diseases. Among these latter we may mention a form of *eczema** and *impetigo*, and we think the disease known as *molluscum* may very properly come under this head. From the descriptions which I have seen of it, it seems to bear a close resemblance to the disease among horses called by Dr. Coleman "*scrofula farcimen*." Under the same species we would rank also the Greek and Arabic Elephantiasis, which, notwithstanding the high authority of Dr. Good, we regard in common with Puel and many other writers, as the same disease, both being forms in which scrofula may manifest itself in hot or tropical climates.

Liberty County, Geo., May 10th, 1847.

ART. IV.—*Amputation above the Shoulder-joint.* By DAVID GILBERT, M.D., (of Gettysburg, Pa.): Prof. of Surgery in Medical Department of Pennsylvania College, Philadelphia.

In furnishing the following case for publication, the object is to present to the profession the facts and circumstances connected with it, that each one may compare and collate these with others hitherto had, in making his deductions, when called upon to decide in emergencies of a similar character. The writer, in his private practice, has always been opposed to a speedy resort to operative procedures; and as a public teacher, has never advocated *heroic surgery*. In his first *introductory lecture*, published by the class of session 1844-5, he thus expresses himself. "Let your knowledge, therefore, of this branch (*Mat. Medien*) be minute and accurate, and you will be surprised at the victories you are able to achieve over disease, and to find how frequently you can dispense with the knife, which should always be your *last resort*, and to succeed without which should be your constant aim." The same principles are advocated in the published *introductory* of last session; whilst in the regular lectures of the course, on *operative surgery*, the importance of deferring the use of the knife until every other plan of treatment has failed, or is unavailing, is constantly inculcated. Whatever of novelty or of boldness, therefore, is apparent, at first view, in this case, since it extends beyond the ordinary limits of operative surgery, it is believed, is justified by the nature of the disease, the condition of the part, and the circumstances of the patient, and is in entire consistency with the established axiom in Surgery, "that operations ought to be performed only when the danger and inconveniences to which they expose the patient, are less than those of the disease treated otherwise."

Whilst on a professional visit, during the summer of 1846, to the valley of the *Susquehanna*, my advice was solicited in the case of the Hon. J. Wagoner, M.D., of Selings Grove, Union County, Pa.

* Vide *Agol. Researches and Observations on the Causes of Scrofulous Diseases*, and *Med. Chir. Rev.*, vol. xlv. p. 239; *ibid.*, xxviii. p. 508.

I found the Doctor confined to his bed, and suffering intensely from an enlargement of the left shoulder and parts adjacent. During the summer, he had also had an attack of *intermittent fever*, and subsequently *hepatitis* supervened, from which he had not yet entirely recovered, there being pain in side, evening exacerbations of fever, excretory functions deranged, &c. His attending physicians, Drs. Shindle and Hottenslein, at the period of my visit, were directing their treatment towards the removal of the latter affection.

The enlargement and irritation of the shoulder were paramount, however, to the diseases mentioned, and it was to these that my attention was specially directed.

The following history of the case was given me by the attending physicians, and the patient himself.

