

**CRITICAL DIGEST OF THE BRITISH AND FOREIGN MEDICAL JOURNALS.**

**PRACTICE OF MEDICINE AND PATHOLOGY.**

ON THE SITE OF MORBID ACTION IN DISEASES OF BONE.

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I HAVE, in another place, directed the attention of the physiologist to the important distinction which exists between the essential and accessory elements of a texture. "A texture may be considered either by itself, or in connexion with the parts which usually accompany it. These subsidiary parts may be entirely removed, without interfering with the anatomical constitution of the texture. It is essentially non-vascular, neither vessels nor nerves entering into its intimate structure. It possesses in itself those powers by which it is nourished, produces its kind, and performs the actions for which it is destined; the subsidiary or superadded parts supplying it with materials, which it appropriates by its own inherent powers, or connecting it in sympathetic and harmonious action with the other parts of the organism to which it belongs."<sup>1</sup>

The neglect of this distinction by the pathologist has been the cause of much misconception regarding morbid action in textures, and has introduced many errors into the general theory of disease. Disease may have its site either in the essential or accessory elements of a texture. Our knowledge of the diseases which have their site in the essential elements of the textures is still in its infancy; but I am inclined to believe, that they consist principally of alterations in the nutritive and reproductive functions, in the chemical or physical constitution of the textures. The fatty degeneration of the muscular texture is a familiar example of a morbid change of this kind.

The great majority of the recognized morbid changes have their site in the accessory elements of textures. They are situated in the midst of the areolar texture, and among the vascular and nervous networks which separate as well as connect all the essential textural elements of the frame. They consist generally of bloody or other infiltrations; of lymph, in various stages of development; of pus; of the various forms of new formation, such as cancer, tubercle, etc. It will thus be perceived, that the majority of diseases are situated, not in the essential textures of a part, but around or amongst them; that the majority of these are new formations, parasitic in their nature, making their appearance, undergoing development, and occupying a position in the areolæ of that general connecting texture, which, either in the form of the nucleated cellule, or of the filamentous fibre, is the first to appear, as well as the most lasting and abundant of all the textures.

The more distinct the conception, therefore, which an observer may possess of the relative position of the essential and accessory elements of any given texture, the better prepared will he be to investigate and understand the phenomena of diseased action in that texture.

The successful investigation of the site and phenomena of diseases in one texture, will render the investigation in all the others comparatively easy. I have been accustomed to consider the osseous texture as best adapted for this purpose, from its stability, and the comparative ease with which its essential and accessory parts may be separated from one another, distinguished, and examined. "A well-macerated bone is one of the most easily-made, and, at the same time, one of the most curious anatomical preparations: it is a perfect example of a texture completely isolated; the vessels, nerves, mem-

<sup>1</sup> Anatomical and Pathological Observations, p. 64.

branes, and fat, are all separated, and nothing is left but the non-vascular osseous substance."<sup>1</sup>

The essential elements of the osseous texture consists of all that part which resists maceration, along with the contents of the corpuscles. The accessory elements are the periosteum, with the vessels and nerves which ramify in it; the cells, areolar texture, fat vessels, and nerves, which occupy the continuous network of the Haversian canals and cancelli, which are hollowed out in the hard substance.

**MORBID CHANGES IN THE ESSENTIAL ELEMENT OF BONE.** In the course of lectures which I delivered in the theatre of the College of Surgeons, in the winter of 1842-3, I announced the existence, and hazarded a hypothesis as to the functions, of minute masses of nucleated particles, occupying the corpuscles of bone, which are generally believed to be empty spaces. I, at the same time, stated, that I had been led by my observations to consider it as highly probable that caries, or intractable ulceration of cancellated bony texture, consisted essentially in more or less complete obliteration of the corpuscles and their contents, as well as of the connecting canaliculi, and the neighbouring Haversian canals.

I have lately repeated some of my observations on these bodies, and have been confirmed in my belief of their importance in the economy of bone, and more especially of their obliteration in caries. Caries never attacks compact bone. It is met with only in shafts, when expanded by previous disease, in the epiphyses or extremities of the long bones, and in the short bones. It occupies surfaces somewhat limited in extent, irregularly hollow, with a surface hard and spicular, encroached upon, but not generally covered by, unhealthy granulations; the pus, discharged from which has, very generally, mixed with it, minute portions of bone, apparently thrown off from the carious surface. Caries is to be distinguished from the mere absorption of the surface of a bone, as well as from that open condition of the cancellated texture which is the result of the removal of the cartilaginous and osseous articular surface. These two latter conditions of bone are capable of cure, although slowly and with difficulty, partly in consequence of the disease which accompanies or precedes them, but principally because the cancellated texture contains few Haversian canals, the abundance of which, in the shafts of bones, explains the vigorous actions which they exhibit.

In true caries, it may be observed, that for a certain depth below the surface of the affected part, the corpuscles and canaliculi have more or less completely disappeared, so that the subjacent unaltered osseous texture is covered in by a layer of apparently homogeneous solid bone resembling marble. It is analogous, in some respects, to the enamel of the teeth—1, in not being covered by soft parts; 2, in being a portion of the exterior surface of the body; 3, in containing no corpuscles or canaliculi; 4, in being incapable of absorption, and requiring, therefore, to exfoliate, or to be removed artificially.

