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by R. Gosling.**

Contributors

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P A R I S I A N
CHIRURGICAL JOURNAL;

BY

MONSIEUR DESAULT,

PRINCIPAL SURGEON TO THE HOTEL DIEU, PARIS;

TRANSLATED INTO ENGLISH

BY

R. GOSLING, SURGEON,

L O N D O N.

L O N D O N:

PRINTED FOR THE TRANSLATOR, NO. 11, FENS
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M.DCC.XCIII.

P A R T I A L

HIRURGICAL JOURNAL

BY

MORRIS J. D. D. D.

TRANSLATED INTO ENGLISH

BY

GOSLING SURGEON

LONDON

LONDON

PRINTED BY THE TRANSLATOR, 1801

AND BY THE TRANSLATOR, 1801

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T O
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J O H N B I R C H,
A N D
H E N R Y C L I N E,
E S Q U I R E S,
S U R G E O N S T O S T. T H O M A S ' S H O S P I T A L,

T H I S
T R A N S L A T I O N
O F T H E

Parisian Chirurgical Journal

I S R E S P E C T F U L L Y D E D I C A T E D,

B Y
T H E I R M O S T O B E D I E N T

H U M B L E S E R V A N T,

R. G O S L I N G.

GEORGE CHANDLER

JOHN B. CHURCH

HERBERT C. CHURCH

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P R E F A C E.

TH E indulgence of the Public is solicited in favour of a Work, that has for its avowed object, the good of mankind and the improvement of the science of surgery.

It is not sufficient to be acquainted with the general and ancient history of this important art: its progressive and daily improvements ought to claim a superior share of our attention.

We are well acquainted with the inestimable advantages derived from the practical works of a Pott, a Gooch, and a Warner, and many others, whose names are unnecessary to mention; and,
if

if the sphere of chirurgical information has been so much enlarged by the labours of our own countrymen, are we not justified in supposing, that the Public will be equally benefited by the observations of the authors of the Chirurgical Journal?

From the exalted character of Mr. Default, as an anatomist, and as a surgeon, much may, with propriety, be expected; and, I trust, that those, who honour these sheets with a perusal, will, in this instance at least, not be disappointed.

Of the general utility of the publication, after what Mr. Default has observed in his introduction, little remains to be said.

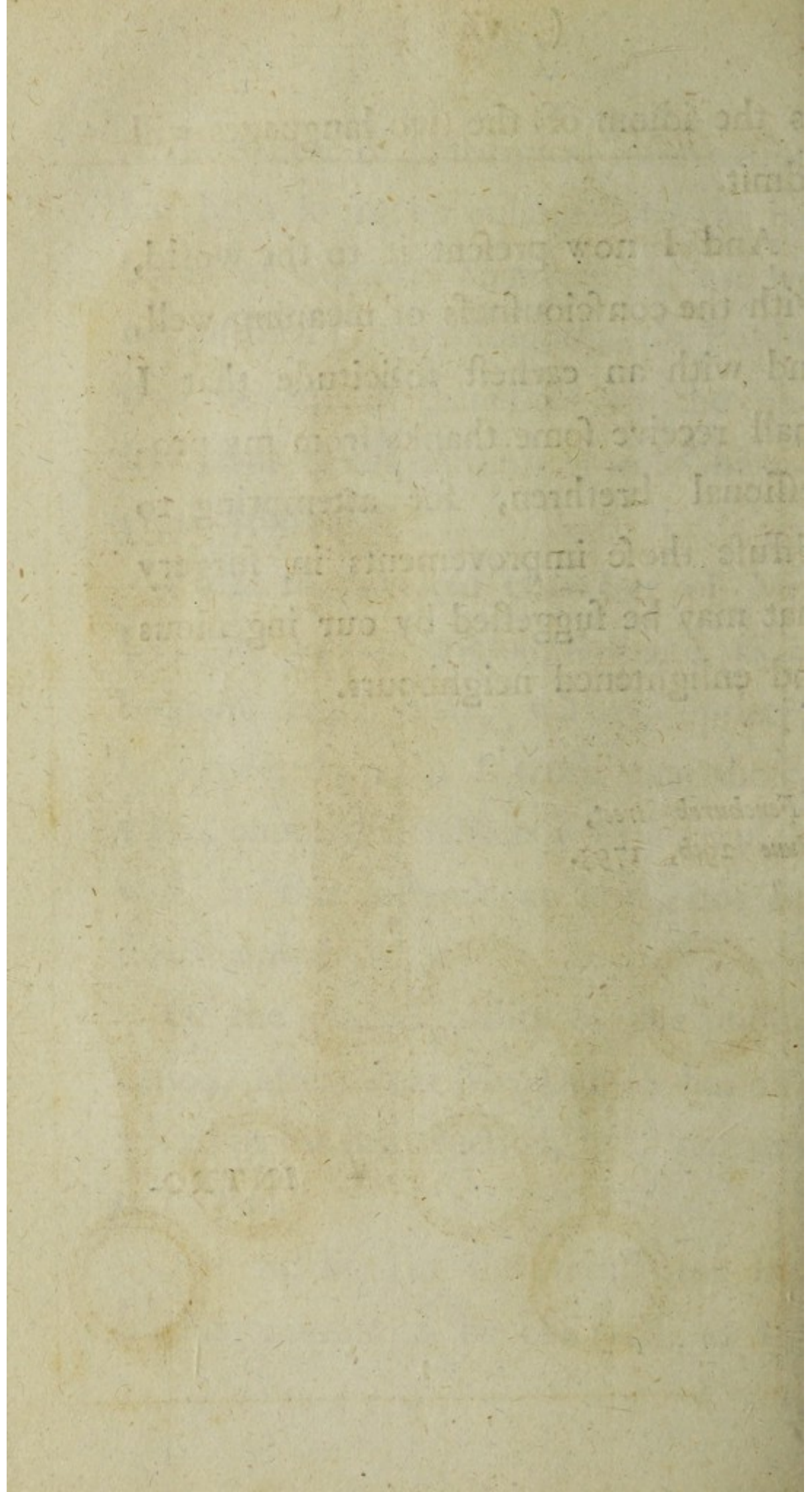
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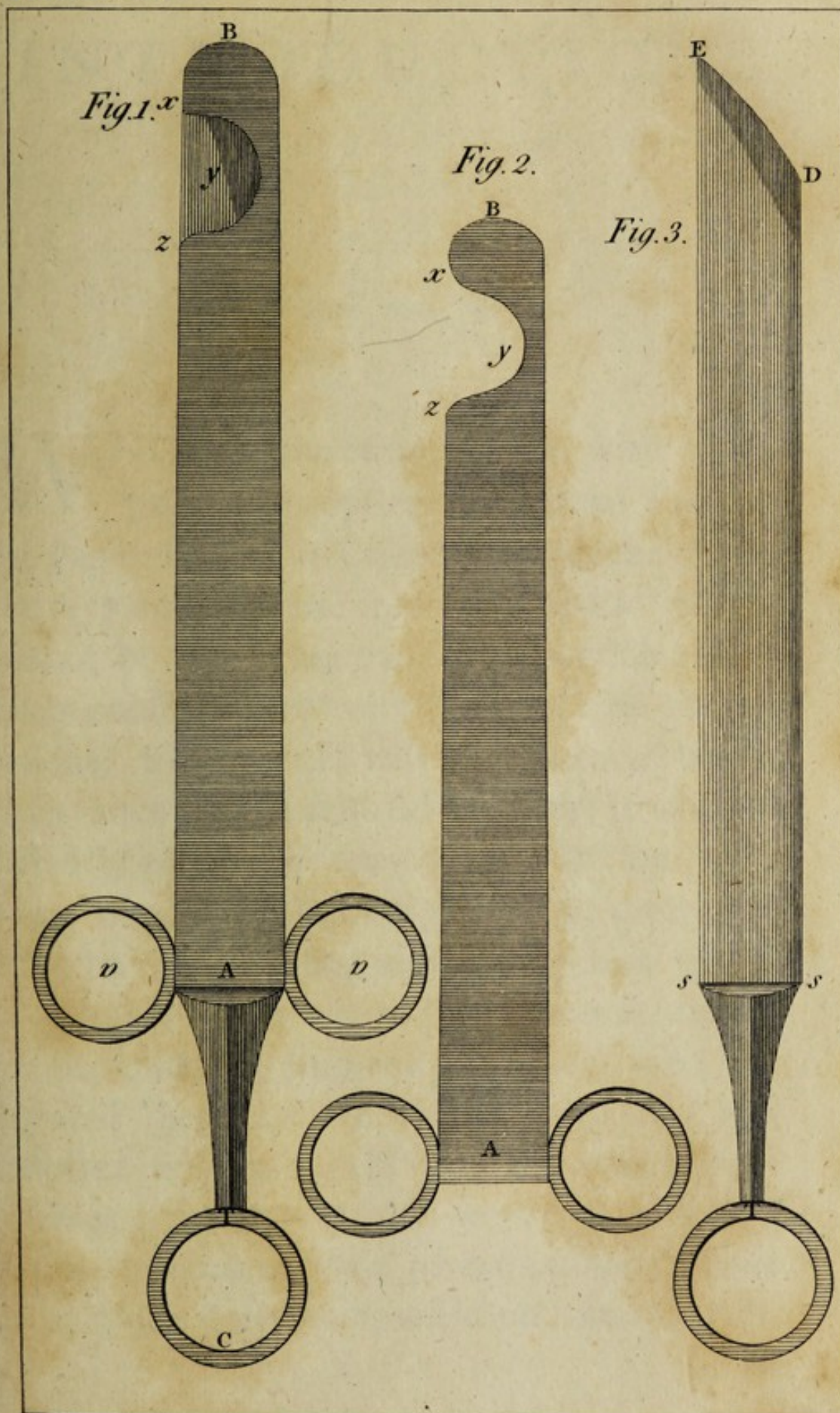
as the idiom of the two languages will admit.

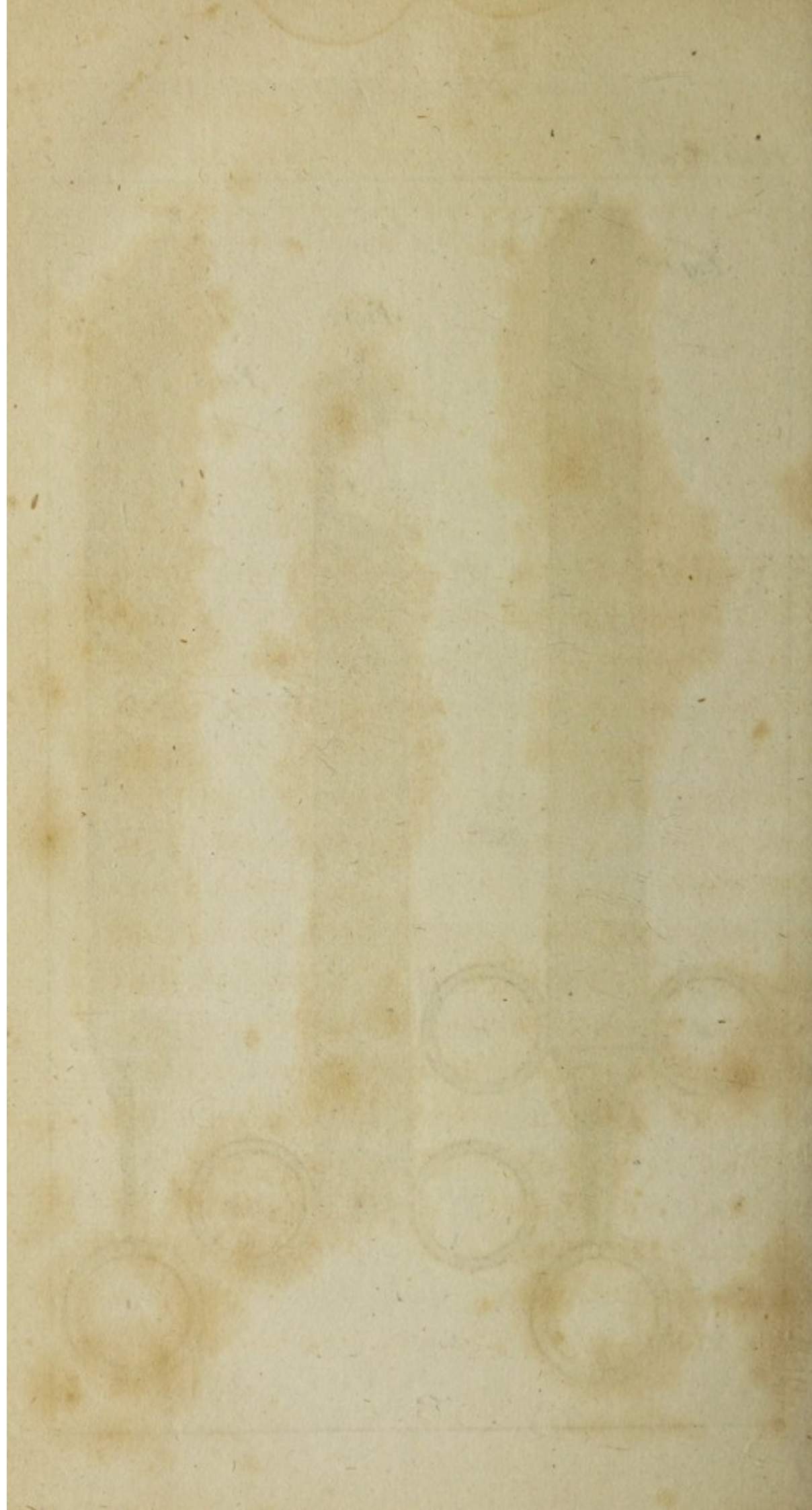
And I now present it to the world, with the consciousness of meaning well, and with an earnest solicitude that I shall receive some thanks from my professional brethren, for attempting to diffuse those improvements in surgery that may be suggested by our ingenious and enlightened neighbours.

*Fenchurch-Street,
June 29th, 1793.*

INTRO-







INTRODUCTION.

Occidit qui non servat.

WHERE can this maxim with more peculiar propriety be affixed than at the beginning of a Chirurgical Journal? It conveys one of those important truths which cannot be too often inculcated, or too attentively considered by every Surgeon: on all occasions, his conduct will be influenced by its observance; like a faithful monitor, it will incessantly recall his duty to recollection; and warn him, that not only what he does, but what he omits to do, may render him guilty of homicide. It would have been fortunate for the cause of humanity, if they, who had destined themselves to the curative art, had reflected on this motto with the attention it deserves; the extent and importance of the duties attached to their profession would have been more deeply impressed on their minds.

The prospect of the obligations they would owe to society might have induced them to renounce their intentions; but, what inconvenience would have arisen! Little can be expected from the exertions of a man, who, conscious of his own indolence, even shrinks from reflection on his duty. If the truth of this maxim had its full influence, the practice of surgery would be confined to men of talents and integrity. The student, sensible that he is responsible for consequences which his want of assiduity may occasion, will apply to more advantage his means of information, and avoid the risk of being, at some period, the murderer of him, who implores his assistance, and who expects life from his attention. The man of genius, who has made useful discoveries, and the experienced practitioner, are both convinced, in the early part of their lives, that they cannot, without a crime injurious to humanity, reserve exclusively to themselves the fruit of their labours. And, as the death of many might be occasioned by the delay of a single day, they will be eager in adopting the readiest mode of publication. The Chirurgical Journal will be the quickest and least expensive medium of communication; and it offers so many other
advan-

advantages, that we have reason to be astonished that no one conceived the idea till the middle of the eighteenth century: it is not a work for which there can be a substitute; and, at present, it will supply the place of all others. Too many books on surgery are already published, and we have reason to apprehend the number will be still more multiplied: these circumstances will necessarily tend to injure the science; for, independant of the expence of new publications which the finances of a young practitioner will rarely permit him to afford, he expends his time in the perusal of books containing no new information, or, perhaps, only a trifling number of obsolete facts, which might be comprised in a few pages. Science is, at present, too much advanced to suppose that new ideas only can be presented to the mind, and that volumes can be written on subjects already frequently discussed, and which, in fact, would contain merely the same ideas conveyed in different language.

Surgery then could not fail of being improved, if, instead of composing a volume, or even a complete system, in which some new truths are blended with the whole, we were to expose these truths with simplicity

and precision in a Journal. If we reflect on the fate of all works, both ancient and modern, we shall find them, in some measure, defective, and that, in some degree, they are susceptible of improvement, and we mean ours to serve as a supplement to these productions. This work has the invaluable advantage of belonging to all nations, to all ages, and of being always new. It is easy to supply omissions, to correct the errors of others and ourselves. It is the property of all, who contribute, by their labour, to its perfection; and, by publishing their names with their productions, we give to each the tribute of merit which is his due. In whatever country professional men may reside, it offers an easy method of correspondence, and opens an ample field for that discussion which is frequently necessary to dissipate doubt, and to serve for the diffusion of truth. From the numerous and important observations of which it ought to be the repository, it will furnish such cases to the young and timid practitioner as will serve for the application of his precepts, and tend to dispel his doubts and confirm his practice; it will be even useful to the experienced practitioner, by affording him new information: for, what

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man will be presumptuous enough to say, that his knowledge cannot be enlarged by the labours of others? Thus, in whatever point of view the Chirurgical Journal is considered, it presents resources that are expected in vain from any other production, and, at the same time, is exempt from the inconveniences to which they are subject. It becomes then the duty of those who love and cultivate this art, to contribute all in their power to the perfection of which it is susceptible; for, in surgery, to demonstrate that an undertaking is useful, is to impose on every one an obligation to co-operate for its completion; and we do not say too much in observing, that, by a refusal, we are guilty of voluntary homicide, according to the maxim we shall never cease to repeat, *Occidit qui non servat.*

man will be pre-emptive enough to say, that
a knowledge cannot be enjoyed by the la-
bourer or others. Thus, in whatever point of
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gation to co-operate for its completion; and
we do not say too much in observing, that,
by a journal, we are guilty of voluntary horri-
fide, according to the maxim we shall never
call to mind, *Quid sit veritas.*

PARISIAN

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PARISIAN
CHIRURGICAL JOURNAL.

C A S E I.

A Wound in the Mouth by a Pistol-shot, with a Fracture of the lower Jaw, a Hole in the Arch of the Palate extending to the Velum Pendulum Palati. Balls lodged in the posterior Nostrils. Deglutition completely obstructed. A hollow Bougie introduced into the Œsophagus through the Nose, and worn for a Month.

[By Mr. MANOURY, Surgeon to the Hôtel Dieu.]

ON the 18th December, 1789, Mr. Default, at half past eleven o'clock in the evening, was called in to the assistance of a young man, in the Rue Conqueron, who had shot himself in the mouth with a pistol. There was a profuse hemorrhage from the lips, cheeks, and nostrils; and an hour had

scarce elapsed, from the time of the accident, when the face was considerably swelled; the inside of the mouth was blackened by the powder and smoke, and the right half of the tongue lacerated and burnt; the lower jaw was fractured on the right side, between the canine tooth and the first dens molaris; the right fragment was situated behind the left, and rode over it above half an inch; the other teeth, as well as the inferior and superior alveolar processes, had escaped injury; but, towards the posterior and right side of the arch of the palate, a hole was discerned sufficiently large to admit the thumb with ease, and connected with a laceration that extended to the velum pendulum palati. From such an accident, the most serious consequences were to be apprehended; besides, there was reason to suppose that the balls, after crossing the posterior nostrils, might have penetrated the cranium, and be lodged in the brain. To ascertain the extent of the mischief, Mr. DeFault introduced a female staff through the opening in the arch of the palate, which he passed forward, and in every possible direction, without discovering any communication with the cranium, which induced him to hope that the case might terminate favourably; but as the patient had signified that the pistol was loaded with three balls, it yet remained to discover their situation. All researches had been hitherto ineffectual: he intimated, by signs, that he had not swallowed them; and, as they were not found in his clothes, nor in the blood that he lost, it was suspected they were stopped by,

by, and buried in, the ethmoidal cells and sphenoidal sinusses, &c.

The functions of the brain not being influenced by the accident, was a circumstance favourable to the event of the case. The hemorrhage, from the nose and the arch of the palate, was considerable enough to require immediate attention. With this view, a flexible silver probe was introduced through the right nostril into the fauces, the extremity of it passed forward, and, by the assistance of a finger, brought out of the mouth: in effecting this, some difficulty was experienced in consequence of the swelling. At the extremity of the probe, the ends of two waxed ligatures were fixed, to the middle of which a doffil of lint was tied, sufficiently large to fill up that part of the pharynx that corresponded to the posterior nostrils. In drawing the probe and ligature through the nose, the doffil was conveyed with it, and, by means of the finger, introduced by the fauces, it was applied to the posterior opening of the nostrils. The two ligatures that passed out of the nose were then separated, and one was applied to the septum nasi, and the other to the opposite side. The nostrils were then filled with small doffils of lint; and, on the last, which was larger than the rest, the ends of the two ligatures were tied: those that remained in the mouth, for the purpose of withdrawing the doffil situated in the œsophagus, were fixed on the cheek.

After this hemorrhage was stopped, the reduction of the fractured jaw was unsuccessfully attempted, in consequence of the swelling and tension of the soft parts.

parts. Compresses, moistened with aq. veg. min. were constantly applied to the chin, cheeks, and superior part of the neck, and a decoction of marshmallows prescribed for a gargle: the swelling increased considerably during the night: the next day deglutition was painful and laborious; and, as the swelling progressively increased, on the second day he was unable to swallow; but still, though appearances were alarming, Mr. Default, relying on cases he had formerly seen, did not despair of success.

The dossils of lint, with which the posterior nostrils were filled, being deemed unnecessary, were withdrawn, some through the nostril, and that in the fauces through the mouth, by means of ligatures, left, with that intention, on the outside of the cheek. A large hollow bougie, of the elastic gum, with a bent probe, like a catheter, was introduced by the left nostril, and pushed as far as the middle and posterior part of the pharynx: the probe was then withdrawn with one hand, whilst the bougie was supported and fixed by the other: it was pushed still more forward, with the intention of passing it into the œsophagus; but, deviating from the right direction, it passed into the larynx, which was known by a sort of guggling noise, and by the flame of a candle being agitated when presented to the orifice. It was immediately withdrawn, and, at the second attempt, was passed into the inferior part of the pharynx, and thence into the œsophagus; and we were assured of this from the same effects not taking place when
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the experiment of the candle was repeated. The instrument was fixed externally, by means of a ligature tied to its extremity, and the ends twisted on two pins, and pinned to each side of his night-cap. Mr. Default, with a syringe, injected four ounces of a ptisan of dog's tooth sweetened with syrup of lemons, which was afterwards performed by the nurse, being previously instructed. By this contrivance, as much broth and ptisan as his situation required was exhibited without inconvenience. He was apprised of the necessity of taking sustenance, not by the general feelings of hunger and thirst, but by a peculiar sensation of weakness and dragging in the epigastric region, which ceased when he had taken nourishment. These fluids passed through the œsophagus into the stomach, without producing uneasiness, or exciting any disposition to vomit. On the third day the fever and heat were rather considerable. The inside of the mouth was filled with portions of sloughs, which were in part detached by the constant application of the saliva and gargles. The fourth day, when suppuration commenced, the lacerated parts of the tongue began to separate. A gargle of aq. hord. with mel. ross. was prescribed. Not any nutriment, either solid or fluid, could be taken, as the pharynx was perfectly impervious, in consequence of the considerable swelling that had taken place; but, as the bougie served as a substitute, it was of little moment. On the seventh, the swelling had, in some measure, subsided, the fever less, the suppuration from the inside of the mouth abundant, but the

pus

pus of a greyish colour and foetid, which rendered the frequent use of the gargle necessary.

On the fifteenth, the swelling of the cheeks and mouth was nearly dispersed. Mr. Default, who was anxious to reduce the jaw, made another ineffectual attempt. The patient daily improved, nor did the bougie occasion the least inconvenience: his strength was supported by means of nourishing jellies.

From the fifteenth to the twentieth nothing remarkable occurred; the mouth was clean, and many of the ulcerated parts were cicatrized; the torn parts of the velum pendulum palati were united, but the hole in the arch of the palate still remained. The farther continuance of the bougie being deemed unnecessary, it was withdrawn: he attempted to take some broth, but without success, in consequence of the general injury the parts had sustained, and their not being accustomed to their natural action. The patient, finding the use of the bougie convenient, requested its farther continuance: he wore it for thirty days after the accident, and even wished to continue its use still longer; but he relinquished this idea, on being assured, that the inconveniences arising from leaving it off would soon subside, and that the observance of such a strict regimen was attended with danger; besides, the desire of regaining his taste and voice was another inducement. The difficulty that he experienced in deglutition for many days gradually diminished; his pronunciation, at first, was embarrassing and laborious; the tones of his voice, being nasal, confused, and with difficulty articulated. The frac-

fractured portions of the lower jaw were considerably less deranged than immediately after the accident, but the inequality was still one-sixth of an inch. The fractured surfaces of the bone not being in immediate contact, and the parts being constantly moistened with the saliva, were circumstances unfavourable to the formation of callus. Another fruitless attempt was made for its reduction, and, at last, it was left to the resources of nature. He remained at Paris one month after he had declined the use of the bougie, and then returned to his family with these distressing proofs of his rashness. At this time there remained three cicatrices on his right cheek, which united at the commissure or junction of the lips; these were occasioned by the laceration produced by the explosion of the powder; the fractured jaw was not yet united, the parts yet admitting of some degree of motion; but the irregularity was now much less perceptible, being not more than one-twelfth of an inch, and this apparently occasioned by the first dens molaris of the right side, that had been thrown inwards; its extraction was advised, with the view of the parts regaining their natural situation. A small fissure was now only to be discerned where the hole in the arch of the palate had existed, and this seemed as if it would soon be effaced: he partly recovered his taste, and, though mastication was yet painful, he could eat solid food and chew even crusts of bread. Some difficulty he experienced in speaking, nor was his pronunciation distinct, but when he wore spectacles, which produced a compression of the alæ of the nose.

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The regimen and plan of treatment laid down for his observance he rigidly adhered to, and, previous to his departure, he waited on Mr. Default, to thank him for the preservation of that life of which this accident taught him the value.

R E M A R K S.

THE majority of those, who attempt suicide, are erroneously persuaded that discharging a loaded pistol in the mouth is the quickest and most effectual mode of destroying existence. In opposition to this opinion we can adduce more than a solitary instance, and the Hôtel Dieu has already produced many. The fracture of the lower jaw affords considerable scope for reflection. — Can it be attributed simply to the explosion of the powder, or to the recoil of the pistol the instant it was fired off between the teeth? To which of these causes can we refer the effect? And how are we to account for the lower jaw being fractured and not the upper, and the teeth, at the same time, escaping injury? The gradual diminution of the irregular union of the fracture is a circumstance difficult to explain,* were we not justified in

* We should rather suppose that the diminution of the deformity was owing to the actions of the muscles inducing absorption by means of pressure: with respect to the approximation of the maxillary bones, subsequent to the operation of the hare-lip, may it not, with more propriety, be attributed to the additional deposition of ossific matter, than to the action of the muscles of the superior lip?

supposing that the deformity would be increased by the pressure and constant action of the muscles of the inferior lip; for, it is observed, that the muscles of the superior lip approximate the maxillary bones (in young subjects) after the operation of the hare-lip, with a fissure in the palate. These questions being more curious than useful, we shall leave their discussion to those who are disposed to reflect on the subject.

The favorable termination of this case is certainly to be attributed to the introduction of the bougie of the elastic gum; for, notwithstanding the remarkable care and attention that he received, he certainly would have sunk under the fever and discharge, if we had not possessed the means of repairing that loss, by the exhibition of proper nourishment. Had we not reason to apprehend the *primæ viæ* might be affected in consequence of the digestive fluids being injured by the introduction of foetid pus into the stomach, which was discharged from the mouth; besides, we were acquainted with the inefficiency of nutritive clysters.

The advantages resulting from these hollow elastic bougies are not confined to these cases, they may be advantageously employed in tetanos hydrophobia, spasmodic contraction of the pharynx, atony and palsy of the muscles of that part, as well as those of the tongue; in cases of tumors situated between the coats, or even in the passage of the œsophagus, and sometimes in the chest; they may likewise be successfully used in cases of obstruction of the respiratory passages, particularly when that obstruction is above the bronchia, as in collections of matter in the internal part of the larynx, in
affections

affections of its cartilages, in some fistulous affections of the trachea and larynx, and in wounds of those parts. In cases where deglutition and respiration were obstructed at the same time, they might be used with advantage, as in some species of quincy, in wounds of the neck, or when the larynx and pharynx are both divided, two bougies might be employed, and one introduced through each nostril, and one by this means conveyed into the pharynx, and the other into the larynx.

Mr. Default has not yet had an opportunity of trying it in these complicated cases, but proposes to avail himself of the first that offers, nor does he think success improbable. The ease with which they are introduced into the larynx, the little uneasiness patients have experienced when they have remained in that canal for some minutes, and the circumstances of canulas being left for many days after the operation of bronchotomy, which is strictly analogous, obviate those objections that may be urged respecting the difficulty of retaining the bougie in its situation, in consequence of the irritation that would be excited in that canal.*

* In a case of this description it would be essentially necessary to distinguish the two bougies, which might be done, by tying two pieces of different coloured ribbon, and, by this contrivance, we should avoid injecting into the larynx; but, if it should occur, the surgeon would be apprized of the mistake by the convulsive cough that the first few drops, that were injected, would produce: in this case it should be immediately suspended, for fear of producing fatal consequences.

C A S E II.

Fracture of the Cranium, with Depression, cured without the Application of the Trepan.

[By Mr. GORRE', Surgeon to the Hôtel Dieu, at Paris.]

JOSEPH Gauthier, a native of Besançon, aged 23, of a good constitution, was found, on the 17th of October, 1790, senseless and weltering in his blood, in consequence of a fall from a window, to which he had attempted to climb. The surgeon of the place, where the accident happened, bled him, and persuaded some by-standers, who interested themselves in his favour, to take him to the Hôtel Dieu, where he was immediately carried. On his arrival, he was drowzy and senseless, with a discharge of blood from his nose, but chiefly from his left ear: his countenance was pale, his body cold, and his pulse scarcely to be distinguished.

After the head was shaved, a number of contusions were perceived, but the most considerable one was situated towards the anterior and inferior part of the left parietal bone: it was depressed in the middle, accompanied with swelling of the surrounding parts. No motion or crepitus being felt on pressure, the opinion was doubtful respecting the state of the cranium. On farther examination, a fracture of the middle part of the left clavicle was discovered; it was

transverse, and without the irregularity that is always occasioned by the depression of the humeral portion. An emollient cataplasm was applied to the head, and the fractured clavicle maintained in its situation, by placing between the breast and the arm a cushion in the form of a wedge; the thickest part was applied to the axilla, and the thinnest to the inferior part of the humerus. The arm was brought to the side, and retained there by a bandage passed round the body, which included the elbow, and served as a support to the arm and the humeral portion of the clavicle; while the sternal fragment was depressed by means of a compress placed obliquely on the fractured part, and sewed before and behind to the bandage that was passed round the trunk. He was put on low diet, bled, and a ptisan of dog's tooth, with oxymel, was exhibited.

The next morning he was better: the poultice to the head continued, and he was bled in the foot. In the evening his recollection was, in some degree, recovered.

The third day, the swelling, produced by the contusion, having subsided in part, we perceived a depression of the cranium, with its anterior edge more elevated than the posterior, and about $2\frac{1}{2}$ inches in diameter. It was bounded, anteriorly, by the inferior part of the semicircular ridge of the os frontis; above, by the inferior part of the parietal bone; and, inferiorly, by the shelley portion of the temporal bone. The uniform ill success of the application of the trepan in the Hôtel Dieu deterred Mr. Default from

from performing that operation ; and, in this instance, the omission was fortunate. As the patient was weak, the repetition of the bleeding was deemed improper, and an enema was only administered. From this day he muttered a few words, and signified that he understood what was said by the by-standers.

The following days he articulated better, but still he only answered by monosyllables. The same treatment was continued ; the fractured clavicle was going on well ; the eccymosis, that surrounded the fracture of the head, nearly absorbed ; and every inconvenience sensibly diminished.

The 7th, the patient, who had hitherto been kept on diet, was now ordered some light food, which he eat with considerable appetite. The senses of taste, smell, and touch, were in their natural state, but his sight was weakened and his pupils dilated, particularly the left ; his hearing was affected, but more so in the evening than in the morning.

With respect to his mental faculties, his memory was most injured ; he could not even recollect the name of his country. He felt no pain, either in the fractured cranium or clavicle. The same treatment was continued, only the enemas omitted. On the 10th he got up, and walked in the ward. On the 14th he walked on the bridge, and continued this exercise every day.

On the 20th, the dressings from the clavicle were removed, and the bone was found perfectly united, without the least deformity. His memory, hearing, and sight, daily improved ; yet his pupils were still

more dilated than in their natural state. The depression of the cranium remained the same, nor did the fractured pieces of the bone appear at all elevated.

On the 27th day after the accident he was discharged from the hospital, but, previous to his departure, he went to the theatre, where the students, who attended Mr. Default's lectures on practical surgery, were perfectly satisfied of the depressed state of the cranium by actual examination.

Three weeks afterwards he returned to the theatre, enjoying the most perfect state of health; he had completely recovered the use of his senses, and his memory was the same as before the accident. The pupils were nearly of their natural size, but the left was still most dilated: the depression was the same as on the day of his departure.

We mean soon to publish the cases of three other patients, now in the Hôtel Dieu, who have had fractures of the same description, and who have been cured without the trepan; and we shall again examine if the practice of trepanning is justifiable in all injuries of the cranium; where, from the depression, or the particular nature of the fracture, the extravasated fluids may be confined.