In Oct. 1845, eleven months previously, he was thrown out of a small wagon, whilst traveling rapidly, and the whole force of the fall was expended upon this shoulder, which came in contact with the ground. The effect was, severe contusion of the part, without either fracture of any of the bones, or dislocation of the joint. The tumefaction and subsequent inflammation gave way to appropriate treatment, after a few weeks, but were not entirely removed; the remaining enlargement and inflammation resembling ordinary chronic rheumatism. During the succeeding winter, he attended to his duties as the Representative of his district, in the Senate at Harrisburg. The affection of the shoulder continued during the session, so that the functions of the entire arm and hand were greatly impaired. Soon after his return home, subsequent to the adjournment of the Legislature, in May 1846, whilst standing on the platform of a canal packet, about two feet lower than its deck, upon which his left hand rested, he made a sudden effort to recover his umbrella which had fallen into the water at the side of the boat. The water being lower than the platform, he lost his equilibrium, to regain which, he made the effort with his injured arm, which resulted, as was then supposed, in fracture of the upper part of the humerus, and dislocation of its head; there being deformity and crepitus. Tumefaction of a most painful character speedily took place, which rendered manipulation and the necessary extension and counter-extension insupportable. Owing to this, efforts to ascertain the precise nature of the injury, and to reduce the deformity, were abandoned, before any satisfactory results were had. The succeeding inflammation, although violent, yielded, after several weeks, to the general and local treatment employed. Although the tumefaction was greatly reduced, and deformity was apparent, yet the precise nature of the injury, so far as the bones and joint were involved, could not be satisfactorily decided. In July, about six weeks after the accident occurred, he visited the city of Philadelphia, for the purpose of consulting some of his medical friends there. Not having obtained any satisfactory opinion as to the precise nature of the injury, or the treatment to be pursued, he returned again to the country. Soon after his return, he met with Joseph Lutz, M.D., of New Berlin, who suggested the use of Dr. Fox's apparatus for fracture of the clavicle, which corrected the deformity, and relieved the pain and seemed to answer every indication; but in a few hours the pain returned so as to be insupportable, and thereafter every form of mechanical support was discontinued.

From this period, the shoulder commenced steadily and regularly to en-

large, although local depletion and counter-irritation, with general treatment, were persevered in, by the attending physicians. On examination, (September 2,) I found the shoulder enormously enlarged, measuring $21\frac{1}{2}$ inches in circumference, from the axilla over the acromion, and 15 inches from the same point, horizontally around upper part of arm, whilst the measurements of the sound shoulder at corresponding points were 11 and $8\frac{1}{2}$ inches. The tumour presented the appearance of a large segment of a regular sphere united to, and blended with the shoulder sending off several processes. One of these extended down the posterior part of the arm along the triceps muscle to within five or six inches of the elbow-joint; a second backwards, within the fold of the tendon of the latissimus dorsi muscle, over the inferior costa upon the infra-spinaus muscle of the scapula; and another forwards and upwards over the coracoid process of the scapula, and resting firmly against the lower surface of the acromial extremity of the clavicle. The skin covering it was brawny—thickened and porous; as the normal skin appears when seen through a magnifying glass. The whole tumour was tender to the touch, especially at the acromion, so that manipulation was intolerable. It was hard—indurated; indeed the portion which extended backwards with tendon of lat. dorsi muscle, was mistaken by the patient himself for bone, supposing it had been displaced at the time the last injury was sustained and remained undiscovered until after the enlargement had taken place. There was no deformity apparent, such as arises from fracture or dislocation, being obscured by the enlargement. The tendons of all the muscles connected with the shoulder were in their normal condition, except that of the lat. dorsi, which was connected with the posterior extension of the tumour. Motion at the joint was not entirely lost, but every effort to move the limb produced pain.

In this condition of the shoulder and arm, it was impossible to form an opinion as to the precise character of the lesions produced at the period of the last injury, or whether fracture or dislocation yet existed.

From the history of the case, however, I had no doubt that there had been fracture near the head of the bone, possibly of the tubercles only, or even the neck of scapula might have been the seat of the fracture. The indurated mass enveloping the shoulder, and extending to parts adjacent, I supposed might have been the result of an exaggerated effusion of lymph, which, on account of the impaired health of the patient during the summer, and the diseased condition of the shoulder, from the first injury, was not assimilated or absorbed, but partook of an abnormal character. Deposits of this nature are apt to take place when inflammation is long continued in subjects in whose blood fibrine abounds, and the red particles are scanty, a condition which there was every reason to suppose was here present. The patient is of bilious temperament, and aged forty-six.

The following treatment (Sept. 2) was agreed upon.

For the hepatic affection, now having become chronic, laxatives, consisting in part of *blue mass*, pro re nata, with gr. v of nitro-muriatic acid, three times a day, to be increased one drop a day, each dose; and daily pediluvium of the same, of the usual strength. Opiate to sleep.

