Surgical essays and cases in surgery / by David L. Rogers.

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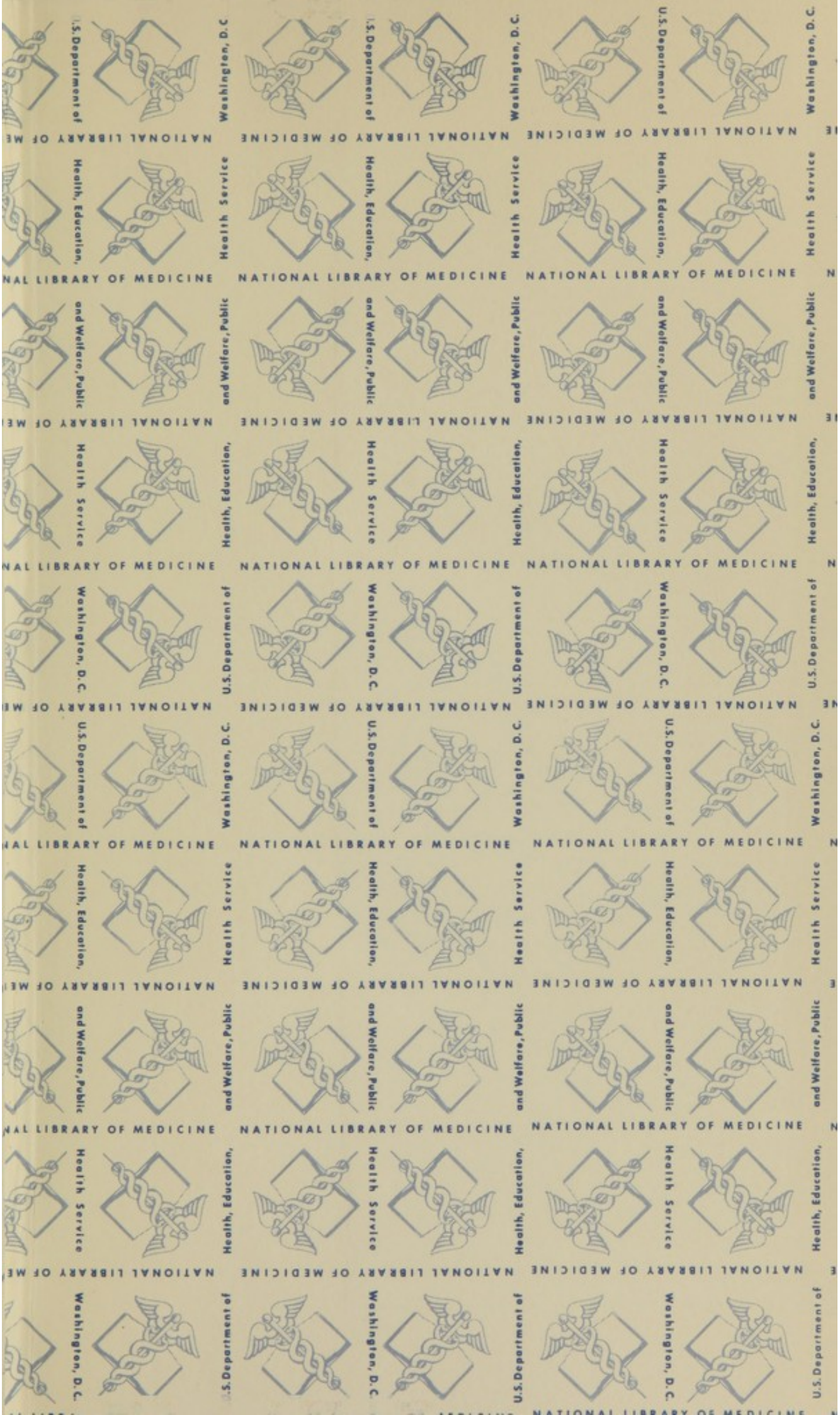
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SURGICAL ESSAYS

AND

CASES IN SURGERY.

BY

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NEWARK, N. J.
PRINTED AT THE DAILY ADVERTISER OFFICE.
1849.

PREFACE.

Allied by family traditions and connections with the medical profession, I early in life became devoted to its pursuits. Surgery had for me peculiar interest, and for many years I was laboriously engaged in its practice. While thus engaged, the advancement of surgery was my highest object, and consideration of its difficult problems the subject of my most earnest attention. But the unremitting exactions of professional life left me but little time to contribute to its records or literature. A few essays and cases, published at long intervals, and for the most part hastily written at the request of editorial friends, form the sum of such contributions. These, with a few extracts from the notes used by me in instructing my office students, and afterwards in lecturing from the

surgical chair, Geneva College, constitute the material of this volume.

I have not deemed these papers sufficiently important to be offered to the profession at large. When such of them as have already been published first appeared, I deemed them of some interest to my brethren, and I hope they tended in some small degree to advance professional knowledge and usefulness; but whatever of freshness and utility they possessed, may have passed away with the elapse of time—more recent and thorough observations may have rendered them uninteresting, if not antiquated. Such is the rapid stride of modern progress, that the novelty of to-day becomes the antiquity of to-morrow. Yet there may be, and I trust there are, herein-contained which are not without interest at the present time.

The controlling motive for printing this book is, that it may serve as a memento of me to my friends, especially to that large number of them among the medical profession of New York, who for many years honoured me with their confidence. It is for them that this volume is especially intended, and to them it cannot fail to be interesting. It will awaken in them old associa-

tions. They will recognize in it cases in which they once felt deep interest, and which we have together watched with mutual hope and fear. In forwarding it to them, I beg them to accept my sincere gratitude for their generous confidence and support during my professional career, and my sincere and hearty well wishes for their future welfare, whether they have retired from the arduous labours of the profession, or still discharge its humane and honorable duties. There were some who, in my early struggles, supported me by their strength and guided me by their wisdom, whose eyes have been closed for ever. They, alas, cannot see this expression of my gratitude;—I think of them and become silent.

Clinton Place, *May*, 1849.

OBSERVATIONS ON ANEURISM.

Inaugural Thesis, presented to the Faculty of the College of Physicians and Surgeons of the University, of the State of New York, for the decree of M. D.
(Published in the Medical Repository, vol. vii. 1822.)

Until of late, an aneurism of the carotid artery has been looked upon with dismay, and considered as inevitably fatal. It was formerly considered as utterly impossible to secure this artery by ligature. This supposed impossibility originated from the idea, that, should so large a current of blood as that derived from the heart to the head, be intercepted by ligature, it would prove immediately fatal—but owing to the rapid improvements in anatomical knowledge since the close of the last century, these doubts have been dissipated, and it has been clearly proved, that one artery is sufficient to answer all the demands of nature. The innovation of Mr. Hunter, in passing a ligature upon the cardiac side of an aneurismal sac, proving effectual in the obliteration of the artery,

has led to new and important discoveries in this branch of natural science.

In the year 1805, Mr. A. Cooper made the first attempt to cure an aneurism of this artery, by securing it in a ligature; and although it proved fatal, yet from the length of time which the patient lived, the practicability of the operation was sufficiently established to warrant his second attempt, in 1808; which last operation equalled his most sanguine expectation, and fully proved its utility. This operation has since been performed so often, and with such unvaried success, that its possibility and usefulness are now fully demonstrated, and surgeons no longer hesitate to make the attempt, nor are they doubtful as to the result.

The connection of the carotid artery with the veins and nerves of the neck—its direction and relative connections with the muscles—its being a single and undivided trunk from its origin to its bifurcation at the angle of the lower jaw—the facility with which it is secured at some parts, owing to its being superficial; and the difficulty and danger that must ever follow an attempt to secure it at other parts, will render an investigation of its pathology, at all times, interesting to surgeons. But to give a detail of the surgical anatomy of this artery, would be foreign from my design; I shall therefore select such parts as tend

more particularly to elucidate the subject, referring, as occasion may require, to such authors as have written expressly upon it.

For surgical purposes, the carotid artery may be divided into three parts. First, that part which extends from its origin to the intersection of the Omohyoides muscle. Second, that which extends from the Omohyoides muscle to the angle of the lower jaw—and thirdly, that part superior to the angle, and where the branches are given off.

These divisions should be well understood, as each part differs in its connections with the veins, nerves, and muscles. The surgeon should also be intimately acquainted with the peculiarities of each of these divisions, for upon this knowledge will in a great measure depend his success as an operator, and the life of his patient.

Notwithstanding many valuable works have been written upon the anatomy of this artery, by men of the first standing in their profession; yet I humbly conceive, that something more may be done. I would therefore suggest the propriety of an additional operation to the present mode of securing this artery by ligature. I mean in those cases in which the present mode of securing it would be deemed impracticable.

Brasdor's proposition of passing a ligature upon the distal side of an aneurismal sac is known to every person conversant with disease. Its origin,

success, and rejection, is likewise familiar to every practitioner—it might, therefore, appear somewhat presumptious, to revive a doctrine which has been so unsuccessful, and so severely reprobated by some modern authors of distinction, who contend, that—"It is absurd in theory, and experience proves that it is ruinous in practice." (A. Burns on the head and neck.) Admit, if you please, that I may fail in establishing the theory, still we believe the opinion of the learned gentlemen premature, inasmuch as his conclusions were drawn from the only two cases on record, (see Decamp's and A. Cooper's cases,) in which this operation has been performed. Yet even in those cases, every surgeon must admit, that the principles upon which aneurisms are obliterated were totally lost sight of —that the performances were at variance with every idea of obliteration, and a cure could not hence be anticipated, even by those who performed the operation: for the blood having a free passage through the tumor, it could never be at rest—coagulation could not take place, hence an obliteration could not have been expected. That this plan of curing aneurism is equally applicable to any part of the arterial system, I will not assert; yet I am of opinion, that under certain circumstances it should be resorted to. By thus advancing an opinion as to the practicability of the operation, I would not wish to be understood as saying that

the chance of success is equal to the present mode of curing aneurisms; but that in cases where the present mode is insufficient to effect a cure, this should be resorted to, as a dernier exhibition of surgical skill. The general principle upon which arteries are obliterated, will be adduced in support of this practice. It would appear that the means used in curing aneurisms, is to intercept the direct current of blood to the sac, or to diminish its quantity and velocity; and not that the flow of blood into the sac should be totally obstructed: for a pulsation is perceptible in the tumor for several days after the principal trunk is destroyed. The collateral branches being enlarged, convey a sufficient quantity of blood into the sac to continue the pulsation. The blood being removed from its course of circulation, there immediately succeeds an accumulation of coagulum, until the mouth of the artery and sac are completely filled and obliterated. Generally speaking, it is impossible to pass a ligature around any artery for the cure of an aneurism, without leaving some branches between the ligature and sac. This accounts for the continual pulsation.

"It is essential to the success of this operation that no large vessels arise from the sac, or from that portion of the artery situated between the sac and ligature; for the stream of blood passing through the tumor may, under such circumstances,

prevent the coagulation of its contents, and continue the decease." (Hodgson on the veins, p. 292.) It is evident from the case related by Descamps, that this fact entirely escaped his notice, or the circumstances of the case were of too desperate a nature to allow its admission.

The tumor was situated in the upper part of the thigh near Poupart's ligament. From its situation, it was thought impossible to pass the ligature above the sac. The tumor increasing rapidly in size, and the danger of its bursting, urged him to adopt this pratice. Although from the derangement of the parts, he was not able to select the most proper situation for passing a ligature, inasmuch as the artery was not seen during the operation, but he had to secure it by a plunge of the needle; yet it evidently appears from his own statement, that the profunda passing off between the ligature and the sac would not prevent the obliteration of the cyst; and that it would have been cured with, at least as much facility as by the usual practice. This patient, however, died four days after the operation, owing to the quantity of blood lost in opening the sac and securing the ends of the artery. Upon examining the limb it was found that the Profunda remained between the sac and ligature; and that its trunk was nearly as large as that of the Femoral artery.

Mr. A. Cooper witnessed a case in which the

same error was committed. The aneurism was situated in the External Iliac, in which there was not a possible chance of securing it above the sac. The case had been of so long standing, that every moment's delay seemed to endanger the patient's life. The artery was secured between the Epigastric and Profunda; the Epigastric and Circumflux Iliac remaining between the sac and ligature. Could it have been anticipated that an obliteration would have taken place beyond the first collateral branch in the two cases above cited? Is it not evident from the arteries being between the sac and ligature, that the blood continued to circulate through the cyst with the same facility as it did previous to the operation; and if not at rest could coagulum take place? And may I not add, in thus performing the operation, the very object intended to be accomplished, was defeated. They appear to have lost sight of the very principle upon which aneurisms are cured: for should a current of blood continue to flow through the sac, it is of no consequence whether it be carried off by anastomosing branches, or directly through the principal trunk; so long as the blood continues to flow fairly through the artery, it would reäct upon its stimulus with its usual energy, and the blood would be propelled with sufficient force into the aneurismal sac to prevent coaptation, and consequent obliteration. Thus it

happens when a ligature is applied near a large branch, that a secondary hemorrhage frequently occurs, and the obliteration of the principal trunk is prevented, because there is not sufficient space between the ligature and branch, for coagulum to form.

Mr. Hodgson's case, (p. 198,) is an exception to this general rule, there being sufficient space between the ligature and nearest branch, and yet no coagulum formed, although the patient lived three weeks after the operation. It is, however, a general rule, that when a ligature is applied to an artery for its obliteration, its calibre is destroyed to the next important collateral branch, in both directions. For should a ligature be applied to any part of the carotid artery, previous to its bifurcations, it would be obliterated from its origin to its division at the angle of the lower jaw.

Dr. Mott secured the carotid artery at the lower part of the middle third, for the extirpation of a tumor situated at the upper part of the neck, and involving all the other vessels arising from this artery. The ligatures came away on the twenty-first day after the operation, and the wound closed as well as the nature of the case would admit; but the disease returning, the patient gradually sunk under the discharge, accompanied with an affection of the lungs, and died three months after the operation. (Med. and Surg. Register, part 2, vol. 1, p. 397.)

Upon dissection, the carotid was found completely obliterated from its origin to its bifurcation, leaving a fine ligamentous cord which was divided into two parts, showing the place where the ligature was applied." I have lately had an opportunity of examining the external Iliac artery which had been secured at the point, where the Epigastric is given off—it was completely filled with coagulum to its origin.

Mr. Hodgson (page 197,) thus expresses himself: "I have invariably found the canal of the vessel obliterated and its coats converted into a solid ligamentous cord, in which no vestige of the original structure could be traced. In most instances the obliteration extended on both sides, from the part at which the ligature had been applied, to the origin of some considerable ramification; but this does not always occur."

Although the formation of a coagulum, and the obliteration of the artery, do not always follow the application of the ligature, yet the exceptions are so rare, that it cannot form a serious objection to the usual mode of operating; for it more generally depends upon its location. It may originate entirely from the ligature, being located near the origin of some large branch.

A. Cooper's case of femoral artery on which the ligature was applied close to the origin of the epigastric, terminated fatally, by secondary hem-

orrhage, on the fourteenth day after the operation. In this case, there was not sufficient space for a coagulum to form between the ligature and the artery; nor were the adhesions of the artery equal to resisting the force of the circulating blood, which acted immediately upon the mouth of the artery, the difference between the ligature and the branch not being perceptible. The acute angle which the blood must of necessity make, caused the whole force of the circulation to spend itself upon the newly cicatrized wound. It sometimes happens, that there will be a considerable length of artery between the ligature and the branch, and yet no coagulum will be formed. (A. Burns on the Heart, p. 230.) The artery remains pervious and of its usual dimension for the space of two or three inches, during the lapse of twenty years after the performance of the operation. These cases, however, are very rare, and may originate from the fact, that the ligature does not produce an irritation sufficient to cause a deposition of lymph, or that the inflammation does not extend beyond the ligature. It cannot be said, that the circulation is carried on in this insulated portion of the artery; because it is in the same situation as the Hypogastric artery, which is frequently pervious even to the Umbilicus at the adult state.— Its coats are collapsed and of their usual size, and therefore its sides would not unite, unless there

should be some exciting cause sufficient to produce an inflammation in its mucous coats. Upon the same principle there would be no more probability of a union between the coats of an artery without previous inflammation, than there would be in the folds of the mesentery whilst lying in contact, without any exciting cause. Surely, no one will say that blood is propelled into the useless Hypogastric artery, since as a thing of course, it must return by the same passage through which it entered.

Several cases of unobliterated arteries, notwithstanding the application of a ligature, are related by Mr. Hodgson; (p. 201) in the greater number of which, secondary hemorrhage was the consesequence. However, the above cases cannot be adduced in argument against the general rule, viz. that coagula take place in insulated portions of arteries; since the failure originated from an improper application of the ligature, or from the age and vitiated habits of the patients.

If the obliteration of the arteries is governed by these general principles, and it be a fact, that by intercepting the current of blood they lose their action and are rendered incapable of carrying on the circulation; is it reasonable to suppose that a fact so important, can be of no use in the cure of aneurisms; or shall we be deprived of its efficacy because it has failed when improperly performed?

Yet, notwithstanding the violent opposition that

is offered to this manner of securing arteries for the cure of aneurisms, its most rigid opponents acknowledge the theory correct, though they discard the practice.

We are told by one theorist, that the adhesion of the sides of a vessel may be procured, provided the flow of blood be intercepted along its canal. If the obliteration of an artery depends upon the flow of blood being intercepted, it is then evident, that, if a ligature be passed upon the distal side of an aneurismal sac, no branches being given off between the ligature and tumor, the blood thus removed from its course of circulation will become coagulated; "For the artery thus abandoned diminishes gradually in its size, until it is obliterated. In this case compression is recommended to facilitate a coagulation in the sac, thus depriving the aneurismal cyst of any share in the circulation. If it be thus done, the absorbents will soon perform their part of the process." (Scarpa Wishart's Translation, p. 213.)

If it be admitted that the obliteration of an aneurismal cyst can be accomplished by intercepting the flow of blood through the sac, and that too by its subsequent coagulation, I have then only to prove, that passing a ligature upon the distal side of the sac will answer the end I have in view, viz: If a current of blood be prevented from passing through an artery, that a coagulum

will form and its actions and functions be destroyed.

It is generally admitted that the heart and arteries carry on the circulation ; that their actions are mutual, and that either will cease to perform its office when the corresponding action of the other ceases. This fact is illustrated by the ossification of arteries in the extremities ; the member becomes cold, insensible, and finally mortifies. "If an extent of vessel be converted into a calcareous cylinder, it loses its elasticity and organic power, insomuch that it is unable to afford any assistance to the propulsion of blood." (Hodgson, p. 42.) It is therefore strong presumptive evidence, in favor of their action, that should the arteries undergo the same change, the parts to which they are distributed, would not be capable of supporting their vitality—that blood is not entirely dependent upon the action of the heart for its propulsion through the arteries—and that they are not inelastic tubes dependent upon the laws of Hydraulics.

That the arteries do possess active power and materially assist in the circulation of the blood, there can be but little doubt ; since in the restoration of a limb often the principal trunk has been secured by ligature, the collateral branches increase their size in proportion to the demand of blood to supply the part, and the action of the

vessel increases in equal ratio with its increase in size, thereby carrying on the circulation as effectually as if the principal trunk remained perfect. It would certainly seem erroneous to suppose that the heart determined this increased quantity of blood to the collateral branches, or that it possessed the power of determining what particular parts required more than what would pass through its branches. "Animals being born without hearts, is a strong confirmation of the belief that arteries perform the functions of the heart until they arrive at a period when a double circulation is required, when they must of necessity perish. Insects that require but one circulation are without hearts, and the blood is of course propelled by the action of the arteries." (J. Hunter, p. 91.) "The contractile state of an artery arises from the action of its muscular power, and is restored again by its elasticity." (J. Hunter, p. 117.) If by any means the elastic coat is prevented from acting, the blood ceases to flow through that artery and seeks new channels to supply the part. We thus destroy the elasticity of the coats by securing the artery in a ligature, hence also destroying the action of the artery, inasmuch as the antagonist muscle is prevented from acting. If there be no other power except the force of the blood to overcome the action of the muscles, the artery would be kept in a constant state of contraction, for the mere

force of the heart would not be sufficient to overcome the combined strength of the muscular coats of all the arteries in the system. The facts, which we think are admitted by all who are acquainted with the circulating system, viz: the action of the arteries, and the circulation of the blood being as rapid at the extremities of the arteries as at its origin from the heart, are abundantly sufficient to satisfy the most sceptical.

The danger of bursting the sac, by the force of the circulation, has been considered as an insurmountable obstacle to passing a ligature upon the distal side of an aneurismal sac. Whether this objection coincides with reason or experience, I leave for those to decide who are more experienced than myself; yet, I must say, that, in my opinion, it is at variance with every principle upon which aneurisms are cured. It would be a subject worthy the investigation of the curious and learned, to ascertain at what stage of the disease, laceration is most likely to occur, or whether it ever occurred except when situated in the thorax or abdomen. and even in this situation I may add, it is not a common occurrence. In the only two cases which I have had an opportunity of examining, it has proceeded from ulceration.

Mr. Hodgson, (p. 13,) is positive in the opinion, that aneurisms never burst from laceration, (with the exception of those cases when the aneurism

is situated in the thorax or abdomen,) but by the gradual process of ulceration; and by attending to the different stages of an aneurism, the absurdity of such an objection will plainly appear. In fact, the cyst is capable of making greater resistance to the force of the blood, than an artery possessed of all its natural power.