I am not prepared at present to enter upon the consideration of the changes which the essential element of bone undergoes in rickets, malacosteon, etc., but shall refer, in the meantime, as confirmatory of my own views and observations regarding the condition of the corpuscles and canaliculi in disease, to the recent work of Von Bibra and Geist.<sup>2</sup> In this work, which is principally devoted to the consideration of that peculiar necrosis, which attacks the jaws of the workmen engaged in making phosphoric matches, the authors have allotted a section to the microscopic structure of various forms of diseased bone. They have described and figured the empty condition and the altered form of the corpuscles, as well as the obliterated canaliculi in certain

<sup>1</sup> Anatomical and Pathological Observations, p. 64.

<sup>2</sup> Die Krankheiten der Arbeiter in den Phosphorzündholzfabriken, insbesondere das Leiden der Kieferknochen durch Phosphordämpfe, p. 77-86.

forms of exostosis and caries, without attaching apparently much importance to the observation.

**II. MORBID CHANGES IN THE ACCESSORY PARTS OF BONE.** The greater number of the morbid changes in the accessory parts of bone occur during that condition usually called inflammatory.

As the accessory parts are situated on the external and internal surfaces, and in the Haversian canals<sup>1</sup> of bone, the changes which occur during inflammatory action make their appearance only in these situations.

The increased vascularity which the texture presents when inflamed, depends in the first place on the engorgement, and in the second, on the increase in number of the vessels which are situated in the periosteum, the medullary membrane, and the Haversian canals.

After the accession of inflammatory action, the surface of compact bone assumes a porous condition, and its substance becomes more or less cancellated. This change is induced by an action similar to that by which the cancelli of healthy bone are formed. The Haversian canals assume an increased calibre, so that their orifices on the exterior surface of the bone become larger, and their cavities ultimately open into one another laterally, and assume the appearance of cancelli.

As the Haversian canals increase in size, their cavities are filled, in the first place, by enlarged and new blood vessels; and in the second, and principally, by a substance having a gelatinous appearance, similar to the lymph effused in other inflamed textures.

When the inflammation extends to, or occurs at, the external surface of a bone, the periosteum is raised by the effusion, dragging out or extending the processes, which stretch from its external surface into the superficial Haversian canals: and as the texture which occupies the canals is the formative organ of bone, these retracted processes are the centres from which new deposits of bone proceed.

When the action is acute, and occurs in certain constitutions, death of the inflamed bone may take place, before any very decided change has appeared in the Haversian canals.

But if the inflammation is more chronic, new bone is formed soon after, or along with the enlargement of the Haversian canals. This new bone is situated around the orifices of the canals, enclosing the processes which have been drawn out by the sub-periosteal effusion, so that the surface of an inflamed bone presents numerous orifices of enlarged and open Haversian canals, with their lips more or less thickened or everted; the internal half of the convex edge, which bounds an orifice belonging to its own lip, the other half to those of the neighbouring canals. The inflamed surface is now slightly elevated by this new deposit of bone, the degree of elevation, and the size of the canals, being greatest at the centre of the inflamed spot, or where the action was most acute. This process of deposition continues for some time, and exhibits, on section, a structure similar to that of the subjacent inflamed old bone, the Haversian canals being large, and assuming more of a direction rectangular to the surface.

An enlargement by absorption now occurs in certain Haversian canals, in the new and old bone.

If the inflammation be periosteal,—that is, if it be confined to the superficial part of the bone, this secondary absorption takes place in the first formed canals of the new bone, those on its deep surface, and in those of the external aspect of the old. There now appears, in consequence of this absorption, a line of cancellated texture between the new and old bone. If the action have involved more or less of the entire thickness of the compact wall of the shaft, the secondary absorption invades, from the surface inwards,

<sup>1</sup> See Howship's *Observations on Healthy and Diseased Bone*, in vols. vi, vii, viii, and x, of the *Med.-Chir. Transactions*, London.

a greater or less extent of the old bone, and less of the new. While the inflammatory action and the process of absorption continues, new deposit of bone still appears towards the surface, increasing the swelling, and preserving the more compact structure of the periosteal aspect.

By modifications of this general mode of action, all the varieties of inflamed bone are induced.

A node is produced by an action such as has been now described, occurring over a limited portion of the periosteal surface, the inflammation and secondary absorption not extending, in general, deeply into the surface of the old bone, but confining themselves to the newly formed texture.

A section of a common osseous node, therefore, presents, from the external surface inwards, first its periosteal compact surface, the Haversian orifices of which, are larger than those of the healthy bone, and largest at the most prominent part of the node; secondly, its cancellated texture, consisting of enlarged anastomosing irregular Haversian canals; third, a layer of the external surface of the original bone cancellated,—that is, with its Haversian canals enlarged over an extent equal to the base of the node, and to a depth corresponding to the progress of the inflammatory action inwards.

In some nodes, the section exhibits the secondary absorption entirely confined to the new bone, so that the latter appears as if it had been entirely developed in the periosteum, and had not become intimately united to the surface of the old bone.