To the shoulder, an iodurated iodide of potassium ointment, one-third stronger than the "*unguentum iodini compositum*," to be applied daily to the tumefied parts, which are to be covered with silk-oil-cloth. Diet mild, and nutritious.

Sept. 17. Patient's condition greatly improved. Pulse 90, pain in the

side relieved, tongue cleaner, appetite better, and sleep sound and refreshing. The shoulder free from pain when kept quiet, feels more natural, not so sensitive when handled, and is less indurated.

The ointment had produced miliarv vesications with subsequent desquamation of the cuticle, leaving a smooth surface with a more natural colour. It was agreed that the treatment should be continued.

I received a letter from Dr. Shindle, dated Sept. 13th, in which he reports continued improvement of the general health, without change in the shoulder. The amount of acid taken at this date is 17 drops at each dose, or 52 drops daily. Advised continuance of treatment, with more generous diet, and exercise in his room.

In another letter, dated Sept. 18th, Dr. Shindle reports, that patient continued to improve until the 16th inst., when, in consequence of a sudden change of the weather, he took cold and had a return of fever; this had, however, yielded to antiphlogistic means, the exhibition of the acid being suspended. At the urgent request of the patient and the doctor, I visited him on Sept. 24th. Found him greatly improved in general health, and his spirits were quite revived. Able to be out of his bed during the greater portion of the day. Appetite good, pulse 85, fuller and less quick; skin and tongue natural, bowels rather torpid, pain of side entirely gone. Shoulder about one-fourth of an inch larger in circumference, colour a lighter red, friction pleasant, and free manipulation can be interated. Gave it as thorough an examination as was possible, in its enlarged condition. Passed the ends of my fingers up from the axilla under the coracoid process, head of scapula, as well as inferior costa, but the parts were so enveloped in and bound together by, the adventitious morbid mass, that it was impossible to discover any lesion or displacement. I could not observe any motion at the joint; all efforts to produce this by using the humerus as a lever gave intense pain. The great bulk of the tumour lay on the outside of the upper third of the humerus, which it surrounded. It extended up, and was attached to the outer third of the clavicle, and to the coracoid, acromion, part of the spinous process, and head and neck of the scapula. The organic alteration of the skin extended wherever the tumour was found, except the process which extended backwards under the lat. dorsi muscle. The muscles adjoining and those connected with the shoulder and arm, were in their normal state, except where they become involved in the enlargement. Here they were so intimately united to and blended with the general mass, that it was impossible to decide whether they were incorporated with it, and partook of its abnormal condition, or were merely pushed aside by the deposit. The length of the arm from the olecranon to the acromion, as nearly as could be ascertained, was the same as that of the other side.

The acid and bath with laxatives occasionally were continued, as also the application of the ointment of the ioduretted iodide of potassium, increased to double the strength of the officinal preparation.

Visited patient daily, until 29th, during which there was improvement of general symptoms. He again became interested in business, and enjoyed the visits of his friends. Size of shoulder stationary.

Oct. 7th. Received a letter from Dr. Shindle, who reports that his general health is without change. Size of tumour stationary above, but is extending towards the elbow, along the course of triceps muscle. Continue treatment.

Visited patient Oct. 15th. Found him sufficiently strong to leave his

chamber to visit the store, which is at some distance from his dwelling, and to ride out in his carriage occasionally. The shoulder slightly enlarged, measuring one inch more in circumference than when first seen (Sept. 2), and enlarging posteriorly, downwards.

Advised the application of cantharides ointment over the latter, and after the removal of cuticle, to be dressed with very weak iodine ointment. The acid to be suspended, and pills composed of ext. taraxaci and ext. hyoscyami, grs. ij of each, to be taken every evening at bed-time.