Aneurisms are properly divided into three stages,

1st. That in which, by the rupture or destruction of the internal coat, the blood escapes and forms a sac, by dilating the cellular tissue.

2nd. That in which, (what John Hunter terms) the thickening of necessity, takes place in the aneurismal sac, and in which the surrounding cellular substance is thickened, condensed, and forms a strong wall to the cyst.

3rd. The last or ulcerated stage, when the tumor looks black, sphacelates, and pours out blood through many small openings. It, doubtless, must be this last stage that excites so many apprehensions in the minds of the timid. For in the first stage it possesses a power equal to repelling the force of circulation, as in the natural state; but with this difference, that it must gradually yield to a force upon which it cannot reäct.

Thus we account for the gradual enlargement of the sac.

In the second we have not only the increased

thickness of the parieties of the sac, but also the accumulation of the coagulum, as an additional security against a rupture by force of the circulation.

In the third stage, we are willing to admit that such an effect as is often anticipated, might possibly follow; yet, by applying the proper bandages, or plasters to the tumor, the practice, even in this extreme case, would still be correct; for it would be the dernier resort of nature and art, to support life. But I contend, that such an occurrence is highly improbable even in this last stage, since the action of the artery being interrupted, the current of blood to that artery must necessarily cease. Mr. J. Bell, in his usual style, ably confutes every supposition of this kind; he says,— "When you tie an artery, the blood returns in it backwards, forsakes the obstructed artery, and passes along the other arteries in a backward course." Under such circumstances, the blood is not driven in this retrograde course by any power vested in the heart; but by the action of those arteries which are deprived of their usual supply of blood.

As a still further proof of the above position, I shall add the opinion of Scarpa, viz: "That whenever the blood meets with a powerful obstruction to its passage through an artery, it leaves that artery and enters another." (Wishart's Translation, p. 213.)

It is therefore evident, from the above facts, that the circulation of the blood must depend, in a great measure, upon the action of arteries, as it can exert no force upon vessels after their calibre is destroyed, or when the arteries by their action unite to invite the flow of blood: this admits of demonstration, for when the part ceases to require its usual quantity of blood, the vessel diminishes in size.

The impregnated uterus is supplied with blood in proportion to the growth of the fœtus—its quantity is increased in ratio with the demand; for at the birth of the child when so large a quantity is not needed, it ceases to flow—the arteries lose their increased action, and return to their usual size. It is upon the same principle, that nature has provided for the preservation of life after mortification has taken place; for it is the contraction of the vessels that intercepts the current of blood, and forms a coagulum, which extends to the next collateral branch of importance.

If the coagulum which follows mortification is capable of resisting so effectually the force of the circulation, then the conclusion relative to a ligature being applied to an artery is correct: for example, coagulum will form, and its calibre will be destroyed to the next collateral branch. Varicose veins have been secured upon the cardiac side of the disease, and a rupture was never

known to have taken place from the pressure of blood from behind.

Neither is there a fact in support of the position, that aneurisms will burst from the force of the circulation. Guattani relates a case in which there were two aneurisms situated in the femoral artery. They were both large and distinctly pulsated. The inferior bursted and formed the diffused aneurism. The blood was thus diffused through the cellular substance of the leg, pressing the superior portion so effectually, as to intercept the circulation, and the obstruction to the free passage was so powerful, that its force was spent upon the superior sac, and by its increased velocity produced a rupture.

A doubt exists as to the cause which led to the rupture of the sac in the case related by Guattani, and that doubt is not in the least diminished, by referring to the gentleman's own description of the case. He there informs us, that at the time of the rupture, the patient was in a low state of health—so emaciated and weakened, as to be unable to raise his head from the pillow; and notwithstanding all this, the power of the circulation was sufficient to burst the sac, and diffuse the blood extensively through the surrounding cellular substance. Is it then probable, that the rupture could justly be attributed to the force of circulation, since there was scarcely vitality in the system

sufficient to give it motion, or to ascertain to a certainty that there was a circulation? Is it not more reasonable to suppose, that the antecedent debility was too great for a healthy inflammation, that the powers of the system were so much diminished, as to produce an ulcerative instead of adhesive inflammation? For we know, that by a too rapid depletion in phlegmon the power of renovation is destroyed, and thereby the patient is placed in danger of ulceration, and sometimes of sphacelation.

Had Guattani informed us of the actual state of the sac after death, or examined it critically himself, he would unquestionably have given us a different opinion. In all probability he would have found the sac, which had given way, thin, ragged, and wholly incapable of supporting its own weight.

By referring to my note book, I find a case similar to the one related by Guattani.—

I. Jackson, a sailor, was admitted in the New York Hospital, September 19, 1821, aged thirty-two years. He was received for two aneurisms situated in the course of the femoral artery. The inferior was of six weeks standing, the sac having given way one week, previous to his arrival in the city. The blood having extensively diffused itself through the cellular substance, from the ancle to some distance above the knee, there was no

pulsation perceptible; and the surrounding parts were so perfectly filled with blood, that without doubt, the circulation for some distance below the disease was destroyed. The superior tumor had a pulsation, and from the constant sufferings of the patient, and the length of time the disease had existed, the system had become very irritable.—The patient appeared very much exhausted, both in mind and body. These circumstances prevented the possibility of gaining a correct history of the disease.

From the occupation of the patient, and the circumstances of the case, it was thought advisable to preserve the leg if possible, by securing the femoral artery above the sac. He remained very comfortable for two days after the operation, and strong hopes were entertained of his speedy recovery; but on the third day, a vesication appeared on the foot with a cadaverous coldness extending to the knee. The symptoms increasing on the fourth day, it was found necessary to amputate the thigh in order to preserve life. There was but a small quantity of blood lost while performing the operation, yet, from the great irritability of the system, he survived four hours only after the operation. Upon examination, the inferior cyst was found about two inches above the tendonus arcade of the triceps, and the parts which had given way were found very thin and ragged. The rupture evidently proceeded from ulceration.

The superior cyst was situated one inch below the profunda. It had a dark and lobulated appearance, and was evidently on the point of bursting.

There are some very important facts connected with this case which I must beg the privilege of citing.

1st, The aneurisms appearing without any sensible cause, and the rapidity with which they terminated, both of which appear to be at variance with the general rule, viz. that aneurisms are always slow in their formation; and even those that originate from punctures, are formed gradually.

2dly, This man stated, that some time previous to the tumors appearing, he had been under a severe ptyalism for the venereal disease.

A similar circumstance is related by Guatteni, in his case of spontaneous aneurism. And although he has not suggested it as predisposing the system to this disease, I can see no reason why it should not by enfeebling the system, produce a state of irritability, and predispose the arteries to disease. That mercury has any specific effect upon the arterial system, independent of other parts, I will not say; but I do consider it a subject worthy of the consideration of those who profess a thorough knowledge of the pathology of the human system. I shall be satisfied if the present case does but tend to prove, that an obstruction to the free passage of the blood, will not be sufficient

to lacerate the sac of an aneurism. There is some analogy between this case and an aneurism of the Carotid, in which the ligature is passed upon the distal side of the sac; for between the two cysts there were but two small arteries, and those not of sufficient size to destroy the force or velocity of the blood: therefore, if it be true, that the heart possesses power sufficient to lacerate the sac, it would undoubtedly have occurred in this case.

This appears evident from the facts, that there was an obstruction to the current of the blood, and that the superior sac had not formed an adhesion with the surrounding parts. This non-adhesion may have been one principal cause of its rapid growth and rapid termination. There was a considerable quantity of coagulum formed in the upper part of the sac; from a small quantity of blood continuing to circulate through the cyst, the pulsation continued, and the process of coagulation was in a certain degree destroyed. Mr. A. Cooper saw a case of aneurism situated in the external Illiac, and from its size, situation, and advanced state, it was impossible to pass a ligature superior to the sac. The artery was, therefore, secured below the cyst, between the Profunda and Epigastric arteries. The pulsation continued till the death of the patient. The ligature came away in due time, the wound healed, and the tumor diminished in size; and it was generally believed

that a cure would be effected. But the patient imprudently went into the country for the restoration of his health; the tumor progressed gradually till it arrived at a state of ulceration; and in six weeks after the operation, the escar separated, and the tumor discharged its blood into the cavity of the peritoneum, and occasioned the death of the patient. (Hodgson on the veins, p. 251.) *Quere*,—Were the gentleman's fears realized as to the bursting of the sac, and thus consigning the victim to immediate death? On the contrary, under circumstances peculiarly opposed to every prospect of affording relief, there was a diminution in the size of the sac. In this case, the blood had a free passage through the sac, and was carried off by the collateral branches between the ligature and the tumor, and these branches gave almost as free a passage to the blood, as the original trunk had formerly done. Descamp's case was, in this respect, equally conclusive, and evidently goes to prove the fact, that aneurisms never burst by the force of the circulating blood. For it would be absurd to suppose that the blood makes such a powerful exertion to force its passage, when its principal trunk is obstructed. This would force us to the supposition that there was a redundancy of blood, and no other channel through which it might pass off; or rather, it acted like a rapid current obstructed in its course, where

the greater the obstruction the greater would be its force, arising from an accumulation behind. I trust, however, the number of those who, at the present day, adhere to such palpable absurdity, is small.

If the doctrine of obliteration, as received in the schools of this day, be correct, and founded upon facts, is it not surprising that the same objection has not been offered to passing a ligature around an artery in other cases? if by passing a ligature around an artery we intend to obliterate it, by separating its two internal coats: and we are informed by Mr. Jones, (p. 161,) that this must necessarily take place, in order to produce a complete adhesion. The object of tying an artery, is, "To cut through the internal and middle coats, and bring the wounded surfaces into perfect contact." The ligature has this effect upon the artery, and we therefore place it in the same situation as would exist in the first stage of an aneurism; for an aneurism consists in the rupture of the proper coats of the artery, and consequent effusion of arterial blood under the cellular sheath.

The inference is therefore a correct one, viz: that if the blood continues to exert its force upon an artery, after its action has ceased, we should, in every effort to produce obliteration by ligature, cause an aneurism. But we consider an artery, after an impediment is offered to a free passage of

blood, similar to the Ductus arteriosus, and Hypogastric; for the arteries never would become obliterated, if the circulation depended entirely upon the momentum given to the blood by the action of the heart. "The blood is invited to flow by the action of the arteries, and stops when the action of the arteries ceases."

To suppose that the arterial system is not governed by the same laws, and that it is not acted upon by the same living principle as other parts of the organic system, betrays an ignorance unpardonable, in this enlightened age. It was an unfortunate circumstance, that a Surgeon of the standing of Descamp should fail in his first attempt to introduce this practice, inasmuch as the opinions of such men as himself, and Cooper, are too apt to pursuade others from making an attempt in which they have failed, resting fully satisfied that if they have condemned the system, it must therefore be impracticable. By thus implicitly adhering to the opinions of those who stand high in their professions, we forget that they are only men, and therefore subject to error. We neglect to investigate, because they condemn: we dare not recommend to others, what these great men have denounced. But in the present case, that system which art and influence have rejected as erroneous, nature has demonstrated to be true, and thus exposed the fallacy of all reason-

ing, and the liability of men to err in judgment, whilst their intentions are perfectly pure. The opinion that aneurisms might be obliterated by pressure anterior to the sac, and that they did occasionally undergo a spontaneous cure, was an idea entertained by Scarpa, E. Horne, and others; however, they never carried their system into operation. By referring to the records of Surgery, a sufficient number of cases may be found to confirm the belief in the correctness of the practice.

Mr. Hodgson's dissection of patients who died with this disease, throw much additional light upon the subject; I shall therefore take the liberty of making free extracts from his treatise: Case xix, (p. 11.) was that of a robust soldier, who had for three years been afflicted with a very large aneurism of the aorta, which had caused the absorption of the whole of the upper bone of the ternum, and appeared externally in the form of a large pulsating tumor, extending nearly as high as the chin. Some months after he came under his care, he died, worn out by the extreme impediments to respiration, and an inability to permit even fluids to pass his œsophagus. It was afterwards ascertained, that the pressure of the tumor had produced sloughing and ulceration of a great portion of that tube. This great aneurism arose from the anterior part of the arch of the aorta, and filled the upper part, more expecially the left side of the

thorax; the left sub-clavian artery, resembling in its size and shape, a very large chestnut. The aneurism of the aorta, by compressing a portion of this artery beyond the little aneurism, had caused its obliteration. This small aneurism was nearly filled with layers of coagulum, and the sub-clavian artery from the point where it emerged from this little sac, was completely filled with a firm ligamentous substance. The vertebral, the internal mammary, and superior intercostal arteries, were much contracted, and filled with a similar substance. Thus had the cure of this little aneurism commenced, in consequence of the pressure which the greater one had produced upon the sub-clavian artery. The inferior Thyroid-artery was not obliterated, and through it the blood must have passed in a retrograde direction into the trunk of the sub-clavian artery; which although much contracted, was pervious to this point. In consequent of the removal of the parts, "I was not able to trace the vessels through which the circulation was carried on, but it is highly probable that the circulation was through the inferior branches of the Thyroid, the Cervical and the Supra-Scapulary arteries, all of which anastomosed very freely with corresponding arteries of the opposite side, and with the branches of the superior thyroid, the occipital, and the vertebral arteries. Nothing indicated the obstruction during

life, but it was remarked, that for many months previous to the death of the patient, the pulse could not be felt in the left wrist."

The second case, which is in most respects similar to the first, is given by Mr. Hodgson, (page 113.) This case is related by M. Beauchine in Cowisart's, Leroux, and Boyer's Journal de Médicine: "The Princess of G——, about sixty years of age, died of dropsy in the chest and inflammation of the intestines; the calibre of the Aorta was dilated to at least three times its natural extent." The subclavian artery was slightly dilated, and contained from its origin to the part which passes behind the scalenous, a dark colored clot of the consistence of jelly. That portion of the vessel which passes behind the scalenus, for the extent of an inch and a half, was filled by a very fine grey plug, which was impermeable to the blood, and adhered so intimately to the coats of the artery, that it could not be separated without laceration. This portion of the vessel was intimately connected to the surrounding parts by dense cellular membrane. Its calibre appeared contracted; but from its inferior side a small sac originated, which rested upon the upper rib, and was filled with a friable clot of a dark grey color."

Besides the above cases, many are recorded by Desault, Petit, Baillie, Ford, Guattani and Cowi-

sart, in which the spontaneous cure of aneurisms was effected without the interference of art.

I am not conscious that this operation has been exclusively applied to the Carotid, or is applicable only to the aneurisms of that artery. If it is so, I have not been able to acquire the information. The idea of tying the artery upon the distal side of the aneurismal sac, suggested itself to me almost at the commencement of my studies, on examining a tumor situated immediately above the clavicle: from the pulsation communicated to it by the artery, I mistook it for aneurism, and suggested to my preceptor, Dr. V. Mott, the practicability of securing the artery above the tumor, who honored me by presenting the subject to his class in the winter of 1820–21.

I have considered this mode of curing aneurisms as applicable only to the Carotid. I am, however, of the opinion, that it may with equal propriety, be applied to the common Illiac; for the same facts which support one case are equally applicable to the other. But as the Carotid first attracted my attention, I shall confine my remarks particularly to that artery, and to substantiate the position which I have advanced on this point, I need only urge the argument already advanced.

1st. That this artery never gives off branches from its origin to the angle of the jaw, except when it bifurcates low in the neck; which is a

very uncommon circumstance, and occurs not oftener than once in a thousand cases. I know of but one case on record, mentioned by Mr. A. Burns; besides, there is never any danger of branches remaining between the ligature and the sac.

2d. That by stopping the current of blood through an artery by ligature, the artery is always obliterated to the next collateral branch in both directions. Hence the artery is obliterated from its origin to its bifurcation.

3d. That the action of the heart and arteries is mutual; the heart can exert no influence upon the arteries after their action ceases; the blood ,then coagulates, and obliteration must necessarily follow. It is upon these grounds that I conceive this operation applicable only to the Carotid, it being the only artery in the human body upon which the operation would be performed with a certainty of not meeting with collateral branches. It is the longest artery in the system that does not give off branches, and those at irregular intervals; in this respect there is a regularity truly admirable.

The difficulty of distinguishing an aneurism, which originates from the arch of the Aorta, Innominata or Subclavian, from one that originates from the Carotid, may present itself, as an insuperable objection, particularly to the young practitioner, and cause him to doubt the propriety of performing

this operation; and his doubt may still be increased by the fact that he is to be guided by no one symptom, but by a combination of symptoms.

With a history of the case, an experienced surgeon may, with some considerable degree of certainty, determine the seat of the disease. Mr. A. Burns was consulted in a case of an aortic aneurism, which he mistook for one of the carotid. It was situated behind the clavicle on the acromial edge of the sterno mastoid muscle; there was no pressure made upon the "Aspera Arteria," yet the numbness and ædema of the arms, together with irregularity of the pulse, would have been sufficient, in my humble opinion, to have distinguished it from an aneurism of the carotid; for I know of no case in which an aneurism of the carotid would have produced a like effect upon the arms. At least we can find none by examining the history of carotid aneurisms. The situation of the tumor in the neck might sometimes lead to mistake, because the clavicle and sternum do not give free passage to the tumor. "From this circumstance, the disease has the appearance of originating above the chest, and in many instances, the stricture formed by the resistance of the clavicle and sternum is so considerable, that it appears to tie the artery between the sac and the chest." Mr. Hodgson has seen one case of this kind, which appeared so distinctly above the clavicle, that it

was proposed to pass a ligature around the artery below the sac. But, upon dissection after death, it was found to arise from the arch of the aorta and innominata. Being perfectly ignorant of this subject from practice, I know of no better way of communicating a correct idea, than by extracting the two following cases from Mr. Hodgson, (Case xiv.) "A robust man, between thirty and forty years of age, had been for several months afflicted with an extreme difficulty of breathing, great pain, and a sense of suffocation at the upper part of the thorax, a constant irritating cough, and a copious expectoration of thin frothy mucus. These symptoms resembled those of incipient phthisis pulmonalis, except the thin and frothy state of the expectoration, and the absence of fever."

"A robust man of about forty-seven years of age, died on the 16th of January, 1812. For some months before his decease, he had been afflicted with a great difficulty of breathing and wheezing cough; a quick, strong, and regular pulse; difficulty in swallowing; and a severe pain in the region of the collar-bone, extending over the dorsum of the scapula to its inferior angle; and a sensation of numbness, and a want of natural feeling in the right arm and fingers. Soon after the commencement of these symptoms, a pulsating tumor was observed a little above the sternal extremity of the right clavicle. He had a

constant hacking cough, which was frequently accompanied with a croup-like noise, and an expectoration of thin mucus, which was effected with extreme difficulty of breathing. Upon dissection, an aneurism was found to have existed at the anterior part of the arch of the aorta, near to the origin of the innominata." (A. Burns, p. 32.)

The important rules laid down by Mr. A. Cooper, for distinguishing aneurisms of the carotid, from those situated in the chest, are very conclusive, viz: The difficult respiration and deglutition which are produced by the pressure of the sac upon the trachea and œsophagus. The fascia of the neck would never confine an aneurism of the carotid sufficiently, to produce this symptom to any great degree. The numbness, pain, and œdema, of the superior extremities, could never be produced by the pressure of a tumor of the carotid, on the axillary nerves and absorbents. These symptoms may, however, be produced by a disease of any other artery which is situated near the neck.

Many exertions have of late been made, to distinguish the different aneurisms originating above the upper part of the chest. Although it may please the inquirer to discover something new; and though in these excursions of the imagination the object may be to exercise the mind, and improve the practice, yet the nice and particular distinctions thence arising, can be of no

possible use to the operating surgeon. Agreeable to the present recorded opinion, it would be of no consequence to the patient, whether the disease existed in the lower part of the carotid, innominata or aorta; in those situations, they would be equally fatal. If an aneurism was situated in the lower part of carotid, lying upon, and passing over the clavicle, it would be as impossible to pass a ligature below the sac, as it would be to secure the aorta. And I doubt much, whether there is any surgeon so palpably ignorant as to make the attempt. Hence, a patient under these circumstances, must inevitably die, and with the poor consolation of having had every possible assistance that art could afford.

Should this mode of practice be considered worthy of adoption, those nice distinctions would then be of great importance, and its further investigation would be a subject of interest to the profession.*

Should a case occur in which this practice should be deemed advisable, it might be thought

* For further particulars respecting the distinctions between aneurisms of the upper part of the chest, I would refer to Mr. Hodgson on the Veins, and to Mr. Burns on the Surgical Anatomy of the Head and Neck.

To this might be added what Surgeons have termed, the medical treatment, or spontaneous cure of aneurisms, in which the system of depletion was carried to a great extent. It is of the most ancient date, and was followed with much success previous to the introduction of the ligature. It is said that Valsalve, Morgagin, Albertini, Pelton, and many others, performed many and great cures by this practice. Should the efficiency of the former be doubted, this might likewise be added, and what one failed of doing the other might accomplish.

proper to pass the ligature at the middle, or at the superior part of the middle-third.

This I would recommend for two reasons :—

1st. That the disease of the artery might extend beyond the mere limits of the sac, and thence produce an ulcerative rather than an adhesive inflammation. It would make not the least difference, as far as the result of the operation is concerned. It would as effectually obliterate the artery if it were at the superior third.

2nd. By passing the ligature low down, we might endanger the branches of the re-current nerves, particularly near the intersection of the omo-hyoid muscle; for as Mr. Burns observes, that here the branches are large and numerous.

Remarks upon the application of a Ligature to the Arteria Innominata.