The uniform, or more or less irregular, thickening of the shafts of bones which have suffered from chronic inflammation of a specific character, is produced by modifications of the same process of deposition and absorption as occurs in the formation of nodes. The orifices of the Haversian canals on the surface of the expanded shafts are all more or less enlarged, especially where the action has been greatest, and the bone most prominent. They exhibit various modifications of the ring-shaped, or tubular osseous deposit which has been formed around, and encircles each of them; and, according as these happen to be arranged or combined, we may observe the surface covered by tuberous, spicular, stalactitic, or obliquely-lamellar processes, the osseous edges and extremities of which represent the Haversian orifices with corresponding peculiarities of character and combination.

Sections of enlarged shafts exhibit, on a more extensive scale, the results of secondary absorption, similar to those which occur in nodes. When this absorption has been more or less completely confined to the new bone, the original wall of the shaft may be traced through the section, with more or less of its original thickness. When the entire thickness of the shaft has been affected, then the absorption will have extended over a greater or less extent of the compact texture of the original wall, and the entire bone will be light and cancellated.

In nodes and enlarged shafts, we occasionally observe alternate layers of compact and cancellated bone, more or less regularly disposed. This is one of those appearances, which have given rise to the expansion theory of enlarged bone. But as bone enlarges in disease, as in health, by reciprocal depositions and absorptions, this laminated arrangement cannot be explained by the hypothesis.

It would appear to be the result of renewed inflammation, nearly in the planes of the compact laminae of the originally cancellated node or shaft, and a consequent deposit of new bone narrowing the canals, and rendering compact a plane of bone immediately exterior.

The spicular, nodular, or lamellar processes which are developed around ulcerated or carious surfaces, and at the margins of exfoliations, are produced in the same manner, by modifications of the Haversian canals of the part. The extreme modification of this kind of enlarged bone, is exhibited by the more or less complete osseous shells which envelope dead shafts, and the

origin, or source of which, have given rise to so much controversy in the pathology of necrosis.

The areolar and vascular texture contained in the Haversian canals of bone, is also the site of all cancerous, medullary, sarcomatous, fibrous, and scrofulous deposits, and tumours in bone. The essential element of the texture is in no way affected by these new formations. The cells, granules, and plasma of which they consist, become developed, and propagate themselves in the areolar and vascular net-works within the canals, like the sporules, thallus, and phycometer of fungi: the walls of the osseous canals giving way by absorption before the increasing mass of new organisation.

But here also, as in the inflammatory affection of bone, the absorption of one part is accompanied by deposition in another.

It is highly interesting to observe how the spicular and laminated masses which lie imbedded in cancerous and medullary tumours of bone, if traced back to the old bone from which they arise, will be found to spring from between the more enlarged Haversian orifices, out of which the parasitic masses have protruded; and how these spicular lamellated processes derive their characteristic forms and directions from this anatomical arrangement.

Ulceration of bone consists in the entire removal of the osseous texture of a part, by the continued and complete absorption of the walls of the Haversian canals of the part affected. It is important to observe, that this absorption or ulceration of bone never takes place, without a corresponding deposition of bone in the neighbourhood.

**CONCLUSIONS.** 1. That in the osseous, as well as in the other textures, we must distinguish between those morbid conditions which have their site in the essential, from those which are situated in the accessory, parts of the texture.

*That, in reference to the changes in the essential parts of bone;*

2. Caries, one of the most obstinate and painful affections of the texture, depends on the more or less complete obliteration of the corpuscles and canaliculi, and the conversion of the carious surface, for a certain depth, into a substance resembling the enamel of the teeth.

3. That all the inflammatory changes in bone have their site in, and depend on, an increase or diminution in the number and size of the Haversian canals.

4. That all the malignant and non-malignant growths in bone have their site in the Haversian canals.

5. That the various forms of spicular and laminated exostosis, which are found co-existing with malignant or non-malignant growths, are necessary results of the dilatation and extension of the affected Haversian canals. [*Edinburgh Monthly Journal*, February 1850.]

#### INDURATION OF THE CEREBRUM.

M. DUPLAY, physician to the Hospice des Incurables in Paris, related the following interesting case at a meeting of the Société de Biologie, in November 1849:

**CASE.** V., aged 41, was admitted into the hospice for males, on the 22d of June, 1849. He had complete paralysis of the lower extremities, and moved the upper limbs with difficulty, so as not to be able to feed himself. His intellect appeared intact, for he understood all that was said to him; but he had extreme difficulty in articulating. His sister gave me the following account of the progress of his disorder:—

He had enjoyed good health up to 1839. He was strong, and well able to follow his occupation as a sawyer; he was not addicted to drinking, but appeared to have indulged in an abuse of venereal pleasures. In the course of the year 1839, he felt numbness in the lower limbs, which gradually became weak; walking was at first unsteady, and soon became so difficult that he

was obliged to use a stick, and subsequently crutches. The usual remedies were employed: the spine was covered with cauteries and moxas; he was admitted into the hospital St. Louis to have sulphur baths; but no remedies had any effect. At the end of three years, his speech became difficult, and soon almost unintelligible. He preserved his intellect entire. The rectum and bladder were paralysed; he had no stools without the aid of enemata or purgatives. About the time when the difficulty of speech appeared, the movements of the upper limbs began to be unsteady. Having exhausted all his resources, and obtaining no amelioration of his condition, he was admitted into the hospice.