*An Analysis of a Course of Lectures on practical Surgery,
by Mr. DESAULT, at the Hôtel Dieu, on the Dis-
eases of the urinary Organs.*

PERHAPS it would be methodical, in giving these elements, to adopt the same plan as Mr. Default in his lectures, and, in the first instance, to give a prefatory discourse on the general principles of surgery; but, as they are universally known, and are liable to many exceptions, we shall defer treating on this subject for the present, and begin immediately on

Affections of the urinary Organs.

The frequency of these diseases, the negligent manner in which they have been treated by chirurgical authors, the injudicious methods generally adopted for their cure, the danger of complaints of this description, the important functions of the parts injured, the difficulty attendant on their cure, and the empiricism to which they have been hitherto subject, were motives sufficiently powerful to induce Mr. Default to make this subject the first object of his attention; for, when the nature of a disease is but little understood, we should be doubly solicitous to communicate that information we have acquired by reason and
C 3 experience.

experience. Mr. Default divides the diseases of the urinary passages into two parts :

1. Injuries of the secretory organs.
2. Injuries of the excretory passages.

Under the first class are ranked Diabetes, Suppression of Urine and its morbid Secretion: Retention and Incontinence under the second. Each of these, according to the number of causes that produce them, may be divided into different species. Mr. Default would willingly have declined treating on the subject of morbid secretion of urine; as, in cases of this description, surgery is of little use; but he has deemed their exposition necessary, in order to point out, in one view, the diseased affection of the urinary organs, and to suggest a proper plan for the study of those complaints, and which may serve as an outline for observations, that, in future, may be made on this subject.

D I A B E T E S.

Authors differ respecting the definition of diabetes; some include, under that name, every extraordinary evacuation of urine: but it cannot be said, according to the remark of Celsus,* that a diabetes does not exist, except when the quantity of urine

* De Medicin. lib. IV. cap. 20.

evacuated equals the mass of fluids taken in, and that there is a derangement in the health.* They have also termed diabetes, that abundant flow of urine which occurs after a spasmodic affection, originating from an acute or an inflammatory complaint; but this is only an abuse of words, and blending the symptoms with the disease.

Others † have conceived that they have sufficiently defined the disease, by observing, that the urine evacuated is possessed of the same qualities as the original fluids, when first received into the stomach. But this definition is, by no means, sufficiently generic; for, the fluids that are drank, are not only evacuated with the urine, but likewise the chyle, the serum, the lymph, the bile, the fat, and, in fact, all the different secretions of the body.‡ Those, who have understood by diabetes a diarrhæa, a urinous consumption,§ an excessive flow of urine, appear, to us, to have described better its generic and distinct character.

The few cases on record of this disease are proofs of the rarity of its existence. The ancients mention but few: Galen relates only two, to which subsequent authors, in general, refer. Aretæus has particularly considered this subject; and it appears that this disease is more frequent in England than in

* Sydenham. Dissert. epist. de Hysteria.

† Ægin. lib. III. cap. 14.

‡ Galen. lib. de Cris.

§ Aretæus de Caus. et Sign. Morbor. diuturnor. lib. II. cap. 2.

France.* Matthew Debson mentions having seen nine patients afflicted with diabetes, Cullen twenty, and scarce a single case is noticed by any French author. But is it not possible that this disease has been frequently mistaken for another? And that diabetes has been confounded with incontinence of urine, particularly when in a violent degree; and which, not admitting of a remedy, are accompanied with nearly the same symptoms, such as emaciation, depression of strength, fever, &c.? This suspicion has been supported by the inaccurate and inattentive manner in which the dissection of those who have died of this disease has been conducted: the majority were satisfied with the examination of the kidneys and liver; and if no disease was found in those parts, yet still their researches were not prosecuted to the bladder; and in those cases where it has been dissected, it has generally been found large in size, and sometimes full of urine.

Diabetes has been divided into too many species: The ancients mention only two, true and spurious: when the urine exceeded the drinks taken in, when it was † yellow white, of the nature of the chyle, purulent, and of a sweetish, sugary, taste, &c. ‡ they termed it the true diabetes; spurious, when the urine was crude, preserving the nature and colour of the fluids originally drank: § they still call diabetes a

* Medical Observations and Inquiries, tom. V.

† Cheine, Sanit. infirm. page 149.

‡ Sauvages, Nosolog. tom V. page 186.

§ Galen, Arêtetée, Bartholin.

urinous lientery. But, as in the course of the same disease, the nature and properties of this secretion vary materially, the distinction is unnatural, and only tends to confuse the history of the complaint. The most methodical division would be into two species, one arising from an alteration of the humours, and the other produced by an affection of the kidneys. A defect in assimilation forms the first class, relaxation and irritation of the kidneys produce the second. Under the defect of assimilation we comprehend all the diseased alteration of the humours which have hitherto been considered as productive of diabetes: such as an excess of the serum of the blood, its too great tenuity, or its dissolved state, the feverish and arthritic diabetes of Sydenham, and the chyliferous and meliferous species, &c.

The quickness, with which the serum of the blood runs off by the urinary passages, proves that the structure of those glands are well adapted to produce that effect. This secretion is but a slight effort of nature, she has only to filtrate the fluids, nor is it necessary to assign any other cause to explain this circumstance. In a state of health, by this secretion, the superfluity of our fluids are thrown off, and when they lose their consistence, and become so thin as to pass off by the kidneys, it forms diabetes. Thus we regard a defect of assimilation as the immediate cause of this disease, without the necessity of explaining it on the principle of a diseased affection of the kidneys. The persons most disposed to it are of a weak constitution and phlegmatic temperament: those who drink plentifully
of

of warm tepid fluids, or indulge in spirituous liquors : those who lead a lazy and sedentary life, or reside in moist or damp situations, that are badly fed, living only on vegetables, particularly on pot-herbs. When the blood has been impoverished by considerable hemorrhages, by frequent and continued bleedings, by abundant supuration, or by tedious diseases, exacting a severe diet. It may be produced by metastasis, and be consequent to ascites or hydro-thorax. The ancients attributed this disease sometimes to the cold temperature of the atmosphere, and sometimes to excess of heat in the patient. Mead supposed it originated from the liver, but, in general, it may be attributed to the enfeebled state of the digestive organs. This particular species of diabetes can only be distinguished in the first attack, for, in the more advanced stage, the symptoms are the same.

This disease rarely appears suddenly ; the first symptom is generally a frequent desire to make water. Sometimes a sense of heat or cold is experienced extending from the belly to the bladder, the quantity of urine daily increases, and soon exceeds the fluids that have been drank. In the first stage of the disease the patient is weak and low, but without any sense of thirst and fever, or pain in the region of the kidneys or bladder : the urine crude, insipid, and inodorous, and without any deposit : the symptoms gradually come on, nor is much inconvenience experienced till the second period of the complaint. The body, at last, becomes dry and emaciated, in consequence of this constant and considerable loss of the fluids ; a sense of heat in the skin
and

and intestines comes on, followed by insatiable thirst. What is drank immediately passes off, and the patient expresses a strong desire for liquids, but an aversion to solid food in this species of diabetes: acid eructations often occur, digestion is painful, the chyle imperfectly formed and combined with the drink, and, in that state, passes off with the urine. The natural properties of this secretion change; sometimes it is yellow, sometimes inclining to white, and resembling a solution of honey in water, of a sweet and sugary taste, with a weak urinous smell, and depositing a greyish matter sufficiently consistent; the insensible perspiration being checked, the skin becomes rough and scaly, and the general emaciation of the system perceptibly increases. If the urine does not regularly pass off, the abdomen swells, but subsides, immediately, as soon as they take their natural course. The pulse becomes small, irregular, and intermittent, and, at length, those afflicted with this disease become perfectly exhausted. All the symptoms of marasmus take place, and, the vascular system not containing sufficient for the support of circulation, death takes place.

Diabetes is more or less dangerous according to the cause, the duration of the complaint, the age and constitution of the patient: when it attacks those who are old and worn out with infirmity, if the disease is inveterate, and the secretions in a dissolved state, there is little hope for a cure. Wintringham says, he never succeeded in curing the true diabetes. Cullen, who has seen a considerable number of cases, says, that Scotland cannot produce a single instance of success. However,

However, Van Swieten, Harris, &c. mention many: the indications of cure are two; first, to give consistence to the humours, and, secondly, to prevent their determination to the kidneys. To fulfil the first we should prescribe incompressants and restoratives, such as a decoction of rice, barley, gum-dragon, gum-arabic, or of hartshorn-shavings, to which sometimes aromatics might be added, such as cinnamon, nutmeg, and acidulated with a few drops of vitriolic acid, or rabel water. We may try milk, alum whey, mineral waters, with vitriolic acid, a strong decoction of quinquina. We should, however, regulate our choice of remedies by the particular nature of the diseased functions. Excess of drinking and aqueous fluids should be avoided, as they will tend to produce still greater weakness. Abstinence, in this particular, should, as much as possible, be attended to; and, if the distressing sensation of thirst could be resisted, dry medicines should be prescribed: but there is a question, that the danger of the disease may be increased by not repairing, by the use of plentiful drinks, the loss occasioned by the abundant flow of urine. There is no way of preventing a determination of humours towards the kidneys, but by inviting them to another part. Some have endeavoured to produce this revulsion from the stomach and intestines, and have employed vomits and drastic purges. Their exhibition is by no means indifferent; for, if they do not serve, they do considerable mischief, by injuring the digestive organs. The inconvenience is not experienced, by producing a revulsion to the skin. The analogy that exists
between

between the secretions of urine and perspiration, and the facility and quickness with which they vary in a state of health, render this plan preferable. From the exhibition of diaphoretics, little advantage is to be expected: they act rather as diuretics than on the skin, and weaken the urinary organs, already too much enfeebled by the immoderate flow of urine. Friction, inducing perspiration by the use of flannel or a flesh-brush, is efficacious and unattended with danger. These means will be considerably assisted by the use of fomentations with warm water, which produce a relaxation of the skin, and are exempt from the inconvenience of the warm bath, which increases the general weakness. He should reside in a warm dry atmosphere, and be cautious of exposing himself to the cold air: and, if the strength will admit of the exertion, he should walk till a perspiration is excited. A liberal use of red wine may be allowed in the first stage of the disease, and when the heat and fever are moderate. In the more advanced periods of the complaint, solid and dry food should be recommended, particularly farinaceous substances: but the taste of the patient and the strength of his digestive powers should be particularly attended to. When the disease has reached its last stage, we can only assuage the thirst of the patient by acidulated drinks, and wait till nature puts a period to his misery.

*Of Diabetes produced by a Relaxation of the
Kidneys.*

A relaxed state of the vessels of the kidneys is more frequently the effect than the cause of diabetes; but they are sometimes originally affected, either by a defect in organization, or by the abuse of aqueous drink, or the long-continued use of diuretics. Retention of urine gradually obstructs the fluids in the capillary vessels of the kidneys; and, from this cause, they become extremely distended from the habit of sleeping in warm and soft beds. There is a species of diabetes, which takes place from a partial or total destruction of the kidneys themselves, and has been attributed to relaxation; but may we not question the existence of this species of the disease? Ruysch, it is true, adduces one example. He says he discovered, in a subject that died of diabetes, the right kidney entirely destroyed, and the bladder amply distended. But this instance is by no means conclusive; he speaks only like an anatomist, and just mentions the disease without describing a single pathognomonic symptom; and it is probable, that, independant of this diseased state of the parts, met with in the dissection, he had no farther acquaintance with the disease, but what he acquired from uncertain accounts of the case. It is only the antecedent symptoms which enable us to distinguish whether diabetes arises from relaxation or a defect of assimilation; in both cases, no pain is experienced

experienced in the lumbar region; but, when the secretions are healthy and the relaxation is local, then the digestive organs are unimpaired, and, in consequence, the patients experience the sensations of hunger and thirst without the power of completely gratifying them, and of course their strength is kept up, and their fever and heat increased.

It is in the commencement of this disease, that astringents should be chiefly employed; as alum, whey, quinquina, and rhubarb. The most irritating diuretics have been recommended; such as the tincture of cantharides, with vitriolic acid,* the dose from 15 to 40 drops, three times a day, applications of bodies rendered cold by immersion in ice, compresses moistened with vinegar or oxycrat, applied to the lumbar region, are the most efficacious means of restoring the tone of the kidneys; but they should be continued for a long time. Van Swieten says he did not succeed till he had persisted in the remedy more than six months.

Diabetes from Irritation of the Kidneys.

The fluids always flow towards an irritated part: to the kidneys, for example, when those glands become irritated, occasioning a more copious secretion, and

* Edinburgh Medical Observations, vol. iv. page 626. In the internal use of any preparation of cantharides, we shall never lose sight of its poisonous qualities; and, in the very worse cases, the dose of half a grain should be rarely exceeded.

sometimes consequent diabetes. The abuse of warm diuretics, gravel or small stones in the kidneys, a gouty, itchy, dartrous, or rheumatic, affection of those glands. Metastasis, the external application or the internal exhibition of cantharides, and indulgence in venereal pleasures, are so many causes that tend to produce diabetes. Besides the symptoms that have been mentioned in this species of disease, the patient is attacked with an acute pain in the region of the kidneys, a symptom that does not occur in other species of diabetes.

T R E A T M E N T.

We must attend to the irritating cause: if it arises from the use of warm diuretics, we must use the warm bath, decoctions of linseed, marshmallows, and dog's tooth, &c. and endeavour to invite the gouty humour to the skin by the applications of sinapisms to the feet; and the psoric humour should be attended to, by suffering the patient again to imbibe the disease. If these means are not sufficient, we should determine the point of irritation to another part, by the use of the caustic or seton, or by the application of a blister; but not composed of cantharides. Cupping, scarifications, and cataplasms, repeatedly applied to the same region, may contribute to remove the irritating cause, and then cure the disease.

I have only mentioned these different species of diabetes to point out the bounds of our knowledge of this disease. The subject is new, the field for hypothesis extensive,

extensive, and the cause of science is served by engaging practitioners to communicate the fruits of their observation and experience, and it is only from collecting numerous facts we can acquire any certain principles for the treatment of this disease.

*Extraction of a Stone, stopt at the Insertion of the Ureter
in the Bladder, by Mr. Desault.*

[The Case related by Mr. MANOURY, Surgeon to
the Hôtel Dieu.]

MARY Margaret Remiers, a native of Pont-Chary, in Brie, aged 62, of a good constitution and sanguineous temperament, about three years since, was attacked with a violent and fixed pain in the right lumbar region, which continued for a considerable time, but afterwards moved lower, and, according to the expression of the patient, descended a little every day.

These pains ceased entirely for a month, at the expiration of which they were renewed, but confined to the bladder and meatus urinarius. This second attack was accompanied with frequent desire to make water: the urine, constantly slimy, became now frequently bloody, and the stream, which sometimes suddenly stopt, flowed again when she varied

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her position or walked a few steps. After eight months continued pain, she was attacked for three following days with a considerable discharge of bloody urine, followed with a complete suppression, which lasted 24 hours, when it came away with difficulty, drop by drop, and was attended with excruciating agony. Frightened by these symptoms, she was induced to submit to an examination, which for a long time she had rejected, from the modesty natural to her sex. By the introduction of a sound, a stone of the size of a hazel-nut was discovered, and instantly extracted with a pair of common forceps.

This woman for some months enjoyed the most perfect health, but at last her old pains were renewed in the course of the ureter and in the region of the right kidney. She was admitted into the Hôtel Dieu, on the 1st of September, 1788. At this time her pains were continual, and confined to the internal part of the bladder; her symptoms increased by exercise, and produced a frequent desire to make water, but the urine was not bloody as before, nor did it pass in an interrupted stream. By the introduction of a sound in the bladder, Mr. Default discovered a stone at the lower part, which he conceived was small. The general health of the patient being good, previous preparation was deemed unnecessary, and, in consequence, the operation was performed five days after her admission in the Hospital. She was placed on the couch appropriated for the operation of lithotomy in the men, and confined exactly in the same situation: two assistants separated the labia and nymphæ:
the

the surgeon introduced a staff into the bladder, to be reassured of the presence of a stone, then gave to the handle of the instrument a direction perpendicular to the axis of the body, inclining it a little towards the left groin, and applied its concave part under the symphysis pubis. He then introduced, in the groove of the staff, (which was now inclined to the right,) the beak of Mr. Hawkins's improved gorget, the edge of which was inclined to the left side and downwards, and, whilst it was passed along the groove, the handle was slightly depressed, by which means he avoided wounding the bottom and the left side of the bladder with the cutting edge of the gorget. The incision was then prosecuted obliquely in the posterior and left part of the urethra, and neck of the bladder: he withdrew the staff, and, with his right fore finger placed on the gorget, passed it gently into the bladder; the forceps was then introduced, and, in withdrawing the gorget, he formed a kind of semi-circle round the forceps, from the left to the right, to avoid wounding the surrounding parts. The stone was felt a second time, but could not be grasped: a substance of a moderate size was felt at the extremity of the forceps, in that part of the bladder where the stone was first discovered, without experiencing that peculiar sensation which results from an instrument coming in contact with a bare stone: after some fruitless attempts he withdrew the forceps, passed his fore finger a second time into the bladder, and, in the room of a stone, a tumour was felt, which yielded easily to the pressure of the finger. At the moment some doubts were enter-

tained of its nature, it might be a fungus of the bladder, a concreted matter in the coats of that viscus, or an extraneous substance in the vagina, but the last conjecture was soon removed, by the introduction of the left fore finger in the vagina. Mr. Default was perfectly satisfied that he felt a stone in the part that the tumour occupied, and that it was situated about the termination of the ureter. He began to suspect that the stone was engaged in that part where it enters the bladder obliquely, and that it was surrounded by the tunics of the bladder. He was convinced this was the case, by passing the end of his finger over the surface of the tumour, when he felt at its inferior part a small hard body, invested with membranous folds. These circumstances were confirmed by many surgeons who assisted at the operation, and had introduced their fingers into the bladder. Mr. Default, having divided in different circumstances membranous bands high up in the rectum, and in other deep-seated cavities, by means of the instrument, the engraving of which is annexed, conceived that it might be successfully used in this instance. The fore and middle fingers of the right hand were placed in the rings of the instrument, and the thumb on the shank: he conveyed it shut into the bladder, along the fore finger of the left hand, then retracted the blade sufficiently to leave the semicircular notch of the instrument perfectly free, and, by means of the finger, placed this notch on the surface of the tumour: then pushing the blade gently forward, he at once divided that part of the ureter and bladder, which invested the stone; this being finished, the

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instrument was withdrawn, and with his finger, which served him as a conductor, it was disengaged, and was afterwards easily extracted by means of a pair of common forceps. The time of the operation was prolonged in consequence of waiting for an instrument, which, before its commencement, there was no probability of wanting. The pain of the operation she sustained with courage and fortitude. She was put on low diet, and prescribed a light decoction of dog's tooth and linseed, sweetened with syrup of marshmallows. She passed the next day and night well, complaining only of a smarting sensation, produced by the passage of urine, which passed away involuntarily, and drop by drop. The next day there was a heat in the skin and a frequency in the pulse; the belly neither tender nor painful. The third day, the patient feeling herself well, and not apprehending any farther ill consequences, took some solid food, which she procured clandestinely. The fourth day, she was still better; and now finding no inconvenience from solid nutriment, she eat still more liberally. The fifth day, there was some fever, the tongue dry, and the belly painful and tender. She was bled at the arm: two enemata administered in the course of the day, and was ordered to drink plentifully of veal broth and decoction of dog's tooth, which she took alternately. The sixth day, she was more calm; the fever, heat, dryness of the tongue, and the pain in the belly, were abated. The urine still came away involuntarily, but without much smarting. The eighth day, she had no fever, and the belly was easy;

she was able to retain half a wine-glass of urine, and, on the 9th, a full glass. Some light food was now permitted. On the 10th, the urine passed away voluntarily. The quantity of nourishment was now gradually increased. This woman remained in the hospital twenty days after the operation, and could either retain or pass her urine at pleasure.

REFLECTIONS.

Though women are much less subject to the stone than men; yet not a year passes, but many are cut in the Hôtel Dieu. We have seen, successively, in this hospital, two modes of performing the operation in women. Formerly, the method of dilating the urethra and the neck of the bladder was the uniform practice: but, since Mr. Default has been the chief surgeon, he always prefers incision. With a view that practitioners might decide which of these two methods was preferable, a representation has been made of the result of all the cases that have been operated on these last ten years, and it was found, that the inconveniences that patients experienced, subsequent to the operation by dilation, never took place after incision. By incision, less pain is experienced, and the time of the operation is shortened.

The situation of the meatus urinarius on the vagina, and the proximity of the pudendal artery, suggested an apprehension that they might be divided
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by the cutting edge of the instrument; but, by an attentive examination of the anatomy of the parts, it is found, that the urethra may be divided between the branch of the pubis and the vagina, without penetrating that canal or opening the artery. We shall not stop here to compare the operation, by incision of the urethra, with the small apparatus such as proposed by Celsus, or with the hypogastric section, revived, in modern times, by Frere Cosme. There is no one, conversant in the dangers and difficulties attendant on these two operations, can hesitate in their choice; nor, should either of them be had recourse to, but in circumstances of absolute necessity.

It is unnecessary to enter into a detail of those instruments adapted solely for women: these we reject as unnecessary; for, the instruments, employed for men, can be used with equal advantage, and, by simplifying our practice, we make one step towards improving the art.

In the Hôtel Dieu the same staff and instruments are employed in both sexes; sometimes we use the simple, and sometimes the concealed bistoury, and most generally Hawkins's gorget, on account of the simplicity of its construction, and the certainty with which we are enabled to make the incision; but it should be narrower for women than men: for, in men, not only the urethra and the neck of the bladder, but a portion of the prostate gland, is to be divided. The gorget which Mr. Default uses for adult women is $\frac{1}{2}$ & $\frac{1}{4}$ of an inch wide at the termination of its edge. This surgeon has improved Mr. Hawkins's gorget by

preserving only a slight degree of curvature. By this improvement, and inclining the staff, the urethra and the neck of the bladder may be divided in the same direction as with another instrument. As the case of a man, operated on with this instrument, will be published soon, in one of the journals, a more particular and accurate detail of the process of the operation, and the advantages of the improved state of the instrument, will be deferred till that period, when a plate will be given.

The circumstance of a stone being stopped at the insertion of the ureter in the bladder, in women, is a singular case; nor are we acquainted with any instance but the one related; yet, by their organization, they are certainly equally subject to its existence as men, who have met with the like disposition; instances of which are mentioned by Franco,* Littre,† and Le Dran,‡ who are by no means sufficiently clear respecting the manner of extracting the stone.

Littre advises that part of the ureter and bladder, which invests the stone, should be worn out by friction, produced by frequent introduction of the staff, or that the covering should be torn by the forceps, by gentle and repeated endeavours. The simple relation of these plans are sufficient to prove their insufficiency. Le Dran has had recourse to emollient injections, but the stone could not be extracted till they had been continued for

* *Traité des Hernies*, C. 31.

† *Mem. Acad. des Sciences*, A. 1702.

‡ *Académie de Chirurgie*, tom I.

two months: this method is uncertain in the event, and from the stone being left in the bladder, leaves the patient in a state of the most anxious suspense.

Houftet,* in his memoir on encysted tumours, says, that the method of cutting, employed by Fourbert, explains the method of disengaging the stone; it may be presumed that Houftet, in quoting Fourbert's method, only meant to point out the place where the external incision should be made; for, according to his idea, the cavity of the bladder is not penetrated, and only the parts that immediately invest the stone are divided: the operation, thus performed, approaches nearer the small apparatus than Fourbert's method; but, whatever it may be, the uncertainty of being able to cut, precisely, on the place where the stone is situated, the difficulty and danger of wounding parts so deeply seated, will render this operation, highly imprudent to perform: the conduct of Garangeot, in a similar case, is more worthy of imitation; the stone was encysted in a pouch or cell, situated at the anterior part of the bladder: after its situation was ascertained, by the introduction of the finger into the bladder, he cut off, with a bistoury, that portion of the sac that contained the stone, and disengaged it easily; but, although Mr. Garangeot was successful, the incision with the bistoury is subject to great inconvenience; it is difficult to cut, with this instrument, a rough and irregular surface; and, as stones are generally round, there is danger of their slipping and piercing the

* Académie de Chirurgie, tom I.

bladder. Mr. Default's instrument, which he calls his *kiotome*, *coupeur de lnette*, or *coupe-bride*, from the uses to which it may be applied, is not open to the same objections. No injury can be received from its point, as the blade is concealed, nor can any part be divided but what the surgeon may wish. If the incision should not be completed at first, the blade may be withdrawn, the semicircular notch of the instrument pushed more forward, and the incision prosecuted to any extent; this instrument was invented for the express purpose of dividing membranous bands in the rectum, but it has since been employed, with the greatest success, in the excision of the tonsils, and in taking off fungi, and other excrescences situated in cavities; the blade is so contrived, that, when it passes through the semicircular notch, it firmly fixes the parts that are to be divided, which cannot be done with either the scissors or bistoury, as moveable parts are apt to recede, and render the section difficult. If the part we mean to incise is too large to be contained in the notch of the instrument, after the division of one portion, we may proceed to another, and the operation may be in this manner completed.

EXPLANATION OF PLATE I.

FIG. I. KIOTOME, a *coupe-bride*, or *kystitome*, with a lateral notch.

AB. A silver sheath which receives the blade.

vv. Rings soldered to the sheath.

y. A portion of the blade which remains naked in the lateral notch, *xyz.*

AT. A steel shank or handle continued from the blade.

C. A ring at the extremity of the shank.

BC. The total length of the instrument, which is nine inches.

FIG. II. The sheath of the kiotome separated from the blade.

xyz. The semicircular notch, 9 lines in diameter.

AB. Length of the sheath, 6 inches 4 lines; width, near the rings, 8 lines; near the semicircular notch 7 lines.

Distance from the extremity *B* to the beginning of the semicircular notch *x*, 7 lines.

FIG. III.

FIG. III. The steel blade of the kiotome, out of its sheath.

sE, sD. The blunt sides of the blade, thinner than the middle.

DE. Sloping edge 10 lines in length, forming the Angle *DEs* of 35 deg.

ss. The projecting part of the handle, to prevent the blade being pushed too forward in the sheath.

ssT. Length of the shank, 18 lines.

ssE. Length of the blade, 6 inches 1 line.

Width of the blade near the shank 7 lines and half, in the middle 7 lines, near the edge 6 lines and half.

It is necessary to observe, that the French foot contains 13 English inches, and that each inch is divided into 12 lines. The measure of the annexed engraving is calculated by the French foot.

FRACTURES

F R A C T U R E S
OF THE
O L E C R A N O N.

OBSERVATION I.

JOHN Baptist Nicolas, a native of Paris, 45 years of age, of a bilious temperament and strong constitution, was admitted into the Hôtel Dieu the 10th Nov. 1790.

Mr. Default examined the patient in bed, and, although he was perfectly satisfied of the existence of the fracture of the olecranon, he had him conducted to the theatre and re-examined, for the improvement of the students, to afford them a personal opportunity of remarking the characteristic distinctions of this species of fracture. The patient said, that six hours since he fell on his right elbow, that he felt an acute pain in the part, and, from that instant, was incapable of extending the fore-arm, and, on attempting it, he felt as if something were detached from the elbow. The fore-arm was half bent, accompanied with considerable swelling and echymosis round the elbow. The olecranon was drawn up higher than the condyles

dyles of the humerus, when, from the position of the arm, its situation should have been necessarily lower.

We were convinced of the justice of this remark, by placing the other arm precisely in the same position: between the fractured end of the ulna and the olecranon there was a depression sufficiently large to admit the finger, which was much more perceptible on increasing the flexion of the fore-arm: when the triceps muscle was in a state of contraction it diminished, and almost disappeared by extending the fore-arm, and, consequently, producing a state of inaction in that muscle, the olecranon admitted of some degree of motion without changing the situation of the ulna. No doubt remaining of the fracture of the olecranon, it was reduced and retained in its situation in the following manner. Whilst two assistants extended the fore-arm, one turn of a single headed roller, of four or five ells length and three fingers breadth, moistened with aq. veg. was applied round the inferior part, and continued over the whole fore-arm even to the articulation. The fractured olecranon was drawn down towards the ulna; whilst the skin was drawn upward, by an assistant, to prevent it from being wrinkled; for, when this was omitted, folds were apt to form between the disunited parts, and prove rather an impediment to the reunion. When the finger was removed, by the pressure of which the olecranon had been pushed against the cubitus, it was retained in its situation by a turn of the roller, which was passed from the superior and anterior part of the fore-arm above the elbow, then
passed

passed on the inside, and reflected back again to the anterior part of the fore-arm, forming a bandage, in the shape of a figure of eight, similar to what is used in bleeding. The bandage was continued as high as the superior part of the arm, where it was fixed by a circular turn: a strong splint was then applied to the whole length of the arm and fore-arm, but a little bent at the articulation to prevent the complete extension of the fore-arm, by which means the end of the fractured ulna would be forced into the cavity of the olecranon, and pushed more forward than the other fragment; consequently, the union would be irregular.* This splint was retained with
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* These inconveniences, arising from keeping the arm completely extended, we have not yet had opportunities of observing. The subject of fractures of the olecranon and patella have been, by the generality of authors, very inaccurately treated. The public are indebted to Mr. Sheldon, the present Professor of Anatomy to the Royal Academy, for an ingenious essay on this subject; and, in the year 1782, my friend Mr. Haighton, Lecturer on Physiology at Guy's Hospital, wrote some remarks on this species of fracture, which are subjoined to two cases published in the 9th vol. of the Medical Commentaries, p. 382: in the first case, the use of the arm was perfectly restored by the observance of an extended position; and in the other, from its being kept in a state of flexion, its use was entirely lost. As these remarks are written with clearness and perspicuity, we conceive that the quotation will be highly acceptable to our readers.

“ In the preceding cases, we have an opportunity of observing very different effects to arise from the same kind of accident,

the remainder of the roller, and the limb placed on a cushion, in such a way that the pressure should be every

“ cident, according to the particular treatment made use of
“ in each.

“ In the first, the patient is able to perform all the motions
“ to which the arm is appropriated: in the last, it is exceedingly
“ limited, and attended with a total incapacity to stretch the
“ elbow.

“ If we consider the mechanism of the joint, with the attach-
“ ment of the muscles by which it is moved, we shall find these
“ phenomena admit of a very simple and easy solution. The
“ elbow is a joint admitting of flexion and extension, (pronation
“ and supination I shall pass over, as having little connection with
“ the present case,) for which purposes the rounded and pulley-
“ like extremity of the os humeri is received, and moves in a
“ corresponding cavity of the ulna, called *sigmoid*. The two pro-
“ cesses, by which this cavity is in some degree formed, are its
“ anterior, called *coronoid*, and its posterior, called *olecranon*. In
“ order the better to regulate the degree of flexion and extension,
“ there are two cavities situated at the inferior extremity of the
“ os humeri; one on the anterior, the other on the posterior
“ surface: into these the two processes of the ulna are occasionally
“ received. When the joint is in its greatest degree of flexion,
“ the coronoid process is received into the anterior cavity or
“ fossa; and, when in the greatest degree of extension, the ex-
“ tremity of the olecranon occupies the posterior fossa.

“ In order to communicate motion to this arrangement of
“ parts, muscles are situated in various directions; but the mus-
“ cle by which extension is chiefly performed, (the triceps exten-
“ sor cubiti,) being inserted into the extremity of the olecranon,
“ has an attachment peculiarly advantageous and mechanical, as
“ it is thereby at some distance from the centre of motion, con-
“ sequently less exertion will be necessary to accomplish ex-
“ tension.

“ When

every where equal. Two days after, the bandage became loose : in consequence of the abatement of the swelling and ecchymosis, it was re-applied, and repeated frequently during the course of the treatment. Three weeks after the accident, though the fracture appeared united and firm, it was kept extended for two days, with only a few turns of the roller passed

“ When by any accident this process is broken off, two very
 “ important changes are induced upon the part. First, the lever
 “ that enabled the muscle to act so advantageously is removed.
 “ Secondly, the space in which the muscle acted is now shortened.
 “ Hence that bony arrangement that was before so favourable to
 “ motion is now destroyed, and the muscle, by whose agency
 “ this effect was produced, has its influence exceedingly limited,
 “ at least for a considerable time; and even admitting time to
 “ accommodate itself to act in the new and shortened space,
 “ as well as to become obedient to the impulse of the will, still
 “ the state of the bone will continue an insuperable impediment.

“ *Note.* The anconæus assists in extending the arm; but, being
 “ inserted below the olecranon, is not importantly concerned in the
 “ present case.

“ These considerations naturally lead to a judicious and successful
 “ practice, the rational intention being to restore the parts to
 “ their natural situation, and to preserve them in it. To accomplish
 “ these ends, we have to consider what that position of the
 “ arm is, that suffers the two extreme points of the muscle to
 “ approach the nearest; or, in other words, what position relaxes
 “ the extensor muscle in the greatest possible degree? The
 “ extended one is indisputably that position, consequently every
 “ judicious surgeon will pay due attention to this in practice; and,
 “ by the aid of a bandage applied from above downward, with
 “ other mechanical means tending to keep the fragments in apposition,
 “ and as near contact as possible, he will have every
 “ reason to hope for and expect success.”

round the articulation: every kind of bandage was then left off, the motions of flexion and extension were performed and gradually increased in degree till the thirty-fifth day after the accident, when the patient was examined by many of the students, who were not able to discover the least deformity, or even the trace of a fracture, and he recovered the use of his arm as perfectly as before the accident.

OBSERVATION II.

[By Mr. CHORIN, Surgeon to the Hôtel Dieu.]