The operation of securing the arteria innominata by ligature has been performed five times; first by Dr. Mott, in 1818, secondly by Professor Graffe, in 1822, thirdly by Mr. Normon, in 1824, fourthly by Mr. Lizars, in 1837, and fifthly by Mr. Huton, in 1842. It appears from the published reports of those cases, that the operation has thus far been unsuccessful, and in each case the proximate cause of failure has been secondary hemorrhage. As the possibility of securing the arteria innominata by ligature can be no longer doubted, as the fear of affecting the head or heart by intercepting so large a current of blood is not at present entertained, and as it is admitted that the right arm has a sufficient supply of blood; it has become a matter of importance to ascertain from what cause such secondary hemorrhage has arisen.

We are struck at the commencement of the investigation with the remarkable fact that the secondary hemorrhage, after applying a ligature to the arteria innominata, does not occur until long after the time when, in other cases, we consider the patient free from danger; and in

pursuing the investigation by the light of the cases above referred to, we further notice the rapid return of the circulation to the arm, indicated by its warmth, and the pulsation of the arteries. In order to investigate this subject properly, it will be necessary to review the facts in the cases already presented, and to offer a supposition, the truth of which can be established only by future experiments.

The operation for tying the arteria innominata was performed, for the first time, by Professor Mott, on the 11th day of May, 1818, for an aneurism of the right subclavian artery. The ligature was applied "half an inch below the bifurcation." The report goes on to state, that on tying the ligature, pulsation ceased in the right radial and temporal arteries. The head and lungs were not in the least affected. Two hours after the operation—"The temperature of both arms is very nearly the same"—at three hours "there is still a trifling difference in the temperature of the two arms." At five o'clock on the second day the temperature of both arms is reported as the same. At ten o'clock it is stated that "The veins of the fore arm and hand (since the operation) have been as much distended as previous to it; and upon compressing them so as to stop the circulation, and allow the veins to become empty for some distance above, the column of blood is seen to distend the vein immediately

upon the removal of the pressure, plainly showing that the circulation is going on with considerable rapidity, although no pulsation has been felt in the brachial or radial artery. The radial artery can be easily distinguished by the finger, and seems to be filled with blood." The above quotations extending to ten o'clock on the second day after the operation, shows a peculiarity in the circulation that is not usually observed after the main current of blood leading to a part is cut off. So little was the temperature diminished that it was not at first necessary to use any artificial means to retain it, and secondly, that the circulation should be so far restored, within twenty-four hours, that the blood was distinctly felt in the radial artery. If we add to this, that a pulsation or undulation was, at intervals, felt in the radial artery, on the fourth day,* we must come to the conclusion that the ordinary collateral circulation was inadequate to give this supply of blood in so short a time. We could hardly suppose that the communication existing between the epigastric and internal mammary, or between the intercostal and thoracic arteries, would have been sufficiently established, at this early period, to have given so large a quantity of blood to the arm. If then it be admitted, that the arteries above mentioned could not furnish the

* Professor Lizars reports the pulsation to have returned in the radial artery on the third day. Lancet for 1842, page 446.

quantity of blood circulating through the arm, the question arises, how are we to account for this rapid return of the circulation? My supposition is, *that the arm was supplied by a retrograde current of blood through the carotid artery of the right side.* Many facts connected with the case of Dr. Mott, go to confirm this proposition. The hemorrhage which occurred on the ninth day could not be accounted for upon any other supposition. "It came on when preparing to renew the dressing—the stream was large, and fears were entertained for the man's life." This hemorrhage, doubtless, proceeded from a partial division of the arteria innominata by the ligature. That the blood flowed from that portion of the artery anterior to the ligature must be evident from the fact, that it was arrested by slight pressure, and did not return. It must likewise be admitted that if the blood had flowed from that portion of the artery internal to the ligature, slight pressure would not have arrested it, as it would have been under the full force of the heart's action, and beneath the sternum, so that no pressure would have been sufficient, for a moment, to save the patient. The ordinary dressing, for a time, prevented a return of the hemorrhage, owing to the pressure, the circulation through the right carotid was interrupted, but when the circulation with the left carotid became more freely established, and the right more distended with blood, it acted with

greater vigor, and the adhesions formed at the divided end of the innominata were insufficient to resist the pressure of the blood. A rule has long existed in the application of ligatures to the arteries, that a sufficient space must exist between the ligature and the next collateral branch, and in both directions for a coagulum to form. I am under the impression that the violation of this rule has been the cause of failure in all the operations for tying the arteria innominata. In the report of Professor Mott's case we are informed, that the ligature was applied to the innominata half an inch below the bifurcation, a distance equal to the diameter of the carotid artery. If then the supposition is admitted, that the arm was supplied with blood by a retrograde current through the right carotid, which passed off to the subclavian at an acute angle through the upper part of the innominata, we must allow that there was neither space nor time for a coagulum to form at the angle. In the early part of these cases the carotid artery was partially filled with blood, and no impetus being given to it by the action of the heart and arteries, the slight adhesions formed by the action of the ligature were sufficient to prevent its breaking out, but as soon as the artery became distended with blood, and its coats began to offer resistance, a very little increased action was sufficient to destroy the recently formed adhesions.

This may be illustrated in the case of Professor Mott's patient, when on the twenty-third day, "something arrested his attention, which caused him to turn his head to the opposite side suddenly, and he felt the gush of blood from the wound." (Cooper's Surg. Dict.) The hemorrhage was arrested by lint pressed into the wounds. In proof of the proposition I have offered, it may be remarked here, that the pressure applied on the twenty-third day was sufficient to arrest, in part, the circulation through the carotid artery, for at 9 o'clock, P. M. the temperature of the right arm was a little less than in the left, and for the first time since the first day, warm bricks were ordered to the arm. From this time to the twenty-sixth the hemorrhage was observed to return after the removal of the dressings, but to decrease in quantity as the patient grew weaker; showing that although the adhesions had been destroyed by the first hemorrhage, the dressings were sufficient to command the languid circulation through the carotid. The post mortem examination in the several cases in which a ligature has been applied to the arteria innominata establish two important facts,—

1st. That the carotid artery of the right side remained pervious, although in Professor Mott's case, it was much obstructed by a coagulum adhering to its inner surface "more than twice the thickness of its coats," showing that it had been gradually deposited by the blood in passing through

the artery. This deposition of lymph may have taken place within the last three days by the interruption offered to the circulation through the artery, by the pressure applied to its lower extremity.

2nd. In the case reported by Professor Graffe, it appears that the wound had nearly healed, when a slight hemorrhage came on, which was easily suppressed, but which was repeated, at intervals, to the sixty-seventh day, when his patient expired. The examination, after death, proved that the hemorrhage did not proceed from that portion of the innominata internal to the ligature, as this portion of the vessel was found closed with lymph. (Cooper's Surgical Dictionary.) A coagulum was likewise found in the arteria innominata below the ligature in the cases reported by Professor Mott and Mr. Lizars. (London Lancet, 1832.) Having for several years entertained the opinion, that the secondary hemorrhage which has so uniformly followed the tying of the arteria innominata, proceeded from a retrograde current of blood through the right carotid artery; I have, annually for many years, when lecturing upon this subject, advised my class in case they should venture upon the operation of tying the innominata, to secure at the same time the right carotid artery in a ligature, as the ligature to the carotid could be applied by the same

operation, and with a trifling additional dissection; this would give a longer space for a coagulum to form anterior to the ligature, and if it should happen, as has been supposed by some, that the hemorrhage was caused by a retrograde current from the subclavian artery, that vessel would be effectually closed up by a coagulum from its origin to the vertebral and internal mammary arteries.

If future experience should prove the correctness of my views in relation to the arteria innominata, it would be better in all cases to secure this artery by ligature in preference to the the subclavian artery upon the sternal side of the scaleni muscles, as the artery at this place cannot be secured with any prospect of success.—Professor Lizars has proposed "first to tie subclavian just at its origin from the innominata, and then to tie the carotid about one inch above its origin." (London Lancet, 1843, page 605.) It must be admitted that this proposal gives a much better chance of success, although it may be objected to, for the reason that space existing between the ligature and the vertebral and internal mammary arteries, is not sufficient to allow a coagulum to form.*

* Since writing the above, I find my opinion confirmed by a case reported by Mr. Liston, who tied the subclavian and carotid arteries, as proposed by Professor Lizars. The case terminated fatally by hemorrhage from the distal side of the ligature. Cooper's first lines by Professor Parker, vol 2, p. 514.

A CASE OF FRACTURED SPINE,

WITH DEPRESSION OF THE SPINOUS PROCESS, AND THE OPERATION FOR ITS REMOVAL.

(Published in the Am. Jour. of Med. Science. Vol. 16. p. 91.)

This case occurred on the 3rd. of February, 1834, in the person of a Mr. Little, aged thirty-one years, who fell from the roof of a three-story house, (as is supposed,) upon a coal-box, which fractured the spinous process of the first lumbar vertebra, and depressed this process upon the spinal cord; a space was distinctly felt between the last dorsal and second lumbar vertebra. He presented those symptoms of paralysis and suffering, which are familiar to Surgeons in such cases. After reäction was fully established, the paralysis of the lower extremities continuing, with other distressing symptoms, it was determined to remove the depressed process.

Operation.—The patient was laid upon a cot, and placed on his side, as symptoms of suffocation were produced when lying on his face. The shoulders and hips were carried forward, which caused a projection of the spine; an incision of about five inches in length was made, in the direction of the spine; several fragments of bone, broken from the spinal process of the last dorsal

vertebra presented, these were removed. From the comminuted state of the depressed process, it was thought it could be removed without the saw, and in elevating it, every part was detached except at the oblique processes. An attempt was made to separate these with the knife alone, but without success; Hey's saw, of a small size, was now employed, but the mobility of the part rendered this a tedious and difficult part of the operation, the irregular edges of the bone occasionally coming in contact with the spinal cord, caused excruciating pain, accompanied with convulsive contraction of the muscles of the back; with the aid of the double hook and elevator it was fixed, and by gently sawing it was separated on one side, but could not, by this mode, be detached from the other side. Again the knife was used, and the capsular ligament was divided from the outside; the process was then drawn upwards and outwards, so that the probe pointed bistoury might pass between the articulating surfaces, which completely separated its attachments. About two inches of the spinal cord was now exposed, covered with coagulated blood, quite firm; this was removed with the forceps. The spinal cord did not seem to be injured. The wound was drawn together by a suture and adhesive strips, with a bandage. The patient was laid upon a firm mattress, on his back. In about fifteen minutes after the operation, he

said he was much relieved; sensibility returned to the lower extremities, respiration became easy, and with the assistance of an anodyne, he slept for several hours.

The above operation was performed on the morning of the 5th of February, 1834. At 8, P. M., of the same day, he complained for the first time of pain in his feet, and of difficulty in passing his urine. A catheter was introduced, and about a quart of urine discharged. Gave him lemonade and gum-arabic water for the night.

February, 6th morning.—Has rested well during the night; complains much of pain in his feet, they are highly inflamed and vesicated—twelve leeches applied to them; skin dry. Pulse 106. Ordered spirit mindereri. Seven o'clock, P. M. Pulse much excited; skin dry; complains of pain in the wound; turned him on his side, which gave much relief; was directed to take at bed time, proto-chloride hydrarg. grs. vi; Pulv. ipecac. compos. grs. x. M. The lemonade omitted for the night. Warm fomentations to the feet.

7th morning.—Rested well a part of the night; complains of pressure about the wound. Pulse 100, and tense. Bladder much distended with urine. Bled him ten ounces, when he became faint. 7, P. M.—Was much relieved by the bleeding; slept several hours during the day: urine drawn off twice to-day. Ordered pulv. ipecac. comp. gr's x, at bed time.

8th morning.—Vomited during the night, which caused much distress in the wound; no discharge having taken place from the bowels since the operation, notwithstanding several injections had been given, he was directed to take Ol. ricini, zj.; tinct. opii, gtt. xx, and effervescing draught. 7, P. M.—Cathartic has not operated.

9th morning.—The cathartic has operated several times during the night; says he is free from pain. Pulse 91, and soft. The wound in the back dressed, has in part closed; granulations seem healthy.

10th morning.—By the aid of anodynes he rested well for the night; skin moist; pulse 98; the right foot has lost its sensation, much tumefied; crepitation was felt on the ankle, resembling emphysema. Being satisfied that gangrene had commenced in the foot, I immediately made an incision in the part from below the inner ankle to the great toe, down through the distended cellular tissue. The whole of the foot was gangrenous, extending above the ankle. The nitric acid lotion was applied with lint, and the part covered with a poultice. He was directed to take gum opii, gr. ss. and carb. ammonia, grs. ij. every two hours.

11th morning.—Delirium; refused his medicine; gangrene extended; made deep scarifications into the sound parts; continued the same dressings as

yesterday. Directed arrow-root, with wine and porter.

12th morning.—Is more composed this morning; slept several hours during the night; took his medicine regularly. The soft parts about the foot have separated from the bones, most of which are in a state of comminuted fracture.

13th morning.—Delirium returned: extremities cold; pulse hardly perceptible at the wrist. Died in the afternoon.

Post mortem examination, twelve hours after death—Viscera of the abdomen healthy; the membranes surrounding the viscera had a dark appearance from extravasated blood. The wound on the back was about half closed by healthy granulations. The bones of the spine retained their relative situations. The first lumbar vertebra, from which the spinous process had been removed, was fractured through its body, but no displacement. The spinal cord seemed in a healthy condition.

Although all the cases of depression of the spinous processes in which an operation has been performed have proved fatal, yet I am well satisfied that this case presents a strong argument in favor of repeating the operation under similar circumstances. The immediate return of sensation to the inferior extremities after the removal of the bone, with complete relief from all symptoms

which indicate an injury of the spine, from the time of the operation to his death, form presumptive evidence in favor of his ultimate recovery, had it not been for the injury and gangrene of the foot. I think that in a case of simple fracture and depression of the spinous process, without any injury of the spinal cord, we have a reasonable prospect of success in an operation; at all events, it is the only chance for the patient, and under such circumstances I recommend it.

A CASE OF EPILEPSY,

FROM DEPRESSION OF BONE, CURED BY TREPHINING, WITH OBSERVATIONS.

(Published in the New York Med. & Sur. Journal, No. 17.)

Mr. D——, art. 46, the subject of the following case, has labored under fits of epilepsy for the last fourteen years. For the last ten, they have occurred so frequently as to disqualify him for labor of any kind, and they have gradually increased in frequency and violence. From their long continuance, his mind is much impaired, and he is fast approaching to a state of idiocy. By a close examination I was able to collect from him the following history of his case:—He stated, that a short time previous to the first attack of fits, while working on board a ship, he received a blow from a bar of iron on the front part of the head, which fractured a portion of the frontal bone. He was taken to the hospital; and there not existing any symptoms of compressed brain, it was not considered necessary to elevate the depressed portion. After a few weeks he recovered from the immediate effects of the injury, and left

the hospital in good health. Shortly after this he had an epileptic fit, which returned once a month for three or four years. In the intervals, between the fits, he enjoyed good health. For the last ten years the fits have increased in frequency, and, at this time, he has two or three a day. His appetite is voracious; he is indifferent as to the kind of food which he eats, and seeks only for a sufficient quantity to satisfy his hunger. He complains of pain on the injured side, which extends down the neck and left arm; the eye of the same side is diminished in size; the sight much impaired, and his memory almost entirely destroyed.

The wound was easily found by the large cicatrix which remained. It was situated immediately above the left superciliary ridge of the frontal bone, and over the superior orbital hole. From the situation of the fracture, I was led to suppose, that the external plate of the frontal sinus alone was involved in the injury, but upon a close examination of the bone above the sinus, I discovered a depression sufficiently large to admit the extreme point of my finger. This depression was so small that it might readily have been mistaken for an irregularity of bone, or the mere depression of the external plate, had not the history and circumstances of the case called my attention to it.

Although the appearances, on examination,

would not alone justify an operation, yet, from the regular progress of the disease, I felt assured that the irritation, producing these fits, originated from this injury of the head; and concluded, that either a portion of the frontal bone was depressed--giving rise to the irritation, or that a spicula of bone projected from the fracture into the substance of the brain; and from the constant pain felt in the part, which was increased on the approach of the fits, I was led to recommend the removal of the injured portion. The friends readily consented to the operation, the man being incapable of judging for himself.

On the 7th of July, 1825, assisted by Professor Mott and Dr. F. King, I proceeded to remove the depressed portion of bone by the application of the trephine. Much difficulty occurred in elevating the bone, in consequence of the inequality in its thickness; this proceeded from the saw having to pass through the upper part of the frontal sinus. The bone, after considerable difficulty, was elevated; but unfortunately, the dura mater was cut through for one half of the circumference of the circle. The membranes and the parts around the wound were, by far, more vascular than I have been in the habit of seeing them in operations of this kind. The removed portion of bone, upon examination, was found to have a corresponding ridge upon its internal surface, not

sufficient, however, to produce any compression of the brain.

Having made a section of the frontal sinus, a part of the posterior table was removed with the circular piece. This portion of the internal table had been fractured, and separated for some distance from its inferior attachments to the frontal plate, and driven back into the substance of the brain, to the extent of half an inch. Its sharp edge was worn round and smooth, resembling the natural termination of bone.

Those present were satisfied that this portion of the frontal sinus, was fractured and separated by the blow on the head, and was the cause of the subsequent mischief. The parts were drawn together and dressed in the usual form.

2nd day.—He has been very restless through the night; he complains of considerable pain in the head, and is in great dread of the return of the fits; the excitement is less than was expected. He was ordered a strict antiphlogistic diet, with a drachm of the sulph. magnesia every two hours.

3rd day.—He has no return of the fits, and has rested much better through the night; his medicine has operated freely; the pain continued in the head and arm; the same treatment pursued. He continued from this time gradually to improve without any return of the fits, until the twenty-fifth day after the operation. The wound,

at this time, was entirely healed, and he was permitted to sit up for a short time; when he imprudently overloaded his stomach with food, in the absence of the nurse. I was called in haste to witness a return of the fits. I found him stupefied and almost insensible, much resembling apoplexy. This was followed by high arterial excitement and inflammation of the brain. By active depletion he was, in a few days, relieved.

The pain in the head and numbness in the left arm gradually subsided. He was discharged, as cured, on the 20th of August.

Nine months after the operation I saw the man in the street. He stated, that his memory had nearly recovered its usual strength. He has had no return of the fits, and is so far restored to health as to attend to his business without any inconvenience.

A few general remarks, in relation to fractures of the skull, may not be considered improper in connection with the present case, as it may possibly be referred to in favor of the indiscriminate use of trephine in fractures of the skull.

The division of fractures into simple and compound, has led surgeons to make a difference in the treatment of these accidents. In the first, it is advised not to operate without symptoms of compressed brain; and in the second, to elevate the bone without any reference to its immediate effects upon the brain.

Although the distinction between compound and simple fracture is proper in the extremities, inasmuch as the treatment of the two accidents materially differ, yet when applied to the head we are not satisfied of its practical utility. It is apt to lead those astray who believe that a difference in name must necessarily require a difference in treatment. This not being the fact in the present case, and these two varieties of fracture requiring the same general treatment, the distinction of simple and compound, for practical purposes, should be avoided.

It is now generally admitted, that the operation of trephining is unnecessary in simple fractures of the skull, unattended with compressed brain. Mr. Abernethy has done much to establish this proposition, and the result, thus far, has been in its favor. Cases are daily occurring of depression of bone much below its natural surface, which recover without being elevated, and, as a general rule, no inconvenience is experienced from the injury; and as far as my observation extends, I am well satisfied that the simple depression of bone seldom or never produces compression of the brain without an extravasation of blood, which I believe, in most cases, is the cause of compression.

A course of bold depletion is necessary to prevent arterial excitement, which is the only circumstance that is to be dreaded in the treatment of these cases.

If a considerable portion of bone is depressed, and inflammation is permitted to progress, it frequently happens that the expansion of the brain causes symptoms of compression, and we are obliged to resort to the saw for the removal of the bone. This may, however, be prevented by proper depletion and care on the part of the surgeon.

I am well aware that it is the practice of some surgeons to trephine for simple fractures. An operation has lately been performed in the neighborhood of this city, when the patient had, at least, sufficient sense to walk about the room, and discuss with the surgeon the merits of the operation. Such a practice should be severely reprobated; it unnecessarily places the life of the patient in great hazard. I shall here offer two cases of simple fracture, with depression, which recovered under the depleting plan.

Case I. J. R., aged 12 years, fell from a hayloft upon a stone, the 16th of April, 1823.

He was brought to the house insensible. I saw him two hours after the accident; he had recovered his senses perfectly, but complained from the contusion of the scalp. The blow was received on the right parietal bone, a portion of which was depressed, of about three inches in circumference and at least two lines below the surface. As no symptoms of compression were present, I did not consider it proper to elevate the bone; and accord-

ingly bled him freely from the arm—ordered a mild cathartic, with bread and water for his diet.

On visiting him the next day, he complained of considerable pain in the head, with intolerance of light, and an inflamed state of the eye. I bled him largely from the arm, and ordered six leeches to the temple. This practice was continued for twelve days, and he was bled at least once a day, with other means of depletion. The symptoms gradually subsided, and at this time he enjoys good health, without experienceing any inconvenience from the injury.

Case II. I was requested by Dr. C. to visit a poor child, which had fallen upon the corner of a chair and fractured its skull. The Doctor had left it insensible and laboring under symptoms of compressed brain. I saw it three hours after the injury; it was then insensible; I found a considerable portion of the frontal bone driven in. The depleting plan was advised. I have learned from Dr. C. that this child completely recovered.

Many surgeons adhere to the old practice of elevating depressed portions of bone, from a belief, that its unnatural situation would be a source of irritation to the brain, and, at some future time, epileptic fits would be the consequence. This opinion is supported by Sir A. Cooper, in relation to compound fractures—and he recommends the removal of bone. We are not satisfied as to the correctness

of this distinction; or from what circumstances, connected with these injuries, we should dread epilepsy in one case more than in another. The only difference, in the two cases, proceeds from the bone —in the one case, being exposed to the air; while in the other, it is covered by the integuments. In relation to the bones, they are in the same situation, and in either case, our fears are founded upon the belief, that newly formed bones occasionally proceed from the internal surface of the depressed portion; and from their irritation on the brain, produce epilepsy. This distinction, we are well convinced, cannot be supported by practice. The question would naturally arise, why is depressed bone exposed to the air more likely to have preternatural growth, or protuberances projecting from it, than those covered by the common integuments?

Unless this question can be satisfactorily answeree, we should be inclined to regret this distinction in fractures of the skull, and to pursue the same plan of treatment in all cases.

I shall submit two cases of compound fracture of the skull, which came under my care while Resident Surgeon to the New York Hospital. One I have transcribed in detail, to show the extent to which depletion may be carried in these cases with safety and advantge to the patient.

*Case III. O. Platt, a robust man, aged 21 years,

* I unintentionally omitted in the first publication of case third, to state that Dr. J. K. Rodgers was the attending surgeon, who directed the whole treatment; and to his energetic skill the patient was indebted for his recovery. D. L. R.

was admitted into the New York Hospital, July 6th, 1822, with a compound fracture of the skull, produced by a fall from a scaffold about ten feet high. The frontal bone was fractured on the right side, with a depressed portion of four inches in circumference. At the time of his admission, the wounded temporal artery was bleeding freely; his senses were perfect, and without any symptoms of depressed brain; he complained of slight pain in the head. He was placed in a dark room, and ordered bread and water for his diet, with simple dressings applied to the wound. Two hours after his admission considerable reaction came on. He was bled zxvj. from the arm.

7th.—Passed a sleepless night; complained of pain in the bowels, with great irritability of the stomach; pulse quick and hard; bled zxx.; gave him the aqua ammoniæ acetat. zss. every hour, and applied warm fomentations to the abdomen.—7 P. M., pain returned in the head; bled zxvj. which gave him much relief.

8th.—Rested well the first part of the night; the pain in the head has returned, with slight symptoms of compression; bled zxxv.; he has not had a passage from his bowels in two days; let him have the infus. sennæ cum sulph. magnesiæ, to be followed by an enemeta. 7 P. M., the medicine has not operated; he was ordered ol. ricini zij. and bled zxvj.

9th.—The constipation continues: cathartics continued; pulse much excited; bled zxx. 7 P. M., the cathartics have not operated; bled zxvj.

10th.—Passed a very restless night; complains much of his head; pulse hard and quick; has had no passage from his bowels; let him have calomel grs. x. every six hours; bled zxvj. 7 P. M., much relieved by the operation of the calomel.

11th.—Rested better than usual; slight pain in the head; bled zxvj.

12th.—Rested well, and feels but little pain in the head; dressings removed from the wound—it looks healthy, with a free suppuration; an abscess has formed under the occipito frontalis muscle, extending to the right side; an opening was made for its discharge, and the wound dressed as before. The suppuration, under the scalp, gradually lessened by the use of compresses and bandages. Granulations, from the edge of the wound, in a short time covered the bone; and at the time of his discharge from the house, his health was completely restored and the wound nearly healed.

This man I occasionally see (1826) and he has felt no inconvenience from the injury.

Case IV. J. T. admitted Nov. 12th, 1822. This poor man received a blow from a brick thrown at him with great violence. The integuments were extensively lacerated, and a portion of the frontal bone driven in; the pulsation of the brain could be

distinctly seen; his senses were perfect. The depleting plan of treatment was pursued, but not to the extent of case third. The mild symptoms of inflammation which came on subsided in a few days, and in three weeks he left the hospital in good health.

Not having seen the man after he left the house, the result of the case is uncertain. The dressings to the wound in this, as well as in the last case, were not removed until all symptoms of inflammation had subsided. This we consider as an important improvement in the treatment of wounds and operations about the head.

ON THE UTILITY OF TYING LARGE ARTERIES,

IN PREVENTING INFLAMMATION IN WOUNDS OF THE PRINCIPAL JOINTS, AND IMPORTANT SURGICAL OPERATIONS, ILLUSTRATED BY CASES.

(Published in the New York Medical Journal, Vol. III, p. 453.)

The unfavorable termination of wounds in the large joints, and the little success attending the ordinary mode of treatment, have led surgeons, in many cases, to doubt the propriety of attempting to save the extremity: and in the majority of cases, amputation is subsequently resorted to in order to save the patient's life. A surgeon (Sir A. Cooper's Lectures, p. 108) of great eminence, whose opportunities have been sufficiently ample to lead to a correct conclusion upon this subject, entertains but slight hopes of preserving the limb, if we fail in uniting the wound by the first intention.

The synovia is allowed to escape, and inflammation ensues upon the internal surface of the joint. "If the patient be not very strong, it will be necessary to amputate the limb; but if his stamina be good, the patient may probably escape with anchylosis."

In offering these remarks, it is my intention to show, first, the inefficacy of the ordinary mode of treatment in wounds of the large joints; and, secondly, to invite attention to the propriety of cutting off the supply of blood to parts endangered by inflammation. This is a practice which has been frequently urged by Professor Mott from the surgical chair, and well illustrated by his recent operntions on the lower jaw.*

An ordinary case of simple incised joint, attracts but little attention from persons unacquainted with the serious nature of the accident. A cloth is bound about the part, and they attend to their usual occupation, unconscious of the terrible result. Many hours will frequently elapse before surgical advice is obtained. Inflammation commences in the joint, and the constant discharge of synovia, by lubricating the parts, renders union by the first intention very doubtful. A surgeon acquainted with the nature of the accident, would resort to the most active depletion, both local and general. The disease gradually progresses, and after many months of confinement and pain, amputation is at last resorted to. This is the most frequent termination of wounds of the large joints; but they sometimes terminate differently. The end of the bones are

* The principle of cutting off the supply of blood to parts endangered by inflammation I was the first to recommend and practice in wounds and injuries of large joints.

denuded of their cartilages, a gelatinous substance is thrown out, which is gradually ossified, and firmly unites them, as in case of simple fracture. In confirmation of the above, I shall here add a few cases out of many that have come under my observation:

Case I.—A. Hannah, aged 24 years, of steady habits and a good constitution, was received into the New York Hospital Nov. 12, 1822, for a wound of the knee joint from a small penknife. The incision was about two lines in length; simple dressings were applied to the wound, and he walked to the hospital twenty-four hours after the accident. The knee was much inflamed, and painful; the dressings soaked with synovia, which continued to discharge in great quantities. His habit being full, he was bled largely from the arm, and ordered a brisk cathartic. The wound was carefully brought together by adhesive straps; leeches and cooling washes applied to the knee; and every exertion made to arrest the inflammation.

But notwithstanding the active measures that were adopted, and continued from time to time as circumstances required, the disease continued to progress. The wound remained open. The termination of the disease in anchylosis failed; matter in large quantities was formed in the joint, burrowing itself both above and below the knee, from the spinous process of the ilium to the ankle joint; and

after five months of great suffering, it was found necessary to amputate the limb.

Case II.—Master C., aged 12 years, was thrown from a horse, and fell upon a pavement: the left arm was extended to break the fall, which brought the weight of the body entirely upon the elbow joint, which gave way; the condyles of the os humeri were driven forward through the integuments, and lay perfectly naked on the fore-arm. He was immediately brought to my office for advice. The soft parts were badly lacerated, the bone denuded of its covering, lay four inches from its natural situation. The tendon of the biceps, and the bracial artery were pushed to one side, and lay posterior to the bone. After considerable difficulty, the bone was replaced in its proper situation, and the wound brought together by adhesive straps. From the great extent and dangerous nature of the wound, I was anxious that something more should be done, in order, if possible, to preserve the limb; and I accordingly recommended to his friends that the brachial artery should be secured by ligature. The necessary preparations were immediately made for performing the operation; but the anxiety of his friends had induced them in the meantime to request the attendance of their family physician, who unfortunately differed with me as to the necessity of the operation. The arm was accordingly dressed and the boy sent home. Further advice

was requested, and twenty-four hours after the accident two eminent surgeons were called in, who proposed immediate amputation; but the supervention of tetanic symptoms rendered the operation inadmissible. He was ordered large quantities of opium to lessen irritation, and emollient applications to the arm. These symptoms were relieved in a few days by a profuse suppuration from the wound, and after many weeks confinement he recovered with an anchylosed joint.

I would remark upon this case, that as the favorable termination of this wound could not have been anticipated, it would have been consonant with the best rules of surgery to have amputated the arm, (vide Hennon's Observations, pp. 159 and 274,) and no surgeon would have been censured for so doing; and in the second place, the proposed operation of securing the brachial artery was offered as the only chance of saving the arm, by cutting off the current of blood leading to the wound, it would have prevented a high degree of inflammation, and consequently lessened the subsequent irritation, at the same time allowing the soft parts an opportunity of uniting by adhesive inflammation. I am well persuaded, from subsequent experience, that it would in all probability have preserved the use of the joints. The cartilages and ligamets, in their healthy state, are said to be insensible, or at least their complaints are

not conveyed to the sensorium; and consequently we are not aware of the contusions which they must daily receive in our ordinary occupations of life. But when diseased, or excited into action by local causes, they become exquisitely sensible. Possessing but slight powers of life, they resist disease badly, and are easily destroyed by inflammation, thus laying the foundation for the most obstinate and fatal maladies. In disease, as in health, they appear to be placed beyond the control of the system; and surgeons,* from the earliest days, have been conscious of the difficulty of controlling inflammation in the large joints by the usual treatment, and they generally resorted to immediate amputation.

A surgeon,† a few years since, in a case of a wounded knee-joint, to arrest hemorrhage, secured the femoral artery in a ligature. The successful termination of this case established the principle, as far as one operation can go to establish an important rule of practice.

I shall here cite a case of a similar nature, which came under my care, and which, to me, has been truly interesting in its nature and determination.

* Wiseman, in his Chirurgical Treatise on wounds of the joints, Book VI, page 87, observes, "The greater wounds are attended with much more vehement pain, inflammation, delirium, convulsions, gangrene, and are commonly deadly." The Art of Surgery, by Daniel Turner, M. D., sec. v. page 500, in treating of wounds of the joints, says, "Passing by the stiff and useless limbs, loss of the same some times occurs, and frequently of life also." See John Bell's Surgery, Part III.

† American Medical and Philosophical Register, Vol. IV, page 176.

Case III.—I was requested on the 14th of August, 1824, to visit Mr. M'Cay, aged 30 years, a wheelwright, who had the day previously wounded his knee with a gouge. I found him lying on a mattrass, drinking spirits and enjoying the company of his friends. He was a man of full habit, with a constitution much injured by ligh living, and consequently a bad subject for a serious injury. So slight did he consider the wound, that he neglected to ask advice, and had drawn it together by three sutures. The wound was situated on the side of the joint, about one inch in length, and was allowing a free discharge of synovial fluid. The knee was much swelled, and painful, the inflammation extending above and below the joint to a considerable distance, with furred tongue, a full and hard pulse, and a loss of appetite, with great thirst. The stitches, which included the divided portions of the capsular ligament on each side, and added greatly to the original cause of irritation, were immediately removed. I apprised him of his dangerous situation, and solicited further advice. Dr. Mott was accordingly requested to visit him, and after maturely considering the circumstances of the case, and the slight chance that could be offered him of saving the leg by the usual mode of depletion, I proposed to cut off the supply of blood to the joint by securing the femoral artery in a ligature. To this proposition Dr. M. readily

consented, at the same time expressing a doubt as to the result. The man was accordingly laid upon a table, I passed two ligatures around the artery at the upper part of the middle third of the thigh, and the wound was dressed in the usual way. The edges of the wound on the knee were brought together, and retained by adhesive straps. The patient ordered to bed, with a strict injunction not to move the leg.

2d day,—On visiting him this morning, I found all the dressings removed; he had passed a very restless night. His countenance flushed, and the pulse full and hard. The swelling of the knee has much subsided, and the pain by far less than it was prior to the operation. The wound was again dressed, a saline cathartic was ordered, and the strictest abstinence enjoined.

3d day.—The cathartic had operated well, he rested much better during the night, and had no pain since the preceding day; from this time no symptoms of importance occurred during his recovery.

In a few days the pain and tumefaction entirely subsided, without any further discharge of synovia. On the tenth day after the operation, the dressings were removed from the knee. The wound had nearly closed, and granulations had sprung up from the bottom; the edges were again brought in contact by plasters, and left until the fifteenth day,

when upon removing them, I was much gratified at finding the wound completely closed: on this day the ligatures came from the femoral artery, and the wound was nearly healed; on the twenty-fifth day he walked out without experiencing any inconvenience from the injury, except a weakness of the limb.*

How far the practice of tying the femoral artery in compound fractures, and dislocations of the ankle joint would be advisable in preference to immediate amputation, I have not had sufficient opportunity of judging. But as a powerful agent in lessening inflammation in these cases, I am thus far well convinced of its utility, and should strongly recommend its adoption in those cases where an effort should be made to save the limb. From the frequency of tetanic symptoms in these injuries, I am doubtful as to the propriety of hazarding the patient's life to save the leg. Unless the accident should occur to a young subject, with an unimpaired constitution, and enjoying the benefits of a good country air: the attempt ought, then, assuredly to be made. This distinction in the result of wounds in the country and city, ought strictly to be observed, as it is a well known fact among surgeons

* Case third is the strongest proof that I am acquainted with in support of the utility of cutting off the circulation to large joints when seriously injured, and the favorable termination of this case may be attributed entirely to the interruption offered to the current of blood to the part; as it was unassisted by the valsalvian depletion, as recommended by Larrey, Guthrie, and Hemen.

of experience, that compound fractures and dislocations of the ankle joint do well in the country, whereas in the city, they, as a general rule, prove fatal.* Therefore, under other circumstances than those alluded to, it would be criminal to allow our humanity to govern us so far, as to endanger the life of the patient by an unnecessary delay in amputating the extremity. "However desirable it may be to save a hand or a foot, yet in severe laceration, the frequency of tetanic affections should at once lead us to adopt immediate amputation."† (Hennen's Observations, p. 170.)

When an attempt is made to save the limb by cutting off the circulation, it will lessen inflammation, and aid the healing process. It will, however, have no influence upon the nervous irritation, or the accession of tetanic symptoms, which do not appear to be governed by the increase or diminution of the arterial excitement. When the inflammatory action has subsided, and the wound is kindly healing, in short, when we consider our patient free from danger, our best hopes are frequently destroyed by the accession of tetanic symptoms, which in a short time end his existence.

* The late Dr. R. Kissam of this city, who, as a practical surgeon stood deservedly among the first in his profession, was heard frequently to express his decided disapprobation of any attempt to save the leg in compound fracture, and dislocation of the ankle joint.

† Mr. Hennen, in his Observations, states—"I have never been fortunate enough to cure a case of the acute symptomatic tetanus." p. 162.

The following case was one of this kind, for the particulars of which I am indebted to Dr. F. G. King, house-surgeon of the New York Hospital.

Case IV.—"Vosburg, aged 34, laborer, habit full, free drinker, whilst engaged in removing earth from the hills at the Hook, a part of the bank caved in and struck him on the left leg just above the ankle, by which blow the ankle was compoundly dislocated upon the inner side, the bone protruding through the integuments fully half an inch. This was about 2 P. M. of Friday, September 2d, 1824, and at 3 P. M. he was brought to the Hospital. The wound was there washed, the sand which had entered the joint cleaned out as well as possible, the bone reduced, wound dressed, and patient bled. On Saturday afternoon the ankle was extremely painful, swelling and inflammation increasing, leeches and cooling lotions notwithstanding. Dr. Mott resolved to tie the femoral artery, for the purpose of lessening the determination to the part, and reducing inflammation. This operation was accordingly performed, after which the wound of the ankle was drawn together by adhesive straps, and so dressed with lint. On Sunday, after having passed a quiet night, the swelling was found not to have increased, limb of natural temperature, which is less than that of yesterday, and pain diminished; wound not examined. Monday, slept well during the night, swelling dim-

inished, heat natural, wound at the ankle offensive, and discharging a thin bloody fluid, poultice to soften dressings and cleanse the part—edges highly inflamed. On Wednesday the wound looked remarkably well, exhibiting healthy and numerous granulations, dres: ung: Res: flav. Thursday, granulations increasing, the wound filling up well and presenting a very healthy appearance; no pain, swelling or tension in the part; patient expresses himself very comfortable; and thus it was doing uncommonly well until the seventh day from the accident, when trismus, &c., set in and he died."

Although the above case proved fatal, yet we may draw some practical conclusions of importance to our present subject. First, it affords a strong proof in favor of the utility of cutting off the circulation in extensive injuries, and it must be considered as a noble effort of surgery to lessen human misery, and to save the unhappy subject of those accidents from decrepitude. And secondly, it gives us a fair specimen of the fatality attending compound fractures, and dislocations of the ankle joint. Notwithstanding every effort was made which science is capable of exerting, and the plan pursued was justified upon every principle of surgery, and the case for a time appeared to sanction its adoption; yet we are led from the result of the case to admit, that immediate am-

putation would have been preferable, inasmuch as it would in all probability have preserved life.

In the treatment of wounds and surgical operations, inflammation in its progress is a subject of serious consideration to the practical surgeon, as it frequently baffles his best directed efforts to arrest its unfavorable terminations; and therefore every practical fact tending to elucidate its nature or treatment, should be impartially considered. It is upon these grounds, that I solicit attention to the propriety of cutting off the circulation to parts endangered by inflammation: not only as it is applicable to wounds of joints, but to all serious injuries in other parts of the body, and to operations of great magnitude, when it is important to produce an immediate union. I feel the more confidence in urging this practice, as it is firmly believed that it would in the majority of cases supersede the necessity of amputation. (Vide Trowbridge's cases in surgery.)

To excessive inflammation is attributed all the mischief that follows extensive injuries, and the most active means of depletion are carried into operation to lessen irritation and subdue action. We therefore resort to local and general bloodletting, counter irritants, &c., to take off the determination of blood to a particular part, and to reduce its volume. If by these means we are successful, the part recovers its tone, and is soon

restored to healthy action. But in case of failure, the vessels of the inflamed part enlarge, become turgid, producing tumefaction and pain; the vessels from the loss of power are unable to discharge their contents, and the blood collects beyond their limits of distension. They give way, and the disease terminates in mortification. It is upon the same principle of lessening inflammation, which has hitherto been pursued, that the present operation is urged, but with this difference: in one case we take off the current of blood from the diseased part by reducing the strength of the general system, and when suppuration comes on, the constitution is too much enfeebled to support a tedious discharge, and necessity obliges us to remove the extremity. But in the proposed plan, the same indications are answered without seriously affecting the general health. The depletion is entirely local, and confined to the diseased extremity. The injured part has an opportunity of recovering its healthy action before the circulation can be sufficiently restored to do any injury, and in case of failure in uniting the wound by the first intention, all the strength of the constitution will remain to support the subsequent suppuration. It might be objected to by some, lest immediate mortification should follow the operation. Experience, however has taught me to believe the collateral circulation will in most cases be suffi-

cient to support the vitality of the extremity. I shall here offer two cases from my note book in support of this opinion.

Case V.—A lad, aged 16 years, was brought to the Hospital July 4th, 1821, with an extensive laceration of the arm, which he received from the discharge of a gun, while imprudently resting his arm upon the muzzle. The discharge entered the arm about the elbow joint, tearing off the integuments for six inches in length and three in breadth. The nerves, veins, and arteries, lay like cords on the surface of the wound. The muscles lacerated in such a manner as to destroy the appearance of their original structure. The bone laid bare, and in some places denuded of its periosteum; he lay for some hours weak and exhausted; his pulse was small and quick. The extent of the wound led the attending surgeon to believe that the brachial artery, or some of its large branches, were divided, and hemorrhage was expected from the wound, as the system recovered from the immediate shock of the accident. To prevent hemorrhage, the brachial artery was secured by ligatures as it passes out from the axilla. Little hope was entertained of saving the arm, but to the astonishment of all who saw the case, there was merely sufficient inflammation in the wound to produce healthy suppuration and granulations. He suffered but little pain during

his recovery; and I may venture to assert that there was not more inconvenience experienced from this lacerated wound, than there would have been from a simple incised wound of the same extent, where the circulation had not been interrupted. He recovered rapidly, and in the course of a few weeks left the Hospital in good health.