On the 29th November, 1849, V. was admitted into the infirmary of the hospice with symptoms of pericarditis, and pleurisy of the left side. By energetic treatment, these affections were removed in a fortnight; but his health had been much shattered by them. In the sacral and trochanteric regions, there were large sloughs; he was in a state of extreme emaciation, and it seemed improbable that he would be able to bear up with the abundant suppuration. During his stay in the infirmary, I was able to observe the affections of the nervous system, which continued the same up to his death.

There was complete paralysis of the lower extremities; the legs were semi-flexed on the thighs, and the thighs on the pelvis; and they returned to this position immediately on the cessation of any attempt to straighten them. Sensation was preserved; the slightest irritation of the skin was felt by the patient. The upper limbs were not in a state of semi-flexion; the patient could move them, but was unable to regulate the movements, and easily let fall whatever he took in his hand; sensation was perfect here also. His speech was unintelligible; he could only with very great difficulty articulate a few words at intervals. The intellect appeared intact, and he understood the questions which were addressed to him. The functions of sight, hearing, smelling, and taste, were normal. The rectum was paralysed; and there was incontinence of urine. I was several times obliged to administer croton oil, in order to obtain alvine evacuations. The patient became gradually weaker, being reduced by the extensive suppuration, and died in an extreme stage of marasmus, on the 23d of November, 1849.

*Post-mortem examination.* The appearances found, were such as the progress of the disease had not led us to expect. The bones of the skull seemed natural; the dura mater was not adherent to the cranium, and the arachnoid cavity did not contain more serum than usual; the cerebral arachnoid presented, on the convex surface of the hemispheres, a slightly opaline tint; the sub-arachnoid cellular tissue was slightly infiltrated with a transparent serosity; the membranes were not at any point adherent to the cerebral convolutions, but were easily detached. The grey matter of the brain was normal; no change in consistence or in colour could be perceived. The outer third of the white matter on each side, except slightly presenting vascular points, was of normal consistence. But the two other thirds presented a remarkable increase of consistence, which gradually became greater towards the ventricles. The cerebral substance here was divided with difficulty; the slices resisted traction, and required considerable force to be used before the finger could divide and crush them. The change was symmetrical on the two sides, and occupied an extent of six centimetres (2.358 inches) from before backwards, by four (1.572 in.) in a transverse direction. The white substance had lost its brilliancy; it was dull, and of a slightly pale red tint. The thalamus opticus and corpus striatum on each side were also somewhat hardened, but less so than the white matter. The ventricles contained only a small quantity of limpid serosity. The cerebral protuberance appeared to have undergone a slight increase in consistence, but this was not very apparent. The spinal chord was small and slender, as if atrophied. The membranes were healthy; and the vertebral canal presented no trace of tumour or other appreciable

lesion. The medulla, on being examined very carefully throughout its whole extent, was found to possess everywhere its natural colour and consistence; no trace of ramollissement or of hæmorrhage could be discovered. The other organs presented no remarkable appearance. [*Gazette Médicale de Paris*, 9 February, 1850.]

CRYPTOGAMIC VEGETATIONS IN THE INTERIOR OF THE HAIR IN FAVUS.

DR. C. WEDL has published an account of his having discovered Cryptogamic Vegetations in the interior of the hair in Favus. After briefly referring to the observations of Gruby, Günsburg, Malmsten, and Lebert, he says:—

I directed my attention to the interior of the hair, making use of a concentrated alkaline solution to render it more transparent. This solution acts on some parts of the hair in a very remarkable manner; in different strata of it, there appear small elongated gas-bubbles, with a sharp dark outline, giving the appearance of an interrupted canal; sometimes also larger gas-bubbles are seen lying at the outside of the hair. The latter gradually becomes more transparent; and, in the situation of the dark broken canals, there appear filaments formed of elongated quadrangular or roundish molecules; these extend through a certain portion of the hair, here and there giving off branches, and are to be found in all layers of the hair. These filaments consist of granules arranged like beads. Their transverse diameter varies; their length is also very variable; here and there, only a few granules are linked together, while in other parts there are several dozens of them. The branches which spring from them are sparse, generally very short, and always single; the direction of these filaments is in the longitudinal axis of the hair. I have never seen them hanging from the outside, unless I had torn the sheath of hair, or the whole hair, by rubbing it to and fro on the glass, after it had been acted on for an hour by strong liquor potassæ. On the surface, one often indeed sometimes sees regularly arranged filaments surrounding the hair; but the most beautiful and conspicuous are these transverse granular filaments, at the place of exit of the hair from the epidermis. In the latter, which often remains hanging when the hair is torn out, are usually some pretty numerous groups of granules (sporidia), and here and there a granular filament comes into view, which passes transversely across the hair, or even seems to end in it.