Saw patient again, October 20. Blister had drawn, but iodine ointment could not be endured. Ordered savine ointment, to keep surface discharging. Continue balance of treatment advised previously. Allow generous diet, with exercise in the open air, when weather permits.

In taking leave of the patient, he informed me, that, in accordance with the advice of his physicians and other friends, his intention was to visit Philadelphia, as soon as the term of *Medical Lectures* commenced in November, for the purpose of being under my care during the winter.

Having participated in the treatment of this case for nearly two months; and having found that whilst his general health improved, the local affection was nevertheless increasing, although depletion, revulsives, sorbifacients and alteratives, had been perseveringly and unremittingly used in the treatment, I began seriously to think of the propriety of an operation. I communicated this to Dr. Shindle, at my last interview with him, and he concurred in the opinion that it afforded the only ground of hope in the case, for permanent relief. Nothing was said as to the kind of operation that might be necessary. In reflecting upon this, subsequently, the difficulties which presented themselves to my mind, as to the manner of its accomplishment, in a case so peculiar, were of the most formidable character. The first question was as to the possibility of removing the tumour by dissection and thus saving the arm. This was desirable, even if the functions of this important member were to be greatly impaired. The impracticability of this, however, was apparent at once, for there was no external evidence that the tumour was distinct from the tissues of the arm and shoulder; it invested, moreover, the whole circumference of the joint and upper portion of the humerus, including the blood-vessels and nerves, so that if even the whole mass was unconnected with the muscles, tendons, blood-vessels and nerves, the lesion necessarily consequent to such an operation, would be too extensive, and the danger of exposing these important organs too imminent. Again, there was the uncertainty in reference to the condition of the bones and joints; there might be fracture of the neck of the scapula, or of the upper portion of the humerus; possibly of both, and certainly of either one or the other; since all accounts agree that both crepitus and deformity were present after the receipt of the last injury. The removal of the tumour alone being neither certainly practicable, nor if practicable, safe, the question of *amputation* presented itself. The operation of amputation at the joint was next considered. The apparently firm attachment of the mass to the acromion, portion of spinous and coracoid process of the scapula, and the outer extremity of the clavicle;—the uncertainty as to the seat of fracture, and condition of the joint;—and the utter impossibility of forming a flap, since the skin over the whole tumour up to the acromion and clavicle, would require removal, being unsound, at once constrained me to abandon all hope of relieving the patient by amputation at this point. The remaining alternatives then were, either to aban-

don the idea of an operation altogether, or to perform one sufficiently above the joint, to ensure the entire removal of all the parts involved in the injury, or subsequent formations, and to form a flap out of healthy parts, to ensure closure and cicatrization of the wound. This would require the amputation of the outer three-eighths of the clavicle and the acromion, and part of spinous process, coracoid process, and head and part of the neck of the scapula. The whole of the diseased mass would thus be removed, and the cut extremities of the clavicle and scapula would meet against the ribs, whilst the soft parts covering them could be easily approximated so as to close the wound. This operation, although more tedious, the amount of lesion not being greater, would be quite as safe, and the articular surface being removed, result in more speedy cicatrization, than amputation at the joint, even were there a sufficiency of integument to form flaps. Viewing this modification of amputation of the superior extremity as practicable, though much more formidable than that usually performed, and considering it the only one at all justifiable in this particular case, his age and general state of system being favourable, I resolved to propose it in consultation with others, provided the Dr. visited the city, as was contemplated.