Case VI.—John Mylander, aged 30 years, came into the Hospital Nov. 29, 1823, for an inflammation in the arm. He stated, that four days previous he felt a slight indisposition, and applied to a doctor for advice, who bled him.—That the blood flowed very fast, and there was considerable difficulty in stopping it. On his return home, it began to swell, and was very painful. The incision made by the lancet had healed. The arm was swelled to such a degree that it appeared on the point of bursting; and so very sensible, that he complained bitterly of the pressure from the necessary dressings. He was bled largely, ordered an anodyne, and emollient applications to the arm. On visiting him the next morning, and examining the arm more particularly, I found a distinct fluctuation of matter at the upper part, and on the outside of the tendon of the biceps muscle. I accordingly passed a lancet into the abscess, and discharged at least six ounces of matter. A poultice was ordered, and I left him to visit the other wards. After having passed two

wards, the nurse came after me in great haste, stating that the man was dying from the loss of blood. I hastened to the ward, and found him lying on the floor, faint and covered with blood, which was flying from the arm half way across the room. I instantly plunged my finger into the wound, and after pushing it to its full length through the sac which had lately contained matter, I was able to find the artery, and, by pressing with great force, to command the circulation. The attending surgeon immediately saw him, who made an incision down to the artery, and found a wound passing completely through it, about the eighth of an inch in length. After clearing away the clotted blood, which was extensively diffused through the cellular substance, it was secured by ligature. The hemorrhage returned again in two days, when it was found necessary to secure the artery higher up.—After this second operation, which completely cut off the blood from the arm through the principal trunk, the man expressed great satisfaction at the almost immediate relief which it gave him. In this case, we might have expected mortification to have followed the interruption offered to the circulation through the principal trunk, as the cellular substance was crowded with coagulated blood for some distance above the elbow to the ends of the fingers; and so great was the tumefaction, that it must have interrupted in a great

measure its circulation through the collateral branches. But, notwithstanding all the difficulties attending this case, the tumefaction and pain of the arm rapidly diminished; the wound healed kindly, and in four weeks he was discharged cured. In closing this paper, I do it, confidently believing that the practice to which I have essayed to invite professional attention, will, ere long, in abler hands, become an established and important rule of surgery in the treatment of inflammation.

CASE OF OSTEO-SARCOMA OF THE SUPERIOR MAXILLARY BONE,

WITH THE OPERATION FOR ITS REMOVAL.

(New York Med. & Phys. Journal, Vol. 3.)

As the attention of Surgeons of late has been directed to the diseases of the face, and more particularly to the ossific tumors of this part, it is important that every fact should be given to the public which may have a tendency to elucidate the character of this disease, or to confirm the utility of those splendid operations lately performed in cases of this kind by Professor Mott. For, in the result alone can their importance be established; and, like all innovations in practice, they must, for a time, contend with the prejudices of professional men, which, however, will gradually yield as success becomes more certain. The favorable result of Dr. Mott's operations on the lower jaw, for the cure of osteo-sarcoma, led me to the belief that the disease might be cured in any situation, provided the morbid parts could be entirely removed. It is considered a local, rather than a constitutional affection, as most of the cases

which have been published evidently prove. They were generally submitted to strict medical treatment, but without receiving the least benefit, and a resort to the knife rescued them from death. With the firmest confidence in the utility and success of a surgical operation, I was induced to attempt the extirpation of the disease from the upper jaw, in the following case:—R. G., born in Ireland, aged 34 years, came under my care about the 1st of May, 1824, for an affection of the nose. His constitution was much injured by previous intemperance and hard labor. He stated, that the affection of his nose was of six weeks standing. The disease first made its appearance by an enlargement of the soft parts in the front of the mouth, and a loss of all the incisores teeth. His nose soon became obstructed, and a body of a fungus character made its appearance in the right nostril, pressing upon the septum, and gradually obstructing the passage of air through the nose. The disease had progressed thus far, at the time of my seeing him, without much pain, but with surprising rapidity, and was then making its way through the palate. The malignant character of the disease, and its rapid progress, almost prohibited any attempt, with the least prospect of giving the patient relief. It being evident that unless some energetic measures were adopted to arrest its progress, it must soon terminate his existence,

I therefore determined, to attempt its extirpation. The operation was accordingly performed on the tenth, in the following manner. An incision was made first through the filtum of the upper lip, which was dissected from the tumor and alæ of the nose, so as to turn both portions of the lip over upon the cheek. The second incision was to detach the cartilaginous position of the septum narium from the top of the tumor. After extracting the two first molar teeth on each side, a fine saw was used, which readily divided the superior maxillary bone, including the palatine process, the two incisions meeting at the palatine suture: after sawing through the principal bones, the tumor was easily removed, although it extended much farther back than was at first anticipated. It was found necessary, during the operation, to remove the two inferior turbinated bones, a part of the septum narium, the vomer, and a part of the right antrum. Only a small quantity of blood was lost during the operation, considering the extent of the disease, and the vascularity of the part: this may be attributed to the frequent use of the saw. After the operation, the soft parts were brought together and secured by three sutures and adhesive straps. No unpleasant symptoms occurred during his recovery. The parts adhered by the first intention. There was considerable falling in of the upper lip, in consequence of

support which it gave to the nose. In two weeks from the time of the operation, the patient was able to walk out, and on the fourth, to return to his daily labor. The situation of this man will be rendered comparatively comfortable with the assistance of a cork palate.

Case of Ovarian Tumor.

Leach. del.

W. Main. Sc.

CASE OF OVARIAN TUMOR,

SUCCESSFULLY EXTIRPATED, WITH A PLATE.

(Cooper's Surgical Dictionary.)

In July 1829, I was requested by Dr. McCaffry to operate on Mary Gurly, for peritoneal dropsy; after drawing off the water, I observed that the abdomen remained unusually large; upon examination I discovered a large tumor occupying the left iliac region, and extending to the right side. She gave the following history of its original growth:—Two years since, in her passage from Ireland to this country, after being two weeks at sea, she had a suppression of the catamenia, which was soon followed by a sharp lancinating pain in the left iliac region; previous to which her health had always been good. On landing, the pain increased, and the abdomen began to swell; first, on the left, and then extending to the right side; her stomach became affected, and although unmarried, her friends accused her of being pregnant.

In consequence of this impression, the disease was allowed to proceed without any medical advice, until time had satisfied the friends to the contrary, when a physician was called, who pro-

nounced the disease a dropsy, and recommended her to be tapped. A large quantity of water was drawn off, but in two months it had reäccumulated, and the operation was repeated five times previous to my seeing her. It is computed that within the two years, eighteen gallons of fluid were drawn off.

I observed in this case what I have remarked in several others; that the fluid discharged differed from the water in common ascites. It is much more mucilaginous; of the consistence of honey; of a milky color, and differs from any other secretion that I am acquainted with. After deliberately examining the tumor, and as far as possible ascertaining its character and connections, I suggested to her the possibility of its being cured by an operation, at the same time stating the great risk of life attending the performance, and the slight chance of her recovery. I likewise requested Professor Mott, who was consulted in this case, to make a similar statement. Her good constitution and general health all urged the obligation of making an attempt to save her. After the first suggestion, nothing could alter her determination to forego the chance of relief which even so desperate an operation might afford, and, as she expressed it, "I would rather die than live in my present situation." It was accordingly determined to perform the operation as soon as the weather

would permit. In the mean time she was placed upon a vegetable diet. One week previous to the operation I again drew the water, and directed her to live upon bread and water, to take a saline cathartic every morning, and to lose blood to the amount of twenty ounces on the day previous to the operation. This preparatory treatment was rigidly carried into effect by Dr. McCaffry, and to his care I feel much indebted for the success of the case. On the 14th of September I proceeded to the operation, assisted by Professor Mott, Dr. Vaché, and my brother, Dr. J. H. Rogers, in the presence of my pupils. She was laid on a table of convenient height, and with a large scalpel I commenced an incision a little below the ensiform cartilage, carrying it parallel with the linea alba, and terminating at the symphisis pubis.* The integuments being divided, the dissection was continued through the tendon of the linea alba to the peritoneum. This was at first supposed to be much thickened, but by a cautious dissection through a membranous texture to the depth of a quarter of an inch, the water gushed out with considerable force. With a probe pointed bistoury the opening was enlarged to the full extent of the external incision, and to our surprise we found that a sac was opened which appeared to

* From the enlarged state of the abdomen, the incision was at least twenty-four inches in length.

fill the whole circumference of the abdomen, and at first its attachment appeared commensurate with its size. It lay in connection with the liver, stomach, spleen, and bladder. By pulling up the sac it was found that the adhesions were much less than at first expected. It was determined, therefore, to dissect them from the peritoneum and omentum: some of the adhesions were so slight as to be separated by the finger, others by the handle of the scalpel, but the greater part required to be separated by a tedious dissection, and in some parts the adhesions were so close that portions of the peritoneal membrane were removed. These adhesions extended for three or four inches around the umbilicus. [See fig. 1.] After completing this part of the dissection, the tumor was drawn out and supported by an assistant, and the dissection continued; separating it from the ovarian ligament, [see fig. 2,] which required much care, from the large and numerous vessels going to it from this source: the largest was at least the size of a goose quill. After occupying two hours in operation, this large mass of disease was safely removed, and laid on the table. The ligatures were all cut close to the knot, and left to absorption. The wound was closed by sutures, dressed with adhesive straps, lint, a compress and a bandage applied firmly to the abdomen. I place some confidence in the close application of a bandage,

as it brings the divided surfaces in contact for the purpose of adhesion, and likewise as an important auxiliary in preventing inflammation. She was then removed to bed; her pulse at this time was feeble, but regular. In the course of the evening, considerable reäction came on, with some heat of skin. The following minutes of the case were kept by my pupil, Mr. Leach.

Sept. 15—Slept but little during night; at 8 A. M. pulse 120, and quite thirsty; considerable pain on coughing, quite easy otherwise; at 7 P. M., slept for two hours during the day; skin dry and hot; restless and in some pain—bled zxvj.

16th.—She slept better last night; complains of being chilly—applied bottles filled with hot water to her feet; cough troublesome, occasioning some pain; pulse 112—venesect. zxvj.

17th.—At 8 A. M. pulse 116 and some pain at 8 P. M.; quite comfortable.

18th.—Slept most of the night; pulse 106 and regular.

19th.—Pulse 95; very little cough; slept well through the night—dressed the wound, it had mostly healed by the first intention; removed the sutures, and dressed with adhesive straps.

21st.—Slept well all night; no pain on pressure in any part of the abdomen—dressed the wound, it had entirely healed; let her have chicken broth. From this date she continued to improve

in health, without any symptoms requiring notice. In two weeks she was permitted to sit up, and to walk about the room, with directions to return to her usual diet. In six weeks from the day of the operation, she called at my office to inform me that her catamenia had returned, and that her health was perfectly good.

The tumor was composed of a large sac, which contained the fluid drawn off in different operations for tapping. One-third of the tumor was solid, containing a fibro-cartilaginous substance. It weighed ten and a half pounds.

In offering this case, it may be proper briefly to sum up a history of the operations for diseased ovaria. It may assist others in forming an opinion of the relative chance of success in future cases. The removal of these tumors by an operation had its advocates in the last century; but the authority of DeHaen and Morgagni was raised against them, as doubtful in their results, and impossible in their execution.

The first attempt to remove them by an operation was made in 1776, by L. Aumonier, surgeon in chief of the Hospital at Rouen, and is reported as a successful case. (Good's Study of Med. p. 423.)

Dr. McDowel, of Kentucky, has reported three cases in which he operated successfully for tumors in the abdomen, ovarian and hybatid.

A doubt exists in relation to these cases; and certainly the mode of describing them is calculated to confirm that doubt. We are bound, however, upon the authority of others, to believe them, notwithstanding the improbabilities connected with their details; and it is much to be regretted that a more circumstantial account of these cases has not been given to the profession. (Med. Chir. Rev. Vol. V. p. 216.)

Professor Smith, of Yale College, has given an interesting case of the successful removal of an ovarian dropsy by an operation. The tumor was small, weighing from two three ounces, and requiring an incision of three inches in length.—(Am. Med. Rec. 1822.)

In the London Medical Gazette for 1829, Dr. Hopfer, of Biberback, has reported three cases of extirpation of diseased ovaria, by Carysman.—The first was performed in 1819, and proved fatal in thirty-six hours after the operation. The second in 1820. This case was successful, and the woman has since borne children. The third case occurred in the same year, and never recovered from the shock of the operation. Thus, of the three cases, but one recovered.

Mr. Lizars, in the Edinburgh Journal for October, 1820, relates an attempt to extirpate an ovarian tumor, but unfortunately, on cutting into the abdomen, he found no tumor to remove. This case

certainly should not be included in the unsuccessful operations for this disease. The same distinguished surgeon has since reported two cases of the operation, but their results have not been known.

Thus we find in the twelve operations that have been performed for the removal of this disease, seven have been successful and two remain doubtful.

CASE OF INGUINAL ANEURISM,

IN WHICH THE OPERATION OF SECURING THE EXTERNAL ILIAC ARTERY BY LIGATURE WAS PERFORMED WITH SUCCESS.

(Med. Recorder, Vol. 9, p. 269.)

Mr. D., the subject of the following case, for the period of fourteen years, labored under a troublesome inguinal hernia; to obviate the inconvenience of which, a truss was applied. His calling being of an active kind, necessarily aggravated his complaint, insomuch that a truss of ordinary elasticity was wholly insufficient to confine the hernial contents within the abdomen. This circumstance induced him to substitute another of much greater firmness; this instrument answered his expectations, in relation to the rupture, but it was not, however, unattended with difficulties. By the firm and constant pressure which it exerted on the parts, much pain and irritation were produced. In this condition he continued to attend to his daily avocations, until three or four weeks previous to the operation, when he became alarmed at the appearance of a small pulsating tumor in his left groin, immediately below the crural ligament.

The tumor gradually enlarged, and had acquired the size of a billiard ball, when his physician was

summoned to attend, who made known to him the nature of his disease, and advised immediate surgical aid.

I was accordingly called in, and on examination, an aneurism of the inguinal artery, of considerable magnitude presented, one-third of which, extended under Pourpart's ligament. An operation was decided on, and, in the presence of Dr. Mott, and several other professional gentlemen, I commenced by making an incision through the integuments, beginning an inch from the anterior superior spine of the ilium, and extending it with a slight curve, obliquely downward and forward to midway between the internal abdominal ring and the crural arch ;—the contiguity of the epigastric artery to the internal ring, prevented a further extension of the incision forward. The first incision, (which was much increased in depth, owing to the thickened state of the skin and cellular membrane, from the action of the truss and effusion,) exposed the aponeurotic expansion of the external oblique muscle ; this being divided in the same direction, and turned up, brought to view the inferior margin of the internal oblique, which, together with the transversalis abdominis muscle, being raised, the internal abdominal ring was laid bare. Here it may not be amiss to observe, that the hernia, by its constant protrusion, was no small hindrance to the easy performance of this operation.

With the finger and the handle of the scalpel, the ring was sufficiently enlarged to admit the introduction of the fingers behind the peritoneum, and brought in contact with the artery; the sheath of the vessels was now to be opened, but owing to the extreme inquietude of the patient, and the unusual depth of the wound, it was deemed unadvisable to use the knife, the finger-nail was therefore substituted; a single ligature was passed round the artery, and tied about half an inch below the bifurcation of the common iliac. The wound was brought together and dressed, in the usual manner with adhesive straps.

The patient recovered in six weeks, and continues to enjoy good health. The hernia has not reappeared since the operation; the closure of the internal ring from inflammation, accounts for this.

The history above given, of this case, evidently shows that the pressure of the truss, was the sole and only assignable cause of the aneurism. But to expatiate on the pathology and treatment of aneurisms is not the present intention. The principal incentive in noticing this case is the favorable opportunity it presents of adverting, though in a brief manner, to an observation of M. Larrey's touching the propriety of tying the external iliac for the cure of aneurisms. It has been asserted by that gentleman, "that almost all the subjects who had undergone this operation, showed all the

characters of aneurismal diathesis ;" and the assertion wound up with the interrogatory—" What purpose can the operation serve ?"*

By this observation an extensive field, for discussion and comment, is thrown open ; but to enter with free latitude into the argument, would be to protract this paper beyond its destined limits ; all, therefore, that will be attempted, will be to call to mind a few well authenticated facts, with the view of proving the invalidity of the Baron's remarks.

In the year 1796, Mr. Abernethy first performed the operation of tying the external iliac for aneurism. Since that period to the present, the result of similar practice, in numerous instances, has been most decidedly favorable. A long list of cases, of this operation, may be seen in a "Treatise on the Diseases of Arteries and Veins," by Dr. Joseph Hodgson. Out of this number, amounting to twenty-two, fifteen cases of complete recovery are noticed, and but one case mentioned as having died of a subsequent aneurism, and that was beyond the reach of surgical aid, being at the arch of the aorto. In the Med. Chir. Review, of Sept. 1821, the major part of the above cases are referred to, with others of successful termination by British surgeons. Other numbers of the same Journal contain irrefragible proof of the utility of this operation. In the number of March 1822, a

* See Review of Baron Larrey's Russian Campaign, in Med. Chir. Journal, September, 1821.

a case of this operation is published by Mr. Salmon; the aneurism had existed ten months. At the end of two months after the operation, the patient was discharged in good health. Thus much for the success of trans-Atlantic surgery, in the treatment of inguinal aneurisms. Here, the evidence in support of the propriety, and, as far as respects the security of the patient, the imperious necessity of this operation, might cease, as being fully sufficient to establish it as an axiom of surgery. But it is no more than just to observe, that cis-Atlantic practice in like cases has not been less fortunate. The operation of ligature of the external iliac has been performed, if I mistake not, six times in this country; and in no instance has it been followed by a recurrence of aneurism. In this city (New York) a case occurred in which the external iliac on one side, and the femoral artery on the other, in the same individual, were successively tied for the cure of aneurism. In this patient, it must be admitted, there were the most just grounds for the suspicion, that there existed a peculiar constitutional predisposition to aneurism, if, emphatically speaking, such a state of the arterial system ever did exist. Notwithstanding, he perfectly recovered, and still lives in the enjoyment of good health.

In taking a retrospective glance over the archives of surgery, it appears that the cases

above cited are nearly, if not quite, all that can be collected of this operation; and out of these very few deaths are recorded. If this be the fact, it seems to indicate, that M. Larrey has few opportunities indeed, of investigating the truth of his argument by post mortem examinations of such subjects. Experience, therefore, shews that what he advances, in relation to the operation in question, is untenable.

Could we, for a moment, reconcile such doctrine to our minds, as valid and satisfactory—might not the following interrogatories, with right be put:—What should be our rule of conduct when called to see a patient laboring under this most terrific malady? Should we, as conscientious men, weigh the matter in the balance of sound reasoning, and cool unprejudiced reflection, and, as the result of those deliberations, decide on an operation as the only means of security? or are we to stand by, insensible, as it were, to the hazardous situation of our patient, and mute observers of his sufferings, without stretching forth a hand to his relief, when, by a few skilful strokes of the scalpel, we might not only give him a chance for his life, but if we are allowed to anticipate the result, from similar precedents, we will be enabled to avert the fatal event, and subsequently, enjoy the pleasing reflection, that our duty has been faithfully discharged by a timely and unhesitating adoption of bold and yet judicious practice.

A CASE OF ANASTOMISING ANEURISM OF THE EXTERNAL MAXILLARY ARTERY,

TREATED SUCCESSFULLY BY TYING THE COMMON CAROTID ARTERY.

(Am. Jour. of Med. Sciences, Vol. 13. p. 271.)

This case occurred in a child, aged eight months at the time of the operation. At its birth a small pulsating tumor was observed in the centre of the right cheek, which continued to enlarge until it embraced nearly the whole of it.

It was bounded above by the prominent part of the molar bone; below by two-thirds of the inferior maxillary bone; posteriorly by the superior part of the inner edge of the sterno-cleido mastoid muscle, on a range from above downwards with the lobe of the ear; anteriorly, by a line drawn from the inferior part of the nostril, and terminating about one inch from the symphisis of the chin. The tumor pointed in two places, namely just above the ear, and at the angle of the jaw. It was irregularly convex, having its greater convexity at its posterior part, and gradually diminishing from behind forwards: its color purplish, with several red spots on its surface. The child seemed otherwise in good health. The operation was

performed on the 12th of December, 1832, assisted by Drs. Mott, Baxter, and Kerby, in the presence of a number of my pupils. An incision was made through the skin and the platisma myoid muscle, of about one and a half inches in length, in the direction of the inner edge of the sterno-mastoid muscle, but nearer to the trachea than to this muscle, which kept the external jugular vein at a greater distance. At the first incision a small artery was divided, which was secured with a ligature; the adipose tissue was cleared away, and the sterno-thyroid muscle was partially exposed, at the outer edge of which, the sheath of the vessel was seen, this was punctured, and the artery secured with one ligature. No other vessels were tied, and the quantity of blood lost, did not exceed a tea-spoonful. In a short time a diminution of the tumor was perceptible. The little sufferer was not much exhausted, it was placed in its mother's arms, and immediately began to nurse, with occasional restlessness.

A gradual diminution of the tumor continued until it had entirely disappeared, and the child wholly recovered, and is now in good health.

CASES IN SURGERY.

(New York Med. Journal, Vol. 2. p. 292)

In offering a detail of cases in surgery, it is not my intention to observe a systematic arrangement, but to give them from my note-book indiscriminately, as they have occurred in practice, or, if more convenient, to state several cases of a similar kind, when they shall have a tendency to confirm a principle, or establish a fact in practice.

Case I.—ABDOMINAL ABSCESS.

I was requested in July, 1830, to visit Mr. Jarvis, a ship carpenter, aged about 45 years; I went in company with Drs. Baldwin and Rockwell. Mr. Jarvis was a man of temperate habits and robust constitution. He had for several years been troubled with a reducible inguinal hernia on the left side, for which he had worn a truss. He had been seriously indisposed for several days previous to my seeing him, with what was supposed to be a constipation of the bowels, and the means usually employed for the relief of such complaints, had been most actively employed by the gentlemen in attendance. I visited him on the 1st day

of July, when he presented the following symptoms; countenance indicative of great irritation---pulse full and soft—tongue covered with a dark brown sordes,—the skin moist, with a warm clammy perspiration,—the bowels much tumefied, and painful on the slightest pressure, particularly in the right inguinal region, which was the original seat of pain,—urine high colored and small in quantity,—the bowels torpid, and difficult to be acted upon by the most drastic cathartics, although he would occasionally have a small discharge, partaking of the properties of the medicines. The stomach was generally retentive, but was sometimes disposed to reject its contents. The hernia on the left side was soft and natural, and easily returned, and could not be considered as the cause of irritation. This case, from its obscure character, excited much interest: its strong resemblance to strangulated hernia, connected with the fact of his being predisposed to that disease, rendered the diagnosis extremely difficult, as some of the most prominent symptoms of strangulated hernia were wanting. The condition of the stomach, the pulse, and fecal discharges, offered strong arguments against this opinion.

On closely examining the right inguinal region, at the part where he complained of the greatest pain, a small tumor could be discovered, about the size of a filbert, in the immediate situation of the

internal ring—but increasing the pressure, it immediately disappeared. As no definite idea could be formed as to the nature of the disease, the symptoms being violent, and threatening to prove fatal, unless some relief could be afforded; I proposed cutting cautiously down to the internal ring, to ascertain the character of the tumor, supposing that it might possibly be a section of intestine strangulated, and yet the intestine remain sufficiently pervious to give passage to the feces. It was, however, concluded to postpone the operation until the next day, and to repeat the treatment pursued by the attending physicians as bleeding, warm bath, calomel, enemas, and hot fomentations to the bowels.

July 2d.—No relief has been obtained by the treatment adopted yesterday; some of the symptoms are much aggravated; he had no sleep, but much more sickness at stomach; tongue black; considerable delirium during the night. The critical situation of the patient admitted of no delay, although the symptoms of hernia were so very obscure that it was doubtful if any existed; yet, in his situation, almost any practice would be proper that could offer the most distant prospect of preserving life. With this understanding, I commenced the operation, and performed it in the usual mode of operating for hernia at the internal ring, in the presence of Dr. Mott, Dr. Baldwin,

and Dr. Rockwell; the details of the operation it is unnecessary to mention. On arriving at the internal ring, we found a protrusion of peritoneum, in all respects resembling a hernial sac. I accordingly proceeded to open it, with all the caution observed in such cases, when, to the astonishment of all present, the moment an opening was made, a volume of most fetid matter rushed out with a force that projected it two or three feet;—more than a quart was immediately discharged. The mystery of the case was explained; the tumefaction of the abdomen subsided in a few days;—the tongue cleared off;—the bowels became active and regular, and in a month the discharge ceased;—the wound healed, and he returned to his usual occupation in good health.

Case II.—ABDOMINAL ABSCESS.

The following claims much interest, as it has some relation to case I., although proceeding from a different cause, and the symptoms being more determinate of its existence. This case came under the care of my friend Dr. McCaffry, who has obligingly furnished me with its history, which I shall give in his own words.

"Mrs. S., lately from England, residing at 282 Division Street, was, after a tedious and difficult labor, delivered of her eighth child, late in the month of November, 1830. Her lochial dis-

charges, which ceased much earlier than formerly, were succeeded by cough, pain and oppression in the chest, accompanied with fever, rendering depletion, both local and general, necessary, which was but in part carried into practice. In the meantime, she was seized with excruciating pain in the right inguinal region, extending through the iliac, sacral and lumbar regions, depriving her of the power of lying on that side, or using the right leg.

"Although there was no swelling, or any symptoms resembling phlegmasia dolens, evening exacerbations and night sweats succeeded the foregoing symptoms—no relief could be given to the sufferer, although attended by two or three respectable physicians for the space of twelve weeks. At this time I was requested to visit her. I found her weak and emaciated, and suffering from fever and sweats. I paid attention to her bowels and putting her upon the tonic treatment, but she obtained no relief. Upon examining the seat of the pain, I discovered a deep-seated tumor, and something resembling a fluctuation of matter. Not satisfied with my own views of the case I requested further advice."

By the request of Dr. McCaffry, I visited Mrs. S., and found her situation as he has detailed it. Upon examining the tumor, I was well satisfied that Dr. McCaffry was correct in his opinion,

that a large abscess existed in the cavity of the peritoneum. Although the matter was deeply seated in the cavity of the pelvis, I considered its evacuation as the only chance that could be offered of preserving her life, and accordingly proposed to her that an operation should be performed for its discharge. To this, she readily acceded. She was laid on the side of the bed—partly on the left side. With a common scalpel, I made an incision in the direction of the posterior spine of the ilium, between two and three inches in length, dividing the external oblique, internal oblique, and transversalis muscles. On dividing the last named muscle and its fascia, theperiton eum immediately protruded through the opening. With a pair of forceps, I cautiously made an opening through it, when a pint of matter immediately passed out. Not having visited the patient after the operation, Dr. McCaffry concludes his report thus :—

" In about five days the discharge entirely ceased, and the wound closed up ; her fever and sweats disappeared, her appetite returned, and in two weeks from the discharge of the pus, she was able to pursue her domestic concerns, although she had been fifteen weeks confined to bed on the day the abscess was opened."

Remarks.—Having examined several females after death, who have died of what Dr. M. Hall would term irritative fever, I have in all such cases,

found a large quantity of sero-purulent effusion, mixed with flakes of coagulable lymph. In many cases, by a close examination, we might detect the existence of matter in some part of the abdomen, and by a timely discharge rescue the patient from danger. Many practitioners hesitate in opening abscesses within the cavity of the abdomen, preferring to leave them to be discharged by ulceration, when, in the majority of cases, the patient sinks under the irritation before the process is completed. This delay in opening abdominal abscesses proceeds from two causes, equally unfounded and absurd. First, it is believed by some, that wounds of the peritoneum are attended with peculiar danger; thus they prefer avoiding the responsibility, and leave it to nature. Every day's experience teaches a different lesson; large hernial sacs are opened, and the intestines returned, tumors of large size are removed from its cavity, and wounds are daily occuring, in which this membrane is even lacerated, and yet these cases recover without being much incommoded by inflammation.—Secondly, it has been the opinion of most practitioners, that an abscess should have a certain degree of maturity before it is opened;—others again, believe, that abscesses will do best to be left to break of themselves, and to this rule they make but few exceptions. I have been in the habit, for several years, of dis-

charging the matter as soon as I was satisfied of its presence. I believe there is no rule more injurious in practice, than the opinion that matter must be left to approach the surface, and excite a certain degree of inflammation there, before it would be proper to open the sac. The integuments being inflamed, the punchure must be much more painful than in the natural state; having become thin by absorption, it is much more difficult to heal the wound. The integuments having lost their support by the discharge of matter, the edges fall in—a slough follows, and the result is, you have to heal the wound by granulations from the bottom. This is observed in buboes, which are allowed to break, and in abcesses about the face and neck, leaving the most unpleasant scars; whereas, if abscesses are opened early, previous to the integuments being affected, the incision may be immediately healed, by bringing the edges in contact, and the abscess cured by bringing its sides in coaptation, by well adjusted compresses; or, should it be necessary to keep the wound open for a few days, no injury will happen to the integuments; the wound will not enlarge, and when the necessity ceases for keeping the wound open, it may be closed, and a simple line only will mark its situation. In some cases, the lives of persons are hazarded by this delay in opening abscesses, as when matter is sit-

uated under the tendon of the occipito frontalis muscle, on the fascia of the leg, arm, and theca of the fingers. In 1829, I examined a man who had a severe attack of erysipelas of the leg; he had recovered from the inflammation, but died of some irritation which was not understood. The head, chest, and abdomen, appeared in a sound state, but a large abscess was found under the fascia of the leg, which was no doubt the cause of his death. But notwithstanding the diversity of opinions upon the subject of abscesses in general, we have but one rule in relation to those within the cavity of the peritoneum, which is in all cases, to cut boldly down and discharge the matter the moment we are satisfied of its presence.

Case III.—IMPERFORATE ANUS.

In 1825, I was requested to visit a female child, four days old. The nurse informed me that the child was of the usual size, and perfectly healthy when born. It nursed well shortly after birth, but vomited in a few moments. Its not having passed anything per anum, she was led to examine it on the third day; an indentation only marked the situation of the anus. It had several times passed urine of a deep yellow color. When I saw the child, it was much emaciated, constantly craving the breast but never satisfied. The milk would remain in the stomach ten or fifteen min-

utes, and was then discharged, combined with a large quantity of bilious matter. In comparing the circumstances attending this case,—the rejection of its food so soon after receiving it into the stomach,—its great emaciation, and ravenous appetite—with the negative qualities of flaccid abdomen—its not having been observed to strain —indicative of its desire to have a stool—and the absence of convulsions, led me to believe that an additional obstruction existed, near the pyloric orifice of the stomach. Although firmly impressed with the belief that an obstruction in the upper part of the alimentary canal existed, yet it was deemed proper to give the only chance which art could afford. I accordingly performed the operation; and in order to make the description more clear, I shall extract some remarks from a lecture delivered to my private class. "The operation for imperforate anus should be performed by placing the child on a table of sufficient height, and the position should be much the same as that adopted for the operation for stone. Examine first the proper situation for the anus, then with a scalpel make a crucial incision, so that the angles shall meet at the proper situation for the rectum; dissect up the flaps, and lay them over—this will afford more room for the subsequent part of the operation;—after dissecting up the integuments, you expose the sphincter muscle,

this should be divided from above downwards, or in the direction of the os coccygis.* "By the assistance of a curved pair of spatulas, the parts may be separated to a sufficient extent to continue the operation. Taking the sacrum for a guide, we must cautiously divide the cellular substance, which fills the pelvis, pursuing its concavity, directed by the fore-finger of the left hand, until we arrive at the top of the promontory of the sacrum; beyond this it would be improper to proceed, in consequence of the large vessels. Caution should be observed, not to wound the middle sacral artery below, and the bladder above. If the rectum is within the pelvis, it may be readily distinguished by its elastic, doughy feel. After having ascertained its situation, an incision should be cautiously made through its sides, by a scalpel or bistoury; the opening into the intestine should be enlarged to the greatest extent that its sides will admit of, as it will necessarily contract considerably during the process of cicatrization. After the bowels are well evacuated, a firm tent, composed of linen covered with oil-silk, should be

* The division of the sphincter muscle has been objected to, from the time of Albucasis to the present. He directs "to cut cross-ways at right angles, taking heed not to cut the sphincter muscle." Mr. Samuel Cooper, in his Surgery, expresses the same fear. He states, page 289, "The whole of this muscle may be cut, and an inability to retain the feces be the irremediable consequence." I would merely observe that this fear is ungrounded. If the division of sphincter muscle should be attended with a permanent loss of contraction of the anus, how terrible would be the operation for Fistulo in Ano.

introduced into the opening; this tent should be removed two or three times a day, to permit the accumulated feces to pass out, until the wound is cicatrized, and the opening permanent. The flaps which I mentioned in the commencement of the operation, should have their angles cut off, so as to fit accurately around the tent, and secured by adhesive straps passing in different directions; by this means a circular opening is formed, and the integuments being brought down, adhere to the sphincter ani muscle; when the tent is removed, the contraction of the muscle will close the anus in its usual form." The operation having been performed as described above, I found a sac occupying the upper part of the sacrum, which was readily opened with a scalpel. The meconium flowed out in considerable quantity; the wound was dressed, and the child given to the nurse.

As was expected, the vomiting continued, the urine flowed in considerable quantity, with the watery discharge from the rectum; the emaciation rapidly increased, and it died twelve days after birth. It was examined six hours after death. On making an incision into the cavity of the abdomen, the stomach immediately presented, of a large size, and filled with air; the enlargement extended to the termination of the duodenum, exhibiting the novel appearance of a double stomach.

The stomach was well formed, the duodenum terminated in a cul-de-sac, at that part where it crosses the spine. The small intestines below this were all pervious, but remarkably small, not exceeding the dimensions of a goose quill. The large intestines were natural, as far as the sigmoid flexure of the colon; from that to its termination it was much enlarged. The rectum was found terminating at the top of the sacrum in a large sac, occupying all the upper aperture of the pelvis; from the sac of the rectum proceeded a small tube, not larger than a goose-quill, which attached itself to the fundus of the uterus, and passing down, adhered to the side of the vagina, and running out posterior to its mouth, between the labia; the bladder was much distended with urine; the kidneys were united across the spine; forming an irregular flat body; the right was much the largest, each having its ureter and proper vessels.*

Case IV.—IMPERFORATE ANUS.

I shall briefly relate a second case of imperforate anus, in which the rectum also terminated in a small tube, by the side of the vagina. This case was completely within the power of surgery, and a permanent relief might have been obtained; but the child was allowed to perish, for want of attention on the part of the parents. This was

* The preparations are now in my collection—Nos. 26 and 27.

the child of Mr. R——, of Watts Street, aged two years. Immediately after birth, a dose of castor oil was administered, and a considerable discharge was the result; the nurse, on washing the child found the labia filled with feces, and on further examination, she found the anus imperforate. This child had enjoyed good health for two years, except when the bowels became costive. From the smallness of the tube, the feces could not pass out without the aid of castor oil once in two or three days; if this was neglected, convulsions would follow. On examining the opening, it was somewhat larger than a goose quill; it appeared to extend upwards, for two inches, and terminated in a large sac; a small depression marked the situation for the anus. I saw the case, with Dr. Brush, the family physician, and an operation was proposed for its relief. I was informed by Dr. Brush, that shortly after my visit, the bowels, from the want of attention, became costive, the opening was obstructed, and it died of convulsions.* The symptoms attending the imperforation of the intestinal canal must differ according to the situation of the obstruction, as, at the phyloric orifice of the stomach, lower part of the duodenum at the upper part of the

* Dr. Read, who wrote a book on Surgery, in 1686, mentions a case from Fabricius ab Aquapendente, who saw a woman without an anus, who voided her excrements from the vagina.—Book V. page 524.

colon, or at the anus. The nature and quantity of the matter ejected by vomiting, would most readily indicate the seat of obstruction. If the obstruction is situated at the pyloric orifice of the stomach, it is known by the immediate rejection of the food, combined with the gastric liquor. If at the lower part of the duodenum, it would remain longer before being rejected, the process of digestion be more complete, and it would be combined with bile, which would be thrown off in great quantities; if at the head of the colon, the chyle would be discharged perfectly formed; and again, if the anus is the seat of obstruction, the situation of the sufferer is truly disgusting, by the frequent vomiting of feces.*

Case V.—CASE OF HYDROCEPHALUS.

Mr. B.'s child, aged five months, was born with a protuberance on the os occipitis, about the size of a nutmeg. The tumor attracted little attention at first, but gradually increasing in size, it attained, at the end of two weeks, the diameter of a hen's egg, when the child evinced marked symptoms of hydrocephalus, attended with distinct fluctuation on the top of the tumor. By a grad-

* In the Journal de Medicin (the volume I do not now recollect), it is related that a child without an anus, grew to the age of manhood without any opening being found for the passage of the feces, which was constantly ejected from the mouth.

ual and continued pressure with the hand, the fluid could be completely pressed out, and the tumor diminished to half its size. The anterior fontanelle became more and more tense, and the child exhibited symptoms of compressed brain. The symptoms plainly indicated that there was water in the brain, which communicated with the tumor, and Dr. Brush, the attending physician, considered it a good case for trying the practice of drawing off the water by puncture. He accordingly made a small opening into the tumor with a lancet, by which means the fluid was freely evacuated, and all the bad symptoms immediately ceased. The parents informed me that the child did not suffer any inconvenience, and appeared to be in good health as long as the opening allowed the fluid to flow out; but on closing it, even for a time, the child invariably became affected with convulsions. The quantity of water discharged daily, was from half a pint to a pint, which gradually enfeebled the child, and finally destroyed it.

The autopsic examination presented the following appearances. The occipital bone was found deficient at its superior transverse ridge, immediately over the usual attachment of the tentorium, and portions of the cerebrum and cerebellum protruded at this place. On cutting into this part of the brain, a cavity was laid open which com-

municated with the two lateral ventricles. We then followed this communication into the ventricles, which were enormously enlarged, containing at least twelve ounces of fluid, and occupying the whole cranium above the tentorium, with the parieties so thin, that it appeared to verify the doctrine of Gall, that the brain is a convolution of membranes.

I consider this case to be an important one, inasmuch as it may lead to practical consequences, and go far to establish the feasibility of puncturing the brain, as recommended by Sir A. Cooper, in this disease. The child's general health was, in the first instance, otherwise good and its head of the ordinary size, and continued so during the whole time: yet notwithstanding all these favorable circumstances, the discharge continued uniform as to quantity, to the last. Dr. Mott, in the case of a child, drew off the water from the ventricle by means of a small trocar, and repeated the operation several times without any permanent relief; for the water invariably re-accumulated, and the operation was moreover attended with violent symptoms. The child is still living, and the quantity of water appears to be as great as at the time of the first operation.

Case VI.—A CASE OF HERNIA OF THE LIVER.

A child of Mr. A——, of Greenwich-street, was born with a tumor situated in the umbilical

region, which was taken for a protrusion of intestine. The child was in other respects healthy. The tumor, at the time of birth, was about two inches in diameter, and six in circumferance, with the umbilical cord passing out at its apex. The covering to the sac soon after birth, became dark, insensible, and threatened mortification, the external cellular substance was, in part, thrown off, and the smell from the tumor so great, that it was extremely disagreeable for any one to approach the patient. At length symptoms of obstructed liver came on, such as bilious vomiting and yellowness of the skin, and the child died in convulsions three weeks after birth.

On examining the tumor after death, it was observed to be covered with a very thin coat of peritoneum, the ordinary integuments of the abdomen being deficient over the tumor.

On opening the sac, a considerable quantity of a bilious fluid flowed out, and to the surprise of every one present, the right lobe of the liver was seen protruding, making the contents of the sac, and firmly adhering and strictured at its base. By pursuing the dissection still farther, we found the abdominal muscles entirely wanting at this part.—The other viscera of the abdomen were perfectly healthy.—The child evidently died of strangulated liver.

Case VII.—GANGRENE OF THE APENDICULA VERMIFORMIS FROM A FOREIGN BODY IN ITS CAVITY.

I was requested to visit Mr. U., a gentleman of the legal profession æt. 30, in consultation with my father, Dr. D. Rogers, September, 1837. The history of the case was very obscure. He complained at first of constipation of the bowels, with soreness and pain in the right iliac region, followed by sickness and vomiting. At the time of my visit, which was on the second day after the attack, he had been actively depleted, by bleeding and cathartics. The cathartics had purged him freely without affording any relief. Leeches and fomentations had likewise been applied to the bowels without benefit. His pulse at this time was small and corded. He was very sensitive to pressure in the iliac region, and referred all his pain to that part. All the symptoms in this case resembled those of a strangulated hernia, with the exception of a free discharge from the bowels by the aid of cathartics. I made a close and diligent search at all the places usual for hernia to protrude, but could not discover any appearance of rupture, and came to the conclusion that a section of the intestine was strangulated in some part of the abdomen near the iliac region, but of this we had no distinct indication. We felt much at a loss for a plan of treatment which offered any

prospect of relieving the disease. The symptoms of irritation increased attended with hickup, cold extremities and delirium. He died on the fourth day after the first symptoms of the disease. His body was examined six hours after death. Upon making an incision into the cavity of the abdomen, we found the peritoneum generally inflamed, but the inflammation became more intense as we approached the right iliac region. Around the caput colli was found a considerable effusion of lymph, and upon elevating the intestine the Apendicula Vermiformis exhibited a dark and sphacelated appearance. The lower part of this tube had sloughed off, half an inch. On laying open the cavity, we found at its lower part, some feculent matter with the seed of an apple. Not discovering any other we concluded that the lodgment of the apple-seed in the tube, had been the cause of the irritation. The viscera of the abdomen generally were in a healthy state. A few months after the above case, I was requested by my friend Dr. M. Willet, to assist in the post mortem examination of a man whose disease had much embarrassed the attending physicians. The symptoms were the same as those mentioned in the above case; and the examination proved the cause to be the same, with this exception, that the cause of irritation was the lodgment of a small calculus about the size of a pea in the lower part

of the vermiform appendage. I am not aware that cases of this kind are reported in works treating on the subject of hernia. I have, therefore, considered them worthy of holding a place among the varieties of this disease, and of calling the attention of surgeons to the subject. It may not become the subject of an operation, as the diagnosis is very difficult in the first stages; but if a surgeon were satisfied of its existence, I can conceive no objection to the performance of an operation for its relief.

A NEW OPERATION FOR THE RE-ESTABLISHMENT OF THE URETHRA.

(Phil. Med. & Phys. Journal, Vol. 19. p. 186.)

A. E. HOSACK, M. D.

Dear Sir,

It is with pleasure that I comply with your request, in sending you a brief account of my "Operation upon the Urethra for permanent stricture."

At an early period of my professional life, I became satisfied that the usual practice in the treatment of imperforate urethra from stricture was very imperfect, for, although in some cases attended with temporary relief, it was in the majority followed by evils much greater than the original difficulty.

Without entering into the objections attending the usual modes of treating strictures of the urethra when imperforate, I shall briefly state, that the insufficiency of caustic applications, as recommended by Sir E. Horne and others, was early impressed upon my mind, the reasons for which may be found in every work upon the subject;

and the result of the cases coming under my own inspection has confirmed that opinion.

Finding in the public hospitals a great number of persons with fistulous openings in the perinæum from strictures in the urethra, I was led closely to examine such cases with a view to ascertain if any operation could be performed for their relief. In this investigation I became sensible of a fact, which led me to propose and execute the operation I am about to describe. I remarked in cases of fistula in perineo that after the parts had ulcerated and the slough cast off, the parts regularly filled up by granulations, leaving a circular opening of sufficient size to admit of a free discharge of water from the bladder. This opening was soon covered with a smooth surface and insensible to the action of the urine: in appearance much resembling a mucus membrane, and possessing all the properties essential to the functions of a mucus tissue. I shall not at this time, advance an argument to prove that these new surfaces are mucus; or that they are continuations of the lining membrane of the urethra; or are formed independently in the part from the necessity of the case. It is sufficient for the purpose to possess a knowledge of the fact, that nature, in all cases in which an artificial opening is formed, communicating with an internal organ whose function is secretory, superinduces or forms

a surface, possessing all the necessary properties for the duties it is required to perform. It was with a full knowledge of this fact, that I proposed to form a new portion of Urethra in place of such portions as had been destroyed by disease.

I wish you to bear in mind, that the operation herein proposed is alone applicable to such cases as cannot be dilated, and in which the stricture is impervious to the bougie.

In performing this operation for imperforate urethra, I proposed, first, to exclude the diseased portion of the canal,—secondly, to form a new portion of urethra from the surrounding parts.

To illustrate my method, I shall introduce two cases, from the twelve which I have performed,—the first and the last.

My first operation was performed in 1823, on a man by the name of Rolston, aged 41 years. He had been troubled with a stricture of the urethra for sixteen years,—the effect of Gonorrhœa. He had received every variety of treatment, but latterly by the caustic bougie. The effect of the caustic had been almost to close the urethra. Upon examination with the catheter I found three strictures. The first was about half an inch from the mouth of the urethra, the second two inches and a half above the first, and the third at the bulb of the urethra. With a small catheter the first two could be readily passed, the third was per-

manent and impervious to the smallest instrument. The difficulty of introducing a bougie was much increased by injury done the urethra by the use of caustic.

The hopeless condition of this man rendered him a fair case for my first attempt to form a new Urethra. He was accordingly placed upon a table, and secured in the position, as for the operation of lithotomy, when I proceeded to operate as follows: 1st, with a straight sound of the largest size the first and second strictures were forcibly dilated, which brought the end of the instrument down to the permanent stricture. 2d, An incision was made in the perinæum, as in the lateral operation for stone; by this incision the bulb of the urethra was exposed. 3d, An opening was made into the urethra by cutting upon the end of the sound, through which the instrument was passed. 4th, The dissection was then continued inwards taking the cord-like urethra for my guide, for about one inch, which exposed a portion of urethra much dilated, and filled with urine. An incision was made into this part with a sharp pointed bistoury. The sound was then removed and a catheter of the largest size was introduced into the bladder. The wound in the perinæum was brought together by three sutures. With simple dressings no unpleasant symptoms occurred during his recovery. In two weeks the wound

was entirely healed, and the catheter withdrawn for the first time. At the end of two months the catheter was discontinued, with directions to introduce it beyond the stricture once or twice a week. At this time the urine passed in a full stream and with little irritation.

I saw this man frequently for several years. He found it necessary occasionally to introduce the catheter in consequence of a disposition in the two anterior strictures, to contract.

Case II.—Mr. F., of Jersey City, had for several years been troubled with a stricture of the urethra from Gonorrhœa. Frequent attempts had been made to dilate the stricture by bougies, but latterly he had been treated by caustic with temporary relief. In the spring of 1836, he had complete retention of urine; an abscess formed in the perinæum, which broke and urine discharged through the opening. I was requested to visit him in the following December. From the opening of the abscess to the time of my seeing him, all his water had passed through the fistulous opening in the perinæum. The catheter could be freely passed down to the bulb of urethra. All my efforts failed to penetrate beyond this point. Being satisfied that the original passage could not be restored, I determined to make a new portion of Urethra. He was accordingly placed upon the table, and

secured as in the last case. From the disorganized state of the parts, I was compelled to change my usual mode of operating, by making two incisions, one on each side of the perinæum, from above downwards—the two incisions meeting at the upper part of the fistulous opening. The triangular flap was then dissected upwards to the pubis. This gave sufficient room to reach the urethra at the bulb, so as to lay it open and pass out the catheter. By continuing the dissection inwards, the opening in the urethra was discovered. In this case, I should judge that more than an inch of the urethra was obliterated. The catheter was passed on into the bladder and secured by tapes. The flap was drawn down and secured by sutures. In two months he had entirely recovered. The urine passed freely through the urethra with but little irritation. He was directed to use the catheter once or twice a month. He followed this direction for two of three years but gradually neglected the instrument. On my return to the City in 1842, Mr. F., called upon me and stated that he had found the stream of water gradually to diminish. Several attempts had been made to introduce the catheter but without success, and every attempt had been attended with hemorrhage and great irritation. The urethra had been so much injured, that I could not find a passage with the smallest instru-

ment. By his urgent solicitations I proceeded to cut into his urethra as before; the opening was more anterior than the previous operation, and the length of the stricture did not exceed a quarter of an inch. I came to the conclusion that the part contracted at this time, was the anterior portion of the old stricture, as the new portion of urethra formed by the first operation remained fully dilated. He has entirely recovered from the last operation, and with care, I am inclined to believe he will remain in good health. I may remark, that this is the only case in which a second operation has been required.

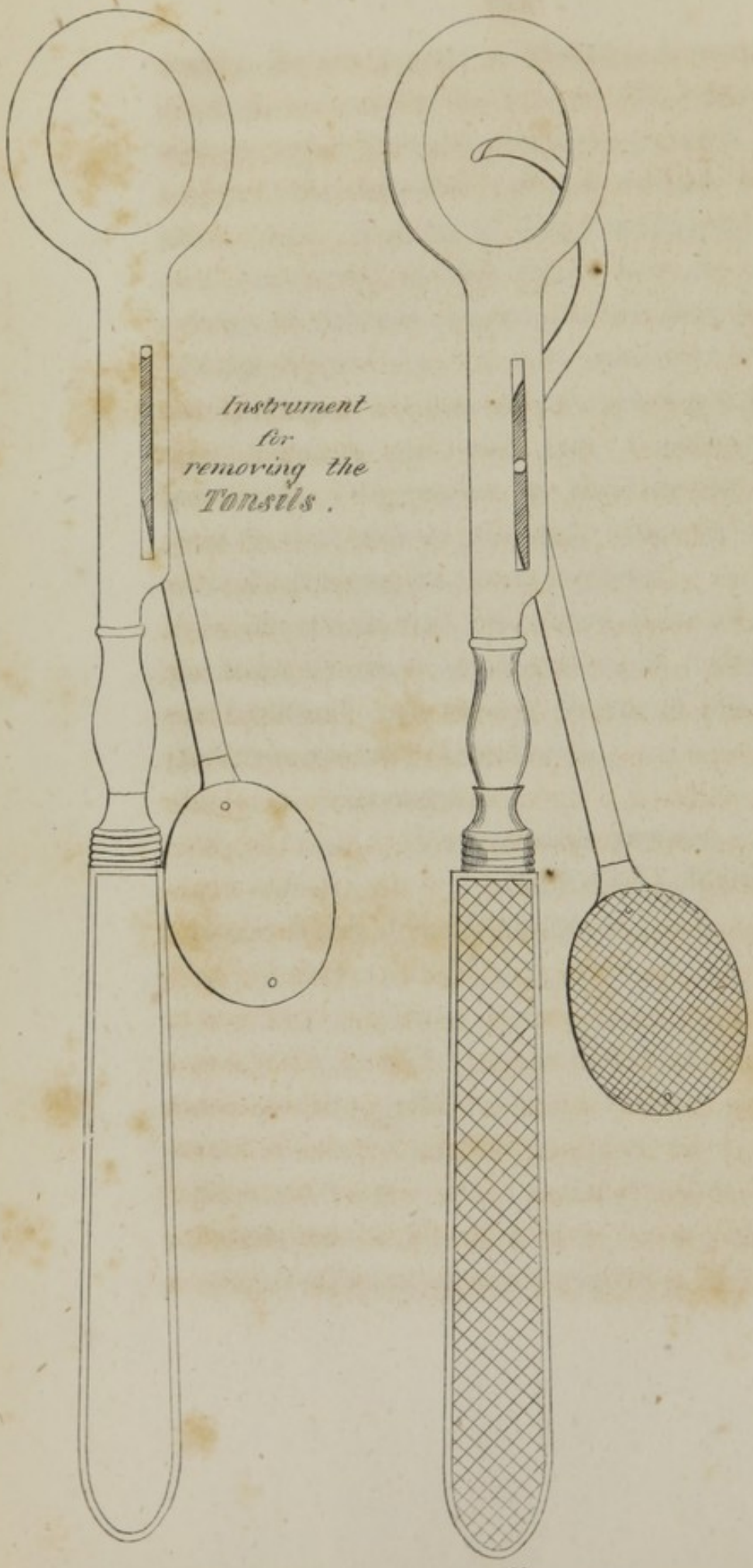
If you should find the above facts of any importance in your investigations of "Diseases of the Urethra," you are at liberty to use them as shall best promote your views.

I remain,

Your humble servant,

DAVID L. ROGERS.

New York, *Nov.* 10*th*, 1843.



Instrument for removing the Tonsils.

DESCRIPTION OF A NEW INSTRUMENT
FOR
EXCISING ENLARGED TONSILS.

(New York Med. Journal, Vol. 2.)

Perhaps there is no operation in surgery of the same magnitude, that has been attended with greater difficulties, than the removal of enlarged tonsils. The situation of the tonsils, their connection with large vessels of the neck, and the spasmodic contraction of the surrounding muscles, have at all times rendered their excision difficult, and sometimes a fatal operation. The older surgeons resorted to the actual and potential cautery for their removal. This was not more cruel, nor dangerous, than the practice pursued in the times of Paulus Ægineta, of dividing the mucous membrane, and tearing them from their bed by hooks. At the present time, the common scalpel, the scissors and the ligature, are in more common use in this country and in Europe. I shall offer but a passing remark upon these different instruments, which will be confined to stating the inconveniencies attending them. The use of the scalpel is attended with great difficulty, in consequence of having to employ the double hook in a part so

deeply situated, and is likewise attended with great danger, from the proximity of the carotid artery and other vessels of the neck. Of the truth of this, the records of surgery bear sufficient evidence.*

The objection to scissors must be apparent to every one. They must of necessity, upon the principle upon which they cut, make an irregular, lacerated wound, which is always liable to slough; and the inconvenience attending ligatures is such, that no surgeon would willingly employ them, except from prudential motives.

Several ingenious instruments have at different times been invented, for the purpose of excising the tonsils, without endangering the neighboring parts. Among the number, the one proposed by Dr. Physic, of Philadelphia, is most deserving of notice. It consisted of two steel rings attached to a handle. Between the two rings he placed a lancet-shaped knife, which moved by a spring placed in the handle. This instrument has undergone several modifications; one by Dr. Cox, of this City. There is an objection to this latter instrument, in consequence of the ring and knife being separate, and the knife having to be adjusted, after the ring is placed upon the tumor. The inconvenience is noticed particularly in children, who will object to a cutting instrument

* Burns on the Anatomy of the Head and Neck.

entering their mouth; and, besides, by their constant movements, the parts within the mouth are in danger of being wounded.

The instrument which I now offer to the profession, is so constructed as to avoid the inconveniencies and dangers which I have stated as existing in relation to the others. It possesses the advantage of a single instrument, and it cannot by any possibility injure any other part than the one to which it is applied. The great advantage this instrument possesses over all others, is that it may be used in children without producing the least alarm, as the knife is entirely concealed, and can be applied without exciting suspicion. A difficulty often exists in children, to keep the mouth open during the operation. The form of this instrument effectually prevents them from closing it. One ring will answer for any sized tumor; a slight movement of the knife fixes the instrument; and lastly, its simplicity and cheapness will place it within the power of any practitioner to possess one. Having operated several times on children and adults, I am not conscious that any alteration could be made in this instrument, for the better. Having for the same reasons requested Professor Mott to use it, and express to me his opinion of its merits, he has obligingly sent me the following note:—

25 Park Place, March 5, 1831.

Dear Doctor,

I am delighted with the use of your new instrument for excising the tonsils. The rapidity with which the operation can be performed, combined with the safety, gives it, in my opinion, a great superiority over any other instrument, or method of removing these parts, of which I have any knowledge.

Yours sincerely,

VALENTINE MOTT.

Dr. D. L. Rogers, Market-st.

DESCRIPTION OF THE INSTRUMENT.

To a common handle is attached a steel ring, of sufficient breadth to admit a groove on its inner surface; deeper at its junction with the handle, with an opening on its superior surface, of half an inch in length, through which a common probe-pointed bistoury is introduced, possessing a curvature equal to half the circumference of the ring. This bistoury is attached to the handle of the instrument, fixed to a slide by a rivet, and supported on its under surface by a small spring, which keeps the bistoury in its place within the ring. To the end of the bistoury is attached a handle, of sufficient size to give the operator a complete control over the bistoury.

In using this instrument, the patient should be

placed in a chair opposite a strong light, and an assistant should stand behind to steady the head, and one to hold open the mouth on the opposite side from the one on which you are about to operate. The bistoury being well pushed forward, so as to be completely concealed within the ring, it is then to be placed upon the tonsil. After being satisfied that it is at the base of the tumor, a slight movement of the handle of the bistoury upwards, fixes the instrument. When you are ready to complete the operation, continue to elevate the handle of the bistoury, and at the same time to pull it forward, when it traverses the groove of the ring, by dividing every thing contained within its circumference. It is done with such rapidity, that the patient is hardly conscious of its completion.

CONTRIBUTIONS TO PATHOLOGICAL ANATOMY.

(Phil. Med. & Phys. Journal.)

The changes which the solids of the body undergo by the action of disease, must form an important subject of inquiry to the professors of the healing art: and as our knowledge of diseased action increases, will the power exist of controlling and curing those diseases. A mere detail of morbid parts, without the symptoms which characterize these changes, afford but little assistance to the practitioner of medicine; to render a history of morbid changes useful, a regular detail of circumstances should be given, that we may know the entire chain of symptoms, from the commencement to the termination of the disease. Thus, by comparing several cases of the same kind, the different stages would be indicated by positive symptoms—this renders the investigation of morbid anatomy valuable, and the record of cases beneficial to the profession. To the investigation of diseased structure, we are indebted for the most valuable improvements in medical science. The history of our profession teaches us that it has improved in proportion to the advancement of our

knowledge of the structure and functions of the human body. It is a fact, which will not be disputed, that the greatest practitioners in medicine have been remarkable for their correct anatomical knowledge, and the collections of morbid anatomy made by Morgagni and Hunter, must ever stand as monuments of their skill and industry.

It is true, that diseased structure does not, in all cases, lead to a knowledge of diseased action. We frequently find appearances after death which seem irreconcilable with the previous symptoms; but this argues nothing against the utility of examinations after death. It sometimes happens that no diseased structure can be discovered after death, although strong symptoms previously indicated its existence. This may proceed from transferred sensation, while the disease may exist in some remote part, as, for instance, in the digestive organs, the irritation is frequently felt in some distant part, and on examination the seat of the disease is entirely overlooked; thus the inspection ends without adverting to the sympathies that might have led to the previous symptoms. It is the study of these changes, and the connection that exists between important organs and remote parts, that renders the study of morbid anatomy, so essential to the sound pathologist.

It is not intended in this report to include a

complete history of the changes to which the different parts are liable from diseased action; nor is it contemplated to preserve a systematic order in arrangement.

The descriptions are drawn up from specimens in my own cabinet, and the valuable collection of Professor Mott, to whom I am indebted for the privilege of thus enriching my observations.

DISEASED STOMACH.

Under this head we shall notice five specimens: 1st, a portion of stomach from a man who died with yellow fever: 2d, a specimen from a case of typhus fever: 3d, ulceration: 4th, enlargement, 5th, schirrus.

Stomach of an adult who died from fellow fever. —This specimen of inflamed stomach was taken from the first case of yellow fever which proved fatal in New York, in 1823. The patient died with the usual symptoms which characterize the fatal termination of this disease, such as great distress in the epigastric region, delirium and black vomit. The body was examined a few hours after death with great care. The diseased appearances were confined entirely to the stomach. The seat of the disease was confirmed by several other cases which I examined during that year. I was well satisfied of the fact, that the disease was situated principally in the stomach, and the de-

rangement of the neighboring viscera was but a secondary effect, as a consequence of the disordered functions of the stomach. In this case, the stomach was found much contracted, having externally a red and vascular appearance; its internal surface was collected into folds, and to such a degree as almost to obliterate its cavity. These folds had a florid appearance much resembling a fine size injection. Red specks could be observed resembling small arteries terminating on a recently divided surface; on different parts of the stomach, and more particularly at its great extremity, the villi of the internal coat were destroyed by ulceration, a small quantity of black matter streaked with florid blood was found in the cavity; this blood possessed different shades of color, from the brightest red, to a dark brown, approaching black.

Stomach from a subject who died of the typhus fever.—This specimen much resembles that from the case of yellow fever. Its internal surface is much less corrugated, but possesses the red florid appearance with a great congestion of its vessels. The red specks and ulcers were not observed, and the only difference that the anatomist could discover in the two cases from the action of disease, would be in the degree of inflammation. The premonitory symptoms being nearly the same, and the sensibility to pressure in the epigastric region

existing alike in the two diseases, would lead to the belief, that inflammation of the stomach, more or less intense, depending upon peculiar causes, formed the true nature of these diseases, a conclusion deduced from the morbid anatomy, which we consider as the most legitimate source of pathological knowledge.

The black vomit might be offered as a diagnostic symptom, but this may exist at any time, depending upon a high degree of inflammation for its production; we are convinced of this from the fact of its existing in many cases where the inflammation of the stomach proceeds from chemical causes, such as arsenic, nitre, muriate of mercury, &c.

*Ulcerated Stomach.**—This specimen was taken from a gentleman, who, for five or six months previous to his death, was frequently complaining of a loss of appetite, costiveness, tenderness in the epigastric region, a heaviness and uneasy sensation about the stomach. Cathartics and other medicines were administered without affording much relief: the symptoms increased in violence, a burning sensation was felt, when the lightest nourishment was taken into the stomach, and a loathing of all kinds of food. For some time previous to his death, he had incessant vomiting of

* Specimen No. 15, of Dr. Mott's Cabinet.

black matter, resembling coffee grounds. He died very unexpectedly, without any symptoms indicating immediately approaching dissolution. The examination was made a few hours after death. On opening the cavity of the abdomen, a large quantity of black matter was found, such as had been thrown from the stomach by vomiting. The stomach was perforated by numerous holes of different sizes, and so very tender, as to tear by its own weight. The edges of these openings were inverted and had an irregular appearance. The internal surface was of a dark livid color, and it was observed, that the internal coat was much shorter than the external, that is, the peritoneal coat had resisted the process of ulceration, much longer than the internal coat, and projected for some distance into the circle of the ulcer. This would form a distinction between the destruction of the stomach by ulceration, and that by the action of the gastric juice. A specimen of the latter, I have before me, its edges are smooth and regular, as if incised. When the stomach is destroyed by the gastric juice, as occurs in persons who die in full health; its situation is generally at the depending part of the great extremity, and the stomach usually has a healthy appearance.

Ulceration of the stomach, is of rare occurrence, and its destruction by the gastric liquor is frequently mistaken for it. Anterior to the ex-

planation given by J. Hunter, of the destruction of the stomach after death, by the solvent powers of its own fluids, it was considered as a frequent disease. Cases of ulcerated stomach are related by Morgagni, Baillie and Monro.

Enlarged Stomach.—The stomach occasionally becomes enlarged, without any apparent cause sufficient to account for it, from a diseased condition of its coats. A specimen before me is from Dr. Mott's Museum, No. 53. It was taken from a gentleman aged sixty-five years. The first symptoms were so slight that they were allowed to advance for some time without notice. He was naturally a moderate eater, and his food was prepared in the plainest manner. He at first complained of a loss of appetite, and a slight irritation of the stomach after eating. It was soon found necessary to desist entirely from taking solid food, and he was confined to broths and the mildest drinks; but this produced a sense of weight and uneasiness, until vomiting was excited, and it was again thrown up. As soon as this occurred he was perfectly easy, and at no time did he experience any pain. Notwithstanding the means employed to arrest the disease, the vomiting increased in violence, and so great was the irritation that the mildest drinks could not be retained, and emaciation became extreme before death.

He was examined a few hours after death. The enormous size of the stomach was the first object that attracted attention on opening the abdomen, which it appeared entirely to fill. It was removed from the body the better to examine its unnatural size. Its form was unaltered; the enlargement appeared alike in all directions; externally its color was natural. It was irregular in its thickness, some parts of it being transparent, and resembling, when touched, a single layer of the peritoneum. The inner surface of the stomach had lost its natural appearance. It had a smooth shining surface, with considerable vascularity. No traces of a villous coat could be discovered, except occasionally a small elevation could be perceived which resembled it. The pyloric orifice was contracted and thickened, but not to such a degree as to interrupt the passage into the duodenum. Some idea may be formed of the immense dimensions of this stomach, when it is stated that it contained *twelve pints* of water, without any force being applied to distend it.

*Schirrus Stomach.**—This specimen is remarkable, in consequence of its disorganization, as not a vestige remains of its original structure. The early history of this case is but little known. In the latter stages, from its great bulk, it was easily

* Specimen No. 55, of Dr. Mott's Cabinet.

felt externally. It was attended with considerable pain and great irritability, which prevented his taking a sufficient quantity of food for the support of life; the lightest food was almost immediately rejected, attended with a vomiting of black matter resembling coffee grounds. The connection of the stomach with the aorta gave to it a strong pulsation. The stomach weighed about four pounds, after its appendages were removed. Its parieties measured from an inch to an inch and a half in thickness, and a section gave the appearance of a fibrous structure, diverging from the centre to the circumference, as is observed in schirrus of the breast and other glandular parts. A great number of calculous concretions were found interspersed throughout. The cavity of this stomach was almost obliterated; it would not contain more than from one to two ounces of fluid.

It is a question of some doubt, how far the action of the stomach had any agency in rejecting the food from its cavity. The cavity remaining permanently open after death, and the force it required to bring its parieties in contact, led us to doubt the possibility of any contraction during life. We merely state the fact, without attempting any solution of the question.

P. Michelin's Lith. 111 Nassau St. N.Y.

Adipose Sarcomato's Tumour.

CASE OF TUMOR SUCCESSFULLY EXTIRPATED.

WITH A PLATE.

(Phil. Med. & Phys. Jour. Vol. 13.)

Believing with Mr. Abernethy, that tumors, in a nosological view, ought to constitute an order in the class of local diseases, the tumor under present consideration, according to his classification, may be ranked with the sarcomatus genus, and adipose species, denominated by him adipose sarcoma.

Tumors of this species seldom present any alarming effects, except from adventitious causes, being of that inoffensive class, producing but trifling inconvenience, independent of their bulk and ponderosity: and their removal is generally unattended with danger or difficulty, save from the irritation that not unfrequently arises from extensive wounds, or, from their locality. The principal advantage, then, to be derived from the publication of such cases is, that they tend, in no indifferent degree, to familiarize the practitioner with their unseemly appearance, and enable him more easily to designate to what class, such tumors, when they present, belong; and, at the same time, to point out to the young surgeon the most approved and

successful methods of relieving his fellow-beings from such irksome and unwieldly burdens. By these means we contribute our mite to the advancement of knowledge, and afford useful practical information.

Mrs. B., the patient from whom this tumor was taken, was of the age of fifty, and of a good constitution. From her account, it made its appearance thirty years previous to the operation. It was situated on the top of the right shoulder, having a broad base, extending from the mastoid process to near the acromion, and over the clavicle. It had now acquired considerable size ; when elevated, it was larger than her head, and presented the striking appearance of two heads on the same individual. She had never experienced any pain in the tumor, but the unpleasantness of its weight and bulk, induced her, through the importunity of her friends, to have it removed. The operation was performed in the presence of several medical gentlemen. Two incisions were made round the base of the tumor, commencing at a point near the mastoid process, and meeting a little anterior to the acromium scapulæ, leaving a sufficiency of integument to close the wound. By a careful, though expeditious dissection, the tumor was detached, exposing a large extent of raw surface, nearly two feet in circumference, completely denuding the clavicle, and the whole of the top of

the shoulder, including the superior edge of the trapezius muscle. The tumor was attached by pretty firm adhesions to the contiguous parts: no hemorrhage of consequence followed its removal. Several ligatures were applied to small bleeding vessels, and the wound dressed with adhesive straps. The patient perfectly recovered, and left the city in less than a fortnight. The weight of the tumor, when separated from the body, was eight pounds.

The sketch here given is a true delineation, and intended to convey a correct idea of the situation and magnitude of the tumor, and, at the same time, to point out the course of the incisions: the track of the superior incision is shown by the dotted line.*

* In 1833, I removed a much larger tumor of the above description, weighing twenty-eight pounds. The wound healed readily, and she perfectly recovered.

A CASE OF OSSIFICATION OF THE MUSCULAR TISSUE.

(Amer. Jour. of Med. Science Vol. 13.)

In June 1832, I was first consulted in the case of James Mulwill, aged thirteen years. His father stated that his son, from infancy, had been in good health, and was remarkable for animation and a high flow of spirits. About six months ago, it was perceived that his health began gradually to fail, and without any perceptible cause. At first, a loss of motion in the arms was noticed; he was unable to raise them to his head, or carry the elbows to any great distance from the body. The motion of the right arm lessened every day, until it was permanently fixed to the side of the body. Shortly after, his head inclined forwards and downwards on the sternum. At the time I first saw him, his appetite and digestion did not seem to be impaired; he slept well at night, and the bowels were regular. On examination, it was found that the pectoralis major muscle was ossified at its superior part, and extended in the direction of the clavicle to the arm; the bony deposits forming high and irregular elevations. The sterno-cleido mastoideus was ossified from the

sternum to its middle portion, with several elevations. The back exhibited the greatest quantity of ossific scapula was fixed to the ribs and studmatter, having a tubercular appearance. The ded with bony excrescences. All the muscles going to the scapula appeared more or less affected, viz. —the trapezius, rhomboideus, subscapularis, &c. The latissmus dorsi formed a large bony plate, from its origin to the angle of the scapula; at this part it had united to the ribs, forming a large tubercle. The longissimus dorsi was in a similar condition, extending upwards along the spine, resembling a splint, and to this may be attributed the entire loss of motion in the lumbar vertebra.

The treatment was various, and may be considered a series of experiments, to check the predisposition to the formation of bone.

His general health at this time not being materially affected, recourse was had to alteratives, consisting of the different preparations of mercury with sarsaparilla. Having used these for a length of time, without benefit, the acids were employed without effect, viz.—the nitric, muriatic, and the sulphuric; the carbonate and phosphate of iron were administered with the same result; the iodine was also given, but without advantage. Finding at the expiration of three months, that no change for the better had taken place, and that the bony depositions had increased, all active

treatment was now abandoned, and he was directed to live principally on salted provisions; the object was to produce a state of his system resembling that in scurvy, as it is known that bony depositions do not take place in this disease, and that fractures, which have been united for several years, are sometimes separated in the scorbutic diathesis.* Until this time he had been an office patient, but from some cause unknown he omitted to call for several months. In March, 1833, he was visited at his residence; he was much changed; his general health had suffered; had lost his high spirits, and was very irritable; had a diarrhœa; was greatly emaciated; the ossific depositions had, in some respects, changed their situations; the sterno-cleido mastoideus muscle had become free, and the head returned to its erect position; many of the tubercles of the back had been absorbed, and others formed in different places. Bony depositions had taken place also in the muscles about the trochanter major, particularly on the right side. He was compelled to lie in bed, for the least movement produced excruciating pain. A large collection of matter formed in the thigh near the joint, which when discharged afforded some relief; but the constant pressure on the bony tubercles on the back, caused extensive sloughing, and after three weeks of great agony he

* Lord Anson's voyage around the world.

expired. The body was partially examined twelve hours after death. The glands of the mesentery were enlarged; no ossific matter in the vascular system, but it seemed to be confined entirely to the muscular tissue. The parts within the abdomen and thorax appeared to be healthy. The pectoralis major and minor muscles were united into one, and attached to the ribs by solid bone. During this part of the dissection, a large abscess was opened in each side, containing about six ounces of pus; the tendinous parts of the muscles were not affected. The muscles of the back were all, more or less, in the same condition. Specimens of the latissimus dorsi, longissimus dorsi, subscapularis and pectoralis muscles, are preserved in my museum. In several instances, spicula of bone projected from the muscles one or two inches; and no doubt from the irritation they occasioned, abscesses were formed.

A NEW INSTRUMENT FOR THE OPERATION IN FISTULA IN ANO.

(New York Med. & Phis. Journal, Vol. 1.)

To the Editor of the New York Medical and Physical Journal—

Dear Sir,

I send you the plate of an instrument for the operation of fistula in ano. While visiting the great Hospital at Milan, I observed a probe pointed bistoury, in use for the dilatation of deep and irregular sinuses; and believing that an instrument of a similar construction might be employed with advantage in operations for fistula in ano, I have modified it so far as to suit it for that operation. The operation by the common bistoury is attended with many inconveniencies, particularly when the sinus extends to a considerable distance up the rectum. Although the communication between the sinus and the gut may readily be found with a probe, yet every surgeon will acknowledge the difficulty of following the tract of the sinus with the sharp-pointed bistoury. Another difficulty will occur to the surgeon after the point of the bistoury has entered the intestine, in being obliged to draw it out under the nail of his fore finger, by which the finger is frequently

Instrument for Fistula in Ano.

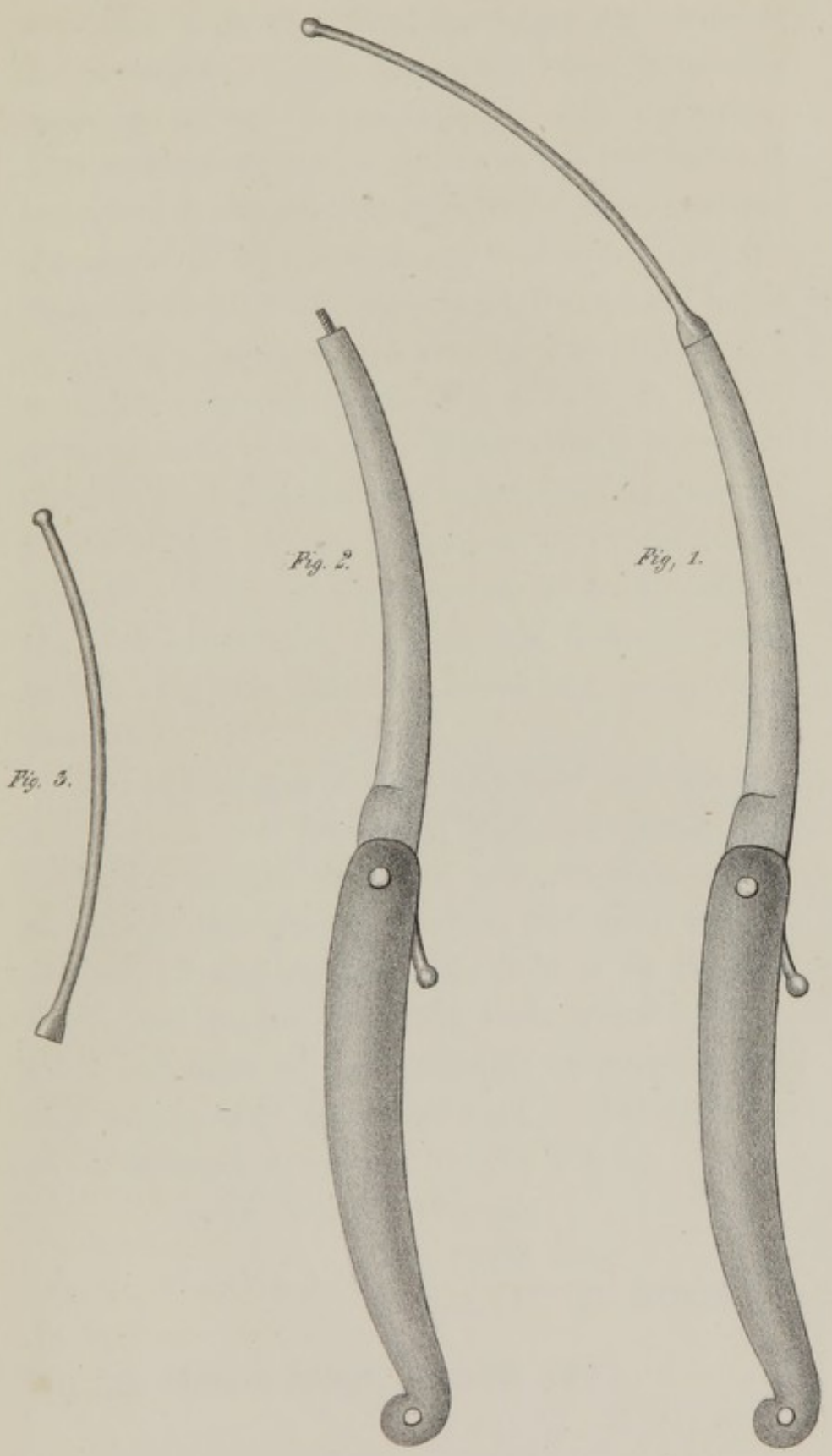


Fig. 3.

Fig. 2.

Fig. 1.

wounded, or it slips from the finger and wounds the intestine. These accidents have frequently occurred to me in performing this operation. The instrument which I offer to the profession, I believe, will obviate the difficulties which attend the operation by the common bistoury. This instrument consists of a common bistoury, the blade of which terminates in a small screw, (see fig. 2.) to which a flexible probe is attached (see fig. 3.) of two inches in length. This, when screwed on the bistoury, completes the instrument, (see fig. 1.) I have considered the attachment of the probe by a screw as the best plan, inasmuch as it renders the instrument more portable, and different sized probes may be attached, according to circumstances.

The advantages of this instrument over the one in common use are—first, that the probe will follow the tract of the sinus, and can more readily be passed through the opening into the rectum—secondly, it may easily be laid hold of by the fore finger, and drawn out at the anus, which its flexibility will admit of—and thirdly, the surgeon may take firm hold of the instrument, so that by drawing it forward, it will cut its way out.

With much respect,

I am, yours, &c.,

DAVID L. ROGERS.

No. 19, Market Street, June 30, 1829.

CONTENTS.

ERRATA.

Page iii, Preface, 7th line, insert "*the*" between the words "and" and "consideration."
Page iv, 11th line, "clapse" should be "*elapse.*"
Page 7, 5th line from bottom, for "fairly" read "*freely.*"
Page 13, 4th line from bottom, for "often" read "*after.*"
Page 27, 6th line, for "E. Horne" read "E. Home"; and same page, 18th line, for "ternum" read "*sternum.*"
Page 42, 7th line, for "wounds" read "*wound.*"
Page 63, last line, for "determination" read "*termination.*"
Page 88, 8th line from bottom, for "in operation" read "*in the operation.*"
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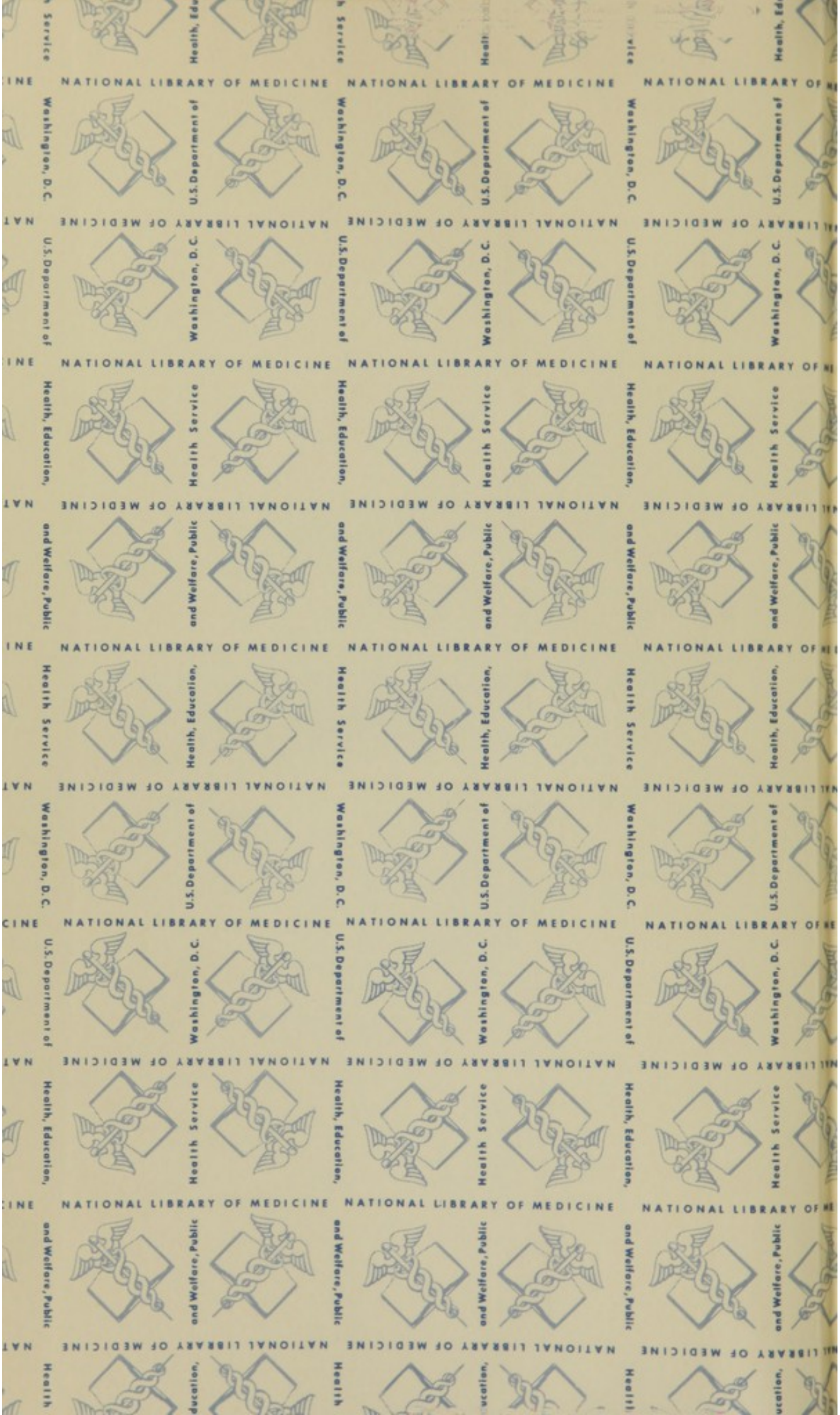
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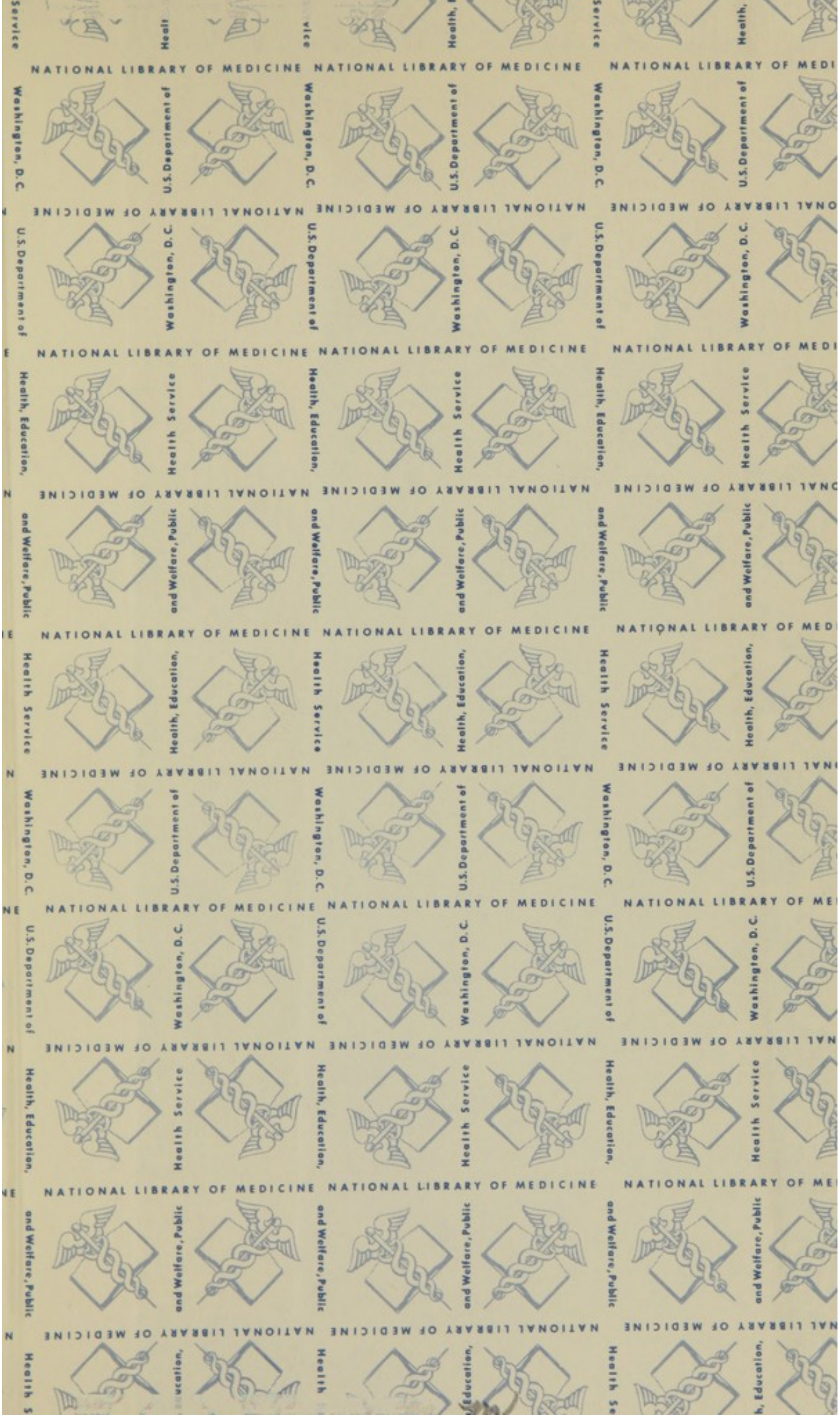
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