I could not ascertain with precision the entrance of the filaments of the dependent epidermis into the hair; but I have no doubt that such is the case, because these granular filaments are most abundant at the above-mentioned point of exit; moreover, they decrease as they proceed upwards, and disappear at the end of two or three lines; they extend some way down, but not in such numbers, and do not seem to reach the bulb. The point of concentration of these filaments is, then, the place where the hair emerges from the epidermis; it is here surrounded with the vegetations of favus. In order to establish the fact, that the filaments in the hair are really fungous growths, it is necessary to examine fungi, but especially those of favus, under the action of strong liquor potassæ. There also is an extrication of gas under the microscope; the sporidia and thallus fibres are not dissolved, but are rendered more conspicuous, while the epidermis cells become faint. Dr. Hebra perceived the development of a fœtid gas in his researches, when fungi were exposed longer than usual to the action of liquor potassæ.

With regard to the frequency of this appearance, it is to be observed, that in most cases of favus, it is possible to find these fungi in the hair, especially when light. When it is dark-coloured, it requires to be macerated about half an hour in strong liquor potassæ; but, in light hairs, the sporidia can be seen in from five to ten minutes.

This remarkable circumstance—the growth of fungi in the interior of the hair in favus—gives an explanation of its well-known dryness and brittle-

ness, for the nutrition of the hair must be interfered with by the parasitic structures. Moreover, these observations throw light on the long known rule in dermatology, that, in order to cure favus effectually, the hair must be removed. [*Zeitschrift der K. K. Gesellschaft der Aerzte zu Wien. Fünfter Jahrgang 1849, p. 643.*]

MUCOUS PNEUMONIA, OR SUFFOCATIVE CATARRH, OF VERY YOUNG CHILDREN.

Every one who has been in the habit of carefully observing and reflecting upon the phenomena of disease in early infancy, must have been struck with this remarkable fact—that extensive pneumonia is, comparatively speaking, often, not only *easily*, but *speedily* cured; while that which is circumscribed and apparently less formidable, has, more commonly, a fatal issue. We think the following remarks, by M. DUCLOS, are interesting, and important in their bearings upon this subject. We concur generally in his treatment, though we consider it defective, in not pointing out the danger of fatal depression, if the emetics be pushed too far, especially when they do not cause vomiting: in the omission of an account of the precautions required in such cases; and in the absence of rules for the management of the skin. Our abstract is chiefly taken from the *Revue Médico-Chirurgicale de Paris*, for January 1850, p. 38.

MEMOIR OF M. DUCLOS. M. Duclos has seen, at the Hospital for Children, cases of double pneumonia, in which the whole pulmonary parenchyma was involved, and in some spots presenting hepatization, yield after from nine to twelve days—the mean duration of pneumonia in early infancy: whereas, others in which the affection was more limited, without reaching the stage of hepatization, have, after four or five days, terminated in death. He has found that these two classes of cases differ essentially:

1st. In the mode of production. 2nd. In the symptoms. 3rd. In the anatomical characters.

M. Duclos designates the rapidly fatal form of the disease MUCOUS PNEUMONIA; being what others have described under the names of *Suffocative Catarrh* and *Capillary Bronchitis*.

1. *Mode of Production.* Vigorous, strong children with *fat* chests, are those liable to Mucous Pneumonia. Most commonly, it begins as a simple bronchitic attack. The chest, as ought to be the case, is probably auscultated at brief intervals during the day, without any other symptom being indicated; when at last, upon some one occasion, signs of inflammation of the substance of the lungs are discovered. Mucous Pneumonia may be considered as the sequel or extension of a catarrhal phlegmasia. It is important to bear in mind, that it occurs most frequently during the first dentition. The ordinary pneumonia is more generally a distinct disease.

2. *The Symptoms* also present essential differences. In the ordinary pneumonia of very young children, a subcrepitant râle is heard when lobular inflammation exists, and a *souffle* is also heard in like circumstances. There exist likewise oppression, agitation of the *alæ nasi*, and a sulcus at the base of the chest corresponding to the insertion of the diaphragm; a sulcus so very characteristic as a symptom, that M. Trousseau has called it the *sillon peri-pneumonique*. Fever attends the above-named symptoms. The latter symptoms are to be met with in Mucous Pneumonia, but those furnished by auscultation are different; there is no *souffle* to be heard, because the pneumonia is not lobular. In Mucous Pneumonia, the bronchial secretion is extremely abundant; the mucous râle masks the sub-crepitant râle; and the mucous râle is so loud that it may be heard by approximating the ear to the chest, without actually applying it.

3. *The Anatomical Characters* of bronchitis and lobular pneumonia are both found in the Mucous Pneumonia; and it is on this account that M. Duclos



has adopted that name for the disease. On slicing the lung with the scalpel, a marbled aspect is presented; some lobules are decolorized, or of their natural hue, while others appear as if deeply stained with the lees of wine, and which have evidently been the seat of inflammation. If the last-mentioned lobules be carefully isolated and placed in water, they sink to the bottom; but the others, which have not been the seat of inflammation, float on the surface when similarly treated, and even after an attempt has been made to press out the air with the fingers. The bronchial ramifications are choked with mucus.

*Prognosis and Treatment.* Physicians form very often a favourable prognosis in Mucous Pneumonia, which, to their dismay, is abruptly disproved by the death of the patient. It ought always to be looked upon as a most formidable complication of pulmonary disease. With regard to treatment, M. Duclos shows that it must be different from that of ordinary pneumonia; *first*, on account of the rapid progress of the malady, from the onset of the inflammatory symptoms; *second*, from the mechanical obstacle to respiration, caused by the choking of the air-passages by mucus. Emetics are essential; and a syrup of tartar emetic and ipecacuanha is to be given every ten minutes, till the infant have vomited four or five times. The medicine is then suspended, and it is again exhibited in the same way, morning and evening, till the same effect be obtained. It is not so easy to produce vomiting after the first time, so that larger doses, and the drinking of tepid water as an adjuvant, are required. During the intervals between the excitement of vomiting, an antimonial mixture, with a small quantity of opiate syrup, is given; but this is a secondary and not an essential part of the treatment. In the same category he places counter-irritation of the skin, whether by embrocations of croton oil, etc., or by blisters, which, when he does employ, he puts on the legs, in preference to the anterior or posterior part of the chest. Blisters early applied to the legs, and made to discharge freely, M. Duclos considers very useful. His treatment may be thus summed up:

1. Emetic treatment as described—Essential.
2. Use of antimonials in the intervals.
3. Counter-irritants, especially blisters to the legs. } Useful.

CHLOROFORM ADMINISTERED WITH ADVANTAGE IN LEAD COLIC:  
ANODYNES IN LEAD COLIC.

DR. BLANCHET, in the *Journal de Chimie Médicale*, recommends this practice. He details two successful cases. Believing that the best method of treatment is, in the first instance, to give energetic anodynes and antispasmodics, we are prepared, *à priori*, to approve of this recommendation of Chloroform in Lead Colic; but the form of administration, which we would decidedly prefer, is Smith's mixture (with camphor), both from its convenience, and from the therapeutic utility, in such cases, of both ingredients. We have not had an opportunity of giving this mixture in lead colic, but we have largely used it in analogous cases; and when an anodyne and antispasmodic is required, we know of no better prescription. Notices on this subject will be found in our volume for 1849, pp. 102 and 842. Belladonna, applied externally, we have several times used with success in cases of Lead Colic. The patient obtains speedy relief; and the cure is completed by one or two doses of castor oil, or a mercurial purge, with or without camphor and henbane, as the case may require. Opium may, in some subjects, be found more useful than any other medicine. The important principle to bear in mind is this—that the spasm of the intestines must be first subdued; and that till this be accomplished, purgatives only aggravate the severity of the symptoms.

## SURGERY.

ON LITHOTOMY AND LITHOTRITY : BEING AN ACCOUNT OF THE EXPERIENCE  
OF MM. PAMARD, SENIOR AND JUNIOR, FROM 1792 TO 1849,  
EMBRACING SEVENTY-TWO CASES.

The following is the substance of a paper (*Revue Médico-Chirurgicale*, May 1849), by M. PAMARD, Surgeon to the Hospitals of Avignon, in which he describes all the cases of Lithotomy and Lithotrity which had come under himself and his father. Documents of this description are as valuable as they are rare.

I am one of those who attach great value to authentic and well-compiled medical and surgical statistics. In furnishing such contributions to science, country practitioners possess an advantage. Their practice is daily open to the observation of their brethren, who live, like themselves, in the midst of the patients, and exercise such a check, as to render it very difficult for errors, either voluntary or involuntary, to occur. I proceed to give the operations of my father; giving first the cases upon whom Lithotomy was performed more than once; and then those who died within two months after the operation. The other cases are arranged according to their date. From the 5th May 1792, to the 19th May 1818, my father performed Lithotomy in sixty cases, of which he lost five: but the sixty operations only represent fifty-five patients, because one was cut thrice, and two were cut twice.

CASE 1. V. Duclos, of Pont-Saint-Esprit (Gard), aged 68, was cut in the year VII (A.D. 1797), by an operator of Grenoble. On the 30 fruct. year VIII (1798), my father operated for the first time. A stone again formed; and was removed on the 5 vend. of the year X (1800), and a third stone was removed on the 1st vend. of the year XII (1802). The patient survived a long time after the third operation, without another stone forming.

CASE 2. A. J. Jouve, aged 48, of Gordes (Vaucluse), was cut for stone, on the 13 floréal, year VI (1796). A fistula formed, which probably was the cause of the production of a new calculus; for which a second successful operation was performed on the 15 frimaire, year VII (1797).

CASE 3. J. Ricard, of Cavillon (Vaucluse), aged 15, was cut the first time on the 8 frimaire, year VIII (1798); and the second operation, which was successful, was not performed till the 27th September 1811.

CASE 4. J. Lombard, of Avignon, was cut for stone on the 23 brumaire, year VII (1797), having had the same operation performed when 4 years old by my grandfather. The stone never formed after the second operation.

CASE 5. J. Veyren, aged 19, of Villeneuve (Gard), had Lithotomy performed on the 4 floréal, year VIII (1798). My father conjectured that the first operator had left fragments of the calculus in the bladder. The operation was repeated on the 3 frimaire, year IX (1799); and the patient recovered.

CASE 6. T. Morgan, of Caumont (Vaucluse), a female, aged 8 years, had suffered from her birth. Lithotomy was performed on the 30 vendémiaire, year III (1793). The operation was difficult, and the bladder was torn at its fundus. The stone was very large, considering the age of the patient, weighing 105 grammes (about 27 drachms apoth. weight). The child died on the fifth day after the operation.

CASE 7. N., a man, aged 72, of Avignon, was cut on the 20th August 1792. He had suffered for 20 years, and was only driven by pain to submit to the operation. The pubic artery was probably involved: the stone was very large and jagged. After a succession of hæmorrhagic attacks, the patient died on the 26th September.

CASE 8. J. O., a boy, aged 10, of Crillon (Vaucluse), was cut for stone on the 8 floréal, year VI (1796). Owing to the size of the stone, the operation was long and painful. It broke under the pressure of the forceps, which

necessitated their repeated introduction. Death, from inflammation of the bladder, ensued three days after the operation.

CASE 9. F. C., a lad, aged 19, of Malaucène (Vaucluse), was cut on the 23 brumaire, year VII (1797). The operation was easily and rapidly performed; but the patient died from phlebitis on the eighth day.

CASE 10. M. V., a man, aged 25, was cut on the 16 floréal, year VIII; and though there was no complication in the operation, it was followed by death from phlebitis on the 27th of the same month.

CASE 11. P., a boy, had a small stone removed by Lithotomy, on the 5th May 1792. Rapid recovery.

CASE 12. V., male, aged 17; cut 19th April 1797. Rapid recovery.

CASE 13. M., aged 47, a man, was cut 18th May 1793. Rapid recovery.

CASE 14. Fabre, aged 8 years, cut 9th May 1793. Recovery.

CASE 15. F., a boy, aged 4 years, cut 27th September 1793. Rapid recovery.

CASE 16. R., a boy, aged 7 years, cut 21st September 1793. Recovery.

CASE 17. M., a boy, aged 10 years, cut 7th October 1793. Hæmorrhage occurred, requiring a canula, armed with agaric, to be introduced; but, nevertheless, a rapid recovery ensued.

CASE 18. P., a boy, aged 3 years and 8 months, cut 9th October 1793: stone small; recovery rapid.

CASE 19. T., a boy, aged 17, was cut 4th January 1794. Recovery.

CASE 20. T., a boy, aged 12, cut 2nd May 1795. Rapid recovery.

CASE 21. F., a young lad, cut 2nd May 1795. Rapid recovery.

CASE 22. R., a boy, aged 7, cut 2nd June 1795. The stone was fractured; the operation was protracted, and recovery took two months.

CASE 23. R., a man aged 80, cut 27th May 1796. He had hæmorrhage, requiring the introduction of a canula. Recovery.

CASE 24. G., a man, aged 24, cut on the 3 brumaire, year VII (1797). Recovery.

CASE 25. R., a boy, aged 5, cut 16 frimaire, year VII (1797). The stone was large; and the seizing and extracting of it were difficult. Recovery.

CASE 26. A., a boy, aged 5½ years, cut 16 floréal, year VII (1797). Recovery.

CASE 27. R., a man, aged 75; enormous stone extracted by Lithotomy on 10 floréal, year VIII (1798). Recovery.

CASE 28. L., a man, aged 47, cut 3 fructidor, year VIII; the stone was enormous. Recovery took place, but with a recto-vesical fistula, evidently originating in a wound of the rectum.

CASE 29. A., a boy, aged 9 years, cut 5 floréal, year VIII (1798). Speedy recovery.

CASE 30. R., a boy, aged 9 years, cut 6 frimaire, year X (1800); two small calculi. Speedy recovery.

CASE 31. G., a boy, aged 5 years, cut 20 floréal, year X (1800). Recovery.

CASE 32. B., a boy, aged 4 years, cut 24 floréal, year XI (1801); mulberry calculus. Rapid recovery.

CASE 33. B., a boy, aged 8, cut 9 thermidor, year XII (1802). Recovery.

CASE 34. D., a young lad, cut 2 messidor, year XII (1802). Recovery.

CASE 35. G., a boy, aged 4½, cut 27 brumaire, year XII (1802). Recovery.

CASE 36. C., aged 27: cut 3 floréal, year XIII (1803). The calculus was large and friable; the operation was prolonged. Recovery.

CASE 37. D., a boy aged 13: cut 21 floréal, year XIII (1803). Recovery.

CASE 38. D., a doctor in surgery, aged 65; he had suffered for twenty years, but had never allowed himself to be sounded. Pain, at last, overcame his reluctance: and he was cut for stone on 15th March 1806. The stone was very large; but nothing untoward occurred, and recovery was rapid.

CASE 39. S., a man aged 22: cut 3rd June 1806. Recovery.

CASE 40. C., a boy aged 11: cut 13th September 1806. Speedy recovery.

CASE 41. R., a man, aged 31 : cut 6th December 1806. From the large size of the stone, force had to be used in the extraction ; nothing untoward occurred. Recovery.

CASE 42. T., a boy, aged 8 : cut 24th October 1806. The stone was large and friable ; the child had suffered from his birth ; the operation was prolonged : recovery took place, but there was a urinary fistula.

CASE 43. Servant, the curate of Tulette (Drôme), aged 68 years, was cut on the 9th May 1808 ; he was a lusty subject, and the operation was laborious ; but the success of the operation was complete—a fact worth notice, as ROUX, the famous operator of the Hôtel Dieu, states that every ecclesiastic whom he has cut for stone, has died.

CASE 44. S., aged 56 years : cut, 2nd of September 1810 : large stone. Recovery.

CASE 45. T., a man aged 74 : cut 3rd of October 1810. The stone was very large, and weighed 110 grammes (about 28½ drachms apoth. weight). In spite of the age of the patient, and the force required in extraction, recovery was quick and complete.

CASE 46. F., a man aged 50 : cut 15th October, 1810. Recovery.

CASE 47. C., a man aged 22 : cut 4th October, 1810. Stone large. Recovery.

CASE 48. Madame Valentin, of Avignon, aged 25 : cut 7th October, 1811. The stone was very large, and its extraction was difficult. The incision, which was low, and on the left, involved the vagina. Recovery took place, but she had incontinence of urine.

CASE 49. Madame Cambon, aged 21 : operated on in the same way as Madame V., on 10th November, 1812. She recovered, and had no remaining inconvenience.

CASE 50. P., a boy aged 12 : cut 24th September, 1812. Recovery.

CASE 51. Melin, aged 3½ : Lithotomy 17th May, 1814 : small calculus. Speedy recovery.

CASE 52. Reynaud, aged 64 : large calculus extracted 12th May, 1817 : considerable hæmorrhage. Recovery.

CASE 53. Joussaud : cut 16th June, 1817. Recovery.

CASE 54. Jeaume ; suffered from birth : cut 14th June, 1817. From the number of calculi, the operation was laborious. Recovery in ten weeks.

CASE 55. M., a woman aged 58 : cut 10th June, 1817. Very large stone. Complete recovery.

CASE 56. R., a man aged 17 : cut 19th May, 1818. Success complete.

I now proceed to detail my own experience ; *first*, in Lithotomy ; *second*, in Lithotomy preceded by attempts at Lithotripsy ; and, *lastly*, in cases in which Lithotripsy alone was performed.

I. LITHOTOMY. CASE 1. M. Baldy, of Nîmes, aged 15, had, when six years old, been cut for stone, by M. Pleindoux. Till within two years, he had retained a fistula in perinæo : operated on, 2nd March 1832. Dismissed cured on the 8th April.

CASE 2. M. Martin, of Avignon, aged 20, had suffered from infancy ; but neither her pain, nor the entreaties of her relatives, could induce her to submit to an operation. The operation was ultimately performed on the 18th of January 1837, under the disadvantageous circumstances of a presentiment on the part of the patient that she would not recover. Lithotripsy appearing inadmissible from the large size of the stone, and the very irritable state of the urethra. The stone weighed 77 grammes. For the first days, the patient appeared to be doing well ; but, on the fourth, rigors and fever set in, and she died upon the 24th of January. On dissection, I found the mucous tunic of the bladder red and soft ; there was pus in the iliac veins. The abdomen was distended with gas, and the peritonæum dotted with red spots.

**CASE 3.** B., of Montoux (Vaucluse), aged 9 years, was operated upon, at his father's house, on the 21st of September 1836. The stone weighed ten grammes. Recovery was complete fourteen days after the operation; and the patient, who is now a military officer, has never had any return of the affection.

**CASE 4.** M. C., aged 72, of Entrechaux (Vaucluse), a healthy old man, after suffering for four years, was operated upon on the 11th May 1840. I removed three calculi, smooth and presenting facets formed by friction against each other, and weighing, collectively, 80 grammes. The cure was complete on the 28th June.

**CASE 5.** L., aged 21, of Fresney (Mayenne), who had suffered from his earliest years, was operated upon in hospital on the 10th of January 1841. The stone was bulky and indented, and weighed 45 grammes; it broke under the forceps, but was all removed: and the patient was dismissed cured on the 5th of February.

**CASE 6.** M., a soldier, aged 27, of Bourret (Tarn-et-Garonne), was operated upon on the 18th of January 1842, in hospital. The stone was hard, voluminous, and brown in colour; weighed 60 grammes, and was extracted entire. The wound shewed an indisposition to heal, which rendered it necessary to introduce deeply the solid nitrate of silver. On the 17th of May, being four months after the operation, he went out completely cured.

**CASE 7.** M., aged 15, of Villeneuve (Gard), a thin and irritable youth, had suffered from his earliest recollection; but his parents could never persuade him to allow himself to be sounded, till I was permitted to do this, and discovered a hard calculus with unequal surface. The extremely sensitive condition of the urethra rendered Lithotrity inadmissible; and I performed Lithotomy on the 20th of February 1844. The stone was very large, and very light, not weighing more than 8 grammes. On the 22nd of March the patient left the hospital, perfectly cured.

**CASE 8.** N., a man aged 27, of Labastal (Hautes-Pyrