that the circulatory and nervous systems are implicated, and it is this participation that leads the patient to the grave. The pulse is now small and concentrated; the patient is extremely anxious and restless, with a feeling of faintness and of approaching dissolution; the tongue becomes dry and brown; an obscure delirium sometimes supervenes, but this is, by no means, a constant nor even a common symptom in the disease as it occurs in this country; the patient often retains the powers of his mind, unaltered, to the last moment of his existence.

When to the contrary, the issue of the disease is favorable, an inflammatory circle, of a lively red, appears around the eschar; the engorgement diminishes; the patient experiences a sensation of heat in the part, accompanied by throbbing; the pulse becomes regular and healthy, and instead of the small, tense or varying pulse, we have it full and soft; the patient regains his strength; suppuration is established between the inflammatory circle and the eschar, which separates from the living parts, leaving an excavation which is gradually filled up by granulations.

Diagnosis. The only diseases with which the malignant pustule can be confounded, are the carbunculous affections; from these it may be distinguished by many circumstances. Carbuncles may attack an individual in several points simultaneously; the malignant pustule is, perhaps, almost invariably single; though there is no doubt, if inoculation were effected in more than one place, there would be as many pustules as places of inoculation. The former is always accompanied or preceded by fever, or some other indisposition; but the malignant pustule is at first a local disease, and febrile symptoms only supervene after the disease has made considerable progress. They also differ as to their cause; the carbuncles always originate in, or are connect-
ed with, some idiosyncracy or peculiar state of the general health. Whereas, the malignant pustule has, as has been already stated, a local cause, and is not essentially connected with a constitutional affection. The peculiar, elevated, and phlyctenous border, is, however, the most marked characteristic.

**Prognosis.** This varies from many circumstances; the seat of the disease, its progress, the constitution and age of the patient, and the peculiarities of the epidemic; but under whatever circumstances it may occur, it is a dangerous and highly disagreeable disease. Very hot or very cold weather, is said by the French surgeons, to aggravate the nature of the affection. It is said to produce abortion in women who are enceintes, and afterwards to prove fatal, in consequence of the debility which results from hemorrhage, and the fatigue of labor. There are many cases in which the most powerful agents are brought into requisition in vain; the disease runs on in defiance of our efforts to produce a change of action in the affected tissues; the swelling extends over the neighbouring parts, no inflammatory circle separates the dead from the living tissues; the low typhoid pulse soon points out the peril of the patient, and confirms the physician in an unfavourable prognosis. Fortunately, however, such is not the most frequent termination of the disease; and hope may be entertained after it has made considerable progress, that a change in the condition of the part may be produced, and that a corresponding change in the constitutional symptoms will follow.

**Treatment.** This must of course vary, according to the stage in which the patient is seen. In the earlier periods, before symptoms of ataxic or adynamic fever have shown themselves, and the disease is entirely local, the first indications to be fulfilled, are, to protect the surrounding parts from the action of the virus, and to concentrate this action to the point originally occupied by the disease. The means best calculated to fulfil these indications are, incisions, and the application of caustics; these then should form the basis of our treatment.

When the disease is first discovered, under the form, perhaps, of a vesicle filled with serum, it should be immediately opened by a free incision, in order to evacuate its contents; the surface should then be cleaned, and completely dried, by wiping with a soft cloth; and a pledget of lint soaked in the chloride of anti
mony or liquid caustic potash, or a piece of solid caustic potash should be applied to its central part, covered with a piece of dry lint, a strip of adhesive plaster, and a bandage.

Baron Boyer remarks, that "caustics are curative agents of the greatest efficacy in this disease: they combine the advantages of concentrating the septic virus in an eschar, of limiting its activity, and preventing in a great measure its effects. They have another important effect: it is to restore the vital actions in the neighbouring parts,excite their sensibility, and thus bring on a true inflammation, which will mark the limits of the gangrene. The disease then loses in a great measure its malignity; or, more strictly speaking, nature is restored to her prerogatives, and has sufficient power to resist the destructive effects of the virus."

Tavernier says, that the apparatus above recommended should be removed in about five or six hours; but two or three hours is long enough: the eschar should then be dressed with pledgets of lint smeared over with some stimulating ointment or lotion. The next morning the parts should again be examined, and if the engorgement has not increased, and there be no new phlyctene, but only a moderate degree of tension and heat, there will be every reason to believe that the remedies have had the desired effect, and the disease is entirely destroyed. We should then promote, by every means in our power, the separation of the slough.

If, on the contrary, the parts are covered with new vesicles, or a hard and compact tumour has formed about the eschar, or much swelling, it will be necessary to return again to the caustics, with the precaution of removing the eschar, so as to be able to apply them to the parts not affected by the other applications. The best escharotics in these cases, are, caustic potash, the nitrates of silver or mercury, nitric or muriatic acids, chloride of antimony, or what has been preferred by many surgeons of distinction in France, the actual cautery; this possesses many advantages, and when in skilful hands, is perhaps always to be preferred. In using the actual cautery, the iron should be massive, so as to ensure a deep burn, at least through the eschar already formed, otherwise its salutary effects will be almost entirely lost.

Incisions are of advantage, by procuring the discharge of the
extravasated fluids contained in the cellular tissue; and by permitting the remedies to act on the parts threatened by gangrene; but to obtain these advantages, they ought not to be too deep nor too superficial; when too deep they produce injuries on the living parts, thus increasing the liability to extension of the mortification, they favor the propagation of the disease to these parts; and cause a profuse hemorrhage, which might prove very inconvenient in the application of other remedies. When not sufficiently deep they do not divide the eschar down to the parts to which we wish to apply our remedies. When the actual cautery is used, incisions are nearly useless.

Such is the treatment that is adapted to the first stages of the disease, while the general health has not suffered; but later in the disease new and violent symptoms make their appearance, and unless they are successfully combatted, and a change can be produced in the condition of the part, the patient is almost inevitably lost.

When the disease has run on to the fourth stage, escharotics are much less efficacious than in the preceding stages; it is, however, still necessary to have recourse to them. We must make use of such topical applications as are fitted to restore a healthy action in the part—to develop a well conditioned inflammation—to induce an active suppuration to take place speedily and kindly, which may relieve the engorged vessels, and enable nature to cast off the disorganized tissues. The parts should be washed with camphorated alcohol, or what is perhaps better than almost any other application at this stage, La-barraque's chloride of the oxide of sodium; Dr. Pennock recommends an alkaline poultice, very highly, made of flour and lie; but the chloride of soda is perhaps preferable. A poultice of powdered cinchona would prove a good application, at this period of the disease—its efficiency in other kinds of gangrene is undoubted—diluted pyroligneous acid, or the highly lauded kreosot would, no doubt, prove valuable adjuvants at this stage.

In this stage the disease is generally complicated, as has before been stated, and we have to direct our treatment to combat constitutional affections of the most serious character. If the slough is extensive, or the suppuration very profuse, the indications will be the same as in typhus fevers from other causes—all the functions of life are languid; it is necessary to have re-
course to energetic measures to restore these functions to a proper condition, and to support the strength of the patient. The preparations of bark are the best adapted to the fulfilment of these indications; and whenever they have been made use of, they have produced the most satisfactory results.

It would be superfluous after what has been said, to say anything against the abuse of relaxing agents, purgatives, emetics, or general depletion; they are generally contraindicated; will seldom fail to aggravate the constitutional symptoms, and are always dangerous on account of the prostration they produce.

The condition of the bowels, should, however, particularly engage the attention of the physician, as a diarrhoea would be highly dangerous at this time; tending, as it necessarily would, to increase the debility, which even in the regular course of the disease, is often a formidable part of the affection.

Tonics cannot be too much insisted on in every stage of the disease, but more particularly when the part implicated is extensive, or the suppuration is profuse. Of the preparations of bark, we have already spoken: these should be applied in as many ways as possible, both to the affected part and taken internally. If the patient suffer from nausea, as is sometimes the case, the administration of quinine, in solution, by way of enemata, will of course suggest itself to the practitioner. In fact, this mode of administration is the best for quinine in the majority of diseases. The bark of the fringe tree (Chioranthus Virginica), the Chêne bleu of the French creoles, has been used by the inhabitants of the western portion of this state, with great success in the treatment of this disease. It is, hence, called by them charbon wood, "Bois de charbon"; a poultice is made of the bark, finely pounded, which is applied to the diseased part, while a strong and most intensely bitter decoction is given internally. It is considered by them as a specific, and no doubt has an admirable effect, and may be used with great advantage as a substitute for cinchona; for there can be no doubt that it depends for its efficacy upon its powerful tonic properties.

Diet. The diet in the commencement of this disease should be absolute; permitting only rice or barley water; but in the latter stages, when the gangrene is considerable, or the suppuration great, acidulated drinks, or any of the good wines diluted with equal parts of water, may perhaps be allowed: a vegetable
diet is always to be preferred in the commencement of the disease, to an animal food. By administering wine and animal food, in the early stages of the disease, when there is a tendency to gangrene, the febrile heat and frequency of the pulse are increased, always tending to increase the suppuration of later stages of the disease; the stomach is loaded, the patient becomes restless, sometimes delirious, and his situation is rendered dangerous, and too often hopeless. A less stimulating regimen gives the organs time for the performance of their functions, and affords an opportunity for the administration of as much of a bland and nourishing aliment, as patient's appetite requires, or his situation will warrant.

After gangrene has taken place extensively, and during the separation of the mortified parts, the patient may be allowed such food as may be deemed best to support his strength; moderately rich broths, or light meats, as mutton or chicken, may be allowed in very moderate quantities. The drinks of which we have already spoken, as proper for this stage, may also be taken in moderate quantities. The regulation of the diet, in affections of this kind, is of the highest importance; and it is probable, that if this were properly directed, with reference to the condition of the patient, and the stage of the disease, no other internal treatment, except the administration of tonics, would be necessary.

Cases. The first cases that will be given, are translated from Boyer's Maladies Chirurgicales, and show the mode of occurrence of the disease in Europe, and illustrate the practice of two of the most distinguished surgeons, of that time, in Europe.

"In 1791, four persons, of whom three were butchers, and the other the wife of one of them, bought at Mont-Rouge, near Paris, an ox which had died of charbon; they divided into small pieces, which they conveyed, clandestinely, into the capital. It was sold, and no one who ate of it experienced the least inconvenience from it; but two of the butchers were attacked with malignant pustule. The disease manifested itself, in both, between the angle of the jaw and chin, by a small lump surmounted by a vesicle. A physician and a surgeon were called in, but they mistook the disease for erysipelas; bled both of them from the arm and foot; they died on the third day.

"The woman was attacked about the same time. The pustule showed itself at the anterior part of the neck, under the base
of the lower jaw, and made rapid progress. The engorgement became considerable, and soon began to interfere with respiration and deglutition. M. Larrey having been called in, recognised the nature of the disease; but as he considered the case as very serious, had me called in consultation. The patient was scarcely able to breathe; the pulse was extremely weak, and the prostration extreme; an eschar of considerable extent occupied the parts which had been under the vesicle. We scarified the gangrenous part, and touched the bottom of the scarifications with the nitrate of silver, and administered tonics and cordials internally. This practice being followed up, the patient was much relieved the next day; the respiration became much more easy; the use of cinchona, in large doses, raised the pulse; the mortification was limited by a line of inflammation; the eschar became detached, and the cure was complete. The loss of substance, however, was great; the cicatrix formed a kind of frenum which extended from the chin to the clavicle, which inclined the head to one side.

"In the third of the butchers, who was the woman's husband, the pustule appeared upon the lower part of the right cheek: we applied the caustic, which arrested the progress of the disease at its commencement. We administered, at the same time, Bordeaux wine and cinchona, and our patient was quickly restored to health."

The following cases occurred in this immediate vicinity, and under my own observation.

Case 1st. A negro boy, aged 18 years, of good constitution, was attacked with malignant pustule on the 20th August, 1835. The charbon was, at this time, epidemic among the cattle in the neighborhood; but this boy had not been about animals thus affected—cause of the disease, in this case, unknown. The pustule appeared about the middle of the right cheek; the swelling increased rapidly, and a physician was called, who applied cups to the part, which was afterwards blistered, and a poultice of poke root (Phytolacca decandra) was applied. Though not practising at that time, I had an opportunity of watching the disease in its progress and termination. The remedies applied did not seem to check or alter in any way the course of the disease. The swelling increased rapidly, difficult respiration and deglutition ensued on the fourth day, accompanied by delirious and in-
terrated sleep, and slight fever. On the fifth morning he died; the tumor at this time, extending from the clavicle over the neck, throat, and entire face, rendering this latter an almost shapeless mass, and entirely closing the eyes. The gangrene had extended, in a circle, to several inches from the centre.

Case 2nd. Negro man, aged 21 years, good constitution, was attacked a few days after the last case—the vesicle appeared in the same region; the same treatment was pursued as in the last case; but at my suggestion the actual cautery was applied, and large doses of quinine were given internally, and a rapid convalescence commenced on the fourth day. Slough considerable. Charbon still epidemic.

Case 3rd. Negro man, aged 22 years, was attacked on the 16th of October, the same year. The pustule appeared on the upper and back part of the cheek; it commenced to swell rapidly; the actual cautery was applied; a poultice of powdered cinchona was applied after it, and amelioration of the symptoms was almost immediately perceived. Quinine was given in considerable doses, and on the fourth day the swelling had subsided considerably, the pulse was good, and the convalescence progressed rapidly; slough small; the resulting cavity filling, as usual, by granulations; charbon still epidemic among the cattle; but this man, as the others, was not aware of having been near any animal affected by it; he said that a fly bit him on the part before the appearance of the pustule.

Case 4th. A negro man, aged 10 years, good constitution, was attacked by the disease on the 27th October—the pustule and lump came about the middle of the left cheek. In this case, as no iron was at hand, a small piece of caustic potash was used; the place was afterwards dressed with cinchona, as in the preceding case; quinine was also administered internally; convalescence commenced immediately; healthy inflammation was produced, with suppuration, and on the third day afterwards, he was able to do light work. Charbon still epidemic.

Case 5th. Negro man, aged about 22 years, had always been healthy; attacked on February 20, 1836—the pustule appeared about the middle of the right cheek—the actual cautery was applied on the second day, and followed by the application of the bark poultice, and internal administration of quinine. On the next day, there was a decided amelioration of symptoms,
and his convalescence progressed rapidly during two days, when he was seized with inflammation of the lungs, and died on the fifth day after the relapse. Charbon not epidemic at that time.

Case 6th. A negro man, aged about twenty years, of strong constitution, was attacked on the 23rd of March, 1836—the pustule came on the back part of the right cheek—on the 24th, cups were applied by the physician attending, and blisters over the part; he became much worse; and on the 25th, I was called, and found the engorgement very great and spreading rapidly; the gangrenous part was about an inch and a half in diameter. Caustic potash was applied; and as I had no powdered cinchona with me, I ordered a poultice of the boiled and pounded red oak bark; and gave quinine, hourly, in doses of one grain. The next day I found him much improved, and his convalescence was uninterrupted; but the cavity left by the slough filled out very slowly by granulations. Charbon not epidemic.

Case 7th. A mulatto child, aged five years, has always been remarkably healthy until the present—the pustule appeared on the 27th of April, 1836, on the upper and back part of the right cheek, near the under edge of the zygomatic arch—it was picked by the child's mother with a needle, and found to contain a drop of reddish serum, or very thin blood. After this time no attention was given to it, as the charbon was not epidemic, and the pustule excited no alarm. On the 29th, however, there was a considerable tumor observed at the same place, with it's apex or centre depressed; but the child did not complain of pain, but only of itching, and it was with difficulty that he was prevented from scratching the part. On the 30th, the actual cautery was applied, but the iron used was very thin, and the person who applied it very timid; and the cauterization was rendered inefficient by not having been sufficiently deep to reach the parts situated beneath the gangrene. It was also scarified, and a blister was applied.

May 1st. I was this morning called in, and found the boy in the following condition—pulse 120 a minute, quick and thread-like, subsultus, and irregularity in all his motions, showing that the nervous system is implicated; tongue covered with a dark coat; the swelling is very great, extending from below the clavicle over the whole face, so as entirely to close the right eye, and
nearly to close the left; the gangrenous eschar is about two inches in diameter, and not circumscribed. Incisions were made through the eschar, and liquid caustic potash applied; a poultice of poke root was afterwards applied, and quinine given internally. Prognosis unfavorable.

May 2nd. Swelling much increased; pulse 125, weak; mortification rapidly spreading; great ardor-urinae, perhaps from the blistering of yesterday. May 2nd, evening—very restless, considerable difficulty in breathing, on account of the great swelling.

May 3rd. Died this morning, at seven o'clock, without suffering any mental derangement to the last.

Autopsy, three hours after death. Stomach pale, containing watery fluid mixed with mucus; large intestines having patches of deep red, produced perhaps by worms, of which it contained a large number, and of great size. Liver and spleen healthy. Mesentery also healthy. Lungs healthy, without any appearance of inflammation. Heart having the appearance of intense inflammation; ventricles filled with uncoagulated blood; the inflammation seems to have travelled along the veins from the seat of the disease to this organ; the columnæ and parietes of the right ventricle very much softened, so much so, that the dissecting hook tore out, with the weight of the heart, though stuck in to its full depth, in a direction transverse to the fibres; all the appearances of this organ, and the veins between it and the seat of the disease, were those of phlebetes. As there was no mental aberration, the encephalon was not examined.

Case 8th. A young man, a white man, was attacked by the pustule on the 6th March, 1837. He said that a fly had bitten the part, about a day and a half before the disease first appeared, and that he had felt from that time a kind of itching sensation. Saw him on the 7th, the pustule was situated on the back and lower part of the cheek, near the angle of the jaw; I applied a small piece of solid caustic potash, and made use of the bark poultice, with quinine internally, and on the next day found him doing well. His convalescence was uninterrupted; the part gradually filled out, and left but little disfiguration. Charbon has occurred in the neighbourhood lately, and several animals have died on the farm of the father of the young man.

I have chosen these cases from among a great many, as being
Illustrative of the mode of occurrence of the disease; and though I could increase very greatly the number of cases, I refrain from doing so, as the treatment has but little varied, and pathology adding no new light, it would but serve to render this treatise more prolix than is desirable.

From a careful observation of the cases I have seen, I am led to believe, that the disease is essentially gangrenous from the commencement; that is, that there is gangrene before the phlyctenæ make their appearance; and that these vesicles are the result instead of the forerunners of the gangrene—the consequence of this is, that any attempt to bring about resolution must fail, as there will necessarily be a slough of this gangrenous part, which will be smaller, the earlier a line of demarcation is established between this and the sound parts. These points, however, as some others that I have advanced, may, and probably will be disputed by some; of course they are open to discussion, and court investigation. I have not written to convince, but merely to excite this investigation. And if this treatise can direct the attention of our profession, to a disease that has of late years brought dismay into some of our finest districts—if it can induce the experienced to bring forward their observations, and excite the enquiry of the scientific, its objects will be attained, and its author more than compensated.

ARTICLE II.


At a recent meeting of the Medical Society of Augusta, Drs. L. A. Dugas, P. F. Eve, and B. Douglass, were appointed a committee, to verify the correctness of the alleged discovery of a certain ligament connecting the tooth and alveolar process in the human subject. The following is the report of that committee, read before the Society, by Dr. Dugas.

The Committee, to whom was referred the task of "verifying the correctness of the alleged discovery of a certain ligament
connecting the tooth and alveolar process in the human subject,"

beg leave respectfully to present the following report:

Your committee have endeavored, in the 1st place, to determine, whether or not, the existence of such ligamentous connections have been recorded by systematic writers on the anatomy of the teeth; in the 2nd place, to ascertain to whom should be attributed the alleged recent discovery; and, lastly, to examine, whether a ligament does exist, and, if so, to define its character. In the prosecution of the first inquiry, the works of Thos. Bell, of Charles Bell, of Cruveilhier, of Lauth, of H. Cloquet, of Meckel, of Horner, of Blandin, of Wistar, of Snell, of Delabarre, of Baumé, of Bourdet, of Fauchard, of Fitch, &c., have been examined; in neither of which can any allusion be found to the ligament under consideration. They all concur in affirming, that the teeth are held in situ by means of the gums and membranes interposed between the gums and alveolæ; their extraction being, in some instances, impeded by an irregular curvature or separation of the roots.

With regard to the second inquiry, the means have necessarily been limited to the few notices contained in the newspapers of the day. From these, it would appear, that the discovery of a method of extracting teeth, with, comparatively, little pain, is claimed by three Dentists of Philadelphia, viz: Mr. Ebert, Mr. Humphreys, and Dr. Caldwell; all of whom, however, with the characteristic reserve of charlatans, have, hitherto, endeavored to conceal the principle on which their simplified operation is based. Mr. Ebert is, on the authority of Dr. George F. Klein- gel,* said to have extracted teeth, on the new principle, as far back as twelve months since. It has not been ascertained to what date the other individuals refer the origin of their practice; but, it would appear, that their claims are more recent. It will be observed, that neither of the above Dentists claimed the discovery of a ligament connecting the tooth and alveola, but merely of a peculiar method of extracting teeth.

The discovery of the ligament, is claimed by Dr. P. B. Goddard, in an article published in the November number of the American Journal of the Medical Sciences. In this article, the doctor states, that having been informed " that the new method

* Philadelphia Saturday Courier, December 1, 1838.
of extracting teeth] consisted in cutting with a pen-knife something which held the tooth in its place, I resolved to scrutinize the matter closely. * * I then procured a jaw, and making a very careful dissection, satisfied myself of the existence of a ligament. This consists of short, strong ligamentous fibres, existing on one side of the human tooth only, and unites the neck of the tooth to the alveolar process. The fibres arise from the edge of the alveolus between the teeth, and proceeding forwards in the case of the molars, and inwards in the case of the incisors, is inserted into the neck of the tooth, not quite the sixteenth of an inch from the enamel. Its size (and of course its strength) varies with the class of teeth to which it belongs. In the incisors, it is a narrow tape-like band—in the cuspidati and bicuspiddati, it is wider—and in the molars, it is as wide as the neck of the tooth and very strong. A few of its fibres are blended with the gum in its neighborhood; and thus we may account for its occasional laceration when a tooth is extracted. Its adhesion to the tooth is stronger than to the jaw, and, if not cut, it is commonly dragged out with the tooth. Its ligamentous character is very distinct, the fibres being white and shining, like tendon."

We now come to the third division of our labor, and, at the same time that we are enabled to confirm the fact of the existence of a ligamentous connexion between the teeth and alveolar processes, we cannot concur with Dr. Goddard in his description. Our researches have presented to us not "a ligament," but a set of ligaments; and, not only connecting one portion of the tooth to one portion of the alveolar process, but the whole circumference of the tooth to the whole circumference of the alveolar process, and, moreover, the teeth to each other. By dissecting a jaw, previously subjected to maceration, these bonds may be very readily detected. The ligamentous fibres are seen to pass from the edge of the whole alveolar process to the tooth, about a line from the enamel, thus closing entirely the cavity in which the root is contained. But, in addition to this kind of capsular ligament, there are other fibrous masses, much more developed, and which extend from the alveolar process, beyond its edge, to the neck of the tooth, and from one tooth to that next to it. The fibres, extending from one tooth to the other, are necessarily situated between the teeth, but project considerably
on the internal or lingual face of the teeth, though not at all on the external—they are much stronger than those which extend from the alveolar circumference to the tooth, and constitute a very distinct ligament, whose fibres, extending from one tooth to that next to it, rest, as it were, on the osseous partition separating one alveolar cavity from the other.

Your committee, therefore, have ascertained, that the statement made by Dr. Goddard is correct in one particular only; that is to say, in the assertion that a ligament does exist. Dr. G. states, that the fibres exist on one side only of the tooth, and that they unite the neck of the tooth to the edge of the alveolar process. From the description we have given, you will perceive that the fibres which extend from the neck of the tooth to the edge of the alveolar process, are not confined to one side only, but extend from the entire circumference or edge of the process, to the entire circumference of the neck of the tooth. Again, the Doctor affirms, that the fibres proceed forwards in the case of the molars, and inwards in the case of the incisors. We have seen that this is an error, and that the tendinous fibres extend in a horizontal direction, from the neck of one tooth to that of the root next to it, and that in their course they rest on, or rather, are attached to the upper edge of the partition separating the alveolæ from each other. These strong ligaments are not, however, as advanced by Dr. G., limited to the space between the teeth, but really project, or extend considerably, in the case of the molar teeth, over those angles of the neck which look towards the cavity of the mouth, thus constituting for the molar teeth a very distinct set of ligaments, not to be found belonging to either the incisors or cuspidati. All the teeth, are, therefore, bound to the edges of the alveolar processes by the same kind of capsular ligament, but the molars are provided with additional and much stronger ligaments, covering the capsular ligament and extending from below the edge of the process to the neck, and from one neck to the other. Your committee can perceive in Dr. G.'s description, no allusion to these additional fibres, which must constitute a very great additional impediment to the extraction of the molars.

From these premises, it is evident that your committee regard the alveolar cavity as entirely closed, and having no communication with either the mucous membrane of the gum, or the
general periosteum of the jaw-bone; that the roots of the teeth are enclosed within said cavity, in the same manner that the head of the os femoris is enclosed within its articular cavity, by a surrounding capsular ligament; that the ligamentous fibres extend from the edge of the alveolar process to the neck of the tooth, in the same manner that similar fibres extend from the edge of the acetabulum to the neck of the os femoris. Now these views are altogether at variance, with the opinions advanced by every writer whom we have had an opportunity of consulting. These authors differ from each other only in one respect — one class believing that the mucous membrane of the gum dips down into the alveolar cavity to furnish its lining membrane, whereas the other class believe, that the lining membrane is furnished by a continuation of the periosteum of the maxillary bones. The French* generally advocate the former, and the English† the latter disposition. These opinions have doubtless originated, on the one hand, in the theory of the continuity of substance in membranous expansions, and on the other hand, in the more recent theory of integumentary excrescences. Those who regard membranes in general, as neither commencing at any given point, nor terminating at any other, were led to trace the periosteum from the surface of the maxilla into the alveolæ, by which the continuity of substance might be understood; whilst those who, in their endeavors to generalize, refer the

* La portion rÉflechée de la gencive rÉpond, sans y adhÉrer, a la racine de la dent dans toute la portion de cette racine qui dÉborde l'alvéole, puis s'enfonce dans la cavité de cette alvéole pour constituer le pÉrioste alvéolo-dentaire, pÉrioste que nous avons vu Être un puissant moyen d'union entre la racine et l'alvéole.—CrÉveilhier, Anat. Desc. T. 2. P. 388.

The mucous membrane which enters into their constitution, (the gums,) is prolonged into the alveoli, and from the bottom of these cavities, sends into the cavity of each of the teeth, a bulbous prolongation which exactly fills it. —*English translation of H. Cloquet's Anat. p. 597.*

† The periosteum of the maxillary bones, after covering the alveolar processes, dips down into each alveolar cavity, the parietes of which it lines. From the bottom of the cavity, where the vessels and nerve of the internal membrane enter, it appears to be reflected over the root of the tooth, which it entirely covers as far as the neck, at which part it becomes intimately connected with the gum. Hunter, and others, believed that there is only a single layer of periosteum common to the alveolus and the root.—*Thomas Bell on the Teeth,* p. 42.
hair, nails, and teeth, to a secretory process of the integumentary surface, find it convenient to describe the secreting apparatus of the tooth, as contained in a duplication of the mucous membrane of the gum, dipping down into the alveolæ, and answering the double office of periosteum to this cavity, and of investing membrane to the tooth. It is certain that neither of these views could have ever been sustained by anatomical inspection; and now that this inspection has been made, and the influence of high testimony set at naught, it may be interesting to explain the origin of the membranes, which unquestionably exist between the tooth and socket; and also to determine the disposition of the gum and general periosteum.

In order to do this, it must be observed, that the first rudiments of the tooth are lodged in the alveolar cavity, and consist of a small sac contained within another, between both of which is contained a limpid fluid. Within the inner sac the tooth is formed. The disposition of these sacs is such, that whilst the inner adheres to the tooth, and the external to the alveolar cavity, both unite in their adhesion to the neck of the tooth when more fully formed. As the formation of the tooth progresses, the space between the two membranes diminishes, until they are brought into contact. Whether or no the cavity existing between them is ever obliterated, and the fluid it manifestly contains in the early stages of the development of the tooth ceases to be secreted, does not seem to have been determined.

Prior to the perforation of the gum by the tooth, the gum covers the alveolar cavity and can certainly have no open communication with it;* and unless we admit that the membrane extends down into it after the exit of the tooth from beneath, it is difficult to imagine the possibility of the disposition described by Cruveilhier, &c. The same objections apply to the continuation of the periosteum into the alveolæ. The mucous membrane and periosteum of the roof of the mouth, for example, closely connected by cellular tissue, pass on to the alveolar processes, extend over them, and continue their investment of the external face of the maxilla. This is perfectly evident, on examination.

* The gubernaculum dentis, or neck of the dental follicle, which extends to the covering of the alveolar orifices, though believed by some to be an open tube terminating at the mucous surface of the gum, is asserted by others to be always found closed.—Vide Système Dentaire par Blandin, p. 87, et seq.
of the parts previously to the evolution of the teeth in children, and after their entire removal in extreme age. The beautiful series of fetal skeletons in the Museum of our College, including specimens of the growth of each month, from the second to the ninth, shows clearly and distinctly, the closure of the alveolar cavities by the periosteum which has been allowed to remain. We have already seen that the alveolar cavity is lined by the membranes belonging to the tooth; it can, therefore, need no other. When, however, the tooth begins to make its way out, it presses the periosteum above it, against the mucous membrane, until they are brought in immediate contact; then they yield a passage to the perforating tooth. By this mechanism, the mucous membrane, the periosteum, and the membranes proper to the tooth, are necessarily brought in contact, or nearly so, and all adhere to the neck of the tooth on nearly the same line. These facts may explain the error of those who consider the lining membrane of the socket, to be continuous with the mucous membrane, or with the periosteum; but they do not account for the formation of the bonds we would call the capsular ligament, and of those extending from one tooth to the other. These must be subsequent developments, as our dissections establish them to be entirely distinct, and unconnected with either the gum or surrounding periosteum: In making these dissections, we have alternately torn off these coverings by seizing either the gum or the periosteum; and, in either case, both are removed, and leave the ligaments fully exposed. This process is materially facilitated by previous maceration, as we have already had occasion to state. At what period these ligaments are developed, we have not had the opportunity to determine.
ARTICLE III.

Case of Abdomino-intestinal Wound, and Recovery.

By A. R. Kirkpatrick, M. D. of Cheneyville, La.

On the 23rd day of August, 1838, I was called on to attend a negro man belonging to Mr. L. Burges. He had been engaged with a fellow servant in falling a cypress tree in the swamp, both cutting facing each other, on the same side of the tree, when the other negro's axe flew off, in the downward stroke, and cut Alfred entirely through the abdominal parietes, dividing the recti abdominal muscles transversely, at the line dividing the left iliac from the left lumbar region, six inches in extent, and making a small opening of about eight lines into the ileum also transversely. Immediately the axe dropped from the wound, and the intestines followed, as they were very much loaded with food and melons, which he had eaten early in the day. The accident occurred about half past four o'clock, P. M. It was an hour and a half before I saw him, at which time he was nearly exhausted with loss of blood and the great pain he suffered. I found nearly a hat crown full of the descending colon and the ileum protruded and lying in the hands of the patient, and two negroes, who were in attendance. There was some discharge of sterco-raceous matter, and watermelon seeds, and the shreds of melons, through the aperture in the ileum. No omentum was exposed. The coats of the intestines, and the mesentery, were swollen, and highly injected with arterial blood, and indicating an active inflammation in its incipient stage. The mesocolon and mesentery had several points where they were discolored and darkened, and there was an areola around the incision in the ileum of a dark color, which was made worse by the escape of the faeces and seeds. Owing to the gorged condition of the entire alimentary canal, I found considerable difficulty in returning the protruded portion; and had not large quantities been discharged, as above mentioned, I should have been compelled to enlarge the abdominal wound. I retained the wound of the intestine at the external opening, whilst returning the intestines, and finally secured it in that position, by introducing a single suture throughout, untied, and leaving the ends outside of the wound
—this was to prevent extravasation of faecal matter, and allow the egress of any deleterious substances. I then closed the external orifice with interrupted sutures and adhesive strips. His pulse had nearly ceased at one time, but it recovered, and was at 65 when the dressings were applied. He complained of a sense of colicky pain, and much soreness of course, and some head-ache and nausea. Having sustained the injury in the swamp, and in order to convey him with ease and safety to the house, he was laid on a sheet, the corners at each end tied separately and carried on a pole. At ten o'clock a dose of oleum ricini was administered to him, which caused him to vomit, and a large quantity of half digested food was thrown up of a disagreeable acid odor—and every thing, except cold water, caused the same. There was no appetite, nor any disposition to go to stool.

August 24th. Rested well during the night. Slightly feverish now; pulse quick and somewhat accelerated; no alvine discharge yet; passed his urine with difficulty and straining; no appetite; wound very painful, and feels as though there was a heavy weight across his abdomen—the wound is in good condition, and secreting healthy pus. At eight o'clock, A. M. bled him to the amount of eight ounces, and administered a dose of sulph. magnes. which produced nausea and retching. A large sinapism was applied to the abdomen above the wound—this was in order to subdue, or rather prevent, any inflammation of the wound in the peritoneum and intestines. Ordered that an enema of salts and oil be administered, if he had no passage by ten o'clock, A. M.

Evening visit. The glyster was given, and two small evacuations procured: pulse quick and accelerated; venesection to the amount of four ounces; no appetite; little pain; abdomen swollen and tympanitic. Prepared a solution of sulph. magnesia, sweetened, and administered a swallow of it every twenty minutes; directed an enema at midnight if there was no discharge before that time; and directed blood to be drawn if the pulse demanded it.

25th. Morning Visit. Rested well last night; two evacuations; pulse natural; abdomen still tympanitic, though not so much so as yesterday; wound in good condition, granulating finely, and adhesion throughout its entire line; the intestine was in its proper situation, as the ends of the suture were secured by
the adhesive strips; nausea on taking any thing; no appetite; a large vesicatory was applied to the abdomen, for the purpose of keeping up the counter-irritation and making it more permanent.

Evening Visit. Three evacuations; much flatus escaped, and indeed his intestines are constantly in motion and borborigmy; pulse 108, full, though compressed; considerable heat of the surface.

Thinking that the intestine had been confined long enough, I removed the suture, and from the ease with which it was withdrawn, I am induced to think that the part through which it passed had entirely sloughed off; as the reader will remember, I stated the lips of this incision to be in a state of advanced inflammation, and approaching to disorganization and mortification, at the time the suture was introduced.* Scraped lint was applied to the wound. Dressed the blister. Still no appetite; and nauseates at any thing but cold water. The weather being oppressively warm, he was very thirsty, and demanded the coldest water that could be procured. The tympanitis is less. The heat of the surface is owing as much to the heated atmosphere as any thing else. Fahrenheit's thermometer, from ten to three o'clock, is from 87 to 92.

26th. Rested very well last night; pulse this morning at 50, though full and difficult to compress; one alvine evacuation during the night; did not examine the wound; he took a small portion of corn meal gruel, which is the only diet allowed; yet he has no desire for any food, though his nausea is less than formerly. The coldest water is allowed to him freely. Directed him to be bled in the afternoon, if he had an excitation of pulse; and an enema at one o'clock, if necessary. He now passes his urine, regularly, unattended with pain.

Though I am always averse to passing any prognostic on a case where there is danger, yet, from the length of time this man had survived, and, added to that, his good constitution, and the good attendance he had, I was led to pass a favorable opinion on the result of his case, and assured him and his owner, that proper care would ultimately restore him to a share of his former health and usefulness.

27th. Morning Visit. Rested well during the last twenty four hours; several copious alvine discharges; many melon

* Was not this too early for incipient mortification? Ed.
seed discharged, which were eaten on the day he sustained the injury; thereby showing that the alimentary canal was attempting to perform its proper functions. During this time, nothing has escaped from the intestines, through the external orifice, unless it were purulent matter or blood. Appetite improved and returning. Pulse 68. The wound was found in a healthy state, and granulating finely and rapidly. One of the sutures was removed, on which the skin and integuments slowly separated, and the wound somewhat opened—this was secured by adhesive strips; dry scraped lint was applied; tympanitic state much lessened; lips of the wound not swollen as much as heretofore; perspiration regular; ordered glysters, if necessary, to prevent constipation.

28th. Evening Visit. Continues to rest well; tongue somewhat furred; pulse 68; borborigmy; appetite restored and not easily satiated; he is allowed thin chicken soup. There was some thunder and lightning to-day, which, he said, made his wound and his intestines pain him more than usual. Adhesion of the muscles appears to have taken place, but the skin is still open; this is owing to the lint being pressed down between the sutures, and thereby preventing it, and causing a constant discharge of pus. I discontinued the lint and applied a strip of soft linen, saturated with olive oil.

30th. Being engaged on the 29th, I was not able to visit him. During this time he has rested well, except that he is much fatigued from remaining constantly in the recumbent posture, and most of that time on his back. Much redish-brown liquid was discharged yesterday morning, preceded by considerable pain, after which, the discharge became easy. This, I had no doubt, was bilious secretion, mixed with blood and pus; and I was confirmed in this when, removing the dressings, my pocket case of instruments accidentally fell on his abdomen, which caused a sudden movement and contraction of his abdomen, and immediately there was a vast quantity of bile, fecal matter, bloody saries and pus, discharged in a large stream. I was much alarmed, though I concealed it as much as possible—I made pressure on the whole abdomen, and caused all to be discharged, that I could; air also escaped in bubbles. The abdomen now seemed flaccid, and the lips of the wound were drawn in close apposition and retained by adhesive strips. No alvine discharge on the
20th ; appetite good ; pulse 60 ; bread and butter allowed him. I thought the sutures kept up irritation in the skin, and they were all removed.

31st. Great deal of pain in the sore ; constant discharge of the above mentioned matter from the time I left him yesterday morning. When I removed the dressings, thick fecal matter was seen lying on the wound. He remarks, that when he eats any thin matter, it escapes, in a short time, at the wound ; but if he eats any thing like bread, hominy, or rice, it is not thus, but continues down, and he has his natural fecal discharge.

Heretofore the wound has had on it a thick coat of white purulent matter, strongly attached to the parts, which could not be removed by soap and water, and when taken off by the forcepts caused the place to bleed; but this morning this had all disappeared, and the wound presented a clean, red, granulating surface; this I attributed to the action of the bile which was thrown out. The orifice through which the discharge takes place is about three lines. The wound was secured tightly with numerous strips in different directions, and the roller drawn as tight as could be borne. He is allowed to eat a small portion of food four times a day.

September 1st. Purulent matter on the wound; some watery discharge; no bilious tinge or mark of any fecal matter. Bubbles of air were seen at the opening, which is smaller than before. An adhesive strip was placed immediately over it, and a small compress on this again, and all confined by strips, and a larger compress and bandages. Repeated alvine evacuations per anum. Pulse 60.

2nd. Wound easy and no discharge perceptible. The dressings were not removed, as I thought the wound had been interrupted too much, (once every day,) and all the granulations destroyed as fast as they were formed. Appetite and digestion good; bowels loose.

3rd. All going on smoothly. On removing the dressings I was happy to find that I was correct in my suspicion, for the cuticular adhesion had progressed rapidly. The passage from the intestine, through the wound, was, however, still open, and some gas escaped. Dressed as before. Determining to dress it less frequently, I did not visit him till the

5th. Found him much better, and the wound had closed, ex-
cept a small place where the gas and feces had escaped. He felt the feces discharging through this opening, and notified the nurse of it, who immediately made gentle pressure over the part with her fingers, and afterwards tightened the roller.

7th. He now walks about without any pain, and sits up several hours in the day. The small opening is still perceptible, though lessened, and nothing escapes but sulphuretted hydrogen gas, as is known by the dark color of the strips.

From this time till 17th September, I visited him two or three times a week, to see that nothing untoward should be allowed to happen; and he continued improving; and by the 15th was able to hoe in the garden, and attend to little matters about the yard and kitchen. Whenever any flatus begins to move in the intestines, it gets to the wound and then stops, causing considerable pain, but is immediately relieved by pressing his hand over the part and dispersing it.

On the 12th, there was a ridge under the cicatrix, which I attributed to the divided muscles having retracted down to that place. But he continued to complain of pain and uneasiness in the part, and it seemed to enlarge. It became evident that a furunculus was forming, and I ordered meal poultices to be kept to the part. On the 20th, it opened spontaneously, and discharged a quantity of pus. The cicatrix is small, and finely healed in every part at this date. He is going about performing his regular and ordinary duties, complaining of no pain or weakness whatever.

It is evident that the intestine has grown to the abdominal parietes, as was intended and desired. When flatus moves in the bowels, the cicatrix is puckered and drawn, as a person’s lips drawn forcibly together and inward.

This is not given as a strange phenomenon or anomalous case, as I am well aware of many similar cases by surgical authors, and in the Medical Journals of the day; but as shewing what nature may suffer, and yet, when properly assisted by surgical attendance and a good system, may surmount. The patient, aged 47 years, remained, on a hot summer’s afternoon, after active exercise, more than one hour and a half, with a considerable length of his intestinal canal exposed to the atmosphere, and the rough handling of negro men, who had much injured the protruded parts, by their efforts made to return them. He then had
to be transported more than half a mile, partly through a rough wood, in which he was much jolted and disturbed. Active inflammation had taken place in the intestines and peritoneum before they were returned; and then there was the additional irritation of a thread passing through the coats of the intestine. When all these are taken into consideration, the case presents a wonderful example of the power of nature to overcome disease and injury. At first, I despaired of doing any permanent good; but was determined to act while there was breath and pulse, so far as my judgment directed any effort to be made; and all may judge of the joy I feel, in seeing my efforts attended with such marked success.

Many minor points of surgery I have intentionally omitted, as being unnecessary to the report of the case. No rule can be laid down for the management of such cases—every physician must be guided by the attendant circumstances, and his own judgment.

ARTICLE IV.

Surgical cases occurring in the practice of L. A. Dugas, M. D. Professor in the Medical College of Georgia. Reported by W. H. Robert, M. D. of Columbia County, Ga.

Having had occasion, during the prosecution of my studies with Professor Dugas, to witness many of his surgical operations, and believing the report of cases, however trivial at first sight, to be useful as contributions to our fund of facts, I will offer no further apology for relating the following.

Case 1. Amputation of Scirrhus mamma.

Rachael, a negro woman, aged 35, the property of Miss H. of Columbia county, of apparently good constitution, and in good health, had a small tumor in the left mamma, occasioned by a blow. This tumor had, during two years, increased but little, when the patient received another blow on the breast, which caused the tumor to grow rapidly during the six succeeding
months, and to become very painful. The pains were sharp and lancinating, the tumor lobulated, uneven, hard, and occupying the anterior portion of the mamma; no enlarged axillary glands; lancinating pains occasionally felt in the upper part of the left hypochondriac region, near the epigastric, but no tumor to be felt; mammary tumor about the size of a turkey's egg.

At this stage of the case, the patient was sent to Dr. Dugas. The usual discutient means had been ineffectually used for the reduction of the tumor. Dr. D. therefore, without further delay, removed the whole of the mammary gland in the ordinary manner, on the 10th January, 1833. The wound healed by the first intention, and in a few days the patient returned home.

April 1. No pain nor uneasiness about the cicatrix, but the pain has continued increasing, near the epigastrium, where a tumor can be distinctly felt, which increases rapidly, is deep-seated, and of uncertain attachment. Says she feels the same kind of pain as she formerly experienced in her breast. Her appetite, though formerly good, is now bad; she frequently rejects her food when coarse; is very low spirited, and wishes to go to a "cancer doctor."

July 22. Was sent to the quack, with whom she remained a fortnight, and returned entirely relieved of her epigastric pain and tumor. Now feels in excellent health and spirits; no symptom of a return of the disease in the breast; says, however, that she still occasionally feels some of the pains about the axilla, although none of its glands are enlarged, or tender on pressure.

Having occasionally heard from the patient since the above date, we have been informed that she still continues well. On examining the tumour after the operation, it was found to present all the peculiarities of a scirrhous.

Case 2. Amputation of a Scirrhous mamma.

Mrs. H. of Edgefield district, South Carolina, aged forty, of a good constitution, and leading an active life, placed herself under the care of Dr. Dugas, in May, 1836. She had, about eighteen months previously, received a blow on her right mamma, which gave rise to a considerable degree of inflammation and swelling. This was treated by discutients; the acute symptoms subsided and left a hard tumor, which was subsequently exposed, accidentally, to repeated bruises, and which was subjected to
a variety of topical applications, vesicatories, Iodine ointment, &c. without advantage.

The tumor was now adherent to the skin, about three inches in diameter, and occupied the right side of the mamma towards the axilla. Two of the axillary glands were considerably enlarged. The tumors were rapidly increasing in size, and the seat of lancinating pains. Both mammæ were, naturally, very voluminous.

On the 20th May, Dr. Dugas removed the whole of the mamma, and by extending the incision, exposed the affected glands which were also removed. The wound was closed in the usual way, with adhesive strips, &c.

24th. Removed the dressing, and found that adhesion by the first intention had taken place, throughout the whole line of incision. Not a drop of pus was formed, and the lint was soiled only a little bloody oozing. The case was left in the charge of Dr. Spann, a neighbouring physician.

June 5th. Dr. S. being absent, Dr. Dugas was sent for, and found that the case had been neglected; that the ligatures had not been removed, and that suppuration had taken place along their course, ripping up the adhesion of the integuments to the muscles, but not effecting a separation of the lips of the wound. A slight incision made in the cicatrix, at the place of exit of the ligatures, gave issue to about a gill of healthy pus. The ligatures were now removed, a compressing bandage applied, and the whole wound healed in a few days.

December, 1838. Mrs. H. has experienced no inconvenience from the operation, nor has there been any manifestation of a disposition to a return of the disease.

The tumor removed from the mamma, as well as those from the axilla were eminently schirrous. That in the mamma presented, in addition to the usual features of schirrous tumors, the peculiar indications of approaching suppuration. Its tissue contained softened particles, and its surface adhered closely to the skin.

Remarks. The two above cases, are interesting in several respects. In the first place, they establish the propriety of such operations, even after the axillary glands have become implicated, a point on which there is still much hesitation among surgeons. That schirrous affections do frequently return after the use of the
knife, and other means, is but too true; yet if it can be established that in many cases such a return does not occur, the surgeon should certainly never be reluctant to offer the patient the only known chance of escape from a most horrid death. The uncertainty of the diagnosis between tumors termed fibrous, and those designated by the appellation of schirrous, is such, that no practitioner would be warranted in resorting to the knife, before fully testing the efficacy of the various topical applications known occasionally to remove tumors of such ambiguous nature. Yet, when in despite of such medication, the tumor steadily continues to progress, the knife should no longer be withheld.

The success of the cases above recited, may, with much propriety, be attributed to the fact, that the entire mammary glands were removed. The examination of the parts, after their removal, evinced such an intimate union of the morbid with the healthy tissue of the gland, that it was extremely difficult to assign the true limits of either. This difficulty would have been much greater, had the attempt been made during the operation, and under the influence of a desire to hasten, and to spare the patient as much pain as possible. The objections to the sacrifice of the entire gland, can weigh but little, in comparison with the danger of leaving a portion of the diseased structure, by endeavoring to save appearances.

The progress of the second case, after the operation, exemplified the necessity of attending particularly to the removal of ligatures, however strongly union may have taken place between the integuments and stump. The formation of pus, in such cases, should be carefully watched, and an issue given it, as early as possible, in order to prevent such an accumulation as occurred in this instance.

Case 3. White Swelling of the Knee—Amputation.

Henry, a mulatto boy, about 15 years of age, belonging to Mr. A. Cumming, had suffered several years with an affection of the knee joint, of spontaneous origin, during which time he was subjected by several practitioners of distinction, to all the methods of local and general treatment usual in such cases. He was, in 1836, placed under the care of Dr. Dugas, who found the knee considerably swollen, though presenting no fluctuation: the leg permanently semi-flexed, the patella resting on the inner side
of the joint, and immovable, and a fistulous opening four inches above the articulation, which admitted the probe to the lower extremity of the os femoris. Wishing to attempt the production of perfect ankylosis, Dr. D. placed the patient under the internal use of the Iodated solution and compound decoction of sarsaparilla, for several months, during which time the limb was kept perfectly still, and the fistula injected at first with a solution of chloride of soda, and subsequently with a diluted solution of Iodine. This treatment proving ineffectual, amputation was performed, above the knee, on the 7th of October, 1836. Two vessels were secured with animal ligatures, (the deer-sinew,) and the wound dressed in the usual way. Adhesion was effected completely by first intention, and the ligatures, on the 18th Oct. separated even with the cicatrix, leaving the knots within, which must have been absorbed subsequently.

On examining the joint, the patella was found completely dislocated to the inner side of the knee, its internal face ulcerated, and its ligaments much enlarged; the head of the tibia was applied to the posterior surface of the condyles, which had sustained a loss of substance equal to half an inch in depth; the inter-articular cartilages were partly destroyed; all the soft parts red and edematous; and the joint filled with pus.

Case 4. Affection of the Knee and Foot—Amputation.

The subject of this case was Ned, a negro boy about 15 years of age, the property of Mr. I. S. Tuttle. He had for several years been afflicted with a swelling of the left knee, which resisted all the usual remedies. From the knee, the swelling extended down the leg and occupied the whole of the foot, which finally became the seat of ill-conditioned ulcers, and of great pain, depriving the boy of rest, and seriously impairing his appetite. It was observed that his growth had been very much retarded, and that his general health, though not seriously injured, was beginning to suffer.

Several physicians having decided on the propriety of amputation, this was performed, above the knee, on the 11th March, 1837, by Dr. Dugas. The vessels were secured with ligatures derived from the deer’s tendon, as in the above case, and the same dressing applied; yet on removing the dressing on the fourth day, union was found to have taken place in but one half
of the wound. The stump being daily washed with diluted chloride of soda, and the flaps kept together with adhesive strips, healed in a fortnight, without further trouble.

The joint, on being laid open, evinced a very red and infiltrated state of the synovial membranes and circumjacent tissues, and slight erosion of the cartilages.

Remarks. In both of the above cases the circular method of amputation was adopted, and in both similar ligatures and dressing were employed. Yet how different the result! In the first, adhesion was complete on the fourth day; whereas in the latter, it was but half effected in the same time. Whence the cause of this difference? Shall it be referred to some unperceived peculiarity or disturbance of the dressing, or shall it be looked for in the condition of the patient’s general system? Such enquiries merit the serious attention of the profession, and should be specially attended to by Hospital Surgeons, whose opportunities are extensive. In the case referred to, no derangement nor defect could be detected in the dressing; the want of total adhesion must, therefore, have depended on a deficiency of curative energy in the system.

On the first removal of the dressing, in case fourth, although but one half of the stump adhered to the flaps, these adhered to each other in the whole extent of their lips. Now, the pus interposed between the remainder of the stump and flaps, must have been originally yielded, either by the whole, or by a part only of the surface with which it was in contact. I agree with Dr. Dugas, in the belief that it was probably first produced by the presence of the ligatures, and that having no exit, it accumulated and tore up adhesions already formed between the flaps and stump, and that had the removal of the dressing been delayed a day or two longer, the whole of the stump would have been similarly denuded. If such be the fact, we should deduce from it a strong objection to the prevailing custom of delaying the first removal of the dressing to the fourth day. Would it not be prudent, at least, to remove as early as the second day, so much of the dressing as would permit any formation of pus about the ligatures to be detected?

Another consideration presents itself with regard to cases third and fourth. The loss of so important a limb as the leg, should be very differently estimated in the different classes of
Surgical cases by Dr. Dugas.

society. Whilst to the gentleman of fortune it would be a horrid deformity, and the destruction of most of his enjoyments; and to the free laborer, it would, in many instances, constitute the loss of the means of subsistence for himself and family: it is to the slave a matter of comparatively little importance. Idleness being his greatest enjoyment, and having but few wants, and the certainty that these will always be met by his master, the negro dreads nothing from the operation but the pain it may occasion. This once over, he rejoices that the source of his discomfort has been removed, and no desponding hallucinations supervene, to disturb or to impede the efforts of nature to heal the wound. Hence it is, that such operations are much less fatal to the negro than to the white man; and hence it is, also, that we should hesitate much less to remove a limb, whose affection endangers the life of the patient, if he be a slave, than if he be a free man, and especially a white man. Such considerations doubtless influenced the decision in case fourth, which some might think ought to have been subjected to still further efforts to save the limb. Further delay, however, would have materially diminished the chances of success, by permitting the general health to become seriously impaired. As it is, the lad's life has been saved, none of his comforts sacrificed, and he is in the full enjoyment of fine health; nor has his master sustained any loss, for he has made him a cobbler. A poor Irishman, whose leg I amputated for a dreadful injury sustained by a rail road car, now wanders about a miserable beggar!

Case 5. Aneurism—Ligature of the Brachial Artery.

Billy, a negro man about thirty years of age, belonging to James F. Hamilton, Esq. was bled in the left arm during the first week of April, 1836, by a fellow servant, who wounded the brachial artery. Not aware of the accident, he corded up the arm, and the incision healed kindly. About a week after, perceiving a swelling at the bend of the arm, and experiencing pain from it, Billy consulted a physician of the neighborhood, who applied over the tumor a bit of sheet-lead and a tight compress, without at all impeding its development. On the first of June following, the patient was sent to Augusta, and placed under the care of Dr. Dugas. The arm was then found to present, at its bend, a tumor the size of a turkey's egg, though not regularly globular,
pulsating strongly. The pulsations produced under the finger a very strong thrilling sensation, which also extended several inches above and below the tumor. Pulse at the wrist normal—Basilic vein very much enlarged, and pulsating slightly—The bruit-de-souflet (bellows-sound) strongly marked in the tumor—Health otherwise good.

4th June. Dr. Dugas placed a ligature of cat-gut on the brachial artery, midway between the elbow and axilla, and dressed the wound with adhesive strips, leaving one end of the ligature out. The pulsations in the tumor and wrist were immediately arrested.

5th. Considerable febrile excitement; passed a restless night from pain about the shoulder; arm and hand became very cold and benumbed last evening, but warmth was restored by hot bricks, &c. Pulsations distinct, though feeble, in the radial artery at the wrist; none in the tumor. Prescription, gruel diet.

6th. No febrile excitement; no pulsation in radial artery nor tumor. No pain; feels quite comfortable; temperature normal.

7th and 8th. No pulse in radial artery—temperature normal.

9th. Pulse distinct in radial artery, and behind the elbow—none in the tumor—feels well.

12th. Ligature came off even with the cicatrix, adhesion having taken place.

14th. The tumor has not diminished, but has become quite hard. In order to excite its absorption, a tight bandage was now applied from the fingers to a little above the tumor. The patient walks about the streets.

20th. Small fragments of the ligature came away by ulceration.

25th. Aneurismal tumor very much softened and as large as ever—signs of fluctuation, but no pulsation. It was laid open freely, and found filled with fibrin, so firmly attached, as not to come away, with the small quantity of pus diffused through it—a tent placed in the wound.

27th. Tumor much diminished—suppurates slowly—no pain.

14th July. Tumor has almost entirely disappeared—the opening into it is nearly closed. The use of the arm is perfect. The man sent home.

Information received, since the last date, that the wound
healed in a few days after the patient's return home, and that he has since felt no inconvenience from the operation.

Remarks. In the above case it is evident that the artery was punctured by the lancet after having transfixed the super-imposed vein. Yet the tumor was formed neither at the expense of the artery nor of the vein, but in the surrounding cellular tissue. At the same time, however, that the effused blood was thus contained in the cellular tissue, it communicated freely both with the artery and vein, as was evidenced by the pulsations transmitted by the arterial circulation to the tumor and to the basilic vein. The vein thus receiving an increased quantity of blood became considerably enlarged.

The bellows-sound, the cause of which when occurring at the heart is yet involved in some mystery, was, in this, remarkably audible, and can only be attributed to the forcible propulsion of a column of blood through a narrow aperture leading into a large sac. The aperture existed, moreover, in a tube whose coats present a considerable degree of density and of resistance; and to this fact may, perhaps, be referred, much of the sound as well as the peculiar thrilling sensation transmitted along the vessels. These circumstances, though not novel, are worthy of attention, inasmuch as they may assist in determining the cause of similar sounds and vibrations, when occurring in situations more remote and of more difficult observation.

A singular circumstance will be observed in the progress of this case; I mean the fact that the pulsations at the wrist which had been arrested by the ligature, returned on the day after the operation, and then ceased again completely for several days. The only explanation we can offer for this is, that on the day after the operation, there existed a considerable degree of febrile action, by which the blood was propelled with more force through the new channels of circulation than subsequently when the excitement subsided, and that the heart's ordinary impulse was again felt only when the anastomosing vessels had acquired an increased caliber. The pulse was then felt not only at the wrist, but also in the enlarged vessels behind the elbow.

Finally, it should be noted, that fragments of the ligature, which was made of cat-gut, were not absorbed after remaining imbedded in the living tissues sixteen days, but at the end of this time were thrown off by ulcerative process.
Case 6. **Removal of a large Adipose Tumor.**

Mrs. W. of good constitution, and about forty-five years of age, had a large tumor, the origin of which she attributed to a fall sustained in early life, situated over the spine between the scapulae. It had been gradually increasing for upwards of 20 years, but never occasioned serious inconvenience until its size and weight became such as to produce, at its attachment, a sense of dragging, and finally considerable pain. The skin over the tumor was healthy, and the diagnosis offered no difficulty. Dr. Dugas, therefore, resolved to remove it, and operated on the 15th October, 1835. The tumor was removed with a portion of skin included between two elliptical incisions, about fifteen inches in length. Two vessels being secured by Amussat's process of twisting, and a number of others by ligatures, the flaps were brought together by three stitches and adhesive strips. Adhesion was completely effected by first intention. The cicatrix was, in a short time, reduced to ten inches in length.

The tumor presented a lobulated appearance, and consisted of apparently healthy fatty matter, contained in hypertrophied cellular tissue. It measured thirty inches in circumference, although its weight was only fifty-four and a half ounces.

**Remarks.** This offers nothing new, but illustrates the facility with which such immense tumors may be removed, and the readiness with which adhesion takes place, under certain conditions of the system.

Case 7. **Foreign body in the Esophagus six weeks—its extraction.**

A boy about five years of age, the son of Mr. J. L. of Augusta, was playing with a large ivory button in his mouth, when he accidentally swallowed it. Presuming it had passed into the stomach, no notice was taken of the event until meal time, when the boy complained that he could swallow nothing but liquids, and that even these occasioned pain in the esophagus, opposite the upper extremity of the sternum. It was now presumed that the button had lodged in this part of the passage, and a physician was called, who introduced without difficulty an elastic tube into the stomach, without detecting any thing indicative of the presence of the foreign body. The presumption was that the painful deglutition was to be attributed to abrasion of the mucous sur-
face, and the boy was ordered to use liquid and unirritating food. This state of things continued several weeks, during which time the tube was again passed without obstacle into the stomach—
emetics, I believe, were administered, &c.

At the end of six weeks Dr. Dugas was called, and on exam-
ination detected the presence of the button at the seat of pain, and withdrew it with a common probang. It was of ordinary
thickness, and measured one inch in diameter. No unpleasant
effect followed its removal, and the soreness soon subsided.

Remarks. This case presents the remarkable fact, of the pre-
sence, during six weeks, of a foreign body in so delicate a tex-
ture as that of the œsophagus, without occasioning any serious
inflammation, and without disturbing the general health. It was
so low down as not to be felt by external pressure, and the but-
ton having no eye, permitted the free passage of the small tube.

**PART II.—REVIEWS AND EXTRACTS.**

**DIVISION OF THE TENDO-ACHILLES AND OTHER TENDONS.**

**ABSTRACT OF A CLINICAL LECTURE BY MR. LISTON.**

(Delivered at the University College Hospital.)

Division of the Sterno-mastoid, for Torticollis; of the Tendo Achillis for Club foot; of Flexor Tendons for Contracted Knee Joint; of the Tendons of the Toes, for Inflamed Corns, &c.

In the commencement of his lecture, Mr. Liston said, the division of ten-
dons for the cure of deformity, was by no means a new proceeding; it was
frequently resorted to by many of the older surgeons, among whom were
John Mekran, and Mr. Sharpe, a surgeon of Guy's Hospital, nearly a centu-
ry since, which latter was in the habit of dividing the origin or attachments
of the sterno-mastoid muscle, for the cure of torticollis. This operation
had been repeated of late years by Sir B. Brodie, by the late Baron Dupuytren,
and he, Mr. Liston, had seen cases in which its performance was attended by
good results. It was a proceeding, however, which was not frequently call-
ed for, inasmuch as the twisted state of the neck was generally produced by
disease of the vertebrae, or from a painful swelling or ulcer on the side of the
neck, producing such an alteration in the structure of the part, as to render
operative proceedings useless. Delpech might justly be considered as the
founder of the operation of dividing the tendo-Achillis for the cure of club-
foot. He had related in his "Chirurgie Clinique" several cases of varus, as
they were called, and described the plans of his apparatus for carrying out his
mode of curing them. One or more cases were related in which the tendon
was divided. His plan was to make a longitudinal incision on each side of
Division of Tendons.

the tendon, through which he slipped his knife, and divided the tendon from before backwards. Within the last year or two a great number of cases in which the tendo-Achillis had been divided, had occurred, and were related by the operators, Stromeyer, Dieffenbach, Guerin, and Dr. Little, who himself was the subject of varus, and had published a thesis on the deformity. This gentleman had also lately published a number of cases in which the tendo-Achillis was divided for the cure of deformity, to which he had given odd and long-sounding names, such as talipes equinus verus, &c. &c. The deformity of the foot presented itself in a variety of forms. When the under part of the foot was turned inwards, the deformity was termed varus. In other cases the foot was turned outwards. The first, however, was the most common deformity, and in this case the toes were turned inwards, the patient rested on the cuboid bone, and the root of the metatarsal bone of the little toe. The bones of the foot in this kind of deformity were little altered in form or appearance. They had attained their ordinary size, and were little distorted regarding their position one with another. After a time, however, if the deformity was not remedied, the bones on the inner side of the foot diminished in size by interstitial absorption; the internal cuneiform, the os calcis, and the soft parts covering them became altered. The patient rested on this part, the integuments of which became thickened, and a bursa formed in this situation. The limb on the affected side, to the knee-joint at least, lost its size and strength, the muscles becoming soft and flabby, and losing their red appearance. In many cases which were met with, the heel was much elevated, owing to the natural shortness of the gastrocnemius and soleus, and their combined tendon; other tendons were also necessarily shortened, while, on the other hand, some tendons, as those of the peronei, were of course elongated. Sometimes, in the deformity called "horse-foot," the patient rested on the distal extremities of the metatarsal bones; this deformity was congenital, sometimes affecting both, sometimes one of the feet. A variety of apparatus had been invented for the purpose of curing these deformities, almost every instrument-maker having a plan of his own. The celebrated Scarpa had recommended one kind of instrument, Delpech another, and Mr. Colles, of Dublin, another. Sometimes the use of an iron, which passed up on each side of the leg, if continued for years, might affect a cure, but there was always much opposition from the contracted state of the tendons, particularly of the tendo-Achillis, the division of which much accelerated the cure, leaving the instrument-maker much less to do, or at all events diminishing his difficulties. When the tendo-Achillis was divided by accident, it united after a time in a favorable manner, a substance being deposited between the ends of the divided tendon; this substance became dense and fibrous, and could not be distinguished from the tendon itself. Horses were subject to an acquired deformity, in which they walked on the point of the hoof of one of their feet. Most of the pupils had seen horses going about with this deformity. Veterinarians had long been in the habit of cutting across the flexor tendons for the relief of this state; they were not at all particular as to the mode in which they performed the operation; they just drew the knife across the leg, and brought the foot into its proper position; the tendons soon united, even though, in some cases, there was a space of three or four inches between the ends of the divided portions, new matter, resembling the original tissue, soon filled up this space, and the cure was completed. It was from reasoning on these facts that Delpech was induced, in 1816, to resort to the proceeding of dividing the tendo-Achillis, but he cut through the integuments awkwardly. (Mr. Liston here exhibited several casts, also specimens of the deformity, at various ages, dissected, and a horse's-tendon, which had been cut and united.) There, said he, was a specimen of varus; and there two cases in which the foot was permanently extended, the patient, in one case, having walked on his toes with one foot; in the other, both feet were affected from birth. In all these cases the foot was brought into the
natural position by division of the tendon-Achilles, which proceeding materially assisted the apparatus maker. He alluded shortly to a case of acquired extension of both feet which had occurred some years ago during a severe attack of rheumatic gout, or rather of gonorrhœal rheumatism. The heels could not be brought within several inches of the ground; the patient had been to watering places, and had been most judiciously and anxiously treated, but without relief. The tendons, in a most rigid state, were divided with great benefit. The operation was easily performed; there was no necessity of dividing the integuments; a small punctured wound with a very narrow history, or what was better, with a needle somewhat resembling a cataract needle, being sufficient. He had divided many with that needle (showing it) with scarcely a perceptible external wound; the tendon was first to be felt for, and being found, the instrument was to be passed close to it, between it and the bone; there were no blood vessels or nerves likely to be wounded; the point of the instrument was then to be turned towards the tendon, which was to be tickled through and divided gradually; the division was indicated by an audible snap. There was a slight effusion of blood internally about the ends of the divided tendon, but there was no mark or external injury, no swelling, inflammation, or its consequences. The extremities of the tendon soon poured out plastic matter, and this uniting medium, at the expiration of about ten days, might be extended by means of the apparatus employed for this purpose, and in six weeks the foot would be brought into its natural position. In this case (showing a cast) the patient's foot was not only extended but turned inwards. A cure was effected by a rod which passed up the inner side of the foot. In this case (showing another cast) the patient had distortion of the spine accompanying the deformity of the foot. In two months after the division of the tendon he was able to walk about, the foot being of the natural shape, and altogether of a better form; there was only a little bulging to be perceived in the situation of the divided tendon. There (showing the bones of a foot) was a case in which all the bones were altered in form; the os calcis was smaller than usual. The patient walked all his life on the out-side of the foot; a large bursa had formed underneath the thickened cuticle.

The division of tendons answered the purpose of curing deformities in other situations. A case had been in the hospital in which the knee-joint was contracted. The tendons of the semi-membranosus and semi-tendinosus were divided. The contraction in this case, resulted from an attack of rheumatism some time since. After the tendons were divided, a screw-joint apparatus was applied similar to that used in fractures of the bones of the leg, by which means the leg could be gradually extended from day to day, by turning the screw. The knee-joint of this patient originally formed a right angle, but she was now enabled to put her toes to the ground, though she was still obliged to use crutches. He, Mr. Liston, would get the knee extended an inch or two more, if possible, not quite straight, however, as the patient would not walk so well as though it were slightly bent. He hoped, by dividing the tendon of the biceps to produce this extension.

He, Mr. Liston, had also latterly divided the tendons of the toes—an operation, he believed, entirely new—for a common deformity. We often find the toes bent permanently; the middle toe, generally, sometimes the little toe, which stood up above the others. This deformity was either congenital, or arose from the use of tight shoes. The integument on the convexity of the joint became thickened, and a corn formed. The pain in these cases was sometimes so severe that the patient begged that amputation might be performed. A corn, as the students were aware, not only consisted in a thickened state of cuticle, but there was often a small adventitious bursa underneath it; this bursa sometimes inflames and suppurates; here was a specimen in which this was seen, (showing a preparation) and in this case the toe was amputated. In this specimen the papillae of the cutis were also much
enlarged; this occurred from the greater demand for the secretion of cuticle, as was also observed in the paw of the dog. Some chiroprists, as his friend, Mr. Durlacher, were very dextrous in cutting out a corn, and with scarcely any pain, by which means a cure was effected, but in cases in which the toe was, from its awkward position, constantly subjected to pressure, the suffering was much increased, and interference with the corn was of little use. It was in such cases that patients applied for the performance of amputation. He, Mr. Liston, had some time ago, been requested by a gentleman to amputate both his little toes, which had become affected in the way described. In this case he did not wish to remove the toes, but the suffering was so great that the patient insisted on its being carried into effect. At length it was agreed that one toe should be removed, on condition that the other toe should be treated as he, Mr. Liston, wished, by the division of the extensor tendon. This proceeding was accordingly adopted. The toe, the tendon of which was divided, was brought into its proper position, and the foot soon became healthy and well. The patient was laid up with the foot from which the toe had been removed, for five or six weeks, an abscess having formed on the dorsum; and he did not go sound for a long time after with this foot, while with the other he need not have been confined a single day. He (Mr. L.) had operated on cases of a similar nature successfully, and had others under his care, in which he meant to pursue the practice. It did not deserve the name of an operation, being unattended with pain, or the loss of more than one drop of blood.

Lecture on Clinical Medicine, "Dropsy as a consequence of the disease of the heart," delivered at the Philadelphia Medical Institute, by W. W. Gerard, M. D. Physician to the Philadelphia Hospital, &c.

In concluding the subject of the diseases of the heart, I have only to speak of their complications and of their terminations. You have witnessed most of these complications, and have had numerous opportunities of observing those which occur most frequently, namely, dropsical effusions. In watching the course of a heart disease, we expect that the patient will, sooner or later, become dropsical. We know that the various forms of dropsy may be called the natural termination of disease of the heart, and that when the effusion of serum is not sufficiently abundant, and does not occur in such a situation as to cause death, it is still a cause of serious inconvenience to the patient. Hence you are, as it were, obliged to be upon the alert, and must endeavor to detect this complication at its earliest appearance, and to recognize the signs by which it is preceded. That is, you must not only render yourselves familiar with the more evident phenomena of dropsy, but with those more obscure symptoms which precede the effusion of serum. Almost every important lesion is preceded by more or less constitutional disturbance before it actually manifests itself; this is the case with dropsy occurring in disease of the heart.

Besides dropsy, which may be termed the natural termination of heart diseases, these affections sometimes end prematurely, from some unforeseen accident; such, for example, as the occurrence of pneumonia, which is much more dangerous in persons laboring under a disease of the heart, than in those who were previously in good health, or what is still more sudden, death may instantly ensue from an arrest of the heart's action. This latter kind of termination is by no means rare in this class of patients; it sometimes occurs without the slightest premonitory sign; the patient may be nearly in his usual degree of health, when, from some accidental cause, the heart for a moment ceases to beat, and death immediately follows.

These accidental terminations, you have also seen: you may recollect the case of endocarditis complicated with pneumonia, which proved fatal, and
you may remember how suddenly one or two patients were carried off, without having previously offered more than the usual symptoms of slight disease of the valves. My present object is not, however, to insist upon a class of sudden deaths which can rarely be foreseen, and which can almost never be prevented; nor do I propose just now to speak of the complication of heart diseases with acute inflammation of the lungs; but I will merely recapitulate the symptoms which you have recently observed in some patients who have suffered from the common, and, as it were, the regular complication of valvular disease of the heart, that is, from dropsy. I shall select for this purpose three cases, and although I have the complete observations before me, it may be more useful just now to confine ourselves to giving a condensed statement of two of them, instead of entering into details which are of great utility, but may somewhat impede our examination of the subject under the single point of view in which we are now examining it. The third case I shall give more in detail, as it occurred more recently, and is very interesting from some therapeutical difficulties which it offered.

William Elfrey, aged seventy-eight, born at Philadelphia, entered the hospital October 9, 1838. He had been a cooper for the last six years in the house, and in the habit of moderate drinking. Before admission, he was sensible of short breath only for three weeks; never had dyspnea on ascending, until about that time. Cough began at the same time, with expectoration of whitish mucus. Great oppression at the epigastrum; was not conscious of palpitation, except on ascending; was unable to work for last six months, on account of the failure of his eyesight; edema of the legs since last week; swelling of the abdomen moderate; unable to lay at night for two weeks, and obliged to sit up, inclining forwards; cough worse at night; in spells, one every hour or two; no pain, only a sensation of suffocation; has had no pides; no epistaxis or hemorrhage from the lungs; never ill but with ague, seven years since, when he had had it for five years; never had rheumatism—occasionally a little pain in the feet. His condition at the time of his entrance was the following:

Dark complexion; large frame, but rather emaciated; hair and teeth still preserved; yellow, jaundiced complexion; edema of lower extremities; position, seated; nostrils dilated; very little lividity of face; respiration forty five, very high; pulse one hundred and eight, tolerably resisting, very irregular; the artery ossified; coldness of extremities; cough in paroxysms—has had three this morning; thin, watery, mucous expectoration; conscious of no palpitation; complained of uneasiness in epigastrum and hypochondrium, where there were evident prominence and flatness as far as the umbilicus; sounds of the heart confused—the second almost lost; impulse very moderate; first sound loud and rough; flatness below fourth rib in the praecordia complete, passing from thence to the nipple; where it became continuous with the flatness of the side; on the right side, flatness complete below third rib; respiration on left side natural and expansive above fourth rib; respiration absent below upper third; posteriorly, respiration vesicular throughout; flatness of the side; feeble towards the base, where percussion was dull; on right side posteriorly, very feeble in lower two-thirds; percussion very obscure. A pediluvium was ordered, with the infusion of the melissa officinalis; and three grains of Dover's powders, and a quarter of a grain of digitalis, every three hours.

October 10th. Last evening was cupped eight ounces to the praecordia; fits of dyspnea ceased; poultice applied immediately after cupping; skin was warmer after balm tea; mover lies with head a little elevated, much less than yesterday; less oppression; respiration twenty three, less elevated, by an alternate movement of the ribs and diaphragm; pulse ninety two, fuller, less irregular; skin cool at extremities, but less so than before; face a little livid, with permanent dilatation of the nostrils; tongue a little blue, moist, clean; still dizziness; intellect less dull; urine evidently increased—two or three
discharges this morning; respiration, left side, anteriorly, louder and fuller; on the right side, much louder—feebleness of first exciting scarcely above the nipple; dulness on percussion to the same extent; impulse of heart very moderate; both sounds heard, something like the double tick of a watch; creaking of parchments doubtful yesterday, clear to-day; percussion flat to fourth rib; posteriorly, respiration, right side, inferior, rude; percussion much clearer, a little dull at base. Bulin tea, Dover's powders, and digitalis, continued; poultice.

October 12th. Pulse one hundred, less irregular; five paroxysms from 12 o'clock yesterday, until the evening; skin more natural; no sweating; can lie with his head at an angle of forty degrees; oedema of the legs much less; no swelling of the abdomen; cough less severe; no soreness at epigastrium, less tension; lips less injected; bronzed colour of the skin less marked; tongue moist, still somewhat purplish; respiration on right side anteriorly vesicular and feeble, at lower fourth, almost absent—throughout, a little harsh; left side louder than on right, vesicular—absent over precordial region; creaking now very loud at the level of the valves, evidently not valvular sounds; can be felt as well as heard; extends to the sternum, a space one and a half inches square; sounds of the heart louder; second almost lost, accompanied by bruit de cire; rhythm altered; impulse stronger than average; to the right of the sternum both sounds heard a little altered; percussion dull over the fourth rib, to an inch beyond the nipple, where it is lost in the axilla, perfect near the sternum, extending to the right margin; respiration posteriorly left side, at the inferior one third absent; upper two thirds vesicular, nearly natural; right side, absence of respiration almost complete in lower one half, slightly bronchial; oegophony on both sides corresponding to the level of the liquid; higher on right than left; continue treatment.

13th. Slept much better than before; had two or three paroxysms last night, none this morning. Lies with his head much lower; pulse eighty four, very irregular; thinks a paroxysm is coming on; asks for powder, thinks they shorten the paroxysm; dyspnoea much less. Some rasping in the first sound of the heart; absence of second almost complete at the semilunar valves; creaking occasionally heard, most loud over the middle of the heart, both in the systole and diastole. During auscultation, a paroxysm coming on; action of heart becomes quicker, spasmodic; the bruit de cire more constant, louder; impulse increased; same sound heard in both sounds, but less loud in second; powders continued every four hours.

15th. Sleep has been very good since last date; can lie on either side, with his head very low; oppression almost gone; pulse sixty eight, less irregular; no cephalalgia; no pain anywhere; cough very slight; tongue moist, scarcely coated; urine abundant, about three quarters daily; no sweating; abdomen flaccid; tension at hypochondrium almost gone; no swelling of the feet; tongue moist, but still of a purple tint; as well as the lips; top of skin generally less bronzed; two stools; respiration easy, fourteen; respiration on left side anteriorly vesicular, almost natural, except at the base of the axilla, heard distinctly over the heart; impulse of the heart much stronger; strong rasping sound in the first; second almost lost; a little creaking heard at times. Percussion sonorous below fourth rib; flatness from hence continues with the region of the pleura, not connected with the pericardium; posteriorly, respiration vesicular throughout; powders continued morning and night; infusion of juniper berries; full diet.

17th. Decubitus low, nearly horizontal; pulse sixty, irregular; respiration twenty; tongue less livid; lips less so; urine continues copious—between three and four quarts—no swelling; cephalalgia better; two stools daily; powder once daily; continue infusions.

22nd. Convalescence has continued; the patient is walking about; full diet given after the first four days; walks up stairs without difficulty; very little shortness of breath; no cough; no pain.
Auscultation of the heart strongly rasping; severe in the first sound over
verage of the semilunar valves; a little grating heard towards the apex; and
different from the action of the valves; on right side of sternum, where the
second sound is most developed, the rasping continues; impulse at the top
of the sternum strong; which is synchronous with that heard at valves; and
second transmitted along aorta; impulse evidently distinct; respiration dull
at upper third of sternum; flat at lower two thirds extending to nipple, but
not to axilla; not to right of sternum.

Discharged, cured of the acute affection. There remains chronic disease
of the valves of the aorta with hypertrophy and dilatation, with patches of
lymph in the pericardium.

This patient was employed, as you perceive, in the out-wards of the insti-
tution, and suffered so little inconvenience from his disease of the heart, as to
be quite unconscious of its existence; there were neither dyspnoea nor pulpa-
tions sufficiently severe to prevent him from following his ordinary occupa-
tion. He is, however, afterwards, attacked with a new complication: that
is, acute inflammation of the pericardium, and in a slight degree of the en-
docardium. This complication at once increases the dyspnoea offers an ad-
ditional impediment to the circulation of the blood through the lungs and
heart, and is quickly followed by dropsical effusions.

When the patient entered the hospital, there was oedema of the limbs, and
effusion into both the pleurae and the pericardium, that is, hydrothorax; we
were able to trace the quantity of liquid then contained in the cavities, and
we could also estimate the rapidity of its absorption, by the gradual subsi-
dence of the line of dulness. By physical examination we could go still fur-
ther in our diagnosis, and ascertain that the heart was at first separated to
some distance from the walls of the thorax, by the liquid effused into the pe-
ricardium, and that in proportion as the effusion diminished, we heard a gra-
ting sound at the precordial region. This creaking sound was a proof that
the effusion into the pericardium was not simply dropsical, but that it de-
pended in part, at least, upon an inflammatory action in this cavity.

You have observed how intense the dyspnoea appeared at the entrance of
the patient; he was obliged to sit up and lean forward, breathing with ex-
treme effort, and obviously laboring under an almost complete stagnation of
the circulation. The heart performed its functions with great difficulty, its
cavities were surcharged, and the lungs were, therefore, over loaded. The
same impediment to the circulation, gave rise to coldness, lividity, and oed-
ema of the extremities. The patient was obviously in danger; the circula-
tion required to be relieved, and at the same time, in the effort to diminish
the quantity of blood in the heart, we are bound to avoid increasing the fees-
lessness of the patient, for in these cases a very slight abstraction of blood
may do harm. I therefore directed sinapisms to be placed upon the extrem-
ities, with a warm infusion of the common balm, as a drink. Dover's pow-
ders, combined with digitalis, were to be given internally, but these reme-
dies could not, of course, produce any immediate effect. I directed cups to
be applied, if the circulation should again become more vigorous; the sin-
apisms and warm drinks were followed by some relief; but the patient was
not cupped until complete reaction had occurred; he was immediately re-
lieved by the cupping, and continued to improve, until the effusion had com-
pletely disappeared.

When you meet with cases of this kind, you may generally relieve them,
provided they have occurred suddenly; if, however, thedropsy has come on
more slowly, and is connected with an enfeebled state of the system, and a
dimination of the quantity of red globules in the blood, you will meet with
much more difficulty. When the patient has not completely lost the vigour
of his constitution, he may readily react from the temporary depression
caused by the impediment to the circulation, but it is always expedient first
to resort to measures designed to excite the circulation in the exterior of the
lody, such as fomentations, sinapisms, stimulating pediluvia, and warm drinks. You may, afterwards, as soon as the circulation has become more equalized, unload the heart and large vessels, by taking blood from the arm, by free cupping over the precordial region, or between the shoulders. When you have succeeded in your treatment, and have diminished the dyspnea, you may place the patient upon the use of digitalis. As you may have remarked, I frequently combine this remedy with Dover's powders, and in this way tranquillize the action of the heart more effectually than could be done by the digitalis alone.

One of the other cases to which I have alluded, is now in the wards. It is Wise, a patient who labors under the unfortunate complication of puthisis, and dilatation and hypertrophy of the heart, with its antecedent disease, general dropsy. The tuberculous disease is chiefly confined to the right lung, which is adherent throughout a considerable part of its extent. Now, the effused serum cannot accumulate in the right pleura, in consequence of these adhesions, and it is therefore collected in such quantities on the left side as to give rise to the most distressing dyspnea. It is also secreted in considerable quantities in the pericardium. Of course, the disease of the right lung diminishes the quantity of pulmonary tissue still permeable to the air; the patient, therefore, suffers doubly from the hydrothorax.

The dropsy extends to the extremities, as well as the parts of generation, and annoys the patient very much from the pain which he suffers in the scrotum and penis. The anasarca commenced suddenly after making a violent effort in lifting a heavy beam. From the symptoms offered by the patient after his admission, there was reason to believe that in this case, as well as in that just related, the dropsy coincided with an acute inflammation of the heart, occurring during the course of chronic hypertrophy. The patient is still in great danger, and the treatment is necessarily difficult from the numerous complications of the disease, which require to proceed with extreme caution. I am now carefully puncturing the thighs and scrotum, applying bandages to the legs, and giving the patient a pill three times daily, composed of three fourths of a grain of digitalis, a sixteenth of a grain of calomel, and a third of a grain of opium. He takes also an infusion of juniper berries, as a ptisan.

The third patient is a mulatto, named Henry, who was twice under treatment. On the first occasion, anasarca came on simultaneously with pericarditis. He was entirely cured of the dropsy, and the disease of the heart was reduced to simple hypertrophy and dilatation. The man left the hospital, commenced a laborious employment of the most unsuitable kind drawing a hand-cart, and was exposed to a shower of rain. The next day after this wetting, he was attacked with dyspnea and palpitation, and in a day or two afterwards was obliged to enter the ward for a second time: the patient was again treated for anasarca with little success; ascites afterwards supervened, he was tapped, suffered little inconvenience from the operation, and, after a partial improvement, was carried off suddenly, without any previous increase in the alarming symptoms. Upon examination, the heart was found to be enlarged, it was thickened, and its cavities were dilated to nearly twice their natural size; the valves were nearly in the natural state. Organized patches of lymph and partial adhesions, were found in the pericardium. I mention this case, that you may again remark, how frequently acute inflammation of the membranes of the heart complicates a chronic disease, and proves the exciting cause of dropsical effusions. Med. Examiner.
PART III.—MONTHLY PERISCOPE.

Stone in the Bladder. It is not a little to be regretted, that chemistry and other means have not been more extensively and successfully applied, to the investigation of the causes and prevention of urinary calculi. When we contemplate the extreme and protracted distress of most cases of this disease, the ill success of merely medicinal powers, the severe and hazardous treatment of surgery, and the very frequent occurrence of this disease in many sections of the country, we perceive at once, that there is scarcely a topic presented for the investigation of medical men, of deeper interest to humanity, than the prevention of this malady.

Whilst we accord to surgery the full measure of its just claims —its indispensable value to humanity—that it is not only able to lessen and shorten affliction, but is life-saving—still, looking to the interests of humanity, we most earnestly deprecate the necessity for its use. It is, at least, a kind of dulcamara, for whilst it relieves pain and prolongs life, it is through the medium of the most severe infestations. And we heartily rejoice that, though ever prepared (as all practitioners should be,) to encounter this dreadful disease with the gorget in hand, we have been allowed to grow grey, and our lithotomy apparatus to lie in case, un molested—having never earned the cutler's bill. We greatly prefer our lot, in this case, to the glory of having performed a thousand operations for the stone without one unfavorable result. We only regret that we cannot say the same relative to the rest of surgery, and from the same cause; that is to say, the absolute want of demand for it, within our cable-tow. We know of no cases of distress, from urinary calculi, having occurred in this section of country, so serious as ever to call for surgical aid; at least, for extraction from the bladder—and of but one instance, in the whole population of our city and surrounding country, of a person for whom that operation has been demanded; and that case occurred many years ago. The only cases, and these are few, are those in which gravel, or small calculi pass, more or less easily, with the urinary discharges; and a few instances wherein, from the smallness of the urethra, these have lodged in the passage, so as to require a simple incision into the urethra for their removal.

Whilst such is our happy exemption from this disease, Dr. Dudley, of Kentucky, performed, on the 13th of October last, his 157th operation of lithotomy, on a boy of ten years of age, and which was the thirteenth case from the same county. And we should remark too, that it is not in every case presented to Dr.
Dudley, that he operates; but, simply those in which he may calculate with much certainty on a favorable result.

Would not an extensive and minute investigation into the character of the waters, diets, habits of life, &c. of those sections of country where this disease is most common, and these results compared with those of similar investigations where the disease does not occur, be calculated to contribute to prophylactic ends? Perhaps a more minute and critical examination of the history of the whole course of life, in those who are subject to calculus, might develop views of deep interest relative to the causes of this ultima thule of medicine.

We, nevertheless, rejoice, that we have in the science of surgery, a corps de reserve, for the good services of humanity in extremis; and that, in looking around, we have great reason to be happy in its achievements; particularly in the United States of America, where, more than elsewhere, it is, in general, practised with judicious and prudent boldness; and with a success, in this particular disease, unequalled in any land.

We hope to present to the public, in a future number of this Journal, some interesting results, in the practice of lithotomy, by Dr. Richard Banks, of Gainesville, Ga. Meanwhile, we give the following extracts from the late foreign journals as interesting, and calculated to inspire prudent confidence. The first is interesting on account of the early age of the subject, and all, on account of the magnitude of the calculi.

Lithotritv in a Child. M. Segalas lately presented to the Royal Academy of Medicine, a boy nearly five years of age, whom he had operated on with success, for vesical calculus. This child was weakly and affected with rickets, and did not appear to be more than two and a half, or three years of age. He was the oldest child amongst ten, upon whom M. Segalas had, as yet, operated. The calculus, in this case, was a large one, being an inch and a quarter in diameter. Twelve sittings were required to break it up, and on three different occasions fragments of the stone became arrested in the bladder. Notwithstanding these unfavorable circumstances, the boy was completely cured, and in the interval of the sittings was able to run about and play with his companions. On the whole, M. Segalas declares, as the result of his experience, that whenever the instrument can penetrate the foreign body, the operation of lithotomy, like that of lithotomy, presents the more chance of success in proportion to the youth of the patient.—Gaz. Méd. de Paris. Bost. Jour.

Lithotomy. Dr. Knight, Professor of Surgery in the Medical School at New Haven, recently performed the operation of lithotomy in Middletown, Conn. The calculus was five inches in diameter, and weighed six hundred and ninety-one grains. The patient is represented to be doing well.—Bost. Med. Jour.

Operation of the Stone. In the Medical Gazette for August, Surgeon Hugh Fraser, of the King’s Royal Rifle Corps, at Corfu, gives the details of the Successful Extraction of an Immense Calculus, by the Bilateral Opera- tion. The bladder was exposed by a transverse semi-circular incision, at the distance of eight or nine lines in front of the anus, and of a sweep of about
Inflammation and the Restorative Process.

Dr. Macartney, Lecturer on Surgery in the University of Dublin, gives, in a late treatise on inflammation, the following theory and practice. “His views with regard to the connexion between inflammation and the restorative process, are original. According to his theory, this process, (the restorative,) does not depend upon inflammation, but is rather incompatible with it. Reunion and reorganization, he supposes to be effected in four different ways.” (Ed-Med. Examiner.)

“First, by immediate union, without any intervening substance, such as blood or lymph.

“Second, the union by the medium of coagulable lymph, or a clot of blood.

“Third, re-organization, without any medium of lymph or granulations; the cavity of the wound becoming obliterated by a natural process of growth.

“Fourth, the repARATION by means of a new, vascular, and organized substance, called granulations.

“To the first of these modes of cure, I should wish to give the name of immediate. The second may be called the mediate by lymph or blood. The third, being compounded of different actions, I find a difficulty in distinguish.
Inflammation and the Restorative Process. [Feb.

ing it by a single name. It might be denominated the **approximating** or the **modelling** process of reparation, or that by a **natural growth**. The fourth mode of union should be termed **mediate by granulation**.

"The three first mentioned modes of restoration, are quite incompatible with the presence of inflammation; a slight degree of which may, however exist with the fourth. Not that I admit the growth of granulations to be an inflammatory process in itself. It ought rather to be viewed as the mode of reparation, adopted under the unfavorable circumstances of irritation, or a degree of inflammation being still continued, and proves that parts previously in a healthy state, are disposed to heal in despite of many impediments thrown in their way.

"The circumstances under which immediate union is effected, are the cases of incised wounds, that admit of being, with safety and propriety, closely and immediately bound up. The blood, if any be shed on the surfaces of the wound, is thus pressed out, and the divided blood-vessels and nerves are brought into perfect contact, and union may take place in a few hours; and as no intermediate substance exists in a wound so healed, no mark or cicatrix is left behind." (p. 153-4.)

"The union of parts with the medium of lymph or blood takes place in wounds, which either cannot, from the extent or shape of their surfaces, be brought into perfectly close contact, or where the parts will not sustain much pressure, without the danger of inducing inflammation. The lymph which issues from the adjacent surfaces, in the first instance, glues them together, and in a few days is found to have acquired some vascularity, and an imperfect degree of organization; after which, an external restraint for keeping the divided surfaces in contact becomes unnecessary." (p. 155.)

"When healthy parts are injured, although it may be to the greatest extent, if placed under the most favorable circumstances for carrying on their natural actions, the process of reparation is nearly the same, even in the human subject, as that which I have described as belonging to the animals of a simple structure. The pain arising from the injury soon ceases. No tumefaction ensues separating the edges of the wound, and its surfaces are not only disposed to lie in contact, but even to approach each other so much that they cannot be kept asunder by mechanical restraint; there is, therefore, no necessity for the effusion of lymph; and as there is no cavity to be filled up, granulations are not formed. The surfaces of the wound, although they come into contact, do not unite by vessels shooting across; they are smooth, red, and moistened with a fluid, which is probably serum, and present the appearance of one of the natural mucous surfaces of the body. If the parts have been killed by the injury, they are separated by simply as much interstitial absorption as is sufficient to set them free. The wound is finally healed by the same means which determine the shape of the natural parts of the body. It gradually diminishes in extent until it is obliterated, or it may be cicatrizéd before the surfaces are abolished; after which the same process of natural growth goes on, until no part of the original wound is left. The cicatrix which succeeds the cure of the injury by the modelling process, is small, pliant, free from those callous adhesions to the parts underneath, and the morbid sensations that so often belong to those cicatrices which have for their bases the deposits of lymph or the formed structures called granulations. When the modelling process or cure by natural growth goes on perfectly, there is no inflammation in the part, and the patients are so entirely free from all uneasy sensations, that I have known instances of their being ignorant of the real site and extent of the injury, until they had examined the part with their hand, or saw it in a looking-glass." (p. 53-4.)—Medical Examiner, from Macartney on Inflammation.

We are compelled, of late, by their intrinsic worth, to look to the more prominent Dublin Physicians, with great interest, for
every thing of practical value in their several departments; whilst we recognize in their practical value, the best assurance of sound theory.

But, apart from this direction of our confidence, we are prepared to go further than the editors of the Examiner, and say, that the doctrine held forth is not only "original," but that it is strictly true, and may well be set down as the perfection of medical philosophy relative to the restorative process in effecting reunion, reorganization, and final separation.

**Tartar Emetic in Inflammation.** On a former occasion, we gave a valuable extract from one of the Dublin Physicians, enjoining the steady application of cold, and the injurious consequences of disregarding this precept. The following extract from Dr. Macartney, on inflammation, through the *Medical Examiner*, is to the same therapeutic point, and is of like importance, so far as relates to securing the good effects of Tartar Emetic; but, on the other hand, we think there is not the same danger of actual injury from re-action, which is a natural tendency under alternations of heat and cold. Much injury has, of late years, been done by the unsteady application of this valuable sedative power (cold).

The same doctrine as is here held forth, relative to the importance of moderate but frequent doses, for maintaining a continuous and steady effect, is applicable to almost all medicines, as means of influencing the actions, secretions, or sensations of the system, such as expectorants, diuretics, diaphoretics, sedatives, anodynes, cholagogues, &c., &c.; especially in all cases wherein more than a single impulse is needed. This practice is sound in theory, and wholesome in effect; and is directly at variance with what are called prompt emetics, the 20 to 100 grains, or what are called heroic doses of calomel, (a medicine which should rarely be given merely as a cathartic,) hydro-cyanic acid, the use of poultries, &c. &c. But we hasten to give Dr. M's. suggestions on this important subject.

"Tartar Emetic he uses in smaller than the usual doses: the good effects of nausea depend on the feeling being steadily kept up for some time, and this can best be accomplished by very divided and frequently repeated doses of the medicine." Externally, the remedial operation of a moderate degree of cold, is, he thinks, in most cases to be preferred. The application of intense cold is reserved for very severe injuries, compound luxations, for example, where the inflammation cannot be restrained by other means. The operation of cold and moisture must be uninterrupted to be of use. Irrigation, by means of the syphon, effects this purpose. The alternations of heat and cold to an inflamed part, which result from the imperfect renewal of cloths, dipped in refrigerant lotions, are necessarily hurtful; and the plan of irrigation, which we owe to the French, is a valuable improvement in surgery."—*Med. Examiner.*
Lead Lotion in Tinea Capitis. Dr. Macartney illustrates the importance of the steady employment of external applications, by his success with lead water in Tinea Capitis.

"The lead lotion never fails to cure tinea capitis, however long and obstinately the complaint may have resisted other remedies, provided the application of the lotion be properly conducted. The hair should be first shaved off; water dressing, or a poultice of any kind, is then to be applied, merely for the purpose of cleansing the skin of the crust, and all other impurities. There will then be seen, under each crust, a red spot of the skin, denuded of its cuticle, and the villous surface exposed. The lotion should now be applied by means of flint, thoroughly wetted with the fluid, and covered with a plate of India rubber, or a piece of oiled silk to prevent evaporation. Every time this dressing is changed, which should be very frequently at first, the head should be washed with some of the lotion, and the lint should be replaced by some that is clean, which is to be completely wetted with the lotion, and covered as before. The efficacy of this mode of treatment depends entirely on the head being continually subjected to the operation of an astringent fluid; for, if the application be suspended for one night, or even for a few hours, the peculiar viscid secretion which forms the crusts will reappear, and the whole treatment will have to commence again." (p. 182-3.)

—Macartney on Inflammation.

We do not feel at liberty to allow this strong recommendation for the cure of Tinea Capitis, to go to the public from us, without a wholesome caution against such a plan of cure. Close observers have too often been brought to witness the ill effects of repelled eruptions, by the use of astringents, and other repellants, in the production of other more serious and more fatal diseases, for prudent practitioners to venture upon such a plan alone. Many have been the cases in which the most serious consequences have followed the repelling of the slightest cutaneous eruptions—even of ring-worms. The same may be said of the suppression of inordinate perspiration of the feet; and, doubtless, it is because of the peculiarity of the perspiration of these parts ordinarily, that the influence of cold taken by the feet is generally so much more serious than the same exposure of other parts. We feel it a duty to state, in this place, that we earnestly believe that we were instrumental in laying the foundation of a fatal pulmonary affection, by one solitary prescription of the yellow wash, (merc. mur. fort. and aqua calcis,) for a salt rheum on the instep, not larger than the palm of a hand, but which had been occasionally very troublesome for years. The case was this—On passing the store door of a merchant in Broad street, with whom we were not before acquainted, he called our attention to an eruption on his instep, which was then considerably irritated, and discharged a sanious fluid, and was attended with itching and burning; all of which rendered it inconvenient for him to wear a stocking. On his request of advice for destroying the eruption, we gave him a formula for the yellow lotion. A few days after, we met him, fully dressed, and was informed that
the wash had completely cured the Salt Rheum. He continued apparently well for a few months, when a cough gradually acceded, attended with occasional pains in the breast. Not being his physician, we lost sight of him; and only learned from him, subsequently, when on his way southwardly, for a southern winter, that his eruption had never returned, but that the pulmonary affection, which was then at a very advanced stage, had progressively increased, without any particular exposure or other known cause. His case was then beyond all hope, and he died at the southern location which he sought, the following winter.

The almost total banishment of every thing like a rational humoral doctrine from medicine, for the last twenty or thirty years, has tended to conceal from the view of physicians, the important pathology which such facts declare. But facts should make theories, and these facts declare to us—not action merely, which being repelled will occur in another part, but some morbid humor, (let theory say what it may,) which imperiously demands the rigid adoption of such an alterative plan as will exterminate it from the system, before repellants are applied to these eruptions; however simple they may seem. This plan is made up of Regimen, Stillingia Sylvatica, Sarsaparilla, Guaiacum, Mercurial Alteratives, Antimonials, Plummer's Pills, vapor or warm water baths, &c. &c. But this is considered to be too serious a course to be adopted for such trifles. Let practitioners look at the great and serious results arising out of its neglect!

Warm Vapour, or Steam in Inflammations. Dr. Macartney observes, that those remedies which affect in an agreeable manner the sensations of inflamed parts, exert a powerful tendency to subdue the inflammation. Dr. Rush taught the same doctrine, but not to the same unlimited extent. Every practitioner knows the truth of this observation, to a greater or less extent; but, we presume, few are prepared to receive it as universally true. And, furthermore, the different terminations of inflammation should be kept in view, with their relative desirableness. For example, prompt and perfect resolution, is decidedly the most desirable. It follows, therefore, that a remedy affecting in an agreeable manner the sensations of an inflamed part, and tending to terminate it by promoting suppuration, when resolution is practicable, would not be a desirable remedy; but such as would have a prompt "tendency to subdue" it by resolution would be preferred. Now, both cold and heat would, in many cases, "affect in an agreeable manner" the sensations of the inflamed part. It follows, therefore, that in such a case, the unremitted application of cold, as "tending to subdue the inflam-
nation" by resolution, would be correct; whilst a warm, simple poultice, the tendency of which would be to terminate it in suppuration would be incorrect practice. The same doctrine is also applicable to a more advanced stage or degree of inflammation, in which suppuration is a desirable alternative from gangrene, &c. The same logick, may, therefore, be liable, when some modifying influences and circumstances are brought into the reasoning process, compel us to arrive at conclusions which are materially different in a practical point of view. But Dr. M. "has found the application to the skin, of steam at a suitable temperature, the best means we possess, of producing a grateful state of sensation." Therefore, it has "a most powerful tendency to subdue inflammation." Q. E. D: Now we are not disposed to controvert this conclusion in the general; for we know that it often "affects in an agreeable manner, the sensations of an inflamed part." We know further, that resolution does sometimes follow the application of warmth. But our observation goes, further, to inform us that its tendency is more to promote the suppurative stage and termination, than cold and some other discutient remedies, so called; as well as the fact that there are some cases of inflammation, in which heat, any way applied, does not "affect in an agreeable manner the sensations" in the part. Other circumstances, specifically characterising the present case, must, therefore, be taken into the calculation in arriving at a correct prescription. Doubtless, however, these views would be often most happily applied to practice; for we have witnessed this fact in many instances. Therefore, we take pleasure in giving the following description of the apparatus invented by Dr. M. "for the correct employment of steam, from the hottest degree at which it can be borne, down to below the standard temperature of the human body."

"It consists of a small tin boiler, supported on a platform, on which a spirit lamp is placed. The peculiarity of the vessel is, that the superior opening is an expanded funnel, in consequence of which the steam ascends from the boiler with a vertical motion, being attracted to the smooth and infundibular aperture. The effect of the steam escaping in this manner is to diffuse and cool it so much, that if the vessel be uncovered, the hand may be placed within an inch of the surface of the boiling water, without experiencing any unpleasant feeling of heat, although, if the steam be made to spread in a straight line, by diminishing the opening of the funnel, it will scald the hand held two or three feet above the water. The steam is conducted to any part of the body, by means of a tube of woollen cloth, about twelve inches wide and three feet long. Its cylindric form is maintained by circular pieces of whale-bone. One end of the woollen tube is tied round the contracted neck of the boiler, and the other end admits of being adapted to the shape of any part that is intended to be fomented, from holding within its opening a piece of flexible wire.

"By this apparatus, steam at any temperature may be applied for any length of time, with only the momentary interruption of renewing the boiling water, and the spirit in the lamp. The great advantage of making a continued, instead of a temporary application, at a determined temperature,
and without the intervention of the woollen cloths used in common fomentation, which irritate many wounds and ulcers, gives to the mode I have described for administering steam, the character of a new remedy, which it exhibits also in the more extended and more beneficial effects than those of common fomentation."

"The effects of steam, at a high but comfortable temperature, are gently stimulant, and extremely soothing to the feelings of the patient. When used immediately after the receipt of lacerated gunshot and punctured wounds, contusions of bones, fractures near joints, recent luxations, bruises, and strains of joints, and in all wounds accompanied with a peculiar over-bearing pain, and a shock to the nervous system, it removes all pain, and consciousness of injury in a short time. After the pain and sense of injury have passed away, the steam may be continued at a lower temperature. Hot steam is remarkably successful in improving the condition of the indolent ulcer; and for inflammation of a more active character, no local application can compete with steam at a low temperature." (p. 176-7-8-9.)

The water dressing consists of two or three layers of lint, floated in the water before being folded, and covered with French oiled silk or India rubber, which should project beyond the margin of the lint, to prevent evaporation. It is to be changed two or three times a day, and is recommended as having not only better, but very different effects from poultices. It prevents or diminishes the secretion of pus, and under its use, granulations, which are rendered exhuberant by poultice, are either never formed, or exist in a slight degree. Very ancient authority is cited for the employment of water as a remedy for wounds and inflammation, but Dr. Macartney claims the credit of having introduced it to the attention of the profession in modern times. For this and other valuable practical suggestions, he is entitled to our thanks; and, as far as we know, the novelty of his views, as to the possibility of open wounds healing without inflammation, and without the medium of either coagulable lymph or granulation, cannot be disputed.—Medical Examiner.

Treatment of Varix.—E. H., aged 25, a lady’s maid, was admitted into University College Hospital, June 21, under the care of Mr. Liston. About six years ago, during the time she was travelling, her left leg became frozen, and was afterwards suddenly exposed to considerable heat, by the limb being immersed in a mash-tub. In consequence of this treatment the veins of the leg became varicose, and the limb flexed at the knee-joint. This state of flexion continued for some time, when it was overcome by main force, and the limb was moved with freedom. She has had recourse to a variety of treatment under various surgeons without experiencing any relief. On her admission the veins of the leg were much enlarged, and there was a small ulcer on the inner ankle.

July 25, Mr. Liston passed eight needles under the principal varices, and applied twisted sutures. The ulcer soon healed, and the veins ceased to appear enlarged.

30th. Three of the needles were removed to-day; the other five on the 31st. Water-dressing applied.

August 4. The leg bandaged to-day. Went on well till the 16th, when she was discharged cured.—London Lancet. Bost. Jour.

Modification of the Appareil Immobile, for the treatment of Fractures. In No. 21, we gave a description by M. Velpeau, of the appareil immobile, of M. Seutin, for the treatment of fractures. From the London Medical Gazette
for August 11th, we take the following suggestions for the improvement of this apparatus, by Drs. Christofiers and King. The objection to M. Seu-
tin's apparatus is, that it does not expand and contract as the limb may swell or diminish with the development or subsidence of inflammation. Dr. King's first idea was to slit the apparatus, so that it might yield and return upon itself, according to the variation in the volume of the limb. It answered the purpose tolerably well, but was not sufficiently elastic to follow the limb in its changes of volume. At the suggestion of Dr. Christofiers, a further improvement was now adopted, which consists of a simple and ingen-
ious contrivance. "He proposed applying around the apparatus slit open, a certain number of elastic straps, made of India rubber, with buckles which admit of their being drawn to the requisite tightness. They are rather more than an inch wide, and rather longer than is necessary to encompass the limb. Four of these were applied, and converted the apparatus into a case sufficiently elastic to follow the changes in the volume of the limb, and yet of sufficient strength to afford the requisite support. Seutin's apparatus, thus modified, fullis, as nearly as possible, and much better than any other, all the indications required; and it must be evident that it will be even a greater boon to the patient affected with a compound fracture than to one whose fracture is simple.

In case the limb undergoes a considerable diminution of volume, it will only be necessary to remove a longitudinal strip of the apparatus, instead of opening it by a longitudinal incision; and the strip should, of course, be removed, or the slit made along that side of the limb on which the nerves and vessels exist, and which can least bear pressure. We deem it not improba-
ble, that the apparatus, thus modified, will be found useful in the treatment of many diseases, where it is essential to keep the parts motionless, without exercising an unyielding resistance, or a pressure in the least degree une-
qual. Dr. Christofiers proposes to employ it for that troublesome disease—a varicose state of the veins."

Examiner.

Treatment of Varicose Veins.—A writer in the London Medical Gazette, recommends the introduction of needles with a cutting edge, and a small, round silk ligature under the vessels. Commenting on the report of the Pennsylvania hospital operations for the cure of varicose veins, copied into the British Journals from the Examiner, he remarks that "the passing of a needle through, as well as under the vessels, before applying the ligature, does not seem to have any advantage over the latter mode, if the needle has a cutting edge, and the thread is round, small, and firmly applied." Ibid.

Nitrate of Strychnine for Paralysis. A child, three and a half years of age, born of healthy parents, remained apparently well until the end of April, 1834, when, without any apparent cause, it was seized with paralysis and convulsive movements of the upper and lower extremities, and paralysis of the tongue; the expression of the face was wild, and the child had been in this state fourteen days when the author was called in; he found no symp-
toms of fever or congestion about the head; the appetite was good; tongue clean; bowels natural. As the child had formerly passed some worms, anthelmintics were administered, and a few lumbrici expelled, but without any relief; on the contrary, the child became thinner every day. The following medicine was now given:

Nitrate of Strychnine, gr. i.; dissolve in
Alcohol, one drachm; add
Cinnamon water, two drachms. Three drops thrice a day.
The dose was gradually increased until the child took 36 drops, or 1/10th grain of strychnine in the course of the day.

After the lapse of a few days the patient's condition was much improved, the convulsive movements declined, and the power over the extremities was gradually recovered, and at the end of six weeks the child was completely cured.—Lancet, from Sieb. Journal, Vol. 17, No. 3.

Case of Worms. The following rare and interesting case, recorded by Dr. Phineas Spalding, we extract from the Boston Journal, for January, 1839.

Mrs. S., after having been treated three years for dyspepsia, liver complaint, hysteria, spinal irritation and leucorrhoea, came under my care November 3rd, 1826, with the following symptoms. Great debility, barely able to walk about; emaciation; skin dry, with frequently a red spot upon one or both cheeks; countenance generally pale; upper lip considerably swollen; tongue slightly coated, edges red; gums soft and spongy; breath offensive; a slight cough, but no expectoration; appetite irregular, at times quite craving; bowels tumefied, generally costive; dejections bilious, at times clay colored, and the feces occasionally were improperly digested.

There was painful menstruation, with a constant leucorrhoea, mostly of the milky character. Urine was high colored, dark and scanty, at times large quantities and perfectly colorless. Pain in the head, back and limbs, alternately; spine tender its whole length, but very much so over the lower dorsal vertebra. Pulse feeble, very easily compressed, and not accelerated; nervous system very excitable, and a fixed apprehension that no remedies could be adapted to her case. She had been bled, cupped, blistered, phisycked, had caustic issues to the spine, used female injections, and, in short, almost exhausted the materia medica for remedies, to no purpose.

After taking into consideration the whole history of the case, I came to the conclusion that worms might be the exciting cause of all her difficulties. Gave her one and a half ounces of the spirits of turpentine, followed the next day with a large dose of calomel and jalap, which brought away more than one hundred lumbrici, after which she took large doses of Carolina pink, followed by an infusion of senna and sulphate of magnesia, with occasionally the extract of butternut. In the course of three weeks about as many more were discharged, some of which were enormously large for this variety of worms. Her unpleasant symptoms immediately abated, and in a few weeks she resumed her ordinary labors, considering herself quite well, until March last, when she took a violent cold and had a severe cough, with some fever and much stricture upon the lungs, but no pain or soreness about the chest. She had had a leucorrhoea for some weeks, and the spine had become somewhat tender on pressure.

After being bled a few times, applying a blister to the chest, and other remedies commonly used in diseases of the lungs, her fever abated, and breathing became easy, but the cough continued unabated, and was but very little affected by what had been done. Presuming that worms might have a controlling influence, she resorted to her former course, took spirits of turpentine, calomel, Carolina pink and senna, as before, and in a few weeks discharged over one hundred very large lumbrici, after which her cough immediately abated, bowels became regular, leucorrhoea ceased, and she has since remained perfectly well.

There appears to be, in her constitution, a peculiar disposition for the generation of worms, and it is highly probable that they will collect again. In children this is a common occurrence; but in adults, worms in the alimenta-
ry canal are rare, and when once removed, the patient is generally ever after free from them.

This case throws some light upon what is commonly denominated spinal irritation. It has been considered, by some writers, and many good physicians, that this disease arises from irritation at the origin of the nerves of the spine, transmitted to the several organs to which they are distributed, existing in them all the symptoms of idiopathic disease. However this may be, in certain instances, it is more than probable that in the great majority of cases the irritation is in the mucous membrane, transmitted by direct sympathy to the spinal marrow and origin of the nerves. The little success in the treatment of so many cases of neuralgia is probably owing to inattention to the digestive organs, and not discriminating between those cases which depend upon derangement of the nervous trunks and spinal marrow, and those which result from continuous sympathy, kept up in a great measure by irritating causes operating upon the delicate and susceptible tissue of the alimentary canal. We also see illustrated very clearly the intimate relation one portion of the mucous membrane has with the others. The cough, leucorrhoea, strangury, irregular urine in quantity and quality, without doubt, arose from the irritation produced by the worms.

Irritation in the bowels not only manifests itself by deranging the organs directly affected, but frequently excites in parts far remote a sympathetic action, which is often mistaken for the primary disease. This is peculiarly the case in many cutaneous affections.

Boston, November 29, 1838.

Extensive Desquamation.—A patient for some time subject to attacks of fever, had, besides the common febrile symptoms upon the invasion of the disease, universal itching of the skin, and more especially at the joints; and the itching was succeeded by a number of little red spots, with a slight degree of swelling. Soon after that, his fingers became very stiff, hard and painful at their ends, and at the roots of his nails. In twenty-four hours, or thereabouts, the cuticle began to separate from the cutis, and in ten or 12 days this separation was general from head to foot, when he has many times turned the cuticle off from the wrists to the fingers' ends completely, like gloves; and in the same manner also to the ends of the toes; after which his nails shoot gradually from their roots, at first attended with exquisite pain, which abates as the separation of the cuticle advances, and the nails are generally thrown off by new ones in about six months. The cuticle rose in the palms of his hands and the soles of his feet like blisters, but contained no fluid under them; and when it came off, left the subjacent skin very sensible for a few days.

Sometimes upon catching cold before he has been quite free from feversish symptoms, he has had a second separation of the cuticle, but then so thin as to appear only like scurf; thus demonstrating the quick renewal of this part.—London Med. Jour. Medical Examiner.

Adulteration of Quinine. M. Pelletier, of Paris, states that if twenty drops of the pure and concentrated sulphuric acid be poured upon twenty grains of suspected quinine, the solution will present a most beautiful crimson colour, more or less intense, according to the quantity of salicine present. The adulteration of one part of salicine with ninety nine of quinine is, by these means, easily discovered.—Lancet. Ibid.
MEDICAL INTELLIGENCE.

Medical Prize Questions.

The questions for the Fisk Fund prize, for 1839, are:
First. The Medical Botany of Rhode Island.
Dissertations to be sent, free of expense, before the 1st day of May, to M. Parsons, M. D. Providence; or E. Fowler, M. D., Smithfield, Rhode Island.

The Boylston prize questions, for 1839, are:
First. The Pathology and Treatment of Rheumatism.
Second. What is Scrofula? And what is its best mode of treatment?

The Medical Society of Augusta, Ga., offer a premium of Fifty Dollars, or its equivalent, for the best approved Essay on the Pathology and Treatment of Congestive Fever. The Essay is not to exceed forty octavo pages, when printed. Essays are to be sent, free of expense, to the Secretary of the Medical Society of Augusta, Ga., by the first day of May, 1839, with a motto, which must also be endorsed on a sealed letter, containing the name and address of the writer.

Wistar's Anatomy. The Boston Medical and Surgical Journal, of December 5th, 1838, says: "A new edition of this standard treatise is announced by Dr. Pancoast; of Philadelphia. The industry and perseverance of the profession of that city, are worthy of all praise. The old editions of Wistar's Anatomy are still valuable—and their accuracy and conciseness of detail are recommendations. Such revisions and additions as the present editor is qualified, by long experience, to give it, almost ensure an extensive sale. It is surprising that some one does not remodel that excellent old system of Anatomy by Andrew Fype, which in point of accuracy and minuteness, has never been surpassed by any demonstrator in any age. It is so nearly out of print, that few copies, if any, can be had at the book-stores. The Edinburgh edition, of 1815, in three volumes, octavo, is the last that has come to our notice."
The celebrated Broussais is no more! He expired on the morning of the 18th November last, at Vitry, his country seat, near Paris, at the age of sixty six years. The French paper from which this intelligence is derived, does not mention the malady to which he fell a victim; but we learn from other sources, that it was a disease of the rectum.

By the death of this celebrated man, the French Institute has lost one of its distinguished members—literature, one of its brilliant votaries—and the medical profession, an able teacher, and the founder of the "physiological doctrine of medicine."

From the Medical Examiner.

Death of Broussais. Professor Broussais died at one o'clock on Sunday morning, the 18th November, at his country seat of Vitry, a few miles from Paris.

His immediate decease was rather sudden, but he had long laboured under cancer of the rectum.

Broussais was born at St. Malo, in December, 1772, and was, therefore, sixty six years of age when he died. In 1792 he entered the army as a private soldier, but soon afterwards became an officier de santé. He subsequently served in a trading vessel during a period of six years, after which he went to Paris, and graduated as Doctor in Medicine. His thesis was on Hectic Fever, and was dedicated to Pinel.

Subsequently to this, he followed the campaigns in Holland, Germany, and Spain; and it is said to have been amid the fatigues of military service, that he conceived the plan of the work to which he owes his celebrity—the History of Chronic Phlegmasie. Of this, the fifth edition was published in Paris during the current year.

Broussais was Physician-in-Chief to the Val-de-Grace; Professor of General Pathology in the Ecole de Médecine; and a Commander of the Legion of Honour. His appointments brought him 10,000 fr. per annum.

He was attended in his last illness by M. Amussat, and when arrested by death, was actively engaged in a reply to the Memoir of M. Jouffroy against Phrenology, and in preparing a new edition of his work on Irritation and Insanity. There was a rumor, arising probably from the abruptness of his death, that he had been poisoned; but there seems to have been no ground for such a suspicion, and it appears to have speedily subsided.

M. Broussais was buried on the 21st of November, on which occasion all the usual display and parade which mark such scenes in Paris, were exhibited. A crowd of practitioners and pupils were assembled in the Rue d'Enfer; military medical officers, and the members of the Ecole, in their official dresses; deputations from the Academies of Sciences and of Medicine, were in attendance, to say nothing of a detachment of troops. This imposing cortège proceeded to the Val-de-Grace, MM. Larrey, Orfila, Boissy d'Anglas, and Droz, being the pall-bearers. Divine service having been performed in the chapel, the procession proceeded, the students having taken out the horses, and dragging the hearse all the way to Père-la-Chaise.

Discourses were pronounced over the grave by MM. Droz and Arago, in the name of the Institute; M. Larrey (fils) on the part of the military medical officers; and M. Bouilland on that of the Ecole de Medicine.

The officers at the Val-de-Grace propose to go into mourning for a month, as a testimony of their affectionate respect for the deceased.

A subscription has been opened in Paris, for the purpose of erecting a monument to the deceased. Lon. Med. Gaz. Dec. 1, 1838.
The following interesting and correct sketch of the life, character, fortune and death of M. Broussais, we extract from the editorial department of the Medical Examiner—

**DR. BROUSSAIS,** the founder of the Physiological Doctrine of Medicine, died at Paris on the 17th of November, of a cancerous disease of the rectum.

The labours of Broussais have left so deep an impression upon the science of medicine, that we cannot pass over this death in silence. Like all other founders of exclusive systems, he could scarcely be appreciated during his life. On the one hand his zealous admirers, and on the other his opponents, were disposed to exalt or to depreciate his medical reputation, according to the partial standard by which they were governed. The physiological doctrine of disease had already passed through its complete revolution before the death of Broussais. At first earnestly opposed, it soon became the system, which, in France, attracted the most zealous, if not the most numerous followers,—and, for a while, it seemed destined to become the predominant system of medicine. The physiological doctrine, during its most brilliant period, was not limited to France, nor, indeed, to Europe;—it seemed to possess a power of universal application, and was received with enthusiasm in many countries of the American continent, especially those in which the violent febrile diseases of tropical climates are most destructive.

During the rapid progress of the physiological doctrine, its author was earnestly and constantly engaged in an incessant polemical warfare with its opponents. For him, there was no medium; the physiological doctrine of medicine solved all difficulties, simplified therapeutics, and, with a few formulæ, enabled the young and inexperienced physician to combat disease with more success than the veteran practitioner, who had toiled through a long life of patient observation. The high talents, and energetic, impetuous character of Broussais, sustained him in this endless controversy, and placed him and his school in an attitude of hostility to established opinions, which soon gained him numerous disciples. Of these, some adhered to his doctrine from love of its apparent simplicity,—others joined the physiological school, from that fondness for distinction which is most easily gratified by becoming a proselyte to the opinions which are most novel, and therefore attractive.

The onward progress of the physiological school continued as long as its followers were freely examining one after another the medical opinions which had been based upon the accumulated experience of centuries, and in substituting for them the new combinations of irritation or inflammation. But a single leading idea is soon exhausted—and, however much the nomenclature of diseases might be varied by referring constantly to the organ which is chiefly affected, it became very evident that in all cases there was some modification of inflammatory action, which was to be removed by the same system of therapeutics. The medical profession soon began to tire of these continual repetitions, and very soon discovered that, with some trivial exceptions, all works on the physiological doctrine consisted only of an incessant reiteration of the same theme, with a few unimportant variations.

An epoch in the history of the physiological school occurred, when Broussais became Professor of the Faculty of Medicine of Paris. A new chair was founded for him at the revolution of July, that of General Pathology and Therapeutics. This appointment was a sort of acknowledgment of the standing of the physiological school, and as it were, a public recognition of his system. There were never more than two or three professors of the School of Medicine of Paris who entirely adopted the opinions of Broussais; but his admission into the faculty, was, in itself, a signal triumph.

Much to the surprise of every one, the physiological system declined with increased rapidity from that moment;—the endless repetitions of the new professor wearied, while his fondness for sarcasm, and, at times, for gross personalities, disgusted his audience; his class became less and less numer-
ous, and, for some years, was one of the smallest at the School of Medicine. About the same time that Broussais was appointed professor, the reaction against his system became more decided;—a number of observing men had been studying disease with the aid of pathological anatomy and the new means of investigation which Laennec had discovered; the results of their inquiries were published, and proved that Broussais had been carried vastly beyond the deductions which could fairly be drawn from observation. It soon became clear to those who were most attached to the physiological doctrine, that the nature of a disease was not always explained by calling it an irritation or inflammation, and that leeches and demulcents could not replace the whole materia medica. As a system, the physiological doctrine can scarcely be said to exist; very few of these ultra adherents can now be found, except amongst the French army surgeons, and in some parts of the tropical regions of America. That its existence as a system should cease, was natural enough; a similar fate has befallen others, which, for a time, have had equal notoriety with the doctrines of Broussais.

We must not, however, examine the opinions of Broussais as a system; however defective they may be as a whole, in many respects they have produced a most salutary reform in medicine. Had Broussais contented himself with the publication of his works on "Chronic Inflammation," and the "Examination of Medical Doctrines," the good which he has done, would have been unmixed with evil, and it is to these earlier works that we must look for the best evidence of the genius of the author. His later productions are much more feeble and less interesting.

We have already alluded to the indirect good which resulted from the works of Broussais. Many experienced and observing physicians could not adopt the opinions of Broussais, while they were unable to oppose them, except by pursuing a new course of observation on the diseases which he had treated of most largely. We are, therefore, in some measure indebted to Broussais, for the admirable works of Louis, Chomel, and Andral, which furnish the only satisfactory reply to his exaggerated notions. It would, however, be doing great injustice to his memory, to pass over the positive and direct good which has resulted from his writings. He has enforced the examination of suffering organs in febrile diseases; has explained many of their sympathies; has shown that by perseverance in a mild antiphlogistic treatment many chronic affections will disappear—and, above all, has prevented the abuse of irritating remedies in inflammatory diseases. The results are most important, and will be finally received amongst the admitted maxims of medicine, but they are not the only good which Broussais has done; a vast number of diseases have become better known through his labours, and the novel points of view from which he has examined them. He has rarely studied them with an unbiased mind, but while we make the necessary allowance for his peculiar views, we can in every case gather a vast amount of practical knowledge, which is rendered the more impressive from the earnest, energetic language in which it is clothed.