I did not again see the patient until he arrived in the city, which was on Nov. 12th. In the meantime, however, by correspondence with the attending physician, I learned that, with the exception of symptoms of debility, his health underwent no material change. The treatment advised at my last visit had been pursued without any essential variation. On examination I found his system in an irritable as well as failing condition. Pulse from 95 to 100, appetite impaired and variable, skin dry and harsh, bowels torpid, urine high coloured and scanty, sleep imperfect and unrefreshing, and an expression of countenance indicative of great physical and mental uneasiness. He complained of neuralgic pain in the right sacro-iliac region. Of this he had occasional attacks during my visit in the fall. The following liniment had afforded relief, and was now prescribed. R. Ol. olivar, aquæ ammonia fort., ss fiss . Misce, dein adde Ol. origani, tr. opii, ss fiss .—M. fi. linimentum. The tumour had increased three-fourths of an inch in its larger, over the shoulder, and one inch in its smaller or lower circumference around the arm, since the dimensions were last taken, and had extended still farther down the posterior part of the arm. The amount of adventitious mass here present is more clearly indicated by comparing the *planes* of the respective circumferences with each other; these are found to be 47 and 25 square inches in the diseased, and 10 and $6\frac{1}{2}$ square inches in the healthy shoulder and arm. The parts involved are now much more painful than they have been since the pain yielded to the application of the ointment in the commencement of September, which is evidently one cause of the general irritability of the system now present.

At my request, my friend and colleague Dr. Allee was invited to see the patient in consultation with me on Nov. 13th. After giving him a full history of the case, and after careful and repeated examinations made by him of the patient during several successive days, and observing the effect of treatment, there being no improvement, I communicated to him my conviction as to the hopelessness of mere medical treatment, in which, as well as the character of the operation proposed, the Dr. fully concurred. I now, for the first time, made known to the patient that an operation would have to be performed, and found that his mind had been prepared for such a communication by his own reflections. It was then

agreed that George McClellan, M. D., be called into consultation on the 17th, who confirmed the views entertained by us; viz., that amputation above the joint, so as to remove the entire mass of disease, and form flaps for closure of the wound, was the only remedy; and as the patient was failing in strength rapidly, there should be as little delay as possible. The patient was now informed as to the precise character of the operation contemplated, and as being the only one, in the opinion of all his medical advisers, that was available in his case. Subsequently all the details of the operation, its immediate and consequent dangers, the possibility of the return of the disease, and its irremediable and certainly fatal nature, if permitted to remain, were all fully made known to him and his friends. He received these communications with the utmost calmness and fortitude, propounded numerous inquiries relative to every question involved, both as to the tumour and the operation and its results. Being himself an intelligent physician, although not engaged in practice for several years, he seemed well aware of the risk incurred by the operation, and the nature and results of his disease if left to itself. He examined minutely its symptoms and rapid progress, although he was at this time so reduced that he was confined to his bed entirely. After thus weighing all the probable results and consequences, in either event, and in view especially of the great importance to his family of even a prolongation of life, on account of his numerous and weighty mercantile and other engagements, he resolved that the operation should be performed on the following Saturday morning, (the 21st,) at ten o'clock, being nine days after his arrival in the city. The decision having been made, his mind seemed to be at ease, awaiting the period appointed with a scaled resignation, occupied in making such arrangements as were necessary, provided he should not survive the immediate shock of the operation.

Having made every necessary preliminary arrangement, the operation was performed at the time specified, in the presence of Drs. W. L. ATLEE, GEO. McCLELLAN, W. DARRACH, WILTBANK, PATTERSON, GRANT, BABB, MECKLY, JNO. McCLELLAN, and WILSON, at the Merchant's Hotel, North Fourth street, Philadelphia, in the following manner, viz.:

The patient having taken grā. L. of M'Munn's elixir of opium one hour previously, was placed upon his right side, on a large dining table, with the leaves down. This had been prepared by covering it with folded blankets and sheets, and over these an oil-cloth was spread. The axillary artery was compressed, where it passes over the first rib, by Dr. ATLEE, with a compress and letter seal of large size. The arm having been given in charge of Dr. GEO. McCLELLAN, I took my station near the upper end of the table, above and behind the diseased shoulder of the patient, and commenced an incision at the posterior border of the axilla, using a large sized scalpel, and extended it upwards one inch above the highest portion of the spine of the scapula. The next incision commenced where the first crossed the spine of the scapula, and extended downwards and forwards to the point of the shoulder, thence upwards and inwards along the lower edge of the clavicle to the extent of the outer third of the latter, and then upwards one inch above its superior margin. The triangular flap thus formed above the shoulder was dissected upwards, and the clavicle inside of its outer third isolated. A retractor was passed under it, and the bone thus exposed was divided with the straight edge of Hey's saw. The skin, posterior to the first incision, covering the process of tumour which extended backwards over the dorsum of the scapula, was now reflected backwards, and the latissimus

simus dorsi, and teres major muscles divided beyond the limits of the posterior excision of the disease. The infra and supra spinati muscles were next cut across, and the spinous, immediately behind the acromion process, and the neck and body of the scapula exposed. The spinous process was cut obliquely from behind forwards and inwards to neck of the scapula with the common amputating saw. The neck, with part of the body of the scapula, was then sawn through close to the spinous process, with a long narrow instrument provided for this purpose. All the bony connections being now severed, an incision with a small catlin was commenced at the axilla, and carried forwards and upwards through the skin and pectoralis major muscle, so as to expose the axillary artery, (which was promptly secured,) then upwards, under the clavicle, and outwards under the coracoid process, and head and neck of scapula; dividing all the remaining attachments, and the operation was concluded. But one artery besides the axillary, viz., the external mammary, required ligature. The amount of blood lost, in the opinion of all present, did not exceed ten ounces. The bleeding was principally venous, so effectually had the artery been compressed. The surface of the wound was now carefully examined, and all suspicious tissues, and remaining lymphatic glands, were removed. The patient endured the operation, (which lasted fourteen minutes, including the time occupied in tying the axillary artery,) with remarkable firmness, asking questions as to its progress, &c. Syncope did not take place. Immediately after the operation the pulse was small and feeble, and in frequency 134. Gave patient weak brandy and water as drink. The surfaces of the wound were brought together, and the parts adjusted one hour after the completion of the operation in the following manner: The cut extremity of the remaining (about five-eighths) fragment of the clavicle received the cut surface of the body of the scapula, both resting upon the ribs at their place of junction; the triangular flap of integument, made early in the operation, above the acromion and outer end of clavicle, was brought down and completely covered the extremities of the bones which were in contact with each other; below this, the lateral flaps of integument were brought together, and the apposition of all the parts secured with five sutures, and six or eight long and broad bands of adhesive plaster. The ligatures by which the arteries were secured, were brought out to the nearest point of surface to their place of attachment, and secured by an adhesive strip. Lint wet with cold water was laid over the wound thus dressed, and a common roller applied over and around the body. The patient was carried to his bed at twelve o'clock—precisely two hours after he had left it for the operating table. Pulse at this time 120. Continued weak brandy and water as drink, and applied cold water to wound occasionally.

4 o'clock P. M. Pulse 145; ordered gruel with brandy and water as drink. 12 P. M. Pulse 140; has slept during evening; had taken gruel; skin moist but cool. Gave grta. xxx of M'Munn's elixir of opium.

Nov. 22d. Seven A. M. Found patient refreshed, having rested well during the latter part of the night. Pulse 116, with greater volume and power; feels comfortable. Gruel for nourishment; discontinue brandy and water.

23d. Seven A. M. Patient slept during the greater part of the night. Pulse ranged from 110 to 118 during the day. No material change in the other symptoms, and treatment continued without variation.

24th. Condition of patient favourable until four o'clock, P. M., when

the skin became dry and warm; the pulse rose to 125, and became quicker and harder. Complaints of thirst. Ordered the head and face to be sponged with cool water, and the internal exhibition of bicarb. potasso, grs. v, every two hours. The bowels having been sufficiently open since the operation, no laxative was given. 12 o'clock P. M. Febrile symptoms have declined, pulse 110, skin moist and warm, other excretions sufficiently free. Had taken gruel and a solution of gum Arabic as drink.

25th, 7 o'clock A. M. Has slept well since 12 o'clock. During this day symptoms continued favourable, appetite good, pulse 104. Continue diet and drink.

26th. Symptoms all favourable, and had rested well during the night. 10 A. M. Opened wound, (5 days after operation,) Dr. ATLEE present.— Found nearly the whole of it united by first intention. No discharges. Some of the adhesive strips were removed, and fresh lint was applied.

Nov. 27th. Case progressing favourably. Wound again opened, presented a favourable appearance; lint and adhesive plasters renewed.

Dec. 1st. Patient gaining strength. Some of the stitches removed, and other dressings renewed. Diet gradually improving. No medicine required. No discharge from the wound, it having united throughout except some points of integument at the sutures. The general symptoms were of the most favourable character, appetite, sleep, sensations, &c., all good. The bowels being rather loose, were restrained by the exhibition of toasted rhubarb.

After this the shoulder was exposed daily, the remainder of the sutures were removed on Dec. 3d, and lint was applied to the cicatrizing points of the wound. The general health of the patient continued to improve, so that on the 11th of December, three weeks after the operation, he was able to sit up the greater part of the day, walk about his room, partaking of ordinary diet and enjoying life and the society of his friends, with renovated feelings, and the confident hope of a speedy restoration to health. The projection of the shoulder, reduced to one-third by the operation, had a rounded appearance, the spinous process having been cut off obliquely; and the remaining portions of the clavicle and scapula, thus united, performed their offices, in reference to their attachment with the muscles of the trunk and head, quite as well now as they did previous to the operation.

Before the close of another week, however, these bright prospects were destined to undergo a serious change. On the 16th of Dec., I was hastily summoned to my patient, whom I found in the cold stage of *intermittent fever*, which he had had when it prevailed extensively in the valley of the Susquehanna, during the summer and fall previously. This yielded in a few days to the ordinary treatment. Very soon, however, a more obstinate and less tractable affection, viz., the *neuralgia* of the loins, again made its appearance. This was now much more severe than at any previous period, extending to the sacro-iliac region of the left side also. From this period (Dec. 20th), until March, all the various plans of general and local treatment for neuralgia, known to the profession, (having had the advice of several medical gentlemen, as well as of his regular attending physicians,) were successively and fully tested, without accomplishing any other than temporary amelioration of the pain. During this time, the patient was generally able to be out of bed part of the day. His appetite was tolerably good, and his strength did not decline materially. It was evident that the meteorological condition of the atmosphere exerted an influence upon his

sufferings, and hence the hope was entertained, that as soon as the genial warmth of spring and summer returned, his pains would subside and health might be restored. As spring approached, he made his arrangements to return to the country, and accordingly on the 5th of March he left Philadelphia in the cars for Harrisburg, where he remained until the adjournment of the Legislature took place, and then returned home to Seling's Grove, in a packet boat. After his return to the bosom of his family and the society of his friends, he continued to suffer from the neuralgic affection, and in addition, symptoms of disease within the chest began to develop themselves, such as pain, stricture and dyspnoea; these symptoms continued to increase, and his lower extremities becoming oedematous, he expired on the 27th of April, no doubt in consequence of *effusion within the chest*. During his sojourn in Philadelphia, his highly esteemed friend, ISAAC N. SIMMONS, M. D., of Seling's Grove, a young physician of great promise, died; and having no confidence in any further remedial treatment in his case, he did not regularly employ any other physician after his return. My information, therefore, in regard to the progress of the case after this, being derived from non-professional friends, is necessarily imperfect. This I regret exceedingly, as also that no full post-mortem examination was had. I had written to one of his friends and requested this, but an examination of the shoulder only was made. From this it appeared that some of the lymphatic glands under, as well as on, the scapula, had become enlarged and softened, "presenting the appearance of the brain of fish."

The ligature of the external mammary artery came away at the close of the fourth week, whilst that of the axillary remained until in the eighth week after the operation.

The arm and shoulder with the diseased mass, as removed, have been added to the *Pathological Cabinet* of the MED. DEPT. of PENN. COLLEGE. A dissection was made, and the anatomical and pathological condition developed was as follows. The integument was thickened and indurated; under this, the cellular tissue was firm and condensed, not permitting the skin to glide smoothly over the parts beneath. In tracing the muscles, from without the limits of the tumour, where they were in their normal condition, it was found that they passed over, around or under the tumour and its processes, without being involved in its substance, or contracting any firm adhesion with it. Thus the coraco-brachialis, deltoïd, biceps flexor, triceps extensor, teres major, latissimus dorsi, pectoralis major, &c., could all be traced to their origin or insertion, and dissected from the tumour; the only alteration observable, being elongation and attenuation of those portions which had been connected with the tumour. The blood-vessels and nerves could also be dissected out, having no other connection with the tumour than by condensed cellular tissue external to their sheath. The tumour thus exposed, presented the appearance of a large lobulated homogeneous mass, of a dull pink colour, resembling the pancreas, in structure and colour, and therefore we had very little difficulty in deciding that it belonged to the "*pancreatic sarcoma*" of authors.

The head of the bone was found in the glenoid cavity, without any evidence of its ever having been dislocated. The synovial membrane of the joint did not present a perfectly healthy appearance; a portion covering the head of the bone, as also a portion of that lining the glenoid cavity, had lost its lustre, and was slightly thickened.

The humerus had been the seat of comminuted fracture immediately below its anatomical neck and tubercles. From this point downwards, in-

cluding nearly the upper half, it was destitute of the animal constituent of bone; the earthy, when the periosteum was removed, not having the usual cohesive properties, was exceedingly friable, so as to be broken down by the pressure of the finger alone. This disintegrated condition of the humerus extended down farthest posteriorly; that being the surface of bone next to the posterior process of the tumour, so that the sound portion of the humerus, at its upper end, presented the appearance, after separation, of the disorganized bone having been fractured obliquely at that point.

The following question presents itself in reference to the pathological condition thus displayed. May not an unreduced comminuted fracture, as a continued irritant, so derange the nutritive process, as to about the seat of accident, as to induce an abnormal callus, constituting this local accidental carcinoma in the form of *pancreatic sarcoma*, as here found? All this may occur without a carcinomatous condition of the blood; the cacoplastic deposit may be wholly owing to the continued local irritation, and implicate carcinomatically only the seat of irritation.

This inorganic deposit is entirely dependent on the nutritive function of the part in which the deposit is made, unless subsequently it should assume some one of the malignant forms of *cephaloma*, in which the organic deposit possesses itself properties by which its subsequent developments are affected, independently of the nutritive functions of the parts in contact, except so far as the material of growth may be derived from this source. The former condition, or *carcinoma*, apparently from mere local causes, being present, in the case of our patient, and all the external indications, such as cachexy, &c., of the latter state being absent, we were encouraged to hope that a permanent immunity from the disease would be secured by the operation. Such results, however, were at all times spoken of with due precaution. But our object is to present the facts of this case merely.

The issue, we trust, has proved, that where an operation above the joint becomes necessary, its performance is not only practicable, but subsequent union of the wound is more speedy, and recovery quite as certain as when performed at the shoulder-joint. It is, however, liable to all the dangers incident to operations of the largest class, after which the persistence of life is precarious, even under apparently the most favourable circumstances; and when associated with other diseased states of the system, as in the case of our patient, anticipations of entire success, however fondly cherished, are destined to meet with almost certain disappointment.

ART. V.—*Osteo-Sarcoma of the Lower Jaw. Removal of the body of the bone without external mutilation.* By J. MARION SIMS, M. D., of Montgomery, Ala.

JACK, a negro man, aged 68, the property of John M. Sanders, Esq., of Macon Co., Ala., was the subject of this operation. In 1843 he discovered a small tumour at the symphysis, just at the junction of the lip and gum. It was painless; grew very slowly; almost imperceptibly, till it gradually embraced nearly the entire body of the bone; the third molar tooth bound-