Mary Dufour, a washer-woman, resident at Neuilly, near Paris, about 32 years of age, of a sanguineous temperament and good constitution, as she was carrying a heavy burthen, fell and fractured her elbow: she was admitted into the Hôtel Dieu, 4th Dec. 1789. Two days after the accident, though the parts were swelled, and she was rather fat, we distinguished easily it was a fracture of the olecranon, by the characteristic distinctions mentioned in the preceding case. It was reduced and treated precisely in the same manner, the pain and symptoms soon ceased, and she was allowed solid food the next day. On the fifth day, the hand was slightly swelled, but, by loosening the bandage, in two days it subsided. On the twenty-fourth, the reunion was complete and the dressings left off. The rigidity of the fore-arm, wrist, and

and fingers, soon subsided by exercise, and, on the thirtieth day, she was brought to the Theatre and dismissed, as perfectly cured as the subject of the preceding case.

OBSERVATION III.

[By Mr. CHORIN.]

On the 7th of Nov. 1790, Margaret Lagarde, a native of Paris, 73 years of age, slipped from the second stair of a staircase, and fractured her elbow. Three days after the accident she was visited by a surgeon, who attended only to the swelling and ecchymosis that surrounded the fore-arm: he contented himself with applying a poultice, without regarding the elbow, to which the patient referred as the immediate seat of the pain. Eight days after, the swelling subsided, but the pain in the elbow still remained. Mr. Default examined the patient, and directly discovered that the olecranon was fractured, and separated about half an inch from the ulna: the treatment of the case was the same as in the preceding, and although the fragment could not be brought in perfect contact, from the length of time that had elapsed, yet the union completely took place by the twenty-eighth day, and the groove between the divided parts of the bone could scarcely be distinguished. The rigidity of the fore-arm, wrist,

and fingers, that had been rendered still more considerable by the swelling, soon yielded to exercise, and, on the forty-sixth day after the reduction, the motions of these parts were completely restored.

The ancients have transmitted nothing on fractures of the olecranon, unless we admit with Dalechamps in the passage of Paulus Ægnetus, "*Cubitus frangitur . . . circà partem ad cubiti gibbum.*"* The moderns, and even Petit himself, have not distinguished this from other fractures of the ulna. The majority of practitioners, misled by a false theory, and persuaded that loss of motion was necessarily consequent to all fractures, connected with the articulations, did not even attempt its reduction; they kept the arm in a sling in a flex position, that the anchylosis might be as little inconvenient as possible; and what tended to confirm them in their error, was, that the powers of extension were totally lost by the observance of the extended position, and the muscles remaining for such a length of time in a state of inaction.

Duverney is the first who has proposed a methodical treatment for this accident.† This fracture, he says, is to be distinguished by the circumstance of the fractured portion being drawn up by the actions of the extensor muscles, and the impossibility of moving the fore-arm, which rests hanging by the

* De Re Medica, lib. VI. cap. 100.

† Mal. des Os, tom. 1. page 325.

side of the body: to reduce it, he extends the fore-arm, and, by the assistance of his thumbs, pushes down the process of the olecranon, and retains it in this situation by means of a thick and strait compress, placed above the fracture; over that a circular compress, and a bandage, somewhat similar to what is used in bleeding; then the limb, slightly bent, was placed on a pillow, and, at the expiration of a few days, he tried to avoid an anchylosis by gentle and repeated motion.

Mr. David* attributes the anchylosis, which is often consequent to the fracture of the olecranon, to the ignorance of the surgeon. Rest and extension he thinks essentially necessary to the re-union; but as soon as this has taken place, which is generally about the 25th day, he recommends the arm to be gently moved, and to be increased in degree every day: he observes, that, if too much extended, the extremity of the ulna will be forced in, and the union will be imperfect or the motion difficult.

The subject of fractures of the olecranon has, certainly, not yet been discussed with sufficient accuracy to direct the practice of young practitioners, part only of the characteristic distinctions are to be found; and Duverney's method is subject to many inconveniences; his compresses, bandages, &c. may easily be displaced; besides, he applies nothing to prevent the flexion of the fore-arm: and, if the bandage is too loose, the olecranon will not be retained in its

* Dissert. sur les Effets du Mouvement, &c. page 63 et suiv.

situation; and, if too tight, much swelling will be induced.

This exposition will be sufficient to enable our readers to judge of the progress of surgery in the treatment of these accidents, and we are happy in the communication of any remarks that may tend to throw light on so interesting a branch of practice.

Of Suppression of Urine.

Most* authors have confounded suppression of urine with retention, and have described them both under the generical name of ischuria. Some have, however, admitted of two species; one true, and the other spurious: by the true ischuria they mean when the urine is contained in the bladder; spurious, when it does not flow into that viscus; but, by this description, we do not acquire a just idea of this disease, as the urine may be stopped in the ureters, and flow out by a fistulous orifice, and still the secretion go on, as usual, in the kidneys. It is important, however, that these distinctions should be carefully attended to; for, the methods we should adopt to excite secretion would be frequently contrary to those we might employ for the re-establishment of excretion. It

* A very able treatise, on the diseases of the urinary passages, has been written by Wm Ritty, M. D. being the Gullstonian Lecture, read at the Theatre of the Royal College of Physicians, London, in the year 1726.

would be less exceptionable if we were to define suppression of urine, a disease consequent to a want of secretion in the kidneys; and retention, a complaint occasioned by the urine being obstructed in some of the excretory passages.

A suppression may be either total or partial: total, when no secretion takes place; and partial, when that secretion is not sufficient for the preservation of health. Suppression of urine sometimes takes place in the commencement of an acute inflammatory fever, or on the access of nervous hysterical hypochondriacal affections, in paroxysms of the gout, &c. but we do not mean to consider the disease under this point of view; for, in all these cases, except some examples we shall mention, this suppression ceases with the disease, being purely symptomatic, and its degree is influenced by the force and duration of the original complaint. An idiopathic suppression of urine is a rare case. It is not sufficient, that the secretion of urine should be stopped in one of the kidneys, but both must be affected at the same time to form this complaint. It is true, that the affinity and conformity of structure of these two glands render their diseases frequently common to both; but dissection has satisfactorily proved, that an affection of one will not necessarily affect the other. Among the numerous causes of suppression of urine, we shall omit those that have no connection with the urinary passages, and which do not, absolutely, imply a derangement of those organs: such as plethora, a thickened state of the blood, excessive salivations,

profuse sweats, obstinate diarrhoeas, and dropfy, and those diseases where there is a deficiency of serosity; and treat only of those that immediately influence the kidneys and impede their functions. Among these causes we shall comprehend obstructions to the course of the blood in the kidneys, or in the ureters, &c. occasioned by blood, mucus; pus, gravel, or stones, inflammation, gangrene, suppuration, induration, spasm, atony, &c. But, whatever may be the cause of suppression, still there is a sufficient number of symptoms to distinguish one from the other: in general the patients experience but little desire to make water; and, when they do, little or no urine is evacuated; no tumour is felt in the hypogastric region, and, when the catheter is passed into the bladder, little or no urine is discharged; pain, more or less acute, is felt in the lumbar region, they complain of a bad taste in the mouth; with a urinous smell, they are afflicted with nausea, hiccup, and vomiting; and what is discharged, and, in fact, all the excretions of the body, exhale a urinous odour. If the disease does not give way, a difficulty of respiration frequently comes on; sometimes, they are attacked with coma, convulsions, delirium, &c. The prognostic should be unfavourable, in consequence of disorders induced in the animal œconomy by the retention of matters that ought to be evacuated by urine. The kidneys, from their situation and structure, when they become diseased, often produce a fatal termination. The aqueous part of the urine is only separated by the kidneys, nor have we any evacuation of the salts, earth, and other

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substances contained in that secretion. A turgescence and acrimony in our fluids are the inevitable consequence which give origin to a number of dreadful symptoms, such as urinous œdema, gangrene, dropsy, ardent fever, consumption, &c. it is true, that occasionally these symptoms are either prevented or retarded by the exertions of nature, who carries off parts of the urine by other emunctories, as the skin, the ears, the nostrils, the mouth, the breasts, and the anus. These are but indifferent substitutes for the kidneys; they will admit the evacuation of the more watry parts of the urine, whilst the others remain, and their retention produces a number of symptoms which, though slow in progress, are not less formidable in their effect. We have seen cases where patients have not sunk under this disease for one or more years; but generally it terminates fatally in fifteen or twenty days; or, at most, in a month. No general indication of cure can be offered for suppression of urine; its treatment can be only relative; diuretics and many pretended specifics have been exhibited; their action is often regulated by the present disposition of the diseased parts, and frequently medicines of contrary, and even opposite, properties are successfully given in the same disease when the cause is different: it is only then by referring to each individual cause we can point out any rational indications of cure.

The first cause is an obstruction to the passage of the blood in the emulgent veins or arteries. A ligature on these vessels, in living animals, leaves no doubt

doubt of the effect produced for want of circulation. All animals, submitted to this experiment, have had suppressions of urine and urinous vomitings. The cause, as existing in man, has not been proved by actual observation, but it cannot be denied, that an aneurism, or any tumour, situated in the course of these vessels, might produce, by their compression, the effect of a ligature. Aneurisms of these vessels we should suppose rarely exist, as, in the number of subjects submitted to dissection, we do not recollect a single instance; but still, if we consider the size of the emulgents, and the force with which the blood is propelled into them by the action of the aorta, it is difficult to conceive that the tumour would be adequate, by its pressure, to prevent the influx of the blood; it is more probable that the compressing mass would be elevated by each contraction of the heart, and give free passage to the blood, or that a depression or sulcus might be formed in the tumour by the constant pulsation of the vessel; and, by this means, it would be perfectly free from pressure. But it is very different, with respect to the veins: from the thinness of their coats they are less resistant, and, in consequence of the slowness of the blood's circulation and its impulse being weak, they are more influenced by compression: the blood, being retained in the veins, cannot flow into the arteries, in consequence of the stagnation of the blood.

Fortunately these cases are rare, perhaps only exist in theory; and, unless these tumours were sufficiently large to be felt under the parietes of the abdomen, there

there is no symptom by which we can positively ascertain their existence, and, even if it were possible, we have very few indications of cure, and the means employed must have reference to its particular nature.

If the obstruction to the course of the blood should be in the kidneys, it is most probable in the minute ramifications, not in the trunks of the emulgent arteries or veins; the capillaries may be obstructed by the too great thickness of the blood, a case to which weak and plethoric habits are particularly subject. The too great distention of the vessels impede their contraction, and hence arises a languid circulation: if, in this situation of the patient, there should be too great a determination of blood to the kidneys, consequent to inflammation excited by a blow, or by the abuse of spirituous liquors, or by violent exercise; these may act as causes tending to produce a swelling and obstruction in the kidneys, which will prevent the secretion. This species of suppression generally comes on suddenly; it is sometimes preceded by crude and limped urine, which diminishes by degrees. We cannot be deceived in the symptoms of this disease; the patient does not complain of pain, but only a sense of weight and lassitude in the lumbar region, without fever. This suppression is not dangerous, and yields easily to bleeding and diluting liquors. Bleeding is always advantageous, and sometimes produces miraculous effects. Patients have even said, that during the operation of bleeding, they have felt the urine flow from the kidneys

neys into the bladder, and that immediately afterwards they felt a violent desire to make water. If this suppression does not go off, it will be followed by inflammation of the kidneys. After the suppression produced by the obstruction of the blood in their capillary vessels, an obstruction arises in consequence of coagulated blood in the secretory vessels. Bloody urine, which precedes this species of suppression, is one of the pathognomonic symptoms. If the discharge is abundant, and exists for many days previous to the suppression, the countenance will be pale, the pulse small and intermittent, and every symptom will occur consequent to a considerable loss of blood. There is little pain in the lumbar region, unless the suppression arises from a blow or a fall; in this case the pain is considerable, but still it is more confined to the muscles of the loins than to the kidneys. If the discharge of bloody urine should continue, and the patient will bear evacuation; bleeding, &c. should be had recourse to: our indications are then to dilute the coagula and procure its evacuation; at first, plenty of diluting fluids should be drank, and then gentle aperients might be exhibited: give, for example, a ptisan of the root of strawberry-plants, rest-harrow. and caltrop. sharpened by a few grains of nitre, and their effects seconded by the application of emollient fomentations to the lumbar region: rest is advisable, as exercise might tend to reproduce the discharge of bloody urine. Though its natural course may be re-established, some clots of blood may remain in the urinous canal, and form a nucleus for a stone;

stone; for we know, by experience, how easily these concretions form, in consequence of the precipitation of calcareous earth, when any of these extraneous substances are met with in the urinary passages,

Obstructions in the secretory parts of the kidneys by inspissated mucus cannot be supported by absolute fact, but yet it is admitted by many authors, who cannot deny the possibility of its existence; but still we shall not pretend to relate the symptoms which distinctly mark this cause, as they are vague, uncertain, and not to be depended on.

Pus in the kidneys, &c. adduced as a cause of obstruction, is liable to the same doubt, nor can it be satisfactorily proved,

That a suppression may be produced by pus in the kidneys is not to be denied, but still it is not by obstruction in their canals, but by their destruction, or by being compressed above the sphere of their action; but, whether the idea is true or false, pus, in these canals, may be consequent to metastasis, or produced by inflammation of the viscera, or by transuding through the coats of the vessels.

Thus we see a uniform secretion transmitted through the internal membrane of the nose, and the urethra, after the existence of inflammation. But even admitting the presence of pus in the kidneys by metastasis, we do not see how the secretory ducts can be obstructed; if the consistence was thick it could not pass these minute vessels, but would mix with the blood; but, to pass by the urinary ducts, it must possess the same tenuity, &c. as that secretion,

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The commemorative symptoms only can indicate this species of suppression: in the first case, it should be preceded by inflammation of the kidneys; in the second, by the sudden disappearance of suppuration in some other part of the body, and the pus, which would be remarked in the urine previous to the suppression.

We can place more reliance on the effects of diluting remedies. Purges and vomits have also been recommended; these last are said to be peculiarly useful in procuring the expulsion by the agitation produced in the viscera of the lower belly.

Obstruction of the urinary ducts is difficult to explain. We have known instances of patients voiding worms by urine, and they have been frequently discovered in the bladder, but their actual existence in the kidneys is difficult to prove, although Zacutus, Lusitanus, Hollier, and some others, positively assert they have seen them, but probably they were deceived by some filaments of coagulated blood, having a vermi-form appearance, or these worms were generated after death, and produced by putrefaction.

The most frequent and serious causes of suppression of urine are stones and gravel in the kidneys; other causes are, for the most part, conjectural. Numerous dissertations have explained this derangement in the natural functions, but most unfortunately they throw no light on the treatment of the disease. The effects of art are inadequate to its cure; and, at present, we are obliged to abandon it to the resources
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of nature, and to leave to future generations the discovery of a more rational method.

Inflammation of the kidneys is generally accompanied with suppression, and the inflammation of one kidney is very apt to extend to the other, and, by this means, influence both.

Independent of general causes, the kidneys are subject to be affected by particular species of inflammation, diuretics, the internal exhibition or external application of cantharides, stones in the kidneys, long retention of the urine in the bladder, or in the ureters, or even in the kidneys themselves, or, in short, any circumstance that will excite an increased determination of blood will produce inflammation of these parts.

When the kidneys are inflamed, the urine is sometimes suddenly and sometimes gradually suppressed, nor does it take place totally till towards the third or fourth day. Under these circumstances the urine is at first pale and limpid, then red; the patient experiences a frequent desire to make water, accompanied with ardor urinæ, sharp and pulsatory pains in the lumbar region, which, though constant, increase more towards evening than morning, stronger in inspiration than expiration, and are increased by the efforts of making water, by riding, by lying on the opposite side to the seat of the disease, by coughing, &c. but the pain is not increased, as in the lumbago, by pressure on the lumbar region, or by bending and extending the trunk. One circumstance particularly marks this species of pain, namely, its propagation

pagation along the course of the ureters to the bladder and to the glans penis; it extends even to the testicles themselves, causes them to contract, and is often accompanied with a sense of numbness in the groin and the anterior part of the thigh. When these pains become violent, the pulse is generally hard, frequent, and full, the fever ardent, the belly painful, particularly on pressure; sometimes it is soft and sometimes hard and distended; constipation of the bowels comes on with flatus, accompanied with hiccups, nausea, vomiting, and the insensible perspiration exhales a urinous odour.

Inflammation of the kidneys, like all other inflammations, may terminate in resolution, suppuration, gangrene, or schirrus. Our curative intentions should be directed to the first by an observance of a plan strictly antiphlogistic, bleeding, which should be repeated according to the strength of the patient and the violence of the symptoms, leeches should be applied to the verge of the arms, warm baths, emollient clysters, fomentations, cupping-glasses to the lumbar region, refreshing and relaxing drinks, emulsions, whey, decoctions of linseed, marsh-mallows, and dog's tooth, with a few grains of nitre dissolved.

When there is reason to expect resolution, it happens generally on the seventh day from the invasion of the disease: it is preceded by the gradual diminution of the symptoms, the sense of heat in the kidneys diminishes, the pain is less, the pulse soft, less frequent, and more regular, the urine is discharged as usual, instead of being aqueous or of a
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red colour, they become turbid, and precipitate a plentiful and puriform sediment at the bottom of the vessel.

If the seventh day passes without an attack of fever, the pain, and other symptoms of inflammation, sensibly diminish, and suppuration or gangrene of the kidneys is to be feared. We should expect that the heat, pain, and inflammation, of the kidneys, must necessarily diminish after the process of suppuration and the symptoms of fever; but still, after some days, they return with increased violence, with a sense of weight, tension, and pulling-in the part; and the stiffness and numbness in the groin, and the anterior part of the thighs, increases and changes into violent pain.

The matter in the kidneys is more or less extensive in its effects: sometimes they are entirely destroyed, sometimes only a part; but, in either case, the pus may be evacuated in different ways; by urine, or the intestinum colon may be pierced, and it may be evacuated by stool;* or a tumour may be formed
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* The evacuation of a considerable quantity of matter by stool may be, perhaps, difficult satisfactorily to explain: it might, certainly, arise from the ulcerative process taking place between the kidney and the colon, and surrounding adhesive inflammation arising between that intestine and the kidney, by which means the pus would not be extravasated in the cavity of the abdomen, but would pass readily into the colon, and thence to the rectum. Dissection has afforded instances, in some degree analogous, where this process has appeared to take place between the gall-bladder

in the loins, which may break spontaneously. We are apprized of the bursting of the abscess by the course of urine being established, and being mixed with pus, and sometimes small portions of coagulated blood are to be discovered, which have been detached from the kidney by suppuration; and there is left in the kidneys an ulcerated pouch, which remains to be deterged and healed. To answer this indication, the balsamic juices are much praised, such as the balsams of Copaiba, Peru, and Mecca; and turpentine in very small doses; lime and mineral waters have been also recommended, but these will not agree in all cases; for, by their stimulating qualities, they are apt to induce a disposition to consumption. The use of new cow or asses' milk, hydromel or barley water, are not liable to the same objections, and will serve to correct the acrimony of the urine as well as nourish the patient. Even if one kidney should be destroyed by suppuration, a cure may be effected; for, in subjects that have been submitted to dissection, a thick membranous substance has often been discovered instead of a kidney.

When pus pierces the colon, it is known by its evacuation by stool, and the sudden disappearance of the symptoms: mild drink and clysters slightly deterfive are the means we may employ; and, though

and the duodenum, by which means gall-stones, of a considerable size, have passed directly into that intestine, without passing the ductus communis choledicus.

the case is certainly attended with great danger, yet it sometimes admits of a natural cure.

If, to the symptoms of inflammation and suppuration, there should succeed a tumour in the lumbar region, it is difficult to judge of its nature: for this reason it has been recommended not to defer the opening, for fear the pus should be viciated, and be effused in the cavity of the pelvis, instead of shewing a disposition to break externally: but, perhaps, this idea is carried too far; for, we have had more than one opportunity of remarking, that nature seems disposed, in collections of matter in the lower belly, to evacuate it externally, by the formation of a tumour, which, if not opened, no internal effusion is to be apprehended; for, sooner or later, it will be brought to the surface: but we do not mean to say, that the practice of deferring the opening of these tumours is to be advanced as a general precept, for it would be necessary to adduce a number of facts to support this as a universal rule.

Our practice should be cautious and deliberate: for some days, we might content ourselves with the application of emollient cataplasms, and, when it is necessary to open the tumour, we should make our incision from above downwards, and through its whole length: if the hemorrhage should be considerable enough to weaken the patient, we must tie the vessels; but, as the branches of the lumbar arteries are generally small, the application of lint dipt in colophony, with compresses and a bandage, will be sufficient. The wound should afterwards be dressed

with lint dipt in linimentum arcae, applied to the bottom of the abscess, and the lips kept separated by a doffel of lint dipt in the same application, and an emollient poultice applied over the whole. It is necessary to keep the orifice open, and to heal the wound from the bottom: it is not always in our power to heal these wounds without fistulous orifices, through which the urine passes, but fortunately they are not dangerous. A number of cases have happened of this description, where the life of the patient was tolerably comfortable, and prolonged to its ordinary period, but we must be attentive to keep these fistulous orifices open to prevent a retention, which might be done by the introduction of a canula of the elastic gum, with a thread tied round the extremity, and covered with a diacylon plaster: it is necessary to sound these fistulæ occasionally, as their continuance may be occasioned by a stone in the kidneys, or in the course of the fistula: their extraction is generally easy; the mode will be mentioned when we treat on the extraction of extraneous bodies: but when the pus is diffused in the cellular substance, along the course of the ureters, into the cavity of the pelvis, death is inevitable; but still there is a probability that the pus may pass under the peritoneum, and form a tumour in the groin, or at Poupart's ligament; but the rarity of these cases leave us little to hope.

The interference of art by opening these tumors may be useful, but it is best to leave them to the efforts of nature; for we learn by experience, that
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the practice of opening these species of tumours is generally fatal, unless we reach the seat of the suppuration. The pus changes in colour and consistence, fever comes on, and the patient sinks in a few days.* But, in general, there is less to be apprehended when the matter remains where it was originally formed; this fluid may be absorbed and passed off, by urine, by stool, or by the insensible perspiration. We may presume this effect has taken place, when the symptoms consequent to inflammation and suppuration suddenly disappear. If the patient is sufficiently strong, the regimen need not be altered; but, if exhausted by the discharge, recourse should be had to cordials, diaphoretics, &c. and the cure terminated by gentle and repeated purges, properly regulated. Schirrus of the kidneys is not always the result of inflammation, it is often subsequent to chronic affections of different kinds. These glands sometimes grow to an enormous size, they have been even known to fill up the cavity of the lower belly:† they are sometimes soft, and contain hydatids, or sacs containing urine or pus: sometimes they are hard and schirrus, and, in these last cases, suppression takes place by degrees; and, if one kidney should only be affected, no difference is observed in the secretion of urine; nor is the disease indicated by any positive symptom, either of pain,

* The sudden translation of matter from these abscesses does not always prove fatal, unless the metastasis should effect the brains, lungs, or liver.

† Journal des Savants, 1678.

fever, or heat, in the region of the kidneys: except when the swelling is considerable, and the tumor large, then there is some pain and a sense of weight in the part: the anterior branches of the first pair of lumbar nerves are compressed, and a numbness is felt in the groin and in the anterior parts of the thigh; and, it sometimes increases to such a degree, as to prevent the patient from walking. This induration of the kidneys is rarely curable, and is often followed by dropfy and ascites. But if the case is recent, and the patient young, there is a prospect of recovery. The cure should be attempted by aperient diuretics and resolvents. If one kidney should be only affected, the patient may live a long time without much inconvenience. When the kidney becomes gangrenous, it is always fatal: at first, the violence of the symptoms are mitigated, and the patient is more easy; but the suppression still continues, accompanied with cold urinous sweats, the pulse small and intermittent, the countenance livid, and, in short, all the symptoms of approaching death. A suppression of urine may arise from spasm and palsy of the kidneys. The functions of these viscera, like all other secretory organs, depend on a peculiar species of irritability, called vital energy, which gives that tone to the vascular system that is necessary to circulation and secretion. If this energy is too much stimulated, there results an excess of action in the vessels, and a spasmodic contraction, which is unfavourable to the admission of fluids in the small secretory vessels. If this energy

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is too weak, and ceases to act as in the palsy, no reaction takes place, nor are the fluids admitted into those vessels where secretion is performed. Spasm of the kidneys, may be occasioned by rheumatic, psoric, and dartrous, affections of those parts, from the passions of the mind, anger, melancholy, and fear; it may take place in tetanos, in nervous fevers, more particularly in hysteria; but then this spasm of the kidneys is only consequent to universal spasm; and, as we have before-observed, this suppression lasts no longer than the original disease, of which it is only symptomatic, and generally terminates in a few days; but there have been instances in hysterical affections, of suppressions of urine lasting forty days.*

Suppression of urine from spasm often takes place suddenly, the pulse is hard, and pain is experienced in the lumbar region.

Diuretics, relaxants, bleeding, warm bathing, and cataplasms to the loins, will sometimes cure this suppression. If the spasm should arise from any particular acrid humour of the kidneys, we should have recourse to the cautery, seton, and the application of moxa to the lumbar region. Palsy of the kidneys may be the consequence of old age, free living, abuse of diuretics, frequent retentions of urine, occasioning distentions of the urinary ducts. When suppression is occasioned by a palsy of the kidneys, it comes on gradually, the urine is limpid and inodorous, with no fever, heat, or pain, in the lumbar region. Tonic

* Acad. des Sciences, 1715. Acta Eruditorum, Nov. 1726.

remedies are here particularly indicated. In a general palsy, mineral waters, bark, and warm diuretics, may be given with success; but, for a paralytic affection of the kidneys, there is no particular indication of cure.

Extract from a Memoir of Mr. Default, on the Luxation of the inferior Extremity of the Radius, read at a Meeting of the Academy of Surgery in 1777.

MR. Default proposes, in this memoir, to prove satisfactorily the possibility of this dislocation of the radius, and to support it by facts; for no authors, who have hitherto treated on the diseases of the bones, have mentioned this species of derangement. If we consider the nature of the articulation of the two bones of the fore arm as connected together, we see that superiorly in the motions of pronation, and supination, the ulna rests immoveable on its axis. It admits of slight flexion and extension, the edge of the head of the radius turns in the sigmoid cavity of the ulna, without separating from that cavity. The ligaments of this articulation rarely admit of distension; and, for this reason, this dislocation rarely happens. But, luxations of the inferior extremity, from its greater extent of motion, and the comparative weakness of the articulation and ligaments, more frequently occur;

occur: besides, in the motion of pronation, the head of the ulna, without turning, is carried backwards* by the slight extension of that bone, and gets rather behind the sigmoid cavity of the radius; whilst this bone, turning on its axis from behind forward, is pushed before the head of the ulna: the anterior part of the capsular ligament is then relaxed, whilst the posterior becomes stretched in that part where the luxation is disposed to take place. In the motions of supination, the respective changes of the radius and the ulna are precisely the reverse, viz. the head of the ulna is carried forwards, without revolving; and the inferior part of the radius is carried backwards, and turns on its axis the same as before.

The capsular ligament is relaxed posteriorly, and is stretched on that side where the head of the ulna is pushed before the sigmoid cavity of the radius: the manner in which the articulation is formed of the inferior extremity of the bones of the fore-arm, and the changes occasioned by their sudden motions, render this part subject to luxation; which will take place, if, from the convulsive actions of the muscles, or by the application of external force, its motions are unnaturally extended: in this case, the radius will be disunited from the connection of the articulation with the ulna, and will be pushed more for-

* Mr. Default, in this description, supposes the patient in an erect posture, the arms in the direction of the trunk, and the palms of the hand turned forward.

ward in a state of pronation, and more backward in a state of supination. Dissection has proved that the preceding remarks are well founded, and they are farther confirmed by observations on the living subject.

OBSERVATION I.

In a subject brought to the Theatre for dissection, Mr. Default observed that both the shoulders were dislocated forward, there was a mal-conformation of the fore-arm, and neither that or the hand would admit of complete extension; the motions of pronation and supination were very limited: on the inferior part of the fore-arm a hard eminence was observed, and a depression on the opposite side. These preternatural appearances induced Mr. Default to dissect the parts with considerable attention: the hand was cedematous, the flexor tendons were pushed outwards and adhered to the skin, the sigmoid cavity of the radius was filled with cellular substance, instead of cartilage, which naturally surrounds it; the articular ligament, which is between the ulna and the os pyramidale,* scarce touched more than the head of the ulna, and had followed the radius backwards. The head of the ulna was situated before the sigmoid cavity of the radius, and rested on one of the ossa sesamoidea, to which it was attached by capsular ligament.

* The French sometimes give this name to the os trapezoïdes. Vide Dict. Raisonné d'Anatomie et de Physiologie, page 274.

As Mr. Default was unacquainted with the history of the case during life, the causes of these appearances could not be explained; but, nevertheless, the radius could not have been carried backwards, but by a force adequate to produce the motion of supination. This conjecture appears feasible by the following experiment:

Having laid bare the bones of the fore-arm of many subjects, every time that the inferior extremity of the radius was carried backwards, and that this motion was forced in a state of supination, the capsular ligament broke anteriorly, and the head of the ulna passed through the aperture, and was situated before the radius: but, when the fore-arm was moved forwards, and pronation produced, the radius was carried before the ulna, and the capsular ligament, tearing posteriorly, admitted the head of this bone to slip out of its situation.

These experiments and remarks leave no doubt on the nature and possibility of the luxation of the inferior extremity of the radius, but they afford nothing but conjecture on the causes, symptoms, and modes of cure: this information is to be acquired only by observation on the living subject.

OBSERVATION II.

Mr. Default was sent for to a child of 5 years of age, who was supposed to have fractured her arm. He was informed, by the parents, that, when in bed,

a young man playing with her arm, by using too much violence, suddenly performed the motion of pronation; the effort was accompanied with some noise, and produced considerable pain throughout the whole arm, but chiefly along the posterior part of the fore-arm. When Mr. Default was called, there was little swelling; the arm was at some distance from the trunk, and carried a little forwards, and the fore-arm half bent between pronation and supination. At the inferior and posterior part, there was a tumour formed by the head of the ulna, carried behind the sigmoid cavity of the radius;* the hand was a little extended, and in a state of adduction. The patient kept the arm constantly in this situation, as it was the least painful; and, as soon as it was touched or the position altered, great pain was experienced.

From former observations, Mr. Default immediately knew that the radius was dislocated forwards; and it was so obvious, that it was remarked by three pupils who were with Mr. Default. It was reduced in the following manner:

An assistant, having kept the arm fixed, he held, with both hands, the inferior extremity of the fore-arm: one hand embraced the inside, and the other the outside, of the arm; and the thumbs were placed in the intervening space between the radius and the ulna, and the fingers posteriorly: the intention was

* Vide Traité complet d'Anatomie, par M. Sabatier, tom i. page 185.

to separate the two bones of the fore-arm and bring them on a level, whilst an effort was made to bring the arm in a state of supination, and in a direction contrary to the force which produced the dislocation: the attempt succeeded; for the bones, being but slightly separated, were easily replaced: the pain ceased immediately, the limb resumed its usual appearance, and every motion was performed as well as before the accident. To prevent consequent swelling, &c. compresses, dipt in camp. spt. and a slight bandage were applied, nor did any unpleasant symptoms occur during the cure.

OBSERVATION III.

About five months afterwards, an infant of two years old was brought to Mr. Default, who had met with a similar accident, but from an unknown cause. The reduction was effected in the same manner, but with more ease: the same plan of treatment was adopted, and attended with the same success.

OBSERVATION IV.

A waterman, 40 years of age, in attempting to stop a boat, held fast by a rope that was fastened round a post: by the exertion, though not violent, the arm was turned into a state of pronation. He

immediately felt an acute pain, which extended to the shoulder, and which was increased by the motions of pronation and supination. The surgeon, who was first called, did not take it for a dislocation of the radius forwards; he mistook it for a sprain, and treated it accordingly for three months; but, notwithstanding the attentions he received, the pain continued and the swelling was considerable. At this period Mr. Default saw him; the arm was then half bent, between pronation and supination, and the head of the ulna projected considerably backwards: some endeavours, notwithstanding the swelling, were made for the reduction; but, as they were not successful, the attention was directed to the treatment of the swelling, which, in eight days, nearly subsided.

During this interval, he was seen by many practitioners, most of whom recommended him to desist from the application of any remedy, as it would subside in time: this advice was followed, and he declined all assistance from art, at the moment when there was every prospect of success. He returned home, where he remained in the same state, with scarcely the use of his hand.

At the time Mr. Default wrote this memoir he was young in the practice of surgery; but, at present, he is enabled to add many cases to confirm the truth contained in these observations.

OBSERVATION V.

The first patient that Mr. Default saw at the Hôtel Dieu, as surgeon in chief, had a luxation forwards of the inferior extremity of the radius. This case had been misconceived; and, although it had taken place longer than the other, it was easily reduced, which was, probably, owing to the swelling being reduced by the emollient cataplasms that had been continually applied on the wrist, to which the difficulty of motion had been attributed. But, though the reduction was easy, there was considerable difficulty in retaining the parts. We succeeded by fixing the arm in a state of supination, and applying a thick compress behind the ulna, whilst the radius was pushed backwards by another compress placed at its anterior part, and both preserved in this situation by means of a roller. These dressings were continued for a month, after which the reduced bones were preserved in their natural situation.

The patient, at first, was cautious in moving his wrist, particularly avoiding the motion of pronation; but which he regained by degrees.

OBSERVATION VI.

On the 29th of January, 1789, Madeleine Fuser, a washer-woman, aged 34 years, luxated the inferior

extremity of the radius forwards, whilst she was wringing a sheet; another woman, who was assisting her, made a violent effort, and, with a jerk, twisted her right fore-arm, which was in a complete state of pronation. She experienced instantly a very acute pain, and felt as if something was torn. Conceiving it only a sprain, which would soon get well, she used no topical application, nor applied to the Hôtel Dieu till the 16th day after the accident. There was then a little swelling at the inferior part of the radius and wrist, which was in a state of extension and adduction, the fingers were bent; little inconvenience was felt when the hand was in a state of inaction, but, on motion, the pain was extremely violent.

It was obvious that the radius was situated before the ulna, and that they rode over each other. The manner of reduction was the same as in the other cases. Whilst an assistant supported the elbow, another held the hand; the surgeon supported the inferior part of the fore-arm with both his hands, he placed one hand on the outside and the other on the inside, with his thumbs between the intervening space of the radius and ulna; and, during the endeavour to separate the bones, he desired the assistant, who held the hand, to perform the motion of supination, a direction which he gave himself to the radius.

The reduction was accompanied with a peculiar noise; and, from the limb resuming its natural shape, and regaining its freedom of motion, we knew our endeavours had succeeded. Compresses of aq. veg.
min.

min. were applied to the wrist. The patient remained a fortnight at the hospital, at the end of which she regained the perfect use of her wrist and hand.

We shall not adduce any more cases of this species of dislocation, but remain satisfied with those already produced, as they are sufficient to point out the nature, causes, and symptoms, of this luxation of the inferior extremity of the radius. We see that the reduction, in the first instance, is easy, and that no ill consequence ensues; but, if this dislocation escapes the notice of the surgeon, or it has taken place for a considerable time, we cannot always succeed in our attempt, as was the case in the waterman, in the 4th observation; but still we should not despair, even if it has taken place for some months. The success of the last case ought to encourage our attempts for reduction, whatever time may have elapsed since the luxation.

Wound of the Head, with Ecopé, that terminated fatally.

[By Mr. BOUDRYE, Surgeon to the Hôtel Dieu.]

STEPHEN Marriotte, a native of Gien-sur-Loire, thirty-two years old, and of a good constitution, on the 25th December, 1790, received, on the left side of the os frontis, a wound with a sabre, which

which divided perpendicularly the soft parts and a portion of the external table of the bone. He was brought the same day to the Hôtel Dieu, without experiencing any inconvenience from his wound. A pledget, dipt in the linimentum arcæi, was applied, and a poultice over the whole; he was bled, and an antiphlogistic regimen observed till the fourth day.

On the fifth, suppuration took place, the wound not painful, appetite good, and the patient experienced no inconvenience whatever: he walked the greatest part of the day. The following days passed in the same way; but, on the evening of the fifteenth, the skin was dry, the pulse raised, the edges of the wound swelled, the suppuration yellow, and diminished in quantity. These symptoms increased the following evening; and the next day the pain in the head was considerable, particularly on the left side, the suppuration totally suppressed, the pulse hard, and the tongue dry and furred.

Mr. Default ordered him to be bled in the foot, and a blister to be applied over the whole head; but the patient, objecting to the total loss of his hair, would only admit of its application at the anterior part. A grain of tartar emetic was exhibited, which acted as a purge as well as a vomit. The symptoms seemed to be mitigated; but, towards night, he grew worse; and, on the next day, which was the seventeenth from the accident, he was senseless and paralytic on the left side. He was bled a second time in the foot, but, the symptoms still continuing, he expired on the eighteenth day.

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The body was opened publicly in the Theatre : the internal table of the os frontis was not injured, and the dura-mater not even detached from the cranium, but was covered with a yellow mucus, consequent to the inflammation, and which seemed to have insinuated itself in the cellular substance. All the surface of the left hemisphere of the brain, and a part of the anterior lobe of the right side, was covered with the same mucus, and which had communicated a tinge to the cortical substance.

Agreeable to the opinion of Monsieur Quesnoy, in the first volume of the Memoirs of the Academy of Surgery, this patient should have been trepaned on the first appearance of the symptoms.

But a question arises, on what part would you trepan? We have many doubtful indications, nor is there one sufficiently decisive to point out where the instrument should be applied. The seat of the mischief, we had reason to presume, was on the left side, from the injury received on the external table of the os frontis, and from that part being peculiarly affected with pain; yet, still the paralytic affection of the left side of the body gave rise to a suspicion that the cause existed in the right. For the sake of argument, let us suppose, that the surgeon, not deterred by these contra-indications, after the unsuccessful application of the trepan on one side, had determined to attempt it on the other: what particular part would he have trepaned? He must have multiplied its application at the hazard of discovering the seat of the effusion; and what advantage could he have obtained
by

by these researches? Would the puriform mucus have been evacuated, that was effused in the cellular substance, and diffused over the whole left and part of the right hemisphere of the brain?

The application of the trepan favours the accession of air, which often produces consequences ultimately fatal. Scarcely any authors, who have written on wounds of the head, have mentioned this species of suppuration; it is noticed, however, by Smetius and Morgagni. The last, in describing the dissection of many subjects, who died from wounds of the head, remarks, that this yellow-greenish mucus, and of a gelatinous consistence, was diffused in the meninges and over the surface of the brain.

These circumstances have been constantly observed, in the Hôtel Dieu, in patients, who have died at the same period, as the subject of the preceding observation, and whose death has been preceded by the same symptoms; but, in these accidents, if no relief is afforded by the trepan, the best effects may be expected from the application of a blister applied over the whole head. A number of cases that have been successfully treated in this way, apparently of the most serious description, will soon be published.

Case

*Case of an ulcerated Cancer, of an extraordinary Size,
cured by the Operation.*

[By Mr. DEHANNE, one of the Surgeons of the
Hôtel Dieu.]

MADELEINE Lepré, a fish-woman, aged 66 years, tall, thin, and of a weak constitution, observed, in November, 1788, in her left breast, a small, hard, moveable, tumour, nearly insensible, the cause of which she was unable to assign. This tumour increased rapidly: by the month of April, 1790, it had acquired a considerable bulk, it was hard, extremely painful, and disseminated with varicous veins; emollient and maturative cataplasms were applied, which seemed to hasten its progress; for, in the space of twenty-five or thirty days, it had increased so considerably in size, that it exceeded the bulk of her head by one-third: in the centre, an ulcer formed of about two inches in diameter; it was of a fungus nature, and discharged, abundantly, a bloody foetid sanies. Her sufferings not allowing her a moment's ease, she was admitted, in this distressed situation, into the Hôtel Dieu on the 18th May, 1790.

As the tumour was increasing fast, and the patient, though weakened by the disease, was as well as could be reasonably expected from the nature of her complaint, it was thought proper not to defer the operation, which was performed, two days after her admission, in the following manner:—

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She was seated in a high chair, and supported by two assistants : one elevated the left arm at a little distance from the body ; Mr. Default raised the breast with his left hand, and put the integuments at the lower part of the tumour on the stretch, then, with a straight and sharp pointed bistoury, made a semi-oval incision at the inferior part of the tumor, directing it from the axilla towards the sternum : the anterior extremity of the incision was a little more elevated than the posterior. An assistant retracted the skin at the lower part, whilst Mr. Default held the breast with his left hand, and dissected the cellular substance in a direction contrary to the inferior lip of the wound : the cancerous mass was soon detached inferiorly, and was suffered to hang pendulous, and the skin, at the upper part, being perfectly sound, Mr. Default dissected it off the tumour, and finished his incision where he first commenced the operation. The cellular substance was dissected as close as possible, by retracting the tumour and integuments in different directions. An artery that afforded rather a considerable hemorrhage was compressed by the finger of an assistant, it was laid hold of with a pair of dissecting forceps, and secured, by ligature, in the usual manner. Four other small arteries were secured in the same way.

The perpendicular height of the wound, resulting from this operation, was 8 inches ; its width ten. After the edges of the wound were well cleaned, and the blood wiped off with coarse lint, it was dressed with soft dossils sprinkled with colophony, and compresses
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of coarse lint applied over the whole, and secured by a bandage drawn moderately tight. She was put to bed, and her head was a little elevated, with the arm of the affected side resting on a cushion, at a little distance from the body, but sufficiently raised for to relax the pectoralis major and the skin which invests it.

The weight of the tumour was eleven pounds, its texture firm, and difficult to cut, and, at the first view, had much the appearance of rancid bacon: in its internal part, matter, of different colours and consistence, was discovered.

No pain was experienced in the course of the day and the night, and she complained only of the bandage being rather too tight. The second day, the dressings were slightly tinged with blood, the bandage and external compresses were removed, and the lint moistened with the decoction of marsh-mallows: fresh compresses, dipt in the same liquor, were applied, and the dressings were supported, superiorly, by means of a scapulary.

The third day, there was little fever, with a slight serous discharge, that indicated approaching suppuration; the lint that was easily detached was changed, and all the dressings were moistened with decoction of marsh-mallows. The fourth day, the same plan was continued.

On the fifth, the lint, detached by suppuration, was easily removed, and the appearance of the wound was remarkably favourable. After the edges of the wound were wiped, they were dressed with cerate spread

spread on linen, to prevent the adhesions of the dressings, and the wound was covered, throughout its whole length, with a compress dipt in the decoction of marsh-mallows. The dressings were the same on the following days. On the seventh, she was allowed broth, in which there was bread. On the tenth, she had a slight cough, which soon gave way to the use of pectoral decoction. On the fifteenth, the edges of the wound were perfectly level, and began to cicatrize; and she now eat a little roast fowl. On the twenty-third, the cicatrix advanced rapidly, and the suppuration was so trifling, that the use of the marsh-mallow-water was omitted.

On the thirtieth, there was some appearance of a bilious disposition, which was checked by the use of clysters, and one drachm of cremor tartar in each pint of drink. The appetite soon returned, and, to gratify it completely, she procured, clandestinely, solid food and spirituous liquors: this improper regimen produced, on the thirty-sixth day, a new derangement in the digestive organs; the wound became pale and fungous, the pus altered in quality and smell, the edges of the wound were excoriated, and the cicatrix in part destroyed. She was put on diet; but still the suppuration was sufficiently abundant to render it absolutely necessary to dress the wound twice a day. On the fortieth day, it began to diminish, and the fungi were touched with the lapis infernalis. On the forty-fifth, the appearance of the wound was much better, and the quality of the matter considerably improved.

On

On the fixtieth, cicatrization began to take place from the circumference of the wound: she was now allowed solid food. On the seventieth, the patient was attacked with a considerable itching, which was soon followed with an eruption of small red pustules, that were diffused over the whole body. This event obliged her to have recourse to her ordinary drink of the decoctions of dock and fumitory: the eruption did not influence the cicatrix; and, on the seventy-sixth, it was judged expedient to make an issue in her arm.

On the eighty-third day, conceiving herself nearly well, she committed fresh excesses, which produced a redundancy of bile: the wound became pale, the discharge copious, and of a bad quality. She was treated in the same way as before, with clysters, and a ptisan acidulated with crem. tartar; which plan was followed till the ninety-sixth day, when the cicatrix became smaller. On the 105th day, the length of the wound was only two inches, and one inch in width; and it now healed so fast, that, on the 120th day, the cicatrix was complete, and was only two inches and a half in extent. Three days afterwards, a gentle purge was exhibited, as her tongue was a little furred, accompanied with a bitter taste in her mouth.

She was discharged from the Hospital, perfectly cured, on the 3d of October, 1790, one hundred and thirty-six days after the operation, and, at present, enjoys the most perfect state of health.

In the course of practice, we have made many observations on cancers of the breast cured by amputation; and we shall regularly communicate those that are attended with any interesting particulars. After operations of this nature, cicatrization is generally completed in thirty or fifty days; but still it may be retarded by particular circumstances, which young practitioners ought to be informed of; and with this view the preceding case has been published.

A variety of causes concurred to prolong the cure of this patient beyond the ordinary period: her habits of life, her long suffering, and advanced age, the length of time she was afflicted with the disease, the rest she was obliged so strictly to observe, after being accustomed to an active life, were all circumstances that retarded her cure.

Case of an Operation for a double Hare-lip, with a Fissure in the Palate.

MARY Dehannes, a foundling, 5 years of age, was admitted into the Hôtel Dieu on the 7th of September, 1790, for an operation for the hare-lip, an engraving of which is annexed.

In the upper lip, under the nostrils, there were two fissures, one-third of an inch wide, and which

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extended into the posterior nostrils: these fissures were separated from each other by the protuberance (b), which was rounded inferiorly, and was shorter than the other portions of the lip: its base was on a level with the extremity of the nose, with which it was connected. Behind this protuberance was observed a portion of the upper jaw (a), half an inch wide, which projected more forwards than the rest of the maxillary bones, from which it was separated on each side by a fissure of about (f) one quarter of an inch wide: this bony eminence, whose inferior part was on a level with the alveolar process, supported the two middle incisors (which were smaller than usual, and movable in their sockets): superiorly, it was continued with the septum nasi, whose lower edge led to the middle of a fissure, the width of which exceeded three-fourths of an inch, and divided, from before backwards, the vault and the arch of the palate.

This child could only use the cuspidati and the bicuspidates in laying hold of her food. Her mastication was difficult; and, during deglutition, a part of the aliment regurgitated into the posterior nostrils, and part passed through the fissures of the lips; but these inconveniences were, in some measure, obviated by the child having the precaution to take little food into her mouth at a time: she swallowed fluids with much more ease; for, by inclining her head backwards, they passed directly into the pharynx.

Her speech was imperfect, the tones of her voice being nasal; her pronunciation of vowels was mode-

rately distinct, but she articulated consonants with such difficulty that she could be understood only by those that were frequently with her.

To bring the protuberance on a level with the lip, and to depress the projecting portion of the maxillary bones, a linen bandage was contrived which compressed them both, by being passed over the upper lip and fixed to the back-part of the neck : its good effects were immediately evident, and its use was continued till the 18th of September, when the operation was performed.

As the patient was in good health, no other preparation was necessary but regulating her diet a few days before the operation. Her hair was ordered to be combed, and some mercurial ointment to be applied to destroy the vermin, which might occasion uneasiness, and, by this means, the bandage was more likely to remain undisturbed. The posterior part and the cavity of the ears were guarded with lint, to prevent the inconveniences of pressure, and to absorb the perspiration, which, by being confined during the application of the bandage, might irritate, or even ulcerate, the parts.

The patient was brought to the theatre and seated on a high chair, with her head against the breast of an assistant ; who, with her hands applied to the lips, pushed them forwards, and, at the same time, compressed the external maxillary arteries where they pass on the lower jaw. Mr. Default placed himself before the patient, and a little to the right, then held the left portion of the lip with the thumb and fore-
finger

finger of the left hand, and, with a sharp pair of scissors, rounded on both sides, cut out the red as high up as the openings in the nose, perpendicular to the thickness of the lip, taking care to remove a somewhat larger proportion of the lower part, where the edge was rounded (*cc fig. 1st*). He then took hold of the lower part of the protuberance, and put it on the stretch; then cautiously divided the left edge exactly in the same way; and divided the right portion in the same manner, and the correspondent part of the lip. Whilst he held, with his thumb and index-finger, the angle of the wound that corresponded with the left fissure, he passed into the lip, at the distance of one-twelfth of an inch from its loose edge, and one quarter of an inch from the wound, a gold pin (*fig. 5th and 6th*), rubbed with cerate, and, passing it backwards and upwards, passed it through the fissure, then, fixing the protuberance on a level with the lip, he pushed the pin through it about its middle; and, after adjusting the right portion of the lip against the protuberance, he passed the pin in a similar way, but in an opposite direction to the one he had passed on the left side.

While Mr. Default retained the parts in a state of apposition, by holding the two ends of the pin, an assistant introduced, behind the latter and before the protuberance and the lip, a loop of waxed thread, which he drew downwards, with the intention of keeping the parts on the stretch; and, in contact upon this loop, the operator introduced another piece of waxed ligature, which he passed several times in the

form of a figure of 8, cross and round the pin, taking care to bring the thread sometimes across, and sometimes under, the protuberance; he next introduced a second pin under the nose, a quarter of an inch above the first, and passed it through the two portions of the lips, being careful to bring the two other portions of the lip on a level with the protuberance, by bringing them forward: he then twisted a piece of waxed ligature about the second pin, in the same manner as the first, and afterwards carried the thread, alternately, from one pin to the other, in the form of a figure of eight, till he had covered the whole surface of the lip (see *fig. 2.*). The ends of the thread were then secured by a knot, and the loop, which had served to keep the parts in contact and on the stretch, was cut off as high as possible.

Mr. Default applied two compresses on the cheeks (*dd, dd, fig. III.*) one inch in thickness, extending from the masseter muscle to the commissure of the lips, and from the os malæ to the lower jaw: these compresses were pressed forwards, and supported by an assistant; small compresses were placed between the ends of the pins and the skin; and the lip was covered with a pledgit of lint, over which was laid a compress (*c c c c*) moistened with *aq. vegeto.*

A bandage of the same breadth as the lip, and three ells in length, was carried, from right to left, several times round the head, directly above the eyebrows, and fixed, with a pin, behind the right ear, and on a level with the upper lip; then brought over
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the compress of the same side, thence under the nose and over the compress of the left side, then behind the left ear, to which it was fixed by a pin : the rest of the bandage was carried in circular turns round the head, and to prevent the compresses and bandage being loosened, they were supported by a small bandage (ii ii) which was placed on each side. The middle of this was passed obliquely under the chin, and one of the heads of it was brought over one of the compresses, and the other behind the ear of the opposite side to the top of the head, where they were fastened, and fixed to the compress on each side, and to the first bandage, by means of pins.

The motions of the lower jaw were confined by fixing the chin with the sling bandage (ff), the superior ends of which were fixed behind the occiput, and the lower ends to the top of the head, and the whole was rendered still more secure by several turns of a bandage (a a a a) carried round the head.

The operation was, by no means, tedious ; nor the introduction of the pin attended with much pain. She was put to bed and slept part of the day, and the next day there was neither swelling nor pain ; the small compress was removed and a fresh one applied, moistened with aq. veg. min. On the third day, she was allowed to eat panada. On the fourth day, the pins were withdrawn by their points, after being previously cleaned and smeared with cerate ; they were more easily disengaged, by performing a sort of rotatory motion : the dressings were the same as before. On the fifth, the threads fell off, and the parts seemed

perfectly united (see *fig. IV.*), and the patient's pronunciation appeared much improved. On the seventh, the punctures, made by the pins, slightly suppurated: on the tenth, they were cicatrized, and the marks were scarcely perceptible.

On the thirty-eighth, she left the Hospital. Since her cure she has returned several times to be examined: her articulation is found to be perfectly distinct, and the lip has regained its natural length, the fissure in the arch of the palate is diminished one-third, and the alveolar arch is perfectly regular.

Many instances, in some degree similar to the above case, are to be found in books. The cure was always viewed by the ancients as impracticable; but modern surgeons, persuaded that the projecting portion of the maxillary bones formed the chief obstacle, have recommended its excision: but experience proves, that it is always easy to bring the lips over this officious projection, and, by the means of a bandage, effect its depression even to a level with the lateral parts of the jaw, so as to render this excision unnecessary. Besides, this operation is open to many objections: it leaves a considerable space between the maxillary bones, excites inflammation in the adjoining parts, and deprives the lip of the advantage of a support at that part where it was divided; but, even under these disadvantages, if an union should take place, the action of the muscles would bring the maxillary bones nearer to a state of contact; the upper jaw would become contracted, so as to fall within the under one,
which

which would render mastication difficult, and present also another deformity.

With respect to the mode of performing the operation for this species of hare-lip, there are many different opinions. With regard to the manner, the instruments, and the means employed to procure a reunion :

Some have thought they have simplified the operation by re-uniting one of the sides of the lip to the middle part, and, after this was completely healed, to proceed to operate on the other side. Others recommend to finish the operation at once.

Although Severinus, in his "*Treatise de Efficacia Medicinæ*," recommends the bistoury in the operation of the hare-lip; yet scissors have been used for a long time, and, though many objections have been urged, yet still many surgeons prefer them; nor is this opinion ill-founded: the operation is more speedy and easy; nor is there any necessity to separate the lip from the gums, because the parts are not cut upon paste-board as with the bistoury, and the surgeon can hold himself those parts he wishes to divide, the incision can be made with the scissors with more firmness and regularity; for, with the bistoury, the incision from the contraction of the parts is often irregular, nor are the edges of the wound, as it is said, bruised: for, when the scissors are sharp and well constructed, they cut nearly as well as the bistoury, and, from experience, we find the wound unites equally well.

The

The future was, for a long time, esteemed the only method of obtaining the union of the hare-lip, and is yet preferred, in some difficult cases, by many practitioners. The inconveniences that sometimes result, depend on the manner of performing it, and on the dressings that are made use of: a number of cases, in the Hôtel Dieu, that have been united by future, and that have done perfectly well, are proofs of the justice of this opinion. Besides, however perfect the bandage may be, it does not retain the parts with sufficient exactness, nor does it prevent the blood and the saliva from insinuating themselves between the edges of the wound; it cannot lengthen parts that are too short, nor elevate those that are depressed; all these advantages the operation by pins certainly possesses, when ably conducted.

According to Heister, the Germans employed nothing but a sufficient number of futures to procure the reunion; surgeons, from experiencing their insufficiency, prefer the use of pins, but differ somewhat respecting their form and composition. Gold, as it will not rust, and can be made sufficiently sharp, is to be preferred.

The bandage, mentioned in the above case, is of a more simple construction than the generality of uniting bandages invented for the purpose: its action is confined to the compresses and cheeks, it lies smooth, and does not press on the lip, which is not liable to be wounded by the pins; and, if the compresses are pushed forward at the instant of its application, they will act in the same way as a bandage,
the

the heads of which are made to cross each other under the nose.

EXPLANATION OF PLATE II.

FIG. I. The state of the infant when admitted into the Hôtel Dieu.

- a. The projecting portion of the jaw, half an inch in width.
- ff. Fissures, one quarter of an inch in width.
- b. The rounded projection, and continued with the end of the nose, forming the middle part of the lip.
- c c. The rounded angles of the divided portions of the lips.

FIG. II. The twisted future.

- p p. Points of the pins.
- t t. Their blunt ends.

FIG. III. The appearance of the infant with the apparatus.

- c c c c. A small compress placed on the wound.
- d d, d d. Thick compresses to press the cheek forward.
- b b. Part of the uniting bandage passing over the compresses of the lips and cheeks.
- i i. Small

- ii. Small bandages supporting the compresses of the cheeks.
- ff. The sling bandage.
- aaaa. Turns of the roller fixing the whole of the apparatus.

FIG. IV. State of the lip after the cure.

FIG. V. and VI. Shape of the pins.

A Case of Mortification of the inferior Jaw.

[By J. B. J. BOULET, Surgeon to the Hôtel Dieu.]

EUSTACHIUS Provent, a soldier in the National Guard, 39 years of age, and of a good constitution, eight months since was affected with a caries of the first dens molaris of the right side. He had occasion to pass the whole night exposed to a cold and moist air: the pain, that was before trifling, was now aggravated to an insupportable degree. The next day there was a considerable fluxion at the part; the resolu-

resolution of which was ineffectually attempted by bleeding and the application of a poultice over the whole cheek. The swelling and pain increased, and, at the eighteenth day, several abscesses discharged themselves in the mouth; at this period, all the dentes molares, except the first, fell out; soon afterwards there appeared, under the angle of the jaw, a considerable deposition of matter; and, at the right side of the neck, which had not been preceded by the symptoms that usually accompany phlegmonous inflammation, an aperture was made; and, on examination with a probe, the jaw was found denuded: and an other abscess being opened, that was situated towards the alveolar process of the last dens molaris, another portion of the bone was exposed.

The patient, distressed by the tediousness of the case, presented himself at the Hôtel Dieu, on the 15th November, 1790, six weeks after the first symptoms of the disease. A swelling, accompanied with considerable hardness, occupied the whole cheek and the correspondent part of the neck, which produced an inability of separating the jaws; above a quarter of an inch in the inside of the mouth, towards the termination of the alveolar process, above three-quarters of an inch of mortified bone was exposed and felt: it appeared, in a great measure, detached, and admitted of a slight degree of motion; circumstances that determined Mr. Default to attempt its extraction the next day.

An assistant having separated the commissure of the lips, Mr. Default introduced a curved bistoury on the

the fore-finger of his left hand, and divided the soft parts that invested the fore-part of the jaw, and, passing his finger along the internal surface of the diseased bone, he discovered that the vessels and the inferior dental nerve were out of their canals, their internal sides being destroyed through their whole extent; the soft parts, that remained adhered to the bone, were then detached; then raising, with his finger, the anterior branch of the jaw, he disengaged the diseased portion, and extracted it with the greatest facility: it comprehended the whole branch of the jaw, except the condyle and the top of the coronoid process; new ossific matter was discovered posteriorly, and on the outside of that part where the diseased portion was situated: the motions of the jaw were soon restored as well as before the accident.

The opening of the fistulous orifice in the neck was a little enlarged for the passage of a seton, which was drawn through the mouth, and a poultice was applied to the cheek; and, every evening, the cavity of the extracted bone was well injected with a decoction of marsh-mallows. The next day, it was diminished to half its size, and the sufferings of the patient were trifling; the swelling, however, in some measure, augmented; and there was a moderate discharge of pus from the mouth, as well as from the fistulous orifice.

On the fourth day, the swelling was less, the pus white and more abundant, and the gargles and injections passed out in part of the fistulous orifice. On the eighth, as there was little swelling, and the discharge

charge small in quantity, the seton was omitted; but the use of the poultices, gargles, and injections, was persisted in, which still, in part, flowed out of the fistulous orifice. The patient could now chew solid food.

On the evening of the tenth day, he was afflicted with a considerable fluxion and swelling on the cheek, which, probably, might be attributed to the dampness of the ward that had been washed some hours before. Solid food was prescribed, and he was ordered to drink plentifully of a decoction of dog's tooth acidulated with oxymel, and an enema to be administered in the evening; but, notwithstanding these precautions, the swelling increased, a bitter taste in the mouth, a foetid breath, a furred tongue, and a feverish pulse, were symptoms that announced a diseased action of the digestive powers: a grain of tartar emetic was given, which vomited, and produced some bilious stools. The pulse was natural and regular in the evening. On the thirteenth, the swelling and other symptoms were much diminished; he wished for solid food, which was allowed him the next day. On the fifteenth, there was no swelling, except towards the sternum; the wound in the mouth would scarce admit the extremity of the finger, and afforded but little suppuration. The injection did not now pass through the fistulous orifice, and its external opening was cicatrized the next day. On the twentieth, a small abscess was observed at the superior part of the sternum, which was opened three days afterwards, with-

without any particular circumstance occurring worthy notice.

The patient was discharged from the Hospital on the 13th of December, twenty-eight days after the operation. The wound of the mouth was not yet perfectly closed, though there was no cavity; there remained on the cheek a tumour formed by the new-formed bone. The mouth admitted of being opened above a quarter of an inch, and the motions of the jaw were perfectly recovered.

This man has often returned to the Hospital since his dismissal: his cheek has nearly re-assumed its natural appearance, but the internal wound in the mouth yet remained fistulous.

Case of a Fungus in the Maxillary Sinus.

[By Mr. PLAIGNAUD, One of the Surgeons of the Hôtel Dieu.]

JAMES Thibault, 22 years of age, a soldier in the regiment of Viennois, was attacked, in the year 1785, with deep-seated pains in the maxillary sinus, after receiving a violent contusion on the malar tuberosity of the right side. These pains remained for a long

long time before any change was perceived externally. In September, 1789, the os mali began to swell, and the eye to project, the sight grew more enfeebled every day, and the ductus nasalis began to contract, which produced epiphora, or the watery eye.

The soldier, unable to continue his duty, went to the Hospital at Lisle, in Flanders, where, agreeable to his account, his disease was taken to be an ozena of the maxillary sinus. After extracting all the great molares of that side, they perforated the alveolar process; instead of pus they discovered a fungus tumour, which they tried to extract, but were prevented by a considerable hemorrhage, which was checked by the application of lint dipt in colophony. The opening that had been made accelerated the growth of the fungus, which soon extended into the mouth, where it met with no resistance.

Six days after this first attempt, they applied the actual cautery to the fungus, which checked its growth in a certain degree, but not entirely: it continued to increase, and, on the twenty-second day after its application, its size was sufficiently large to fill up a considerable part of the mouth and the whole of the right nostril. It was conceived that an attempt to extract that part that was in the nose would be attended with more success. The ligature was made with wire, which they tightened by twisting it repeatedly with a pair of forceps: these twistings were attended with such intolerable pain, that the patience of the patient was entirely exhausted; he, therefore, declined any farther
I assistance,

assistance, and applied to the Hôtel Dieu, where he was admitted on the 12th of December, 1789.

At this period, he could not open his mouth but with difficulty, the globe of the right eye projected and vision was imperfect, tears ran constantly down his cheek, the nostril was dry, and the cheek, as well as the malar tuberosity, was considerably elevated.

With respect to the fungus, it depressed the vault of the palate and the alveolar arch, and occupied such a considerable portion of the mouth and posterior nostrils, that deglutition and respiration were considerably injured. The ligature that had been passed in the nose still remained, and produced exquisite pain every time it was touched.

The event of any new operation, under all these unfavourable circumstances, was extremely uncertain; but, from his earnest solicitations, and the courage he evinced under his sufferings, the surgeon was induced to attempt his relief. He was seated in a chair, and, whilst an assistant kept his mouth open by means of a key, the surgeon made, on the inside of the tumour, a semi-lunar incision from behind forward, extending from the velum pendulum palati to the anterior part of the palatine vault. A second incision, of the same extent, was then made on the external side of the tumour, between the buccinator muscle and the alveolar arch; then, laying hold of the tumour with the fore-finger and thumb, he took it away, dissecting, at the same time, from behind forwards, and from within outwards.

The



Fig. I.



Fig. II.



Fig. IV.



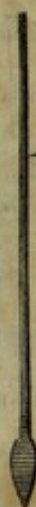
Fig. III.



Fig. V.



Fig. VI.



The hemorrhage was considerable, as was expected; it was attempted to be checked by the application of lint, which, being soon found inadequate to the intention, was withdrawn, and the actual cautery, heated to a white heat, applied in its stead.

The application of the cautery was frequently repeated, not only with the view of checking the hemorrhage, but also of destroying the fungus. The cavity, that was left after its extirpation, was filled with lint sprinkled with colophony; the jaws were closed, and retained in this situation by means of a sling bandage. To prevent, as much as possible, the swelling and inflammation consequent to the application of the cautery, a poultice was applied over the whole cheek. The patient suffered little in the course of the day; but, towards evening, he had a slight attack of fever, which increased during the night.

The next day, there was some swelling, with considerable heat. The third day, some of the dossils were withdrawn, and replaced with soft lint; the swelling was a little increased, but the heat and thirst were less. On the fourth, the outside lint was removed; but, for fear the hemorrhage should be renewed, that on the inside, which still adhered, was not meddled with. On the fifth, the feverish disposition of the patient entirely ceased.

On the sixth, the swelling was a little decreased, there was no fever, his strength was supported by rice creams, which he swallowed with difficulty.

On the seventh, the dossils of lint, and the escars produced by the cautery, were detached by the sup-

purative process: this separation was followed by a renewal of the hemorrhage, which was stopped by dossils of lint dipt in colophony, and retained in their situation by closing the jaws. By the next day, this lint loosened by suppuration, and fell off without any return of the hemorrhage. On the eleventh, the suppuration was less, the patient suffered little, and he now used a gargle of barley-water and honey of roses. On the fifteenth, the tears began to take their natural course, and the eye to regain its former situation in the orbit, suppuration entirely ceased, and the gargarisms were omitted.

At this period, Mr. Default, convinced of the inutility of the ligature passed into the nose a month before, was induced to make some attempts to withdraw it; but they were attended with such exquisite pain, that he was obliged to abandon the idea: from observing that the patient was easier when the ligature was drawn forward, it was conceived that gentle means, long continued, would produce the same effect as twisting the wire. The extension of the ligature was kept up, by fixing it to the cheek with adhesive plaster. This contrivance was attended with success; for, the wire fell off on the fourteenth day.

A portion of fungus appeared on the thirtieth, and, in six days, grew to the size of a pigeon's egg; the hot iron was applied, and the eschar fell off in three days. The size of the cheek now sensibly diminished, his sufferings were little, and his cure daily advanced: however, the twenty-fifth day after this second application

cation of the cautery, some fungi appeared in the bottom of the sinus, towards the inner part of the orbit. They were destroyed, like the others, by the repeated application of the cautery.

On the eighteenth, after this third application, the cheek had regained nearly its natural size, the tears passed freely through the ductus nasalis, and the sight was equally perfect on the affected side.

On the twenty-ninth, the patient complained of an uneasy sensation in the right nostril. On examination, a deep-seated fungus was discovered, which seemed to originate from the velum pendulum palati. It was burnt in the same manner, with the iron introduced by a canula through the nose.

This fourth application of the actual cautery was the last, the fungi having been destroyed even to their roots, and never more appeared. The sides of the maxillary sinus (where these luxuriations seemed to grow) approached each other; but, in the place of this cavity, there was nothing more than a hollowness, which corresponded to that part of the alveolar arch.

He remained in the Hospital a month after his cure, to see if new fungi would make their appearance; and was discharged, perfectly well, on the 134th day after his admittance.

This soldier supported the different applications of the actual cautery with uncommon courage, and, it is but justice to say, that his cure may be attributed as much to his own fortitude and good conduct as to surgical assistance.

Case of a Schirrus Tumour in the Pylorus.

[By Mr. BRUGUIERE, Surgeon in chief to the Military Hospitals.]

MR. Dangas, an ensign in a regiment of infantry, about 50 years of age, and, apparently, in good health, was extremely subject to eructations and borborigmi after his meals; he was frequently distressed by colicky sensations, and a peculiar uneasiness in the epigastric region, which he attributed to a defect in digestion. To remove this complaint, he was in the habits of employing the pil. coch.

He was employed, at this time, in the recruiting-service; and, whilst in garrison at Nîmes, was attacked with these violent colicky pains, and sent for Mr. Bruguiere on the 24th June, 1774.

On examination, Mr. Bruguiere found the lower belly acutely sensible, the pulse hard and small, the tongue dry, accompanied with ardent thirst, the urine thin and of a high colour; and, from not having had an evacuation for many days, he had had recourse to the purgatives that he usually took. Mr. Bruguiere bled him, and ordered diluents, oily medicines, emollient clysters, and fomentations, which were persisted in till the next day, when the patient appeared more calm and tranquil: two ounces of manna, and the
same

same quantity of oil of sweet almonds, were exhibited. An hour after Mr. Dangas had taken this portion, he made fruitless efforts to break wind backwards; and, persuaded that his health depended on this circumstance, demanded eagerly some medicine to produce this effect. A little time afterwards, feeling a disposition to go to stool, he raised himself to go to the chair, which he had scarce reached when he was attacked with syncope. He was removed to his bed, when, in a moment, he was attacked with a cold sweat over the whole surface of the body, his countenance changed, and the pulse became so weak as scarcely to be distinguished. The cessation of these symptoms, Mr. Bruguiere prognosticated, was a deceitful calm, and that it was the forerunner only of internal gangrene and approaching death.

As the examination of the body could only explain the cause of his sudden decease, Mr. Bruguiere, in the presence of some other surgeons, made an opening into the abdomen. On the first incision, a vast quantity of air was extricated, accompanied with some explosion, and followed with a discharge of purulent matter, mixed with oil and other liquids which the patient had swallowed: this induced the assistants to suspect that the stomach or intestines had been unintentionally wounded. The omentum was found, in different parts, in a state of suppuration. The intestines, small as well as large, were inflamed, and, in part, gangrenous, and their external coat detached by suppuration.

The mesentery and spleen presented the same diseased appearances; but what excited particular notice was a schirrus tumour in the pylorus, of the size of a pigeon's egg, with an ulcer in the centre, which had ulcerated through the whole depth of the tumour: consequently, all the liquids, which were received into the stomach, were diffused between the peritoneum and intestines. This circumstance perfectly explained the cause of the patient's death, and the issue of the air, &c. on opening the abdomen.

The Diseases of the urinary Organs continued.

WE have defined, page 55, retention of urine, “ a complaint occasioned by the urine being “ obstructed in some of the excretory passages.” This definition naturally leads to a farther subdivision, and induces us to divide this disease of retention into as many species as there are excretory passages, which are four in number. This retention may take place, first, in the ureters, or infundibula: secondly, in the bladder: thirdly, in the urethra: and, fourthly, under the prepuce.

In this division, the immediate seat of the obstruction is only considered, and not where it is diffused; for,

for, we find this diffusion takes place in many cavities at the same time: for example, an obstruction in the urethra of long standing communicates itself to the bladder, thence to the ureters, and progressively affects the substance of the kidneys themselves. We shall be careful in treating of each species of retention, to distinguish that which originally takes place in any particular cavity from its consequent effects.

Retention of Urine in the Ureters.

Under the denomination of retention of urine in the ureters, are also comprehended those retentions that take place in the pelvis of the kidney and in the infundibulum. This disease has been described, by the greatest part of ancient as well as modern authors, under the name of ischuria of the ureters: it is a very frequent disease, and most authors, who have treated on the subject, have adduced cases; and, in dissection, we have met with a variety of instances; both sexes, and all ages, are liable to its attack: but women, however, are more subject to it than men, and children than adults. Sometimes it is single, and confined only to one side; sometimes double, when both sides are equally affected. In both cases, it is either complete or incomplete: complete, when the patient is unable to evacuate a drop; and incomplete, when only a few drops escape. The quantity of urine retained is, in a greater or less degree, in proportion
to

to the distance of the obstruction from the kidneys, and the degree of distensibility of the parts that retain it.

The internal coats of the cavities where the urine is retained are astonishingly stimulated; at first, they admit of dilatation, and, when the urine can no longer overcome the resistance, it regurgitates into those parts where it was originally secreted, and distends them in their turn, and the kidneys are sometimes enlarged to twice or even three times their natural size: the infundibulum has been often known to contain more than a pint, and, from its size, resembling the bladder itself;* and the ureters have been found equal in size to the intestines,† and even to the colon itself, and forming, in their descent, a zigzag course with circumvolutions;‡ sometimes they form pouches or partial§ dilatations, separated from each other internally by contractions of its coat, forming a sort of valve.¶ In all these cases, their tunics become thick and dense, and the cellular sub-

* Ruisch, cent. rar.

† Monro's Edinburgh Medical Essays.

‡ Morgagni, Epist. 42.

§ Ibid.

¶ This circumstance was observed in the body of a child that was opened in the Hôtel Dieu. The kidneys were in a state of suppuration, filled with stones, and the ureters as large as the thumb, in the middle part of the right ureter there was a contraction of its internal coat, annular in its form, resembling much the valve of the pylorus: the superior part was considerably dilated.

stance that surrounds them becomes firm and compact.

The causes of retention of urine, in the ureters, are very numerous; they may be divided in three classes: 1st, When they are obstructed by the passage of extraneous bodies, such as stones, hydalids, clots of blood, worms, pus or inspissated mucus. 2dly, When their coats are affected by inflammation or spasm. 3dly, When the ureters are pressed upon by tumours in the adjacent parts, which may alter their situation, or prevent the influx of urine. This effect may be produced by dropsy, flatus in the intestines, tumours in the mesentery and mesocolon, hardened fœces in the rectum, schirrus affections of that intestine, of the uterus, of the ovaria, and of the bladder, inflammation of this viscus fungi at the mouth of the ureters, &c.

Whatever may be the cause of retention, the ureters dilate upwards from the part where the obstacle exists, even as high as the kidneys, and the remaining part of these canals are empty and contracted the rest of their extent; and, when the ureters are secondarily affected, that is subsequent to the retention of the urine in the bladder, the valvular mode of communication, which is at the insertions of the ureters into that viscus, is often effaced; and the opening of communication between these two cavities becomes sufficiently large to admit the finger: it has happened frequently, that the catheter has been passed into one of the openings, thus enlarged. This circumstance we shall have occasion to recollect; for, it is about the commencement

ment of the ureters, and near their oblique termination in the bladder, that extraneous substances are generally stopped: but, still, they are not unfrequently discovered at that part of the ureter, where it forms a curvature to enter the pelvis.

Stones in the kidneys are one of the most frequent causes of suppression of urine: we must be cautious of forming a proportionate idea of the size of the stones, from the consideration of the size of the ureters; for, they will often dilate sufficiently to admit a stone the size of a hazel-nut; but sometimes very small stones will form an obstruction, and consequently retention. When they remain for a long time, they increase by fresh depositions, and give that oblong form, which is generally remarked in those extraneous bodies. Sometimes the urine forms a sulcus in one of the sides of the ureter; and sometimes the stones, though ever so large, will produce only a partial retention.

Hydatides will sometimes produce this disease: Morgagni has found a ureter full of these vesicles.* Mr. Default has presented a preparation of this nature to the Academy of Surgery, which he took from the body of a woman, one of whose kidneys appeared little else but an assemblage of hydatides, adhering to a very slender pedicle. The ureter of the same side contained many of the size of a raisin-stone, which seemed as if they had been detached from the

* De Causis & Sedibus Morb.

kidney, and, stopping in the ureters, had intercepted the course of the urine.

We have no cases to adduce in support of the opinion, that retention of the urine, in the ureter, is ever occasioned by pus or inspissated mucus: this, as a cause of obstruction, we have only advanced on the authority of authors, and not from our opinion; we also entertain our doubts respecting the spasmodic affection of the ureters, or at least it is a question whether their powers of contraction and spasm are sufficient to obstruct the passage of urine; for, certainly, there is no analogy of structure between these tubes and the capillary vessels of the kidneys: we can conceive that these last, if possessed of great tone, might contract sufficiently on themselves for their cavities to be effaced; but, for the same effect to take place in the ureters, we must suppose they possess nearly the same irritability as muscles; and we are equally disinclined to believe they have this property as to agree with Hoffman in their motions of systole and diastole.

We also are very doubtful that the colon, when distended with flatus, can compress the ureter with sufficient force to produce suppression of urine; but this effect often results from large tumours, situated in the cavity of the pelvis: an instance of which occurred lately, in a subject brought for anatomical demonstration. A schirrus uterus, of the size of the fist, was adhering to the posterior part of the bladder. The two ureters were dilated to the size of the finger; the infundibulum, of the right side, was
twice

twice its natural size, and the kidneys about one-third.

We rarely know, till after death, that the seat of retention had existed in the ureters. We meet with these retentions frequently in subjects, who, during their life, never experienced any affection of their urinary organs: and, certainly, in the living subject, we have no sensible proof that the retention exists in the ureters. For, however extensive and considerable the dilation may be in the ureters or infundibulum, yet no external tumour appears, nor can it be discovered through the parietes of the abdomen.

When the retention exists only on one side, the quantity of urine evacuated is not diminished; the other kidney secreting double the quantity. When a total retention takes place, on both sides at once, it is confounded with suppression of urine; which, indeed, soon follows, attended with the usual symptoms.

It is only then, by commemorative symptoms, joined to those of the seat and nature of the pain, that we are enabled to point out its situation. For example: if a man, after experiencing the symptoms attendant on stones in the kidneys, should immediately feel a pungent pain in the course of the ureters, with a sense of weight and tension, extending from the part where the stone is fixed to the legion of the kidneys, we then have reason to infer that the retention is produced by a stone obstructing the urine in that canal.

This

This opinion is rendered still more probable, when a patient, having once voided small stones with the urine, is attacked with the same pains, which, ceasing on a sudden, are succeeded by symptoms that indicate the existence of a stone in the bladder. We are justified also in supposing that retention is occasioned by pressure on the ureters, if the passage of the urine is suddenly obstructed, and there exists carcinomatous affections of the rectum or uterus, without previous affection of the urinary organs.

Retention of urine in the ureters, according to the cause, is more or less dangerous. When it is retained for a length of time in a dilated ureter, it becomes acrid and corrupt, produces irritation in that canal which is propagated to the kidney itself, and brings on suppuration in that viscus with its attendant consequences. Sometimes, when the ureter is extremely distended, it gives way, and the urine is extravasated in the adjoining parts, or diffused in the cavity of the abdomen, producing a dropsy of a particular description.

But we may console ourselves, for the obscurity of the causes of retention of urine in the ureters, with this idea, that, if known, they throw no light on the cure. Medicine can afford but little aid; and, from the nature of its situation, no advantage can possibly be derived from the assistance of the surgeon; except in some particular cases, that are, however, extremely rare. If the retention should happen to arise from a quantity of indurated fœces in the rectum, their extraction would re-establish the flow of urine,

or

or if the obstruction arose from a stone, situated at the insertion of the ureter in the bladder, similar to the case related in this Journal, page 36, it might be easily extracted by the directions laid down in that observation: and sometimes an opening might be successfully made in the lumbar region, in cases of urinous deposits, subsequent to retention, when otherwise death would be inevitable. But there remains frequently a fistulous orifice in the part where the opening is made, unless it gives exit to the extraneous substance that formed the obstruction in the ureter. In other cases of retention, the remedies, both external and internal, should be adapted to the cause and nature of the disease.

Vomits, exercise on foot or horse-back, or any plan that will produce a general shock to the system, may tend to disengage the stone from the ureter, and hasten its progress into the bladder. But these means can only be had recourse to when the strength of the patient will permit. Baths, mucilaginous diuretics, when the retention is not total, mitigate the pain, and even favour the passage of the stones. An infinite number of lithontriptic medicines have been recommended, of which we shall treat, under the article of calculi in the bladder.

*Case of a Fracture of the Olecranon complicated with
one of the Radius.*

[By Mr. CASAUBON, Surgeon à la Garenne.]

ON the 6th of October, 1789, Mr. Casaubon was sent for to a boy of twelve years of age, who, in falling, had received a shock on his left elbow: he was unable either to extend or bend the fore-arm completely, which Mr. Casaubon attributed to the considerable swelling and ecchymosis that surrounded the joint; but, on farther examination, by performing the motions of pronation and supination, this last action proved that the radius was fractured at its superior part. The ulna appeared to have escaped injury: it was reduced, and retained in the usual manner, with this slight deviation, that the turns of the bandage were carried beyond the articulation, on account of the swelling and ecchymosis: to remove which, compresses, moistened in a resolute decoction, were applied. After these applications, the child was easier; but, as the bandage had been applied beyond the articulation, it would not admit of being sufficiently bent to be worn in a sling: it was, therefore, placed in a state of extension on a pillow.

Little pain or inconvenience occurred for the three first days. On the fourth, the bandage appearing a little slack, Mr. Casaubon took off the dressings, and

remarked an evident projection, about one finger's width above the condyles of the humerus, which was occasioned by the process olecranon. Mr. Casaubon candidly acknowledges, that he was rather at a loss how to prevent the consequences that would result from such a serious accident. But, agreeable to the practice recommended by different authors on the diseases of the bones, he preserved it in a flex position. Mr. Casaubon observes, that, according to the opinions of the different authors alluded to, he expected ankylosis would be the inevitable consequence. Fortunately the sufferings of the patient would not admit of that degree of flexion wished for by Mr. Casaubon.

During the fourth day, the symptoms were mild, but extremely aggravated at night. On the next day, the swelling of the extremity having increased, the dressings were removed; and, at this time, Mr. Casaubon, reflecting seriously on the future situation of his patient, recalled to his mind the practice that Mr. Desault recommended, in his lectures, in similar cases, and the characteristic distinctions of this particular species of fracture. Mr. Casaubon regulated his conduct accordingly, by extending the arm, whilst the same bandage maintained the fractured parts in their situation. The next day, he was easy, and slept for about three hours in the course of the night. By the eighth day, the swelling had nearly subsided: and from that to the fifteenth the bandage was kept moist by the application of the lotion; and, on this day, the dressings were removed, when the swelling
and

and ecchymosis were found perfectly subsided. By the twenty-eighth, the bandage was reduced to a few turns, in the form of a figure of eight, similar to what is used in bleeding. On the thirty-second day, all the dressings were left off, and Mr. Casaubon moved the arm frequently every day. The result of this treatment was completely successful; for the patient, on the forty-third day, in the presence of Mr. Casaubon, executed every motion of the arm with as much ease as before the accident.

In this case, the patient was near falling a victim to the erroneous practice recommended by authors: a slight recollection of Mr. Default's doctrines pointed out the path to be followed, to which Mr. Casaubon strictly adhered. But still he might have erred; and many others were in the same error, till the publication of Mr. Default's *Chirurgical Journal*, for which he merits the thanks of the public, for the important service he has rendered to the cause of humanity.

*Case of a Carcinomatous Affection of the Eye, with a
universal Cancerous Diathesis.*

[By Mr. BOULET, one of the Surgeons of the Hôtel
Dieu.]

NICOLAS Richard, a wool-carder, 36 years of age, applied for admission to the Hôtel Dieu, on the 2d of November, 1790, for the extirpation of his eye, the use of which he had lost for twelve years. Two years before his admittance, the eye became carcinomatous, and was attended with acute pain, which returned at short intervals. About the same period he had an indolent tumour, that nearly filled up the epigastric region; and was tormented with wandering superficial pains, similar to rheumatic affections, which appeared successively in different parts of the body, but always of the right side.

At the time of his admission, his eye projected more than three-quarters of an inch from the orbit; its external surface was uniformly hard, of a blackish colour, with furrows in various directions, affording a considerable foeted fanies, sometimes streaked with blood. It was sufficiently insensible to allow the finger to be passed over its surface, without the patient's perceiving it, except at the great angle, where the conjunctiva was exquisitely sensible.

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The superior eye-lid was red, swelled, and extremely painful. The tumour in the lower belly hard, and nearly indolent; it appeared to extend transversely about 4 or 5 inches, and its perpendicular height to be little less. The patient at this time complained only of pains in the right shoulder, which, in eight days, were succeeded by a considerable pain in the right half of the head: at this period, the eye was increased in size, and was affected with violent shooting pains, which lasted five days. These pains then subsided for a whole week; at the end of which, he was attacked with pains in his hip, then in the shoulder, and finally in the head. Ten weeks transpired, during which he was subject to these alternate attacks; and at length the abdominal tumour appeared diminished in size, and his general health evidently improved. At this time, he constantly assured Mr. Default that he felt no pain. Whether this assertion was true, or only to induce Mr. Default to expedite the operation, which he ardently wished for, is impossible to say.

At the end of three months, the tumour in the abdomen was diminished half in size, and would bear considerable pressure without pain. The state of the eye was nearly the same, except that the suppuration was thicker and less in quantity. On the 106th day, his health was improved; he slept well, and his appetite returned: he procured by stealth, in the evening, some indigestible food. He had no complaint in the evening, nor in the morning, at the usual time he was visited; but, about ten o'clock, he felt himself very

uncomfortable, and could eat no dinner: he was soon after attacked with a syncope, which was only momentary: he walked in the ward in the afternoon, but a new fainting-fit coming on, he was put immediately to bed. On the evening visit, he complained of a violent pain in his head, the pulse was small and intermittent, and in the night he was attacked with vomitings, and expired a little before morning, on the 107th day, after his admission on the 16th of February, 1791.

Appearances on Dissection.

THE tumour of the eye was immediately examined, which was an enlargement of the globe, and so completely disorganised, that it appeared a shapeless insensate mass, of a blackish colour, and of the consistence of liver.

On the opening of the abdomen, we found the liver of an extraordinary size; it pushed the diaphragm upwards, and descended considerably below the ribs. The left side occupied all the anterior part of the epigastric region, and part of the left hypocondrium; its surface was rendered rough by tubercles of different colours, most of them blackish, but some verging towards yellow; and all including a substance, similar to that generally discovered in cancerous affections of the breast: the internal surface of the lobe was covered with similar tubercles.

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There were also tubercles, though in less quantity, on the surface, and in the substance of the great lobe of the liver, a part of whose convex surface adhered to the peritoneum. The lobulus spigelii was little increased in size, but appeared wholly composed of this species of tubercle. The little omentum was changed into a similar mass: it was nine inches in length, six in thickness, and on its internal surface there were some gangrenous points: the great omentum was also covered with these tubercles, many of them two inches in diameter; they were also discovered along the arch of the colon and the great curvature of the stomach. The mesentery was covered; and so many were attached to the intestines, that they appeared to take place of the appendices epiploicæ. A tumour of the same nature, and three inches in diameter, was attached even to the body of the bladder, and was elevated above the pubis. Another of the same size was found on the body of that viscus, and both covered by the peritoneum. A great quantity of similar tumours, but smaller, were discovered at the inferior part of the rectum, and occupied nearly a fourth part of the cavity of the pelvis.

The right kidney, though twice its natural size, was healthy in its appearance. On the left side, there was neither kidney, renal, artery, ureter, or any trace that these parts had ever existed, except the glandula renalis, which adhered to the left extremity of the pancreas.

On the surface of the lungs, tubercles of the same description were found as were discovered in the abdomen, but smaller, and less in number. There were two attached to the heart, each half an inch in diameter; one attached by a pedicle to the origin of the aorta, and the other to the commencement of the pulmonary artery.

Fractions of the Clavicle.

[By Mr. GARNIER, Surgeon to the Hôtel Dieu.]

ON the 14th of January, 1791, Andrew Privé a carman, aged 48, fell from his horse, and pitched on his shoulder; a surgeon in the neighbourhood was sent for, who proceeded to the reduction in the following manner: The patient was seated on a low stool, and an assistant was desired to keep the trunk fixed, by placing his knee between the shoulders, and drawing the arm backwards; the cavity above the clavicle was filled with tow dipt in a mixture of warm wine, brandy, and the white of an egg. The bandage, in the form of a figure of 8, was then applied, but without procuring ease to the patient; which gave rise to a suspicion that it was not reduced,

reduced, or, at least, that it was not properly retained in its situation: after two days, finding his pains not diminished, he came to Paris. The fractured portions of the bone were so imperfectly maintained in their situation, that, during his walk, he was obliged to support them with his right hand, to prevent their being bruised or displaced; and when, from fatigue, he could no longer keep up this pressure, the pain became insupportable. When arrived at his master's house, he went to bed, and passed the night without sleep. The 18th of January, he came to the Hôtel Dieu, where the fracture was discovered by the following signs: the head was inclined toward the fractured side, the shoulder drawn downwards by the weight of the humerus, and forwards by the actions of the pectoral muscles and the serratus major anticus. The fragments of the bone rode over each other, the sternal portion was carried forwards and upwards, and the humeral portion backwards and downwards. By elevating the arm, the crepitus was distinctly felt; and, by moving the fractured portions in different directions, the splintered portions of the scapular portion of the cavicle were easily distinguished by their particular mobility.

Mr. Default, convinced from experience that the methods he employs for the retention of this fracture were adequate to its reduction, desired the patient to stand, while an assistant elevated the arm sufficiently to bring it perpendicular to the axis of the body; then applied to the side of the breast a pad, made of old linen, as long as the humerus, in the form of a wedge,

wedge, the width of which was from 4 to 5 inches, and the base, which was 3 inches thick, was placed in the axilla, and retained in that situation by means of a bandage 5 or 6 ells in length, and 3 fingers breadth: one end was applied to the middle of the pad, and confined in that situation by two circular turns round the body, then passed before the breast above the right shoulder, then behind, and afterwards under; the roller was then brought horizontally before the breast on the pad, then obliquely upwards behind the breast, on the right shoulder, just forwards, and then under; then it was carried horizontally behind the breast on the pad, and continued in the same way till the whole bandage was expended.

The surgeon supported the pad in the axilla with one hand, and, with the other, elevated the elbow, so as to bring the scapular fragment of the clavicle in contact with the sternal portion, pressing the pad against the breast; making with the arm, by this method, a lever of the first species, by which means the arm was brought from the trunk, and the clavicle kept in a state of extension.

An assistant was desired to retain the arm in this situation with one hand, and, with the other, to support the fore-arm, bent in a horizontal position; the palm of the hand applied to the anterior part of the breast. By this plan of treatment, the bones were brought in their natural situation, and in such an exact state of apposition, that no irregularity or deformity remained.

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The arm was retained in this position by a bandage of 6 or 7 ells in length and 4 fingers in breadth; the end was applied before the right axilla, and brought horizontally before the breast, on the superior part of the arm, behind the breast, and under the axilla: this first turn of the bandage was farther secured, by being twice passed in the same manner: the turns were then reflected over each other, and expanded on the breast and the rest of the arm; and, as it approached near the elbow, the bandage was drawn tighter, and passed in circular turns round the fore-arm, and pinned to that part.

The corners of the pad were pinned to the upper part of the bandage, and the hand received an additional support by the middle of a compress, the ends of which were pinned to the anterior part of the bandage; the vacuities above and below the cavicle, were filled with lint; and the fractured portions covered with compresses, dipt in aq. veg. which were doubled, and seven or eight inches in length, and three wide.

Under the right axilla, the end of a bandage, seven or eight ells in length, and three fingers wide, was applied, and passed obliquely above the breast, on the compresses which covered the clavicle, behind the shoulder and the arm, under the elbow, (which the assistant still continued to support,) then obliquely upwards before the breast, and under the right axilla. Over the first turn of the bandage it was passed three times precisely in the same way, and the remainder of the bandage, brought from behind forwards under
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the right axilla, was expended in circular turns, passed from the right to the left on the arm, and round the breast, to fix the first part of the bandage, and to carry back the arm that corresponded with the fractured clavicle: particular attention was paid to prevent the bandage getting loose, by securing it in different parts by means of pins.

The patient was so perfectly easy the next day, that no particular regimen was deemed necessary. The third day, the bandage becoming loose, it was re-applied exactly as before. On the 18th day, the fracture was firmly united; but, as there had been splinters, it was thought prudent not to leave off the dressings immediately. On the 21st, they were totally omitted, and, on the 30th, the patient left the hospital perfectly well, without the least deformity, and with the use of his arm as perfect as before the accident.

C A S E II.

MARGARET Perain, of Paris, aged 28, was thrown down by a horse on the 28th of April, 1789. She pitched on her right shoulder on a part of the pavement that was higher than the rest, and fractured the clavicle at both its curvatures. The same bandage, &c. was employed as in the last-mentioned

mentioned case ; with this difference, that a splint was placed the whole length of the clavicle, to prevent the middle portion being depressed by the bandage. In the space of 21 days the patient was cured, and without the least deformity.

C A S E III.

MARY Catharine Purlet, 15 years of age, fell on her left shoulder, on the 27th of May, 1789. Three days after the accident she went to the Hôtel Dieu, and, on examination, it was found that the middle part of the clavicle was fractured in a very singular manner ; as the scapular portion projected above the sternal. This fracture was reduced and retained in the same way as in the preceding cases ; with this difference, that the shoulder was less elevated, and a thicker compress was placed on that part of the bone that was next to the shoulder, and secured by more turns of the bandage than usual. The clavicle was firmly united by the 15th day, without any deformity.

C A S E IV.

PETER Louis Grule, of Paris, received a kick from a horse on the right shoulder, which knocked him down. Notwithstanding the pain and inconvenience that he suffered, he continued his ordinary occupation, nor did he apply to the Hôtel Dieu till 5 days after the accident, which was on the 2d of December, 1789. Though the swelling was considerable, the fracture was easily reduced, and, by attending to the same plan of treatment, was cured without deformity in 21 days.

C A S E V.

MARY Jeanfont was thrown down, by a carriage, in the street; and applied to the Hôtel Dieu for a fracture of the right clavicle, accompanied with contusion about the middle of that bone. She was treated after the same manner as the patients in the preceding cases; and was dismissed, on the 25th day after the accident, without a single trace of the fracture.

CASE

C A S E VI.

IN the same manner Francis Beauval was treated; who, at 60 years of age, had the humeral portion of his left clavicle fractured, from a shock he received on the shoulder. The sternal portion projected forwards, and the acromion was carried backwards and downwards; the fracture was reduced and retained as usual: but, on the 24th day, the patient deranged the dressings, and displaced the fragments, which were not yet perfectly united. He was cured, however, without any deformity, and discharged the hospital on the 48th day.

C A S E VII.

THE 12th of June, 1789, Mary Anne Aubry, of Paris, aged 59, fell down stairs, and fractured the middle part of her clavicle. She came the next day to the Hôtel Dieu, and, on examination, the bones were found to ride over each other above two inches; and, besides this accident, she had a considerable wound on the head, accompanied with violent

lent contusion, which was followed with formation of matter. Although this fracture was properly retained and reduced, yet the fragments admitted of motion on the 48th day, nor were they perfectly united till the 56th.

C A S E VIII.

JOHN Beaudelot, aged 41, fractured his clavicle, near the scapular extremity, in falling from a ladder on his shoulder: he came to the Hôtel Dieu on the 20th of October, 1789, three days after the accident. This patient was impatient and untractable, and frequently displaced the dressings; which did not, however, prevent the union of the fracture, of which no trace was left on the twenty-fifth day after its reduction.

C A S E IX.

THE case of Frances Ayard, of Rouen, aged 58, who had been thrown down in a crowd on the 24th of May, 1790, was somewhat different. Her clavicle was fractured, and considerably splintered; the reduction and union were completed, however, without difficulty;

difficulty; but the patient, restless and impatient, took the dressings off the next day, and displaced the fractured extremities. She pursued the same conduct of displacing the bandage, &c. till the 16th day, when she became more tractable; and an attempt was made to displace the scapular part of the clavicle, which was a little depressed under the sternal portion of that bone, without success, as the callus was perfectly formed.

C A S E X.

MARY Tombon, 40 years of age, fractured her clavicle in falling from a chair; the fracture was well retained till the 10th day, when, believing herself cured, she removed the dressings. The fracture was displaced and again reduced; but, still continuing intractable, she would make use of her right hand, which loosened the bandage: she was punished for her imprudence; for, though the fracture had united by the 32d day, the humeral portion was depressed below the sternal, and united at an angle.

C A S E XI.

A woman, 77 years of age, fractured her left clavicle about the middle, in attempting to carry a burthen of wood on her shoulder. The pain disappeared the instant it was reduced, the dressings were not displaced, and the fracture was consolidated on the 12th day.

C A S E XII.

JOHN Teffier, 60 years of age, received a blow with a stick on the left shoulder, on the 19th of January, 1789. The result was a fracture of the clavicle, the same as the preceding: it was perfectly united by the 34th day.

C A S E XIII.

GENEVIEVE Audinet, 70 years of age, was thrown down by a horse, and fractured her right clavicle. The dressings were not displaced; and, on the 28th day, the fracture was perfectly firm and united.

CASE

C A S E XIV.

MARY Leclerc, the same age as the preceding, fractured her left clavicle about the middle, in falling down stairs. She was admitted into the Hôtel Dieu on the 24th of August, 1788, two days after the accident. In 25 days she was discharged perfectly cured.

C A S E XV.

MARY Nivet, of Paris, 75 years of age, fractured her clavicle on the 29th of July, 1788. During the treatment of her case, she was frequently attacked with affections of the primæ viæ, colics, &c. occasioned most probably by a large umbilical hernia, which she had for a considerable time, and was at this period irreducible. These circumstances, together with her advanced age, were no impediment to the perfect reunion of the fracture, which took place on the 22d day.

Observations on Fractures of the Clavicle.

THE fracture of the clavicle occurs more frequently, and is more obvious, than any other species of fracture; and yet, by a singular fatality, its treatment is less understood. Since the time of Hippocrates, to the present day, authors have done little more than copy one another on this subject.

The attention of the Greek physicians was directed to the projection generally formed by the sternal fragment, which they conceived should always be depressed to the level of the humeral portion; and they endeavoured to accomplish this object by mechanical means; such as the application of lead, or thick compresses, retained on the clavicle by means of bandages. Such was the method employed, till the insufficiency and bad tendency of this practice was pointed out by Hippocrates; who, being more accurate and attentive in his observations than his predecessors, remarked that the projecting portion of the sternal portion was in fact not more elevated, but that this appearance arose from the humeral portion being depressed, in consequence of being drawn down with the shoulder, and that consequently our endeavours should be directed to raise this portion on a level with the other. Such are the principles on which his doctrines and practice were founded; he recommends

recommends the arm to be brought to the side, and the shoulder to be elevated, so as to form an acute angle, and to be maintained in that situation by a proper bandage. This plan, according to our author, will tend to bring the ends of the bone in a state of apposition, and procure their reunion*, at least it will effect this when the humeral portion is depressed below the sternal, which is generally the case. But this method will not always completely succeed; for instance, when the bones ride over each other, or when the scapular portion is forced backwards. In these cases, Hippocrates recommends the patient to be laid on a hard body, (a plank, for instance,) and his shoulders to be drawn backwards with some degree of force, and maintained in this situation by a sort of spica bandage. If the scapular fragment should project forward, he recommends the elbow to be brought forward on the breast, and the palm of the hand to be applied against the opposite shoulder. And, with respect to the case, which very rarely occurs, of the scapular portion projecting above the sternal, he says nothing, as the weight of the shoulder is alone sufficient to bring it to its former situation.

What Paulus Æginetus says on fractures of the clavicle seems to be a commentary on the text of

* Quod si quis brachium, quàm maximè ad latus adductum sursum propellat, sic ut quam acutissimus humerus appareat, eo modo planè continget, ut cum ossè quod pectore adhæret, unde est avulsa adaptetur.

Hippocrates; he makes his extension by carrying the arm upwards and outwards. In certain cases, he places a compress between the shoulders, whilst an assistant draws them backwards, and then applies the spica bandage; he also mentions, that the arm should not be supported, but left hanging to the side, when the humeral portion is more elevated than the sternal; in a word, his ideas and practice are precisely the same; the only circumstance in which he varies is the recommending a ball to be placed in the axilla, to make a more forcible extension, when the means recommended by Hippocrates are inadequate to the reduction.

Albucasis, the author, who revived surgery among the Arabians, borrowed of Paulus Æginetus the idea of placing a ball in the axilla, and the use of the figure-of-8 bandage: he kept the shoulder constantly elevated, and supported the arm in a sling during the day, which he fixed, in the day, to the neck of the patient, and supported it, at night, by placing a pillow under the axilla.*

Lanfranc and Gui de Chaubac have only transcribed what has been said by the above-mentioned authors: the last, instead of laying the patient on a thick pillow, attempts the reduction, by applying the knee between the shoulders of the patient; (agreeable to most modern practitioners, who have imitated this practice;) and, if the depressed portion was not

* Pono sub titilico dormientis in nocte pulvinar parvum, ut elevetur cum eo brachium aut liga brachium ad collum ejus.

by this means sufficiently elevated, he recommended the application of an agglutinative plaster to produce this effect, a doctrine so absurd that we are astonished to find it mentioned by some modern authors.

Pecceti has gone farther than preceding writers, whose works he has attentively considered, and from whom he has frequently transcribed; for, he recommends the ball to be left in the axilla during the whole treatment, but still uses the figure-of-8 bandage.

Subsequent writers have only commented on those authors we have recited; but, as the greatest part were not practitioners, they have omitted the explanation of one part of their doctrine, the most essential of all.

The ball, which, with Paulus Æginetus, Avicennus, and Albucasis, was the principal means of reduction, has been viewed only by the moderns as merely a means to fill up the axilla, to prevent the parts being excoriated from the application of the bandage: but this is not the only error in which they have fallen, the fracture of the clavicle was invariably followed with more or less deformity, a remark generally made: but most surgeons, misled by a false theory respecting the union of fractures, conceived it was impossible to surround the clavicle by a bandage that would prevent the irregular shooting of the collus. Some, however, observed that the bandage of the ancients, then in use, did not prevent the motion of the fractured portions; but the means that they substituted,

stituted, adopted, and on the same principles, were not found to answer the intention.

The iron cross of Heister and of the author of *La Chirurgie complete*, the comprefs by which Mr. Petit kept the shoulders backwards, and other contrivances, are only different modifications of the figure-of-8 bandage: the inconveniences and insufficiencies of which are demonstrated by every modern author; and, indeed, it is unnecessary to reason on the subject, as we find, from experience, it is absolutely inadequate to produce the effect we wish; and, indeed, in the opinion of all surgeons, no bandage has been yet contrived to retain the fractured parts sufficiently to prevent deformity and pain.

Mr. Default, firmly persuaded that a constant state of extension was absolutely necessary to keep the parts in a state of immobility and procure their reunion, invented, in 1768, a bandage that completely answered this indication; which, as described in Case I. some persons have conceived that it is to be found in Paulus Æginetus. This author certainly accomplished the reduction when it was difficult, by bringing the elbow on the breast, and separating, at the same time, the superior part of the arm, by means of a thick ball placed in the axilla; but, from his own account, we learn, that he did not keep up this means of extension during the whole treatment. He, indeed, adds, in a few lines, that, after the reduction of the fracture, being covered with thick compresses, a ball of wool should be placed in the axilla, and the bandage

dage should pass, under both axillæ, on the fractured clavicle, scapula, &c.

After * the application of this bandage, it is evident that placing a ball of wool in the axilla was merely to furnish a point of support to the bandage, which, without this precaution, would have passed only over those parts where the muscles project; and, what farther confirms this idea is that the author employs no method to keep the arm close to the trunk, but rests satisfied with suspending it to the neck by the means of a leather strap, and supporting the fore arm in a sling in the same way as after bleeding. Pecceti recommends the ball that was used in the reduction to be kept in the axilla, but still we do not see his direct indication, as he employs, like his predecessors, the bandage of the figure of eight, and says nothing of the manner of retaining the ball, nor of the necessity of keeping the arm close to the trunk.

Mr. Default's bandage is simple although it may require some attention in the application: its mode of acting is obvious. — The cushion, or compress, which acts as a support to the internal surface of the arm, is shaped in such a manner, that, at the time the elbow is brought close to the breast, the superior part of the arm is separated some distance from the body. — The

* Quod si ampliore opus fuerit extensione globum satis magnum alæ subjicito, et cubite flexuram ad costam, quæ ad ipsum est adducito, et congruo ex lanâ globo alæ subiecto propinquæ (claviculæ factæ) convenientem inducimus delegationem per alas, et affectam claviculam et scapulam prout convenit deligationes ducentes. — De Re Med. Lib. vi. cap. xciii.

arm, carried outwards, drags the shoulder at the same time, and with it the scapular portion of the fractured clavicle, which would have been carried inwards by the pectoral muscles, the *levator major anticus*, and the *sub clavius*, if their action had not been opposed by the thickness of the superior part of the cushion. The circular turns of the bandage, which fix the arm against the breast, have the double advantage of keeping up the extension* and preventing at the same time the motions of the arm and shoulder, and, consequently, retaining the portions of the fractured bone in a constant state of apposition. The elevation of the arm tends to place the humeral portion of the clavicle on a level with the sternal; and the turns of the bandage, passing at one part under the elbow and fore arm, and at another part on the fragment that is most elevated, which it depresses, and raises the other, bringing their surfaces opposed to each other. This bandage serves to confine the actions of the *trapezius* and *sterno-mastoideus*, which are attached to this bone. With respect to the ordinary time for the consolidation of the fracture, Hippocrates fixes it from fourteen to twenty days; Albucasis, from twenty to twenty-four or twenty-eight; and this calculation agrees nearly with the result of our own observations.

* There is no reason to apprehend any ill consequences will arise from the compression of the brachial vessels and nerves, as they pass anterior to that part of the humerus that is supported by the pad.

Case of Retention of Urine, produced by Obstructions in the Urethra.

[By Mr. Cagnion, Surgeon to the Hôtel Dieu.]

NICOLAS Haubet, 52 years of age, went to the Hôtel Dieu, at Paris, on the 18th of June, 1790, to consult the surgeon in chief for a complete suppression of urine. In being questioned respecting the origin of this complaint, he mentioned, that he had a gonorrhea 12 years before, that he had taken mercurial pills, but was not perfectly cured, and subject, afterwards, to habitual smartings, which, were succeeded by real pain, and, at length, a disposition to contraction took place in the urethra, and, in proportion as this increased, the stream of urine diminished. His complaint brought on dysuria, and, at intervals, suppression of urine. After examining the patient in the theatre, Mr. Default, perceiving a urinary tumor in perinæo, had no doubt of the existence of obstructions in the urethra. To ascertain this with certainty, he introduced a middle-sized silver catheter: the instrument was tightly embraced by the urethra about its orifice, and a stricture was felt about one inch from the meatus urinarius. By a slight degree of force, the instrument was passed on as far as the membranous part of the urethra, which corresponded to the tumour in perinæo. At this part new strictures were discovered, which afforded the greatest resistance,

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As the patient intended to remain in the Hôtel Dieu, Mr. Default thought proper to defer any farther attempts till he was put to bed, which was immediately done: and, after passing the catheter, though it did not penetrate into the bladder, he voided a considerable quantity of urine. In the next attempt, Mr. Default introduced a catheter with a small curvature, such as is used for children, as far as the stricture, which could not be passed by the other instrument. When the catheter arrived at this part, Mr. Default turned it gently on its axis, pushing it at the same time against the resisting part; by this action, forming a sort of boring motion, Mr. Default succeeded in the introduction of the catheter in the bladder. As soon as the urine was evacuated, the orifice of the instrument was stopped up by a cork, and two small tapes were passed through the rings at the sides of the catheter, and passed behind the buttocks, then brought forward to the sides of the pelvis, where they were fixed to a circular bandage that was passed round the body. A light diet, with linseed tea, was ordered. He passed the next night more quiet than usual, the urine flowed freely through the catheter, the cork of which was withdrawn whenever he was disposed to make water. The bladder now evacuated itself extremely well, which was not the case previous to the introduction of the instrument. The next day he was as well as the evening before; the tumour in the perineum had diminished one half. Particular care was taken to fix the catheter properly without depressing it too much, which would have produced irritation in that part of the urethra

thra that corresponded to the anterior part of the scrotum: by this attention, the inconveniences resulting from these kind of catheters are avoided; for, when left long in one situation, they irritate the urethra by their pressure, and sometimes produce fistulous abscesses. — In the night he was attacked with some pain and shivering, which interrupted his rest. As this circumstance might be attributed to the pressure of the catheter, which was now loose in the urethra, it was withdrawn and replaced by one made of the elastic gum, with a small orifice, furnished with a steel probe, and bent in the usual manner. Previous to its being passed, Mr. Default, agreeable to his usual practice, smeared it with suet, to defend it longer from the action of the urine; the eyes, or little holes, at the end of the catheter, were filled with the same substance; by this means, the surface of that part was rendered less rough, and these orifices prevented from being filled with pus or mucus during its introduction, which would have obstructed the urine: the catheter was fixed by some threads twisted together in the form of a ligature, and secured by knots to its middle, about two lines from the glans; the ligature was then carried above the corona glandis and secured by a single knot, and the ends afterwards passed down by the sides of the glands to the frænum, and there fixed by a simple knot, afterwards reflected under the penis, and secured by a third knot to the extremity of the bougie. After its introduction the patient was perfectly calm, and, on the fifth day, the tumour of the perinæum had nearly subsided, a little hardness only remaining: the
urine

urine flowed freely through the catheter, which was now more loose in the urethra, in consequence of the abundant suppuration excited by its presence. On the 6th, it was replaced by a bougie of the same kind, but larger; on the seventh day, the hardness of the perinæum had nearly subsided, and an abundant quantity of puriform matter was discharged from the urethra.

On the 8th, suppuration was perfectly established; and, between the 8th and the 11th, the discharge from the urethra was abundant and of a good quality, and the strictures in the passage obviously resolving: this was proved by the re-introduction of the sound, which had been withdrawn to be cleaned.

On the 11th, there was a slight degree of fever with a furred tongue. By the use of a light diet with whey, and a few clysters, the patient recovered in four days.

The suppuration in the urethra continued nearly the same, till the 23d day.

It is necessary to withdraw the catheter every 6 days, to clean it; for, there is reason to apprehend its cavity would be obstructed by glairy matters, furnished by the internal coat of the bladder, or that incrustations would form both inwards and outwards, which would necessarily occasion the most distressing pain in withdrawing the instrument. Every two days the ligatures should be re-applied, and with some little variation with respect to their situation, to avoid excoriation, &c. which would be occasioned by their constantly pressing on one place.

From

From the 23d to the 29th, his diet was enlarged, and the catheter became every day more and more loose. On the last-mentioned day, a considerable looseness came on, which was checked by decoction of rice, with the syrup of quinces. The suppuration having ceased and the hardness subsided, the cure was supposed to be complete on the 33d day, consequently the catheter was withdrawn, to see if the urine flowed in a full stream. It passed freely, but still, as some smarting yet remained, it was introduced again, and worn for seven days. This was the forty-second day from his admission into the Hospital, and, at this period, the urethra was perfectly free from obstruction, and the stream of urine as large as in the natural state.

Of Retention of Urine in the Bladder.

RETENTION of urine in the bladder is occasioned by that viscus being incapable of expelling its contents: it has been described by the ancients, as already observed, under the generical name of ischuria.

Some authors have distinguished this disease from dysuria and strangury, which they have considered as distinct diseases, others have confounded these affections and considered them as only retentions of different

ferent species. They have called it dysuria when the urine is discharged with pain and difficulty, strangury when it comes away drop by drop, and ischuria when it does not pass at all. These different diseases being only degrees of the same complaint, we shall divide them into two species, complete and incomplete.

The urine is retained in the bladder by its coats, admitting of distension; and, when its muscular coat is distended beyond its tone, it affords little resistance to dilatation, and sometimes it will be distended to a considerable size. The bladder of a child 18 months old has been found to contain a pint of urine, and that of an adult 6 or 7 pints, occupying not only the cavity of the pelvis, but mounting upwards in the abdomen even above the umbilicus: sometimes it passes across the abdominal rings forming scrotal hernia, and sometimes under Poupart's ligament into the groin. These cases certainly are rare, but they have occurred, and many instances may be found in the memoirs of the academy of surgery. In general cases of suppression of urine, the bladder preserves nearly its natural form; when distended, the different parts do not dilate in the same proportion; its inferior part stretches more than the superior, it becomes wider and deeper, pressing the perinæum forwards, and in women the vagina backwards, and in men the rectum, forming tumours in these parts, partially or totally compressing their cavities and obstructing the passage of the fœces.

The posterior part of the external tunic of the bladder is covered with peritoneum, which is reflected backwards and upwards on the intestines, and continued on throughout the cavity of the abdomen. Its upper part, where it rises above the pubis, glides, as it may be said, between the peritoneum (which it raises) and the abdominal muscles. The anterior and superior part, forming a tumour in the hypogastric region, comes in contact with the bare recti and transversales muscles, to which it is attached by slight cellular substance.*

In bladders that have been much disturbed, fasciculi, or fleshy columns, have been often found separated by cells or pouches, in which calculi have frequently been found.

When the bladder has been distended by urine as much as it will admit, and the resistance of the urethra not overcome, it stops in the ureters; which, in their turn, admit of dilation. The valvular opening of communication between the urethra and bladder disappears, and is sometimes near an inch in diameter; and, at last, when the ureters are completely dilated, by degrees the urine is retained in the kidneys, and suspends the secretion. We can easily form a diagnostic of this disease. Its characteristic signs may be divided into rational and sensible. The rational signs are numerous, but, for the most part, equivocal; such

* An accurate knowledge of the anatomy of these parts is essentially necessary for the surgeon; for, the bladder may be opened in suppressions of urine without wounding the peritoneum.

as a defect in the evacuation of the urine for one or more days ; its discharge guttatim, or in small quantities at a time ; a continual desire to make water, which continues even after the patient has evacuated the natural quantity ; the force and the size of the stream of urine is diminished ; a sense of weight in the perinæum tenesmus, constipation, and hæmorrhoids. To these may be added sharp pains in the hypogastric region, propagated along the course of the urethra as far as the prostrate. Both regions of the kidneys are successively affected, and these symptoms are sometimes accompanied with stupor and numbness of the thighs ; these pains are aggravated by walking, coughing, or by an erect position of the body ; and diminish by bending the trunk, and thus relaxing the abdominal muscles.

To these pathognomonic signs may be also added fever, nausea, laborious respiration, urinous sweats, and other symptoms, which have been mentioned in treating of suppression of urine ; which is always the consequence of complete retention, when it has existed for some days. These symptoms are individually mentioned, only to shew their uncertainty ; when united, there is more or less probability of the existence of retention. A certainty can only be acquired by sensible proofs, joined to the circumstances above-mentioned ; such as tumours above the pubis, formed by the bladder ; tumours in the rectum, in men ; and, in women, in the vagina.

Tumours in the bladder vary much in their dimensions ; sometimes they extend above the umbilicus, and

and are circumscribed without hardness of the circumference, and the colour of the skin unchanged; wider at the inferior than at the superior part; hard; not very sensible to the touch, unless forcibly pressed, which excites and increases the desire to make water, and sometimes will produce the evacuation of a few drops. A tumour in the rectum or vagina is easily distinguished by the introduction of the finger into these cavities. It is situated anteriorly; and, like the tumour in the hypogastric region, hard, equal, and without any particular induration; but the fluctuation is the particular pathognomonic symptom, which merits the attention of the practitioner, or rather an undulating feel, which is experienced by examination with the fingers. But these tumours do not constantly exist; and even complete retentions have taken place, where the bladder would not admit of distention, and a few spoonfuls have been only contained in its cavity.

Retention of urine in the bladder is always a serious disease, and, when complete, demands immediate assistance; which if not obtained, the worst consequences may be apprehended. The bladder, when distended for a considerable time, loses its elasticity, and is recovered with difficulty; the constant irritation kept up by the urine (which, in consequence of long retention, becomes acrid and corrosive) produces inflammation, and a putrid gangrenous suppuration; sometimes it makes its way through the bladder, and is diffused in the cellular substance, in the cavity of the pelvis, under the

peritoneum as far as the region of the kidneys. Sometimes it is effused under the scrotum, the common integuments of the penis, and under the superior part of the thighs. The urine has been even known to insinuate itself as high up as the sides of the thorax, forming abscesses, generally followed with gangrene and fistulous openings; and, to these symptoms, the consequences of re-absorption and suppression may be added. Amongst the numerous causes productive of suppression of urine, two deserve particular consideration. First, weakness of the bladder; secondly, the resistance the urine experiences in its passage through the urethra.

Retention of Urine, occasioned by the Weakness of the Bladder.

EXPERIENCE and observation confirm this as a cause of retention.

We learn, from physiology, that the contraction of the bladder is absolutely necessary for the expulsion of the urine; which action is certainly assisted by the abdominal muscles and diaphragm, though not wholly to be attributed to their means. A number of well attested cases can be adduced to prove, that the urine has been retained, without any other obstacle to its expulsion; and a decided proof of this cause of retention

retention is the facility with which a sound may be introduced into the bladder. This general cause of retention comprehends many others, among which we may rank old age, debauchery, abuse of diuretics, affections of the brain and spinal marrow, inflammation and distention of the bladder beyond its tone, a rheumatic psoric affection of its coats, &c.

Retention of Urine from Old Age.

OLD men are so subject to retention of urine, that this disease has been mentioned as one of the inconveniences incidental to that period of life. The bladder, like the other parts of the body, becomes less irritable, is not susceptible of stimulus by the urine, nor is apprized of the necessity of evacuation, but by the painful sensations that result from the distention of its coats. It then contracts on its contents; but the elongated fibres have scarcely force sufficient to overcome the natural re-action opposed to them by the urethra; and the proper equilibrium of power and resistance being no longer kept up, the urine can only be evacuated by the assistance of the violent contraction of the abdominal muscles; and even then the expulsion is incomplete; the bladder does not possess a force sufficiently contractile (like

the stroke of a piston) to expel the last drops: these, remaining in the bladder, form a beginning retention. The quantity is augmented every day, and the fibres of the bladder being accustomed to its presence, in the end, not half the quantity of urine contained is evacuated; all elderly people are not equally subject to this complaint; those, that are most liable to its attack, are generally of a phlegmatic temperament, of a full habit of body, and of a studious sedentary disposition; and they who neglect to void the last drops of urine, from idleness, hurry, &c. or who have occasion to make water in the night, and who urine on their side instead of rising, or effect it in a kneeling posture.*

These patients observe that they have never had any affection of the urethra, nor of the neighbouring parts, so as to impede the passage of the urine; that it flowed in a full stream, though with diminished force, consequently they could not discharge their urine equally distant as before, and that their urine, instead of forming an arch, fell between their legs on their shoes. And that, on ceasing to make water, they did not experience the sensations attending the contraction of the bladder, on the last drops of urine, which in their youth they were accustomed to feel; and, when they had a desire to make water, it was a considerable time before it began to flow, and then

* Mr. Default observes, that this cause of retention, though not supported by physiology, is confirmed by actual clinical observation, and that he entertains no doubt of its reality.

with considerable difficulty; the quantity evacuated each time was diminished, and, at the same time, the desire to make water became more frequent; at last the urine passed away drop by drop, and to this incontinence succeeded retention. In this state the patients suffer little; the tumour above the pubis, formed by the bladder, is nearly indolent; and, if slightly compressed, some urine may be voided by the urethra.

Retention, produced by old age, is rarely complete; the urine, after distending the bladder, passes off involuntarily by the urethra, where it meets with no resistance but what is natural to that canal, and, in a given time, the patient voids as much urine as in a state of health. In this species of retention, we have no reason to apprehend the same train of serious symptoms that occur in complete suppressions; such as in suppression of urine in the kidneys, effusions in the cellular substance, &c. — We find a number of old men, who view this complaint as incidental to their age, and who do not even apply for medical assistance. The urine, however, by stagnating in the bladder, putrifies, forms considerable deposits, and, at length, the tunics of that viscus become altered in structure. The indications of cure in this disease are to procure the evacuation of urine, and to give tone to the bladder: both effects are often produced by employing the same means. At the commencement of the complaint, when the bladder is perhaps only indolent, cold bodies applied to the hypogastric region, or to the thighs,

passing from a hot into a cold place, might be advisable.

J. L. Petit mentions, that he cured a publican, by desiring him to make water in his cellar during the day, and, in the night, to rise bare-footed and apply the chamber-pot to his thighs. Patients should be careful not to resist the first desire to make water; for, by inattention to this caution, the bladder becomes full; the fibres gradually lose their sensibility, the desire to make water ceases, and the retention, which in the beginning was only a few drops, becomes soon complete; when it will be too late to derive any advantage from the methods before indicated. There is no stimulus capable of exciting the bladder to contract, with a force adequate to produce the expulsion of the urine; and the introduction of the catheter is the only resource. But let it be recollected, that an evacuation, thus artificially produced, procures only momentary relief. The relaxed fibres of the bladder are a long time before they recover their tone and elasticity; and, if the use of the catheter is not persisted in, the patient relapses into his former situation; which renders it necessary either to keep it in the bladder, or to introduce it every time the patient has occasion to make water. The last method is to be preferred, if a surgeon can constantly be had, or they are able to introduce the catheter themselves; and, as its constant presence would be attended with inconvenience, it should not be passed but when it is necessary to evacuate the urine; in this case, a silver catheter, or one made of
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the elastic gum, may be used to advantage; but, if it is necessary to remain in the bladder, the catheter of the elastic gum, bent in the usual way, and furnished with a steel probe, is to be preferred. But, whatever instruments are employed, Mr. Default is convinced, from experience, that, from the flaccidity of the urethras of old men, a large catheter is introduced with more ease, and less pain, than one of a small diameter.

OBSERVATION.

The catheters, that are used by Mr. Default, are slightly bent in one-third of their length, and are strait in the remaining part; this curvature gradually takes place from the strait part, and extends to the point; it is equal throughout, and represents a circle of six inches in diameter, which is the same in all catheters, whatever may be their size. Mr. Default, for the most part, prefers large to small catheters: the general size employed for men is ten inches and a half in length, and about one-sixth of an inch in diameter. Sometimes in adults, in consequence of strictures accompanied with induration, the catheters employed for children are obliged to be had recourse to; which, though small, will frequently not pass without using force; thus it is necessary to make them stronger to prevent their bending. In these cases, catheters made of gold, as being less flexible than

than silver, offer some advantages. Mr. Default, instead of the eyes formerly placed on the sides of the catheters, has substituted two oval apertures, whose edges are rounded. All practitioners have admitted the inconveniencies that have arisen from these eyes, by whom the urethra has often been enlarged and torn, producing acute pain, and sometimes a discharge of blood. Mr. Petit conceived that this inconvenience could not be obviated but by suppressing these eyes, and substituting a circular opening at the extremity of the catheter, which was filled by a button placed at the end of the probe. The defect in these catheters was soon discovered; the probe, which remained in the catheter, prevented the use of injections in the bladder when deemed necessary, and obstructed the passage of glairy mucus and clots of blood, which otherwise might be evacuated. Mr. Petit invented another catheter, the end of which was shaped like an olive, and pierced at its extremity; he conceived, that, in consequence of its form, this catheter might be introduced open without injuring the urethra, but this contrivance, though ingenious, was not found by experience to answer the purpose.

Garangeot recommends the opening of these catheters to be closed by means of a probe, at the end of which is an eye, similar to the eye of a needle. He recommends four or five small pieces of thread to be passed through this aperture, to be secured by knots, and then the thread to be divided at two or three lines distance; the probe is then to be passed through the catheter, till the threads come
out,

out, then retracted till they come on a level with the aperture of the catheter. The whole is then to be dipt in melted suet ; and, when you wish to evacuate the urine, the probe is to be withdrawn, bringing with it the threads and the suet.

We cannot deny that this method is ingenious, but it is not always adequate to the purpose for which it was invented ; for, when obstructions existed in the urethra, the suet and thread being forced into the cavity of the catheter, the edges of the aperture projected, and produced those very inconveniencies it was meant to avoid.

It is certainly then, for these reasons, better to adopt a method simple, and yet, at the same time, advantageous. By giving to these an elyptical form, and by filling them with suet, Mr. Default prevents the internal membrane of the urethra from being injured by these apertures. He passes previously a bougie of the elastic gum in the cavity of the catheter ; the intention of which is only to prevent the suet at the oval openings from getting into the cavity of the catheter ; and that, when the instrument is passed into the bladder, the suet may be retracted with the bougie.

The invention of the catheters of the elastic gum, by Mr. Bernard, is one of the most fortunate discoveries that has enriched the art of surgery this present century. Practitioners have felt the necessity of flexible catheters ; and, till the invention of the above ingenious mechanic, those that have been offered were extremely imperfect. The catheters of horn, mentioned

tioned by Van-Helmont, are too hard, and are subject quickly to incrust: those of leather, recommended by Fabricius Aquapende, are softened by the mucus and urine bent on themselves; and, by this means, obliterated the cavity: those made of thin plates of silver or wire twisted spirally, and covered with skins, are apt to get dry and rot; and, being retained on the catheter only by the silver wire at its extremity, are subject to stop at the neck of the bladder, or some other part of the canal, and get detached.

The catheters of Mr. Bernard are not subject to these objections; they are made with a sort of silk or goat's hair twisted, and covered with elastic gum; they possess a sufficient degree of flexibility to adapt themselves readily to the different curvatures of the urethra, are not softened by the urine, and yet are free and easy in that canal: their surfaces, from being smooth and polished, are not equally subject to earthy incrustations as catheters in general. As these catheters are more particularly employed in the treatment of diseases of the urethra when their introduction is often attended with difficulty, they are furnished with a steel probe bent in the usual way. Steel is preferable for this purpose to copper, as they bend less and preserve their curvature more exactly.

Of the Introduction of the Catheter.

There are two ways of introducing the catheter; one above, and the other under, the abdomen; in both, the patient may either stand or lay down, but the last is preferable: then he should be brought to the edge of the bed with his thighs separated, and the legs a little bent: the penis is then to be embraced with the ring and middle finger of the left hand, whilst the index-finger and the thumb are applied to the glans; and, by this means, the opening of the urethra exposed. The catheter is then to be held between the index and middle fingers of the other hand, after filling up the eyes with suet, and passed in such a direction as the strait part of the instrument should be opposed to the abdomen, and be parallel to the axis of the body. Its extremity is to be then introduced into the urethra; and, while the penis is gently stretched and elongated, the catheter should be passed softly and with caution, till the point of the instrument is on a level with the arch of the pubis. The hand, in which the extremity of the instrument is contained, is then gently to be depressed from the sides of the thighs, and the catheter passed into the bladder. If the surgeon wishes to pass it below the abdomen, or, as it is termed, *par le tour de maître*, the catheter should be held in such a manner that its convex part should be upwards, and the strait below the abdomen opposite the space between the thighs. It is then to be introduced into the aper-
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ture of the urethra, and passed on; whilst, with the other hand, the penis is put on the stretch. When the point of the catheter has reached that part of the urethra that corresponds to the arch of the pubis, a semi-circle must be described from this part, and from the penis to the groin of the opposite side, and thence on the abdomen. In this movement it must be observed that the point of the instrument forms the centre of motion. The hand, in which the catheter is held, is then to be depressed, and the rest of the operation finished in the same manner as before. One operation, being more complicated than the other, constitutes the only difference, and which renders it more difficult and painful; therefore this last method has not been adopted by the generality of practitioners, unless the patients are remarkably fat, or from their position this mode might be inconvenient.

When there are no obstructions in the urethra, surgeons, who are accustomed to the operation, for the most part, experience little or no difficulty in passing the catheter into the bladder; but inexperienced practitioners often create obstacles, by not attending to the direction of the urethra, or by pressing the point of the instrument against the sides of the urethra, forming folds in that part. When this happens, the instrument should be withdrawn a little way; and, after varying the direction, passed on. If this second attempt is not successful, and the instrument stops in perinæo, the surgeon should pass his hand below the scrotum, to find where the point of the catheter is situated, and attempt

tempt to direct it at the same time that he pushes on the instrument.

If any obstruction to its passage should happen in that part of the canal that corresponds to the rectum, the catheter should be pressed by the index-finger, introduced into that intestine; and, by this means, the canal will be put on the stretch, by the gut being drawn downwards and forwards; but if, notwithstanding these precautions, we cannot succeed, the catheter should be changed for a smaller or larger, or for one of a different curvature, or the introduction of one of the elastic gum without the probe should be attempted; but, in every case, we should be extremely cautious of using too much force, for fear of lacerating the urethra, and making a false passage.

We are certain that the catheter is inserted into the bladder, by the depth which it has passed; the resistance at its point ceasing when turned on its axis, and by the flow of urine.

There is a question arises respecting the propriety of evacuating the urine at once, or only gradually by small quantities at a time: this last opinion has many partisans, who conceive that the patient would sink under the weakness produced by the bladder being perfectly and suddenly emptied. But, agreeable to this idea, the muscular fibres would be still kept on the stretch, and would not regain their tone. Besides, when the urine is only partially evacuated, deposits are apt to form, which take on a putrid disposition, and materially injure the coats of the bladder. Other practitioners have gone into the contrary extreme; and,
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by means of leaving the catheter always in the bladder, with the orifice open, the urine was evacuated as fast as it was secreted. This method is also subject to its inconveniences; for, the muscular fibres of the bladder, being always relaxed, never recover their tone and elasticity. In addition to this objection, Mr. Default observes, that the empty bladder, being pressed with the point of the instrument, produces pain, and frequently ulceration, where it is in contact: that the catheter is apt to be filled with glairy mucus, and, by remaining in the passage, is more subject to incrust. Patients are also obliged to keep their bed, and are subject to be constantly wet by the dribbling of the urine, or to have a vessel constantly with them, to prevent this inconvenience.

Mr. Default, on the whole, is of opinion, that the most eligible practice is to evacuate the urine entirely, and to throw injections into the bladder, to cleanse that viscus from any puriform or mucus deposit; then either to stop up the catheter or withdraw it, and wait till a quantity is secreted sufficient moderately to distend the muscular coat of the bladder.

These alternate actions of moderate extension and relaxation produce the same effect on this viscus as on other parts of the body.

A catheter of the elastic gum should be used, and worn for several days. In passing it, care should be taken to push it no farther after the eyes of the instrument have passed the neck of the bladder. If the catheter is too long, part may be cut off: it should then be secured on the corona glandis, or penis, as described

described page 149. The urine should be evacuated every two or three hours, according to the circumstances of the quantity secreted, and the desire of the patient to void his urine; but this inclination should not always be waited for, for the bladder is sometimes so slightly sensible, that it will admit of surprising distention without any disposition to evacuate its contents. And it should be recollected, that no circumstance tends more to destroy the natural tone of its muscular coat, than this forcible distention. The catheter should be withdrawn every six or eight days, to clean it and prevent incrustations; and as the form has been moulded at its curvature, in consequence of resting in the urethra, it can afterwards often be introduced without the probe. As the treatment of this disease is tedious, and as the bladder rarely recovers perfectly its tone, it is as well to instruct the patient in the manner of passing the instrument; and, when accustomed to do this, he need only use it when he has occasion to void his urine. At the expiration of a little time, he should attempt to make water without the instrument; if he succeeds, the catheter should be passed to ascertain whether the bladder is perfectly evacuated; if any urine should still remain, the use of the catheter should be continued. If this precaution is not attended to, the retention will return as bad as before.

Tonic and slightly astringent injections have been proposed to be thrown into the bladder; such as decoction of bark, weak solutions of vitriolated iron, &c. Mr. Default observes, that he has made use of

these injections without deriving any important advantages. Warm diuretics, balsamics, cold baths, frictions with tincture of cantharides, &c. but, in old age, these remedies are frequently injurious, and rarely useful. In this disease, the only remedy Mr. Default recommends is the use of the catheter of the elastic gum; which, when well conducted, often restores the bladder to its natural tone; and, when this fails, other remedies are rarely attended with success.

Observations on the good Effects of Blisters, applied on the Head, in Commotions of the Brain.

[By Mr. GAVARD DE MONTMELLIAN, formerly Surgeon to the Hôtel Dieu.]

JOHN Fribourg, 22 years of age, on the 5th of December, 1784, at 5 o'clock in the morning, fell down stairs and struck his forehead with considerable force against the bannisters: his companions, wakened by the noise, went immediately to his assistance: they found him senseless, without motion, and bleeding profusely from the ears, nose, and mouth. They sent for one of the students in surgery, who bled him in each arm; and, at noon, he was bled again copiously in the foot.

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The 6th, the patient being in the same situation, he was bled twice more; after which he vomited, at different times, many mouthfuls of clear water; some drops of a spirituous vulnerary water were introduced into the mouth, which he greedily swallowed. The actions of deglutition and vomiting, circulation and respiration, were the only motions that were apparent.

The 7th, no change.

The 8th, Mr. Gavard de Montmellian says he was brought to the Hôpital de la Charité, at Paris, where he was at that time a pupil, and thus describes his situation.

At this time he was senseless and without motion, bleeding profusely from the mouth, nose, and ears. He vomited from time to time a quantity of clear water. His pulse was slow, concentrated, and moderately regular, respecting the intervals of pulsation, but some strokes were stronger than others. His respiration was feeble and laborious. No wound or contusion was discovered on the head. Mr. Default, at that time the next in succession as surgeon-major, and who officiated as such in the Hôpital de la Charité, ordered that the patient should be placed in a warm bed, and that his head should be shaved, and a blister applied over the head, sprinkled with powder of cantharides, in the form of a cap, extending from the projections on the os frontis to the protuberances of the os occipitis.

The blister was applied at 11 in the forenoon; but, notwithstanding the irritation produced by its stimulus,

there was no sign of returning sensibility either this day or the following night: but the vomiting and effusion of blood from the ears began to cease, and the hemorrhage from the nose and mouth was considerably less. The respiration became easy, and the pulse more regular.

The 9th, at 7 in the morning, the patient was much in the same state as in the evening; but, when the cuticle was raised, he recovered his recollection a little, and complained, not only of uneasiness, inseparable from this circumstance, but also of a deep-seated pain, which he referred to the frontal region. The wound was dressed with basilicon, quickened with cantharides.

In the evening the patient recovered his recollection perfectly. His respiration was free, with less pain in his head, and scarce any hemorrhage from his nose or mouth. He was tranquil during the night, and slept many hours. About three in the morning he experienced some ardor urinæ.

On the 10th, all the symptoms, referable to the commotion of the brain, had perfectly subsided; but the irritation of the urinary passages was so considerable, that the patient voided his urine drop by drop, and at the same time with exquisite pain. Mr. De-fault dressed his head with basilicon only, and prescribed linseed tea as a common drink, and three bolusses to be taken in the course of the day, composed of camphire g. vi. powder of marshmallow and liquorice root, of each ʒ j. mixed up with sirup of violets.

Towards

Towards the evening, the ardor urinæ had considerably diminished ; and,

On the 11th, they ceased entirely ; but the use of the bolusses and linseed tea was persisted in, and a proper diet observed.

For four days he took a little nourishment, and was obviously convalescent: the suppuration from the blister was at this time nearly dried up, when suddenly, on the 18th, without any alteration in the regimen, or any other apparent cause, he was threatened with a recurrence of the same symptoms he had experienced before. He complained of a sense of weight in his head, and of weakness in all his limbs ; the tongue was yellow, and the pulse slow and small.

Mr. Default had his head shaved, and a blister equally strong, but not quite so extensive, as the first applied. He was put on diet, ordered linseed tea, and two camphire bolusses a day, to prevent as much as possible the urinary organs being stimulated by the cantharides.

On the 19th, the discharge from this blister was extremely considerable ; and, after elevating the cuticle, it was dressed with simple basilicon. From this moment the patient felt no sense of weight in his head, nor any weakness in his limbs.

On the four following days the suppuration was considerable.

On the 24th, as the tongue was a little furred, attended with a bitter taste in the mouth, Mr. Default ordered an emetic, and the next day a medicine, to

give tone to the digestive organs. He could, at this time, take a little nourishment; and, as the blister was only kept open by the basilicon, it gradually dried up; and, by the 31st, the suppuration had quite ceased. From this time he recovered his health and strength rapidly; and, after some days of convalescence, he left the hospital perfectly cured on the 17th of January, 1785.

C A S E II.

ON the morning of the 18th of April, 1785, a child, ten years of age, was thrown down senseless, by a heavy plank falling on his head. After swallowing some volatile spirits, which were also applied to the nose without any effect, he was brought to the Hôtel Dieu, on the same day, at 5 in the afternoon. At this time he was senseless, without any apparent motion, but circulation, respiration, and deglutition. There was no hemorrhage from the ears, mouth, or nostrils, or any vomiting, as in the preceding case. The face was flushed, the respiration short and laborious, and the pulse small and slow, considering the age of the patient. There was a contusion on the middle part of the sagittal suture, where he had received the blow.

He

He was bled twice in the course of the evening, which produced no other effect than rendering the pulse more regular.

On the second day, Mr. Default applied a large and active blister on the head. The rest of the day and the following night he was much the same.

On the 3d, on elevating the cuticle, he seemed to feel some pain, and spoke a little coherently. The dressings were the blister-ointment, quickened with cantharides: the irritation of the urinary organs were guarded against by the exhibition of the linseed tea. Two hours after the dressing, his respiration was more free, the pulse quick and fuller than in the evening, and his recollection gradually recovered. The drowsiness still continued, and he complained of a considerable sense of heaviness in the head.

On the 4th, the suppuration was abundant; and, in consequence of the stimulus of the blistering ointment, the patient experienced some pain for three hours after the dressing. From this time all the symptoms, consequent to the commotion of the brain, ceased, nor did they ever recur.

The same dressing was continued for some time, to keep up the suppuration. The use of the linseed tea persisted in, to which may be attributed the circumstance of the urinary organs not being affected.

On the 8th, he was indulged with a little solid food.

On the 14th, he was purged; and, from this day, the blister was suffered gradually to heal. The strength of the patient increased with his appetite;

and, on the 14th day of May, he was discharged, cured, from the Hôtel Dieu. The same practice, attended with the same success, is seen frequently in this hospital.

Blisters on the head, assisted by bleeding, are the most efficacious means we can employ to remove the first effects occasioned by commotion of the brain. There is a consecutive symptom, not less alarming in its consequence, which may be obviated by the same remedy; this symptom is a gradual inflammation and suppuration of the brain, or its membranes, which is consequent to the irritation produced by the external injury; nor does it frequently appear till some time after the accident, as will be seen in the following observation.

C A S E III.

A MAN, 35 years of age, received a blow on the head, which stunned him for some minutes, without knocking him down. He got himself bled in the foot, drank an infusion of vulnerary plants, and in a month conceived himself cured; at the end of this time he lost his appetite, his tongue became yellow and furred, and he was attacked with shiverings and coma, and died on the 16th day.

The

The appearances on dissection were as follow: No appearance of contusion on the external surface of the head; the integuments perfectly sound; and the colour of the external table of the cranium natural; but the internal table was black throughout the whole extent of the right parietal fossa: this blackness was also observed throughout the correspondent portion of the dura-mater, and even a little beyond it. In other respects, this membrane adhered to the cranium in the same manner as the opposite side; under the dura-mater, at the part above-mentioned, a slight deposit of thick and greyish matter was discovered; which had extended under the different windings of the cranium, and had affected the pia-mater, and the correspondent portion of the brain, to some lines in depth. The rest of this viscus was in its natural situation. In the cavities of the thorax and abdomen, no circumstance worth mentioning was discovered.

If, after the most minute attention to the injuries of this description, the surgeon should entertain doubts of commotion of the brain, or effusion, should he not decide, particularly in hospitals (where the operation of the trepan rarely succeeds), in favour of the application of blisters, which will be sufficient if commotion only exists? And, it should be remembered, that the application of the vesicatories does not prohibit the use of other remedies; which may be had recourse to, as circumstances or symptoms indicate the necessity.

In many cases that require the application of the trepan, would not the application of blisters be proper?

For

For example, in a case of sanguineous effusion, with a fracture, accompanied with splinters, which could be elevated by ordinary means, &c. In fact, it is almost impossible, that the means which produced this fracture of the cranium, particularly the laceration of the vessels, the immediate cause of the effusion, should not at the same time produce commotion of the brain. And, in these cases, after the fractured splinters are raised, and an issue is given to the extravasated blood, the commotion still remains, and, for the most part, produces a fatal termination; and which, as I before observed, may be frequently avoided by the application of blisters.

Cure of a Case of a preternatural Anus, with Remarks.

[By Mr. DESAULT.]

FRANCIS Vialtet, of Moulins, a sailor, on-board the Saint Michael ship of war, was wounded, by the bursting of a bomb, in the month of May, 1786: he fainted away, nor recovered his recollection till three hours after the engagement. The wound extended from two inches above the abdominal ring, on the right side, to the bottom of the scrotum, where the testicle was exposed. There appeared at the superior part of the wound an inch of divided intestine,

intestine, that retracted into the abdomen at the time the wound was dressed, and was in such a manner as to leave a hole for the evacuation of the fœces.

A month after the accident he was left at the Marine Hospital, at Brest; where he remained till he was cured, or at least sufficiently so for the food to escape in a state of imperfect digestion, by a portion of the intestine, which remained exposed on the surface of the abdomen.

This unfortunate man afterwards travelled on foot to his own home; where, finding his friends incapable of assisting him, he travelled through the different parts of Europe, seeking in vain, from the hospitals, an alleviation of his misery.

Four years being spent in these fruitless researches, he applied to the Hôtel Dieu on the 29th of September, 1790. The divided portion of the protruded intestine had grown to a considerable size; its shape was nearly conical and about nine inches high, the middle part of which projected considerably forwards; its base, slightly constricted, came from under a doubling of the skin a little above the abdominal ring; its superior part turned backwards, and, descending to the middle of his thighs, ended in a narrow orifice, which gave issue to the fœcal discharge. From the time he was wounded, nothing like fœces was discharged by the anus; nevertheless he went to stool every three or four months, and discharged a small quantity of whitish matter, which was nothing more than the mucus secreted by the rectum. The
surface

surface of the tumour was red and full of rugæ ; and, at its inferior part, resembled the valvulæ conniventes of the intestines.

At the same abdominal opening, on the external surface of this mass, a small tumour was seen similar to the first in consistence and colour. This last was oval in its shape, and so constricted at its orifice, that a small quantity of serosity only could escape. These tumours possessed the same peristaltic motions as the intestines, and were susceptible of contraction when a few drops of water were dropped on their surface.

This unfortunate young man, who was tall and well formed, though extremely thin, was obliged to be constantly in a curved position, and to support himself with crutches. An earthen pot, fastened to his waist, and supported by a cord, was left hanging between his thighs, which received the extremity of the intestine ; and the matter that was discharged from it, in a little time, was intolerably fœtid. Mr. Default was satisfied, that the principal tumour was formed by that portion of the intestine that corresponded to the stomach ; and that it was invaginated, like the finger of a glove, in such a manner as to present externally only its internal surface. He was also convinced, that the small tumour was only the inferior part of the intestine invaginated in the same manner, and that the edges of the divided portion adhered to the opening of the parities of the abdomen, and was united and blended with them by one common cicatrix. These membranes were so considerably thickened by friction,

friction, exposure to the air, and by the passage of the fœces, that an attempt to reduce such a mass was apparently rash, if Mr. Default had not been taught by experience what were the effects of compression in similar cases. To be convinced of the probable efficacy of compression in this case, Mr. Default pressed it for some minutes between his hands, and its diminution of bulk afforded him some idea what might be expected from a constant and uniform compression, kept up for a considerable time.

With this intention, Mr. Default applied a simple bandage, from below upwards, covering the whole extent of the tumour, leaving only an opening at the apex, for the passage of the fœces. The effect of this plan was soon perceptible; for, in the evening of the same day, the bandage became so loose, in consequence of the diminished size of the tumour, that its re-application became absolutely necessary. The same measures were pursued on the following days; and, on the fourth, the intestine had regained its natural size. Mr. Default conceiving the reduction now possible, had the tumour raised perpendicular to the opening in the abdomen: he then introduced one finger in the orifice, whilst, with the other hand, by using gentle pressure, he prevented the retraction of the intestine; and, at the same time, he altered the vaginal situation of the gut, and returned it into the abdomen. The same plan was followed with the small tumour, nor was any difficulty experienced in the reduction: but, though this case was thus far successfully treated, one dreadful inconvenience yet remained, which was the constant discharge

charge of fœces through the wound. Mr. Default introduced into the intestine a tent of old linen, three inches in length, preserved in its situation by a proper bandage. This was intended to be withdrawn twice a day, to favour the evacuation of the fœces; but, after some symptoms of the flatus in the intestine, accompanied with considerable heat, he passed wind by the anus. These were succeeded by colicky sensations, attended with pricking pains in the rectum, which produced a frequent inclination to go to stool, and that not without effect; for, he voided half a pound of fluid fœces, similar to those voided after indigestion. He had eight stools more the following night, all preceded by slight colicky sensations and acute pain about the rectum, which had not been accustomed to the presence of fœces.

The next day the patient was a little exhausted, in consequence of the evacuation; and, for three days afterwards, the stools were very frequent, but accompanied with less pain. The fœces now gradually acquired a firmer consistence, and the number of stools proportionably diminished. The use of the linen tent, in the intestine, was suppressed on the 8th day, and the external orifice covered with a dossil of lint, and, over the whole, Mr. Default applied the ball or pad of a large and flat elastic bandage. This plan was adequate to the intention of preventing the escape of the fœces, which now passed entirely by the rectum.

He gradually recovered his strength and health, and, during two months that he remained in the Hôtel Dieu, his fœces were similar to those of a man in health,

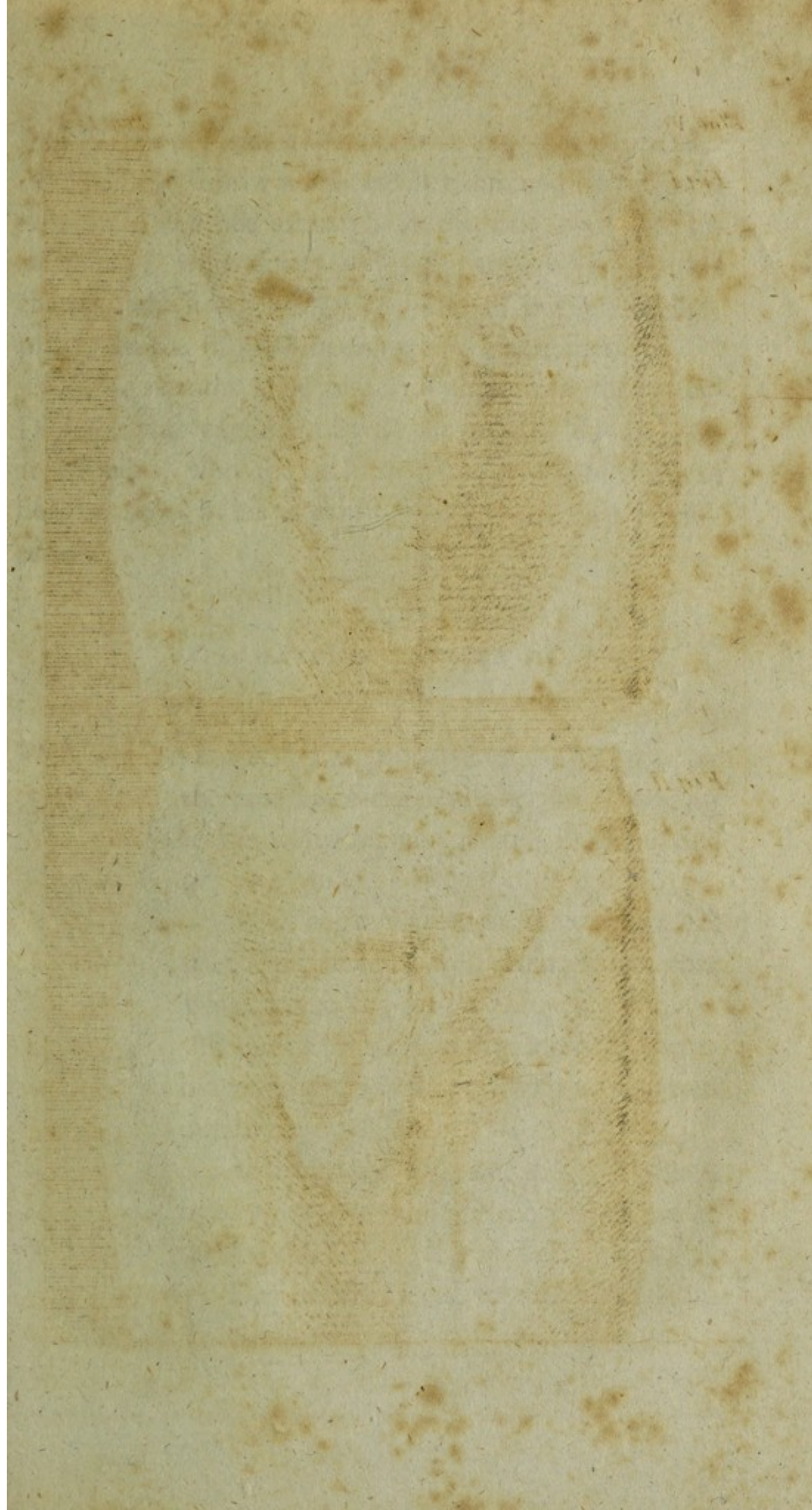


Fig. 1.



Fig. II.



health, nor the least inconvenience experienced in their evacuation. He was repeatedly examined by different surgeons, who had attended to the case ever since his admission; who discovered only a slight serous discharge, which was imbibed by a small portion of lint, placed on the fistulous opening of the abdomen.

Three months after his dismissal from the Hôtel Dieu he was examined by the surgeon of the hospital at Moulins, who found him in an excellent state of health, though his conduct had been rather intemperate.

EXPLANATION OF PLATE III.

FIG. I. a b c d e. The principal tumour, formed by the portion of the intestine corresponding to the stomach, invaginated like the finger of a glove.

a e. The neck supporting the broadest part of the tumour, and issuing from under a fold of the skin.

b. Rugæ formed by the internal membrane of the intestine, which was turned outwards.

c. The apex of the tumour, having a small opening posteriorly for the evacuation of the fœces.

e f. The penis pushed to the left side by the tumour.

g. The

- g. The small tumour, formed by the part corresponding to the anus, invaginated like the other.

FIG. II. Represents the state of the parts after the cure.

- a. b. A fold of the skin, forming a sort of valve before the opening of the abdomen, which remained fistulous.

There was a case of the same kind at the Hôtel Dieu, under the care of Mr. Default, of a man with a preternatural anus, consequent to a scrotal hernia, that had terminated in gangrene; a portion of the intestine, that corresponded to the stomach, was invaginated like the other, and projected three inches outwards: he was lean and weak, although he devoured a prodigious quantity of food, but it was voided in a state imperfectly digested; and to this circumstance our author attributes his preferring food difficult of digestion, particularly fallad. His situation rendered him extremely apprehensive; but, emboldened, in some measure, by the event of the sailor's case, he put himself under the care of Mr. Default. The cure of this last case was materially different from that of the sailor's, as a part of the intestine, (contiguous to the portion that appeared externally,) which had formerly fallen down into the scrotum, adhered to the surrounding

surrounding parts, a circumstance extremely unfavourable, as no pressure could be made on the opening of the intestine without compressing the adhering portion of the gut. The invaginated portion was however reduced, and the opening closed by a linen tent supported by a truss. Eighteen hours after this, he was attacked with slight colicky pains; which alarmed him so much, that he took off the dressings, and abandoned all hopes of a cure.

This attempt, slight however as it was, produced a very sensible effect. This man, who before voided every four months only the whitish mucus of the intestines, had been obliged that day to go twice to stool, and voided as much of this kind of mucus as was usual when the intervals were longer. These discharges continued for 8 following days; and, at last, intervals of one, two, three, and four, days intervened; and, at the time this was writing, a month had passed without any evacuation of this mucus. From this case no important inference can certainly be drawn, but still the relation of facts of this singular description, and so little known, may be attended with advantage.

The history of the preternatural anus opens a new field for chirurgical observation. This disease occurs sufficiently frequent, to afford opportunities to acquire information on the subject. From a single fact general rules cannot certainly be adduced; but, from the cases

just related, some hopes may be entertained of a cure, when the circumstances are similar.

From the writings of the ancients on this disease, little information can be acquired; but, in modern works, many cases are to be met with; but unfortunately they only mention the occasional causes, omitting the description of the external appearances, and the particular state of the intestines. One of the most frequent occurrences in this complaint, the protrusion of the intestine from the belly, seems to have escaped the notice of all authors, from Hippocrates* (who has described it) to Fabricius Hildanus,† who, in the beginning of the last century, related it as a thing unknown and extraordinary. Since the time of Fabricius, cases of tumors formed externally by the intestine have been mentioned by writers; yet the appearance of the parts have not till lately been accurately described. Mr. Robin found the cœcum and a part of the colon invaginated in the rectum, in consequence of a blow or fall received on that intestine, which terminated fatally.

This case, related by Mr. Hevin, in the 4th vol. of the *Mémoires de l'Académie de Chirurgie*,‡ and a similar one by Mr. Le Blanc, threw some light on the subject. But Mr. Le Cat had an occasion to dissect the body of a woman, who had a preternatural anus, and the opportunity of demonstrating the invagination

* Epidem. lib. vii.

† Centur. 1. Obs. 74.

‡ Edit. in 4to.

of the intestine, which had protruded externally.* Among the unpleasant effects necessarily attendant on this disease, are the extreme uncleanness occasioned by the constant discharge of fœces through the opening, the excoriation of the surrounding parts, the return of griping pains, obstructions to the passage of the fœces from the narrowness of the aperture, weakness consequent to imperfect digestion, and sometimes to such a degree as to prove fatal; as in the cases related by Messrs. Hoin and Le Blanc,† and which has lately occurred in the Hôtel Dieu at the beginning of this year.

These inconveniences have induced surgeons to suggest different modes of relief; that, indeed, have been partially procured. Boxes have been invented, made of silver or tin, and applied to the opening in the abdomen; and retained in this situation by a proper bandage. This contrivance, by containing and collecting the fœces, lessened their fœtor, and, according to the account of Mr. Moscati, they were conducted into these vessels by means of a leaden pipe, left in the cavity of the abdomen.‡ Mr. Sabatier has proposed to keep the intestine sufficiently open, to afford an easy passage to the excrements, by the introduction of a middling-sized tent.||

Mr. Richter, on the contrary, wishes the fœces to be retained till digestion is more perfect. To answer

* Transact. Philosoph. N° 460. p. 716.

† Essai sur les Hernies.

‡ Académie de Chir. tom. v. p. 596.

|| Ibid. p. 594.

this indication, he checks their discharge, by means of a sponge applied to the external opening, and retained by an elastic bandage.* This method, though apparently ingenious, is rejected by Mr. Lœffler, who has seen it followed with colic, constipation of the bowels, excoriation, and inflammation of the skin. Some few surgeons, not satisfied with these palliative methods, have been induced to attempt the radical cure, which nature herself seems to point out.

Numerous cases have occurred, where the fœces have resumed their natural course, after having been evacuated even for months, from a wound in the abdomen, subsequent to an operation for a hernia. Mr. Petit mentions a case, where the two ends of the intestine hung out of the abdominal ring, granulated after the separation of the gangrenous parts, and were confounded with the surface of the wound by one common cicatrix; and the fœces afterwards resumed their natural course.†

Mr. Acrell mentions a similar case, where he separated, with his scissors, a portion of gangrenous intestine.‡

A number of similar instances are to be found in different writers, as in Le Dran,|| Pott,§ Richard,¶

* *Traité des Hernies*, traduit par Rougemont, chap. xxviii.

† *Malad. Chir.* tom. ii. p. 407.

‡ *Observation*, p. 174.

|| *Observ. de Chir.*

§ *Treatise on Hernia.*

¶ *Observ. de Med.*

Journal de Médecine,* the Memoirs of a Society of Harlem,† Essays by a Society of Surgeons at Copenhagen.‡

Encouraged thus by the resources of nature, surgeons should certainly avail themselves of the efforts of art, and their want of success, hitherto, has certainly arose from improper methods being adopted, in consequence of being ignorant of the nature of the disease. Some, not regarding the invagination of the intestine, have proposed to unite externally the divided portions of the gut, according to Ramdhor's method, and to reduce them when sufficiently healed.¶ Others have recommended the observance of a strict regimen, as a means likely to procure a reunion, by diminishing the discharge of fœces; but, fortunately for the patients, these two speculative opinions have never been reduced to practice.

In a letter from Mr. Bruns to Mr. Henkel there is a case related of a preternatural anus, the edges of which, after having been previously excoriated by the application of the lapis infernalis, were retained together by suture; the edges united, but the wound broke open again in a few days.

Mr. Le Cat§ attempted the cure of a woman who had a preternatural anus, by excoriating the edges of the wound, and bringing them together by means of suture; after having previously dilated, by means of

* Obs. de Duboueix, tom. xxxii. Dufresnoy, tom. xxxvii.
De Laborde, ibid.

† Obs. de Funn, tom. i.

‡ Obs. de Enfield.

¶ Richter, chap. xxviii. p. 162.

§ Transact. Phil.

a canula, that portion of the intestine that corresponded with the anus; but the protruded portion had acquired such a considerable bulk, that it was absolutely irreducible. These unsuccessful cases deterred surgeons from making new attempts; and it became, at last, the general opinion, that the cure of these cases was impossible, or, at least, attended with imminent danger.

In the opinion of many practitioners, the reduction of the intestine is even attended with danger, and all have conceived it impossible when of long standing and of a considerable size: many authors also mention, that the part of the intestine, contiguous to the rectum, becomes closed, and its cavity obliterated. Mr. Richter himself is not free from this prejudice; but certainly the circumstance of the invagination of the intestine must have escaped his recollection, as it is a decided proof of the existence of a cavity. This obliteration has yet never been proved, and all those who have attended to this subject are of opinion that it cannot possibly take place. Mons. Le Cat, on dissecting a subject where the fœces had not passed through the rectum for twelve years, discovered no obliteration.

The patient, who died in the Hôtel Dieu last January, had the whole inferior part of the intestinal tube entire, though a little contracted. In this case, nothing had passed for two years through the rectum; and a considerable portion of the ilium had been destroyed by gangrene; besides, in all the patients of this description, the mucus of the intestine has been evacuated

ated from time to time; a fact which clearly proves no obliteration could possibly exist.

Some authors, from not attending to the state of the intestine, are of opinion that the intestine passes out of the belly in its ordinary state, and that it is not its extremity that adheres to the skin: and, for this reason, they are apprehensive that the fœces and mucus will be diffused in the cavity of the abdomen.*

The thickness of the membranes of the intestines is a more serious objection: it has always been viewed as an invincible obstacle to the reduction, but the case we have related proves the possibility of returning the gut: and, from analogy, we are justified in supposing it may be effected; for, in cases of prolapsus ani of long standing, that apparently, from their bulk, were irreducible, gradual and methodical pressure has been attended with success.

Practitioners, from the number of these adhesions, ought not to be deterred from attempting the reduction; for, supposing that they exist, and that they are more dangerous than those produced by inflammations of the abdomen, yet still no advantage can arise from leaving the invaginated portion of the intestine out of the abdomen. Besides, such a practice may be attended with the most fatal consequences. Mr. Puy has seen two cases that terminated fatally, from the issue of the fœces being stopped.† Mr. Lange has seen the gut so distended

* Richter, chap. xxix. p. 168.

† Académie de Chirurgie.

with blood, that it was necessary to remove the strangulation by an incision into the abdomen.*

Messrs Hoin and Le Blanc mention instances of gangrene, produced by strangulation;† and an invalid, whose case is mentioned by Mr. Sabatier, was near losing his life from a similar cause.

From the cases and observations above-mentioned, Mr. Deault is decidedly of opinion, that sound and good practice indicates the propriety of returning the intestine in the abdomen; and that this operation is always possible, however large the tumour, and however long it may have existed. When this is effected, the attention should be directed to suggest some contrivance to retain and prevent the intestine from again protruding.‡ The ivory pessary, which has been invented, is not found adequate to the intention, as the intestine can escape through the aperture of the instrument, and become a new means of strangulation; besides, the pressure of so hard a substance will necessarily bruise the surrounding parts; and, if applied with a sufficient degree of force to answer the purpose indicated, the pressure would be insupportable. The soft cushion, recommended by Mr. Sabatier, and the sponge of Richter, are not liable to the same objection; but still they are subject to the inconvenience remarked by Lœffler, of imbibing the

* Smucker vermischte chirurgische schrifter, tom. 2.

† Operat. de Le Blanc, tom. ii. p. 445.

‡ Mein sur les Anus contre Nature. Acad. de Chirurgie, tom. v.

discharge of the thin and acrid matter, which is apt to produce excoriation of the adjacent parts.

Mr. Default suggests the contrivance of a tent made of linen, with the addition of a layer of lint and other compresses, kept on the part by means of a bandage, moderately tight, which will effectually prevent the protrusion of the intestine, and at the same time keep up a sufficient degree of dilatation; and, by retaining the fœces in the intervals of dressing, occasion them to remain longer in the intestinal tube, and more nourishment to be afforded the patient; if a small quantity of the fluid should escape, it will be absorbed by the lint, and produce no irritation on the skin. The slight colicky sensations, which are consequent to the first application, will cease in a few days, as soon as the intestine is accustomed to its presence. This was the first advantage Mr. Default derived from this method, nor did his views extend farther: but, from the unexpected success of the sailor's case, he has hopes, at least, sometimes to cure a disease, hitherto supposed irremediable. This cure has also proved the advantage of adopting simple methods, and varying them according to circumstances.

In the preternatural anus, whether it be the consequence of a penetrating wound of the abdomen, or consequent to hernia with gangrene, there can only be two states of the intestine essentially different from each other; one of these, and which indeed most generally occurs, is when a part of the circumference of the gut is divided; and the other, when the division has been complete.

In both cases, from the process of inflammation, the edges of the divided portion of this canal unite with the edges of the integuments and surrounding parts; (this circumstance uniformly takes place, nor has it been disproved by a single fact;) and, from this time, the parieties of the abdomen, if they are entire, will form a supplement to the portion of the canal, which has been destroyed, and the fœces will be voided by the anus, unless the portions of the intestine, by their mode of adhesion, should form an angle sufficiently acute to stop them in their progress.

The wound in the abdomen, from its affording an easier and shorter issue to the fœces than if they had to pass through the whole circumvolutions of the intestines, and the diseased state of that canal, are the efficient causes of the preternatural anus, that is to say, of the fœcal discharge from the abdomen. But there is another secondary cause, not less powerful in its effect: this is the contraction which takes place in that part of the intestine corresponding to the rectum. But are these causes sufficiently powerful to preclude the assistance of art? The first, that is to say, the opening of the abdomen, is certainly not an invincible obstacle, because in hernia, attended with gangrene, the fœces often take their natural course after passing through the abdominal opening, and Mr. Default is of opinion that this accident of a preternatural anus does not occur so frequently after these cases as formerly, which certainly may be attributed to the present methodical and attentive manner of dressing wounds of this description. A tent, answering the intention of a plug, might

might supply the defect of continuity in the parietes of the abdomen. But this is not all; the portions of the intestine often form an angle at the part where the separation has taken place.

This angle affords more or less resistance to the passage of the fœces, (agreeable to the remark of Mr. Morand,) according as it is more or less acute, and there is no method of removing this obstacle, but by enlarging the angle, formed by the segments of the intestine, by separating them from each other. Mr. Deault is of opinion that long tents made of linen, introduced and fixed into the two ends of the intestine, will answer the indication, by bringing together gradually the divided portions of intestine in a strait line. By this plan, he thinks the upper end of the portion of intestine, corresponding with the rectum, will be dilated, and thus the fœces will gradually take their natural course.*

The methods here recommended may perhaps be the means of restoring to society a number of those affected with the above-mentioned complaint, even supposing that a cure cannot ever be effected, which the case of the sailor absolutely contradicts. No inconvenience can arise from the attempt; and patients, who have submitted to this treatment, have been able to retain at will the alimentary matter, and of course were in no danger of dying of inanition, and, at the same time, have been exempt from the serious and sometimes fatal consequence of strangulation.

* Acad. de Chir. et Acad. de Sciences, p. 249.

The Sailor, whose Case has been related, returned to the Hôtel Dieu in a Situation extremely unexpected.

FOR the space of five months after his dismissal from the hospital, he was in every particular perfectly well, nor had he experienced the slightest inconvenience. His stools still continued their natural course. Presuming he had nothing to apprehend, he accustomed himself to violent exercise and exertions of personal strength, to prove his vigour to his fellow-countrymen, who had seen him in his former deplorable situation a few months since. — This conduct was attended with very serious consequences. In attempting to lift a cask of wine for a wager, his bandage broke: as it was attended with no pain, it did not at the time excite his attention, nor prevent him from winning his wager. He walked for two hours afterwards with a handkerchief round his waist. The intestine was engaged in the abdominal aperture, (which was still open,) and protruded about six inches in the space of an hour, that transpired, before he arrived home. After he had attempted the reduction himself, he called in the assistance of the surgeons in the neighbourhood, whose endeavours were equally unsuccessful. This was on the 4th of March.

In this situation he returned to Paris. Unable to bear the motion of a cart, he was obliged to walk, and to have a vessel between the thighs to receive the *foeces*. The swelling and pain he experienced compelled

pelled him to apply for assistance at the different hospitals in his way to Paris, where he arrived, and was admitted into the Hôtel Dieu on the 31st of March. The next day, as his pulse was full and plethoric, he was ordered to be bled. The tumour was equally hard, though less in size, as when he first applied for assistance, six months before this period. Compression, in the same manner as before, was continued for six days. It is possible that the reduction might have been effected sooner, but Mr. Default wished, previous to its attempt, that the parts should regain their natural state. It was reduced with the greatest ease, and its re-protrusion prevented by proper compresses, assisted by the application of an elastic bandage. Symptoms of nausea and vomiting came on subsequent to the replacement of the intestine, but ceased in about two hours, after some slight colicky sensations that preceded a copious and very loose stool. The next night and following day he was attacked with diarrhoea, which continued till the second day, when the fœces became tolerably consistent; and, on the 9th of April, no fœces passed by the abdominal aperture, and he was, in every particular, as well as before his relapse.

Mr. Default mentions two cases that were at that time in the Hôtel Dieu, different in their nature, yet both of them complicated; one, at the time of writing this memoir, voided his fœces by the anus: the discharge from the abdominal aperture was trifling, and every circumstance announced a speedy and successful termination.

*Case of a Luxation of the Foot outwards, and of the
Astragalus upward and forward.*

[By Mr. PLAIGNAND, Surgeon to the Hôtel Dieu.]

PETER Phifre, a gardener, on the 28th of Feb. 1788, fell from the top of a tree, about 24 feet in height. The whole weight of his body pressed on his left foot, under which was a round middling-sized stone. He felt something tear in his foot, which was accompanied with exquisite pain: his sufferings were aggravated by attempting to rise, and he was under the necessity of waiting till he had assistance to remove him to bed. The surgeon that was sent for, considering it as a very serious accident, advised him to apply to the Hôtel Dieu, where he was admitted twelve hours after the accident. The back of the foot was directed outwards, and its external side downwards. The inferior part of the os calcis answered to the inferior extremity of the tibia; the astragalus was felt under the integuments, before the tibia, above the os cuboides and the last cuneiform bone, and admitted of being easily moved. The heel was turned outwards, and the tendo Achilles situated behind the fibula. The pain that the patient endured was exquisite.

Mr. Default, emboldened by the success he had met with in similar cases, did not hesitate to attempt the

the reduction. The patient was laid upon his back, whilst an assistant held the superior part of the leg, with the intention of maintaining a counter-extension: whilst another kept up an extension, by embracing with his right hand the back of the foot, and with his left the posterior part of the heel; and, by this conduct, the foot was brought back to its natural situation without much difficulty. The astragalus rested on the back of the foot. To reduce it, the extension was augmented, till there was a sufficient space between the tibia and os calcis to admit of the astragalus. Then the surgeon embraced the foot with the palms of his hands, whilst he pushed in the astragalus by the assistance of his thumbs. The reduction took place without noise, and it was known to have taken place, by the shape of the foot, its admitting of motion, and by the subsidence of pain.

Compresses of aq. vegito were applied, the leg and foot placed as a fracture: from the state of the pulse, it was thought proper to bleed him. The pains towards evening were a little aggravated, but gave way to fomentations of the aq. veg. renewed every two hours.

On the next day, there was a little ecchymosis at the ankles, and the swelling of the foot a little increased since the evening before. The pulse yet indicated the propriety of two more bleedings, which was done on the third and fourth day. On the 5th, the patient suffered little; and, as the swelling was diminished, the frequency of fomentation was discontinued; but, the pains returning, they were again had recourse

to. The ease they produced was worthy of remark : by the eighth day, the ecchymosis of the foot was dissipated and the pain supportable.

On the 15th, the dressings were left off, and the foot admitted of a slight degree of motion in different directions, which, in the course of the day, was frequently repeated, to prevent the rigidity that might be consequent to inflammation and rest.

On the 18th, the patient got out of bed : and began to rest on his foot, on the 26th, with the assistance of a stick. He walked tolerably well ; and, eight days afterwards, this support was unnecessary. On the 39th, he was discharged from the hospital, perfectly able to walk without limping or difficulty.

The history of this case may throw considerable light on the treatment of luxations of the foot ; and some others, of a very interesting description, will soon be published.

Case

*Case of a spurious Aneurism of the brachial Artery
cured by an Operation.*

ON the 1st of January, 1791, at midnight, Mr. Default was called in by a surgeon, who, two hours before, in opening the basilic vein, had the misfortune to wound the brachial artery. From the account of all who were present at the operation, the blood came out by jerks, with much force, and was thrown to a considerable distance. They observed it was of a vermilion colour, that a great quantity was discharged in a little time, and that much difficulty was experienced in stopping it. Below the bending of the elbow, a tumour was observed of considerable extent, deep, and soft: the integuments were of their natural colour. This tumour pulsated at the same time with the artery, and these pulsations seemed to extend from the centre of the tumour to all points of its circumference.

Convinced, from these circumstances, of the existence of a primitive spurious aneurism, Mr. Default conceived, that, as compression had been used in some cases with success, in this instance it might be employed to advantage. In consequence, he applied, over the part that had been pricked, graduated thick compresses, that the pressure might be considerable, which he retained on the part by a bandage three ells in length and three fingers in breadth: he passed it in the same way as in bleeding, except with a greater de-

gree of tightness, and passed more of it above and below the bending of the elbow. During three days that this bandage was worn, the patient was able to sleep; but, in consequence of the considerable swelling of the fore-arm, from the tightness of the bandage, it was removed, and another more loosely applied; which was passed on the fore-arm as far as the hand.

The swelling and tension soon diminished, but, on the eighth day, he experienced considerable pain, which produced the same symptoms as before. Mr. Default, desirous of avoiding a serious operation, resolved to attempt a mode of compression exempt from the inconvenience usually attendant on the ordinary method. To answer this intention, he used a hollow tin machine, lining the cavity with soft cushions: it formed an obtuse angle at the elbow, to admit of the arm and fore-arm being in a state of flexion. This machine was of a sufficient length to extend from one-third of the superior part of the arm as far as the wrist, and sufficiently wide to cover the posterior half of the parts just mentioned.

On this machine, the bandage was re-applied. This method, without the pressure on the opening of the artery being diminished, rendered the compression on the other parts quite trifling; for, the machine, on which the turns of the bandage was expended, having passed over the artery, formed every-where an equal degree of pressure; and, in such a manner, that the artery might be strongly compressed, without apprehension of any swelling of the fore-arm.

All the advantages of this contrivance were not derived in consequence of the fatness of the patient; and the effused blood, which was trifling in the early part of the complaint, had insensibly extended along the anterior part of the fore-arm behind the aponeurosis, where it was considerable: at the inferior part of the arm it was much less. The integuments, that covered the tumour at the part where the orifice was made, were livid and yellow; in the adjoining parts, the least motion of the hand produced considerable pain.

The patient, worn out with the tediousness of the complaint, wished ardently for an operation, which he supposed would terminate in a cure. These circumstances, together with the impossibility of preventing the farther effusion of blood by any other method, determined Mr. Default to make a ligature on the artery, which was done sixteen days after the accident.

The bed was placed in the most favourable situation, with respect to the light; and the patient's head and breast a little elevated by pillows, and the sound arm turned from the light: the affected arm was held at some distance from the trunk, and the fore-arm kept in a state of extension, and the part to be operated on turned upwards. An assistant, on the right hand of Mr. Default, compressed the axillary artery, as it passes behind the clavicle over the first rib, by means of a cushion, which he held in his right hand; and, with his left hand, pressed another cushion against the same artery as it passes under the hollow

of the axilla : by this means, no hæmorrhage could happen from the brachial artery. A second assistant was employed in fixing the fore-arm ; and a third was entrusted with the instruments and dressings.

Mr. Default, placing himself on the outside of the arm, made an incision four inches in length in the course of the artery. He began it two inches below the orifice made in bleeding, and continued it upwards along the internal edge of the biceps. The cellular substance, which was divided in the first incision, was tinged with blood. The aponeurosis at the bottom of the wound was cautiously divided ; the effusion of blood was immediately considerable ; and some from the artery was thrown by jerks to a considerable distance. The assistant kept up the pressure, whilst Mr. Default searched for the artery among the cellular substance and aponeurosis, which he lifted up with a hollow sound. The wound having been well cleared from the grumous blood, the artery was disengaged from the adjoining parts, a little above the part where it had been wounded in bleeding. Mr. Default, having first raised the median nerve, raised the artery with his finger and thumb, and passed underneath a crooked needle, rounded at its points and sides, armed with two strong waxed-thread ligatures. Having divided the ligatures near the needle, and separated them, he made a surgeon's knot with that which was next the orifice of the artery, sufficiently tight to prevent hæmorrhage : this was secured by another simple knot. The ends of the other ligature were left out of the edges of the wound, to afford

an opportunity of securing the artery, if the first should by any accident get loosed. Two other ligatures were then passed below the opening of the artery; the one next to the binding of the arm was secured, and the other left loose, as a provisory ligature in case of accident.

These ligatures, above and below the orifice, were drawn sufficiently tight to prevent hæmorrhage, but still there was a little discharge of blood when the compression was taken off, which probably came from a collateral branch, situated between the two ligatures. It was secured by including the orifice of the artery itself in a third ligature, larger than the other two.

Mr. Default, after carefully cleaning the wound from the grumous blood, separated the ligatures that were tied from those that were left as provisory ones, and left them on the outside. The wound was lightly dressed with lint dipped in colophony, and, over the whole, Mr. Default passed a bandage drawn moderately tight.

The patient, who supported the operation with heroic courage, was then put to bed, and the arm reposed on a soft pillow, and placed in such a manner, that the elbow was lower than the band and the superior part of the arm. The part was covered with a warm linen cloth frequently doubled.

The rest of the day he was tolerably easy, and was restless only a little towards the evening, from a pricking sensation he felt about the elbow. In the course of the night the dressings were slightly tinged with a

ferous discharge, which is generally consequent to operations of this nature. To be perfectly satisfied, however, Mr. Default changed the compresses. The next evening the pulse was a little raised: he was at this time subject to a cough with retention of urine, for which he was obliged to wear a hollow bougie of the elastic gum. On the third day, the smell of the dressings indicated an approaching suppuration: at this time, there was little fever: he slept part of the night. The next night he did not sleep equally well, from his cough being rather troublesome, accompanied with a slight indigestion, occasioned from eating some rice cream.

By the fifth day, some dossils of lint, at the bottom of the wound, were detached by suppuration, which were replaced by others. The upper ligature fell off the next day, without a drop of blood being effused; the suppuration was abundant and of a good quality; and, as the swelling of the fore-arm subsided, he gradually regained the motion of his hand. The pulsations of the radial artery, which were at first feeble, recovered their natural force: the patient already took solid nourishment, and recovered his strength sufficiently fast to get up in eight days after the operation. On the tenth day, the middle ligature was cut, as it admitted of being moved; but the lower one remained fixed. On the thirteenth, the bottom of the superior part of the wound healed extremely fast, and was nearly on a level with the edges of the wound, but the inferior angle had a very different appearance; and, when the fore-arm was passed from
below

below upwards, there was a considerable discharge of matter. Its accumulation was prevented by the interposition of a dossil of lint, which kept the edges of the wound separate from each other. The suppuration soon diminished, and it was now deemed sufficient to dress the wound once instead of twice a day; and, to give greater freedom to the fore-arm, all compresses were left off, and a simple bandage applied immediately over the lint. At this period the patient was rather depressed in his spirits, and experienced some uneasiness in his bowels. From the use of some herb broth some bilious evacuations were procured, but still the digestive organs were deranged. Two grains of emetic tartar, given in a considerable quantity of drink, produced a better effect; and a purgative emulsion, taken two days afterwards, completed the cure.

A few days after, the suppuration at the superior part of the arm entirely ceased, and the inferior part of the wound began to cicatrize. The twenty-third day, the patient went out of the house for the first time; the motions of flexion and extension of the fore-arm and hand were performed without inconvenience. The disposition to cicatrization seemed, at this time, to diminish, and the granulations became pale and luxuriant, and, to remove this to give them tone, they were touched with the lapis infernalis; and, by the 41st day, the operation of the wound was perfectly healed.

*Observations of the Diseases of the urinary Organs.**Retention of Urine, produced by Debauchery.*

THIS species of retention is extremely analogous to that produced by old age, both are independent of any pre-existent affection of the bladder, and arise only from languid action and general debility: the attack, the progress, and the symptoms, of this disease are precisely the same as that which arises from old age, with this difference only in their pre-disposing cause: in the one, the defect of irritability arises from old age, and, in the other, is to be attributed to incontinence. In the first case, it depends on slow and natural old age; in the other, it is premature and unnatural.

Of the different excesses which tend to enervate the constitution, there is none more prejudicial than the pleasures of love. On the one hand, nothing produces weakness so soon as the loss of the seminal fluid; and, on the other, the spasm, which accompanies the emission, enervates the solids, and throws the body, in the flower of youth, into all the infirmities of enfeebled old age. Tissot, in his essay of onanism, has given a detail of the horrid symptoms produced by the abuse of that passion. The bladder, like all the other viscera, becomes less irritable, and possesses no more
force

force than is sufficient to expel the urine: from this arises retention.

We shall not repeat here the diagnostic signs of retention which depend on weakness of the bladder: by the commemorative symptoms only we can distinguish it from that which is occasioned by old age.

The prognostic is more favourable than the preceding; for, if the patient has a good constitution, and not in the last stage of marasmus, this retention may be radically cured. The elastic gum catheter left in the bladder is one of the most powerful means employed for the cure of this complaint: it not only affords an easy passage to the urine, and excites the irritability of the bladder, by stimulating its muscular fibres, but its constant presence in the urethra prevents the patients from indulging that depraved passion, which was the original cause of their misfortune; besides, the irritation produced by the catheter is even propagated to the vasa deferentia, gives tone to these canals, the relaxation of which produced the frequent emissions that took place on the slightest exertion, or effort to go to stool: for this single reason, these elastic bougies should be had recourse to, to cure the weakness occasioned by the loss of semen, even if retention did not exist.

Medicated bougies have been employed with this intention; but they are subject to many inconveniences. First, the ointment that is added is useless; for, from experience, we learn that the effect they produce is to be attributed to their presence in the urethra; as an extraneous body, and not to the nature
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of any medicament entering their composition, excepting those of a caustic or escharotic nature. Secondly, these bougies, less in size at the ends that enter the bladder, do not fill up that part of the urethra, where the vasa deferentia terminate, consequently they do not effectually oppose the evacuation of the semen. Thirdly, they cannot be constantly worn, but are obliged to be withdrawn every time the patient has occasion to make water, which is inconvenient and expensive. Fourthly, they are subject to break in the urethra; and, if not well secured to the penis, are apt to slip into the bladder. The elastic bougies are not liable to any of these objections.*

But, while these local remedies are had recourse to, the weak and relaxed state of the general system should be attended to. The cold bath, mineral waters, bark, &c. form the basis of this treatment. The effect of these medicines should be seconded by the judicious use of the six non-naturals; such as pure air, succulent and light food, tranquil sleep, constant exercise of the body, moderate evacuations, and a proper regu-

* This unfortunate accident happens too frequently. Mr. Default has seen many instances; and, for a case of this nature, he invented a pair of pincers in a sheath, bent like a catheter, with a view of extracting this extraneous body, by the way of the urethra. On the dead he succeeded, but was not equally fortunate in the patient for whom this instrument was expressly invented. The extreme sensibility of the bladder would not admit of the necessary researches; and, to effect the extraction, he was obliged to cut him in the same manner as for the stone.

lation of the passions of the mind, particularly that which has produced the malady in question.

Retention of Urine, produced by the Abuse of Diuretics.

THE immoderate use of either warm or cold diuretics equally tend to produce this disease. The first, by not sufficiently stimulating the fibres of the bladder, produces relaxation; the second destroys, by use, the sensibility of that viscus. In this last case, the bladder, accustomed to the action of irritating diuretics, is not capable of sufficient contraction, when the use of other remedies is relinquished.

It must be allowed, that this reason is more speculative than practical, nor can we support it by any one case; but still it may be something analogous to the effects of warm liquors on the stomach.

Retention of urine, occasioned by the use of diuretics, cannot be distinguished from that consequent to debauchery and old age, but from the consciousness of drinking considerable quantities previous to any derangement of the excretory organs.

The local treatment should be the same as in the retentions we have before treated of; and, if the introduction of the hollow bougie is not sufficient to recall

call the sensibility of the bladder and excite its contraction, we should have recourse to the cold bath; ice-water thrown on the abdomen, the perinæum, and the superior parts of the thighs; compresses, dipped in vinegar, applied to these parts; dry frictions on the hypogastric region, with volatile liniment, or tincture of cantharides.

If these means are not sufficient to restore the contractile force of the bladder, a large blister should be applied on the loins and the superior part of the os sacrum. As the object, by the application of this blister, is only to stimulate the fibres of the bladder, we do not wish it to suppurate, consequently the cuticle ought not to be raised, but soft linen should only be applied to the part. In a few days, the application of the blister may be re-applied on the same part. We have not had occasion to employ them in these cases, but are persuaded they would be attended with success.

Of Retention of Urine, dependant on Affection of the Nerves of the Bladder.

THESE nerves may be affected at their origin, or in their course. Injuries of the brain are rarely followed with retention of urine, but are often consequent

quent to injuries of the spinal marrow. Commotion of the medullary substance from blows or shocks on the vertebræ, its distension from dislocations or fractures of the spine, &c. its compression by blood, pus, or water, effused in the vertebral canal, by the swelling of the bones of the vertebræ themselves, and their different diseases; these are so many causes of this species of retention. It may also be produced by tumours compressing the nerves in different parts in their passage to the bladder. The compression of the whole of these nerves is not necessary to produce retention, the compression of a few filaments will weaken the action of that viscus.

When retention of urine is produced by an affection of the spinal marrow, insensibility and weakness of the lower extremities are always the concomitant symptoms. The patients suffer little, are ignorant of their situation, and complain of no derangement of the urinary organs.

The surgeons, aware that this accident is extremely common in these diseases, should inquire if the course of urine is interrupted, and satisfy himself of this fact by pressure on the region of the bladder, or by passing a catheter,

This species of retention, supposing no pre-existent disease of the bladder, is purely symptomatic, and is in itself of little moment; but the cause producing it is of the most dangerous description. Affections of the spine, complicated with injuries of the spinal marrow, are often mortal. It is easy to evacuate the urine by the introduction of the catheter, but this remedy

medy is only palliative, nor will the bladder ever recover its contractile power, till the cause producing the debility is removed. To this object the attention should then be directed; and the treatment should be varied according to the nature and extent of the disease.

It is the practice of Mr. Default, in injuries of the spine, with affections of the spinal marrow, to apply cupping-glasses with the scarificator. This practice has been attended with the best success, and, though perhaps too much extolled by the ancients, has certainly been neglected by the moderns. It is certainly one of the most powerful means of procuring a revulsion that surgery possesses. It is the practice of Mr. Default to apply 4 or 5 cupping-glasses on the part or in the neighbourhood, and to multiply the scarifications in proportion to the strength of the patient. This operation he repeats in the course of the day, and continues its application for some following days; and, when the weakness of the patient forbids the use of the scarificator, the dry cupping-glasses are only applied. Mr. Default, in curvatures of the spine, combined with caries and destruction of the bodies of the vertebræ, prefers the use of moxa (so enthusiastically praised by Mr. Poteau) to the blisters and caustics, recommended by Mr. Pott, in his publication on that subject.

Retention of Urine from Distension of the Fibres of the Bladder.

THIS species of retention may be termed secondary, as it is always preceded and produced by a retention arising from a different cause; but its proximate cause is merely the weakness and loss of irritability, occasioned by the too great distension of its muscular fibres: for this reason we often observe that those persons are subject to this disease, who, from idleness, bashfulness, or inattention, neglect attending to the first desire they may feel to make water, or, by an obstruction in the urethra, are prevented from completing their intention. But, even if this obstruction is removed, this viscus, weakened by the extreme dilatation of its coats, cannot contract with force adequate to procure the complete evacuation of the urine.

The indication of cure is simple. We have not, as in other cases of retention, any other complaint to encounter; and, the urine being evacuated by the catheter left in the bladder, this viscus generally regains its tone and elasticity: its effects may be seconded by the use of warm diuretics, tonic injections, &c. Before the use of the catheter is relinquished, we must be satisfied that the bladder is capable of emptying itself of all the urine contained in its cavity; for, without this caution, we should be uncertain when it would
regain

regain its contractility, an event that depends much on the age and temperament of the patient. With some, a cure is effected in a few days; in others, a few weeks; and, in some, it takes whole months before the patient perfectly recovers. Sometimes the tone of the bladder is irrevocably lost, and the patient must wear a bougie the rest of his life.

Retention of Urine from Inflammation of the Bladder.

MOST authors, on diseases of the urinary organs, have assigned inflammation of the neck of the bladder as the cause of retention, and inflammation of its cavity as the cause of incontinence. They are of opinion, that the bladder, when sensible and inflamed, instead of being weakened, possesses more contractile force than usual. But, even if we were not satisfied, by observation, that this idea is erroneous, from the occurrence of cases, where it was impossible to assign any other cause than inflammation of that viscus; even if this, Mr. Default observes, did not convince us, analogy shews its absurdity.

An inflamed muscle is not susceptible of contraction; and, if forced into action, its motions are weak
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and enfeebled. Mr. Default remarks, that, in dissections, inflamed intestines are generally found distended, instead of being contracted on themselves.

Plethoric habits and those of a bilious temperament are peculiarly subject to this species of retention; it is often produced by drinking spirituous liquors, the abuse of warm diuretics, the internal exhibition or external application of cantharides, &c.

This species of retention appears suddenly, and is known by the following symptoms: a frequent desire to make water, acute pain in the region of the bladder, which is propagated to the regions of the kidneys, affecting the whole course of the urethra, as far as the extremity of the glans: this pain is considerably augmented by the efforts necessary for the expulsion of the urine. The pulse is hard and frequently accompanied with other symptoms of fever; the pain is considerably aggravated from pressure on the hypogastric region. The catheter, in these cases, is generally easily introduced, but exquisite pain generally arises from the contact of this instrument with the coats of the bladder. The urine is red and indicative of inflammation; and the symptoms, attendant on other species of retention, in these cases are not to be remarked.

These cases require immediate assistance. It is necessary to evacuate the urine, whose presence is a constant exciting cause of irritation. The introduction of the instrument requires some address, particularly to avoid touching the coats of the bladder, which at this time are exquisitely
 Q sensible.

fenfible. After the urine is evacuated, a mucilaginous injection of the decoction of linfeed or marshmallow root should be thrown into the bladder: this injection should be retained some minutes, and then only part suffered to escape, that the remainder may soften the sharpness of the urine. The catheter, after some time, should be withdrawn, and re-introduced every three or four hours, throwing in each time a softening injection.

Inflammations of the bladder may also be treated by remedies powerfully antiphlogistic, such as repeated bleedings, application of leeches to the perinæum, baths, clysters, emollient fomentations to the abdomen; cold diuretics, as emulsions, ptisans of linseed, whey, with sirup of violets, veal and chicken broth, &c. But, if notwithstanding these methods, the inflammation increases, and should extend to the other viscera, and be accompanied with hiccups and vomiting, the patient's life is in imminent danger; and, if this disease should continue beyond six days, death is inevitable.

Case

*Case of an Operation for an occult Cancer, combined with
a scirrrous Gland in the Axilla.*

[By Mr. CASENAVE, Surgeon to the Hôtel Dieu.]

MARY Jodan, a native of Fribourg, in Switzerland, forty-eight years of age, of a plethoric temperament and weak constitution, received a blow on the right breast, which occasioned a slight scirrrous affection of the part. Her menses were suppressed some time afterwards, and, in the space of six months, the tumour occupied the whole breast. She was, at this time, afflicted with constant and acute pain, which she compared to the pricking of a needle. The axillary glands swelled considerably, and became extremely painful: at this time, the 16th of January, she was admitted into the Hôtel Dieu. As this patient complained of a bitter taste in her mouth, accompanied with a furred tongue, she was ordered to live on veal broth for some days, and a gentle emetic was prescribed. After a few days had intervened, two purgatives were ordered, which procured a copious evacuation.

The operation was performed, in the amphitheatre, on the 28th of July. The breast was dissected off, and the vessels secured in the same manner as in the case described page 86, with this difference, that the

incision was begun from the hollow of the axilla. The surgeon held one of the sides of the external angle of the wound with the index-finger and the thumb of the left hand; and, whilst the other angle was raised by an assistant, he dissected cautiously the integuments of the axilla, till he exposed the scirrhus gland, which was about the size of a nut. He detached, partly with his finger and partly by dissection, the cellular substance that surrounded this gland, to expose it more clearly to view. It was situated on the axillary artery, and attached to it only by a short pedicle, at the centre of which the pulsation of the artery could be distinctly felt. A ligature was passed round the base of this pedicle, previous to the extirpation of the gland; without this precaution, it would have been difficult to check any hæmorrhage that might have occurred; for, if the vessels, distributed to these glands, had been divided near their origin, they might have retracted on a level with the tumour of the axillary artery; and, for this reason, could not possibly be secured.

In the course of the treatment of this case, no circumstance worth mentioning occurred. An issue was made in the left arm sometime after the wound was cicatrized. She was discharged from the hospital perfectly cured, on the 9th of October, 1789, fifty-two days after the operation.

This woman returned to the hospital, six months afterwards, to have some fungosities, that had grown round her issue, attended to: they were destroyed with the lapis infernalis. From the time of
her

her discharge she had enjoyed a most perfect state of health.

Case of a strangulated Hernia, reduced without an Operation.

[By Mr. BOULET, Surgeon to the Hôtel Dieu.]

PETER Marlet, an old man, 66 years of age, but of a good constitution, had been afflicted from his infancy with an omental hernia, which passed out of the right abdominal ring, and descended into the scrotum. It had not been reduced for 20 years. He wore an ill-constructed truss, which was originally made for him, and the spring of which had been broke for many years.

He went through his usual occupations without the least attending to his complaint. But, on the 30th of September, 1790, towards noon, in attempting to lift a heavy burthen from the ground, he suddenly heard a noise, as if something broke in his belly, which was succeeded by a sort of rumbling noise in the bowels. He felt instantly an acute pain about the abdominal ring; and, placing his hand on the part, he found the size of his hernia had increased one-

third. Symptoms of nausea came on immediately, and were succeeded by bilious vomitings, which continued during the night, and were more frequent towards the morning. The matter discharged by the mouth was of a blackish colour, and smelt strongly of fœces; independant of this, he was afflicted with constant hiccups. His neighbours, frightened at these symptoms, had him conveyed to the Hôtel Dieu at 5 o'clock in the morning.

The belly was tense and painful, a large tumour on the outside of the spermatic cord, extended from the abdominal ring into the scrotum, the skin of which was tense, inflamed, smooth, and shining.

There were two circumstances worthy of remark in this tumour: inferiorly, it was unequal, denoting the presence of omentum; and, superiorly, for the space of 3 or 4 inches, it was smooth and equal, and, on pressure, flatus could be distinctly felt. From these circumstances there was no doubt of the descent of the intestine. On this portion of the tumour he had applied his bandage with all the force he was capable; but, fortunately, he was put in the warm bath the moment of his admission. He could support it only for three-quarters of an hour, and certainly derived little advantage from its use.

The disposition to vomit subsided some time after. Mr. Deault here remarks, that he had not drunk any thing for a considerable time. He was put to bed, and laid in a horizontal posture; the head a little raised, and the thighs slightly bent on the pelvis, and a pillar introduced between the hams. An enema

was

was administered, which brought away a considerable quantity of hard fœces from the large intestines. A large poultice was applied over the whole surface of the tumour, and a decoction of dog's tooth, sweetened with sirup of lemon, was ordered as a drink : from his disposition to vomit, he was directed to take a spoonful at a time. The nausea during the morning in some degree ceased, but the hiccups continued in their full frequency and force the whole morning. In the evening visit, the tumour was found less tense and painful; there was little nausea, and the hiccups, which for 24 hours had accompanied every expiration, left now an interval of a minute between each.

The warm bath, the enema, and the cataplasm, were again employed, and renewed the next day in the morning. The tension of the abdomen now disappeared, and the tumour was sufficiently soft in the evening to admit of reduction by a slight degree of pressure. An enema, that was administered in the evening, brought away much bilious matter and a quantity of meat half digested, that he had eaten a little before the accident.

The omental part of the hernia had diminished a little in size, but there was still a fulness about the intestine that prevented its return in the abdomen. Poultices, continued for many days, softened it gradually, and by degrees the reduction was effected. The patient, who till now had no evacuations but those produced by enemas, had a natural copious evacuation the following night. The abdominal ring was considerably dilated, and the slightest motion produced a

re-protrusion of the omentum, the return of which was rendered rather difficult, by a violent cough which he had at this period. The hernia was at length kept up by the observance of a horizontal posture: graduated and thick compresses kept on with the spica bandage, until a convenient elastic one should be made. The cough soon went off, and the man was discharged the hospital twelve days after his admission.

Cases of oblique Fractures of the inferior Extremity of the Thigh, with Separation of the Condyles.

C A S E I.

CLAUDE Lagrange, a carrier, 31 years of age, received a kick from a horse on the internal condyle of the left femur. On the 3d of August, 1790, the pain he experienced compelled him to sit down on some straw that happened to be near him. He reached home, leaning on his right foot; but this action aggravated his pain; for, at each step that he made, the thigh bent at the inferior part alternately before and behind. He was brought to the Hôtel Dieu a few hours after the accident.

The

The thigh, on examination, was found bent and considerably shortened; there was little swelling at the knee, although there was contusion with ecchymosis. On viewing it transversely, it had a stretched appearance, and was more flattened from before backward than the knee of the opposite side. The patella did not project so much as in its natural state; and, when pressed, sunk between the condyles; and, on approaching the condyles, by pressing them against each other, it was raised. The condyles admitted of motion on each other when pressed by the hand, could be separated or moved in every direction with the greatest ease, and were accompanied with crepitus.

These circumstances evidently proved that there was a longitudinal fracture of the condyles. The body of the femur was also fractured superiorly, descending in an oblique direction from above, five inches above the external to within two inches of the internal condyle; a fact of the truth of which the surgeon was satisfied by passing his finger along the femur.

The muscles of the thigh, from their strong contraction, had drawn upwards that portion of the femur connected with the external condyle, and carried inferiorly the superior fragment of the bone; the pointed edge of which had made a wound in the integuments, an inch and a half in length, on the inside of the thigh, a little above the condyle.

The patient was undressed and put carefully to bed, (made of straw,) with a hard mattress underneath.

Mr.

Mr. Default observes, that it was formerly the custom in the Hôtel Dieu to use feather as well as straw beds; but, from the inconveniences arising from their heat, and their yielding unequally in cases of fracture, their use is now discontinued, and hard mattresses substituted in their room. The dressings having been previously disposed on the bed, the surgeon proceeded to examine the wound; and, after disengaging a piece of splintered bone, he proceeded to reduce the fractures in the following manner.

The counter-extension was made by fixing the patient to the head of the bed by proper bandages; and, whilst one assistant supported him under the axilla, a second kept up an extension, by laying hold of the foot with one hand and the heel with the other, whilst other assistants supported the pelvis and the superior part of the limb, to prevent the parts being shaken. A little inconvenience was experienced from the contraction of the muscles during the extension, and the bones were brought in a state of apposition without any difficulty.

The parts were maintained in their situation by two circular compresses, and by a bandage, similar to that of Scultetus;* and the inequalities of the limb filled
up

* Mr. Default has substituted this bandage instead of the one with eighteen tails, and with some advantage in fractures of the lower extremity. This bandage is formed of an indeterminate number of distinct bands, three inches in width, and of length sufficient to pass twice round the limb. It should be applied from below upwards, in such a manner, that one fold should be covered

up with coarse linen, and the whole supported by two strong splints unequal in their length and about three inches in width, and the whole covered with *drap fanon*.

The dressings, as before observed, being disposed on the bed, were placed on the limb; they were wet with the aq. veg. and applied in the following manner: whilst the extension was kept up by assistants, the two circular compresses were made to cross each other forwards, one on the knee and the other on the inferior part of the thigh. The bandage was then applied from the superior part of the leg to the upper part of the thigh: the sides were then filled up as before with soft linen. The splints were then applied, one on the inside, and the other externally, in such a manner, that the pressure should be equal at all points. The edges of the *drap fanon* were then brought over the limb, and properly secured by means of tapes; care was taken to tighten them sufficiently near the fractured parts, and to tie the knots on the outside of the splints, to prevent the inconvenience of pressure. The splints descended sufficiently low to be on a level with the sole of the foot, but the outside splint was considerably longer and reached as high as the crista of the ilium, whilst the internal one extended only to the superior part of the thigh. The upper end

two-thirds in its width by the succeeding one, forming a kind of roller, which is applied exactly to the part, covering it throughout its whole extent. The degree of compression can be varied at will, and can be tightened or loosened, like the eighteen-tail bandage, without moving the fracture.

of the outside splint was tied with a napkin round the pelvis, and properly secured by pins. In this manner the fragments of the bone were retained; but, in a fracture so complicated and oblique, little hope was entertained that it could possibly resist the effect of muscular contraction.

In the Hôtel Dieu, means have been successfully employed, for these three last years past, to counteract the effect of the contraction of muscles in cases of fracture. Mr. Default here speaks of permanent extension; a method reprobated by the generality of practitioners, as subject to inconveniences, which Mr. Default remarks he has never observed in the very considerable numbers of patients submitted to the trial.

The patient was already so fixed to the head of the bed, by proper bandages round the body and under the axilla, that the trunk could not descend. The indication then left was to prevent the thigh bending on the pelvis; which was easily effected, by placing thick compresses behind the thigh, and passing, above the maleoli, the middle of a bandage, the ends of which were crossed on the back of the foot, then tied at the sole, and fixed to the foot-board of the bed.

This extension, so far from producing inconvenience to the patient, afforded him instant ease. He was fatigued from the jolting he experienced in his way to the hospital, but was free from fever: no medicine but a diluting ptisan was ordered, and he was left to enjoy his rest, which he stood much in need of. The next day, his symptoms, in every particular, were remarkably

remarkably mild; it was only necessary to regulate his diet, and to keep the parts moist with the aq. veg. The day after, the same plan was observed; but, on the 4th day, the looseness of the bandage, from the diminution of the swelling, rendered its re-application necessary. Suppuration began to take place in the wound: it was dressed in the same way as on the first day, and the dressings were re-applied with the same precautions.

The wound was dressed every two days till the sixteenth, when it was cicatrized. After, the dressings were not renewed but when they were loose. The parts were kept constantly moist with the aq. veg. and care was taken that the bandages, which procured the extension, were kept always tight.

The bandages, &c. were not totally left off till the seventy-fifth day, though the callus was sufficiently firm sometime before that period: all the fragments were united without deformity, and the thigh, within a few lines, was as long as the one on the opposite side; but the soft parts, round the articulation, were considerably thickened, and the patella seemed to form one piece with the femur.

Notwithstanding this, the motion of the limb was soon restored, by bending and extending alternately the leg or the thigh, by means of a cushion, which, one day, was placed under the ham, and, the next day, under the leg; and by moving the patella, by means of the fingers, in every possible direction. The patient was soon capable of exercising it himself, and was able to walk with the assistance of crutches. The
stiffness

stiffness of the joint soon subsided, and, in three weeks, he was capable of bending, at a right angle, the leg on the thigh. He was discharged from the hospital at this time, with a certain assurance of soon recovering, by means of exercise, the perfect use of his joint.

Case of a fractured Thigh.

[By Mr. LANZEREZ, Surgeon to the Hôtel Dieu.]

D. RIGNAUD, a woman, 83 years old, fell down stairs on the 27th of October, 1790, and fractured the lower part of her right thigh, in a similar direction to the preceding fracture. Those, who went to her assistance, supported the middle of the thigh in such a manner, that the lower part was bent by the weight of the leg.

This unfortunate woman was thus brought to her room, and placed crossways on a bed, the edge of which corresponded to the fractured part. In this situation she remained more than an hour, and then was brought from her lodging, which was on the third story, (with as little precaution as they had supported her

her

her before,) and put in a hackney-coach, and conveyed to the Hôtel Dieu.

She experienced the most exquisite pain: there was a considerable swelling of the thigh, which was shorter by 4 inches: the end of the lower fragment of the bone formed a projection at the internal and lower part of the thigh, and, above the upper fragment of the bone, there was a hollowness observed, which descended forwards as low as the articulation. The lower part of the thigh was distorted in such a manner, that the external condyle was pushed backwards, and the patella as well as the extremity was turned outwards. The condyles admitted of motion in contrary directions, and were accompanied with crepitus, as in the last case.

The mode of reduction was the same as in the preceding case, excepting that it was necessary to turn the knee and the point of the foot inwards. The manner of retention was precisely the same, and the pain soon subsided after the application of the dressings. As this woman, in consequence of her age, and a previous indisposition, was weak and infirm, the observance of a strict diet was deemed unnecessary. Towards the evening the pain in her thigh had ceased entirely, but at night she was much inconvenienced by the bandage that was passed round her breast, in consequence of a cough and asthma with which she had been afflicted many years. This means of extension, for this reason, was relinquished, and another was employed that did not bear the least on the breast. It was effected by the use of a long inflexible splint, extending from the crista of the ilium to 4 inches below

below the sole of the foot. This splint was notched at one of its ends, and pierced, at one inch from this notch, with a transverse hole. The opposite end of the splint was placed in the duplicature of the bandage that was passed round the pelvis, in the same manner and in the same place where the outside splint was first situated. It was removed, and the one in question applied in its stead.

The bandage that had been passed round the trunk was retained in its position by two bands, which passed under the thighs and before the groins, over thick compresses; and the band, on the side that was not injured, was pinned to the inferior part of the bandage that was passed round the trunk, and the other secured by a knot, fixed on that end of the splint engaged in the same bandage.

The dressings applied on the limb were precisely the same as were employed the day before, when it was necessary to tighten the tapes that retained the dressings. Instead of fixing the band that surrounded the foot to the bed-posts, the end, that was on the outside, was passed through the hole in the splint, and the other placed in the notch, and secured by a knot. After they had been drawn sufficiently tight by this plan, the same extension was kept up, without bearing on the thorax.

The patient supported this extension extremely well, and without suffering the least inconvenience, nor was there a necessity to remove the dressings till the 4th day, when the bandage became loose from the diminution of the swelling.

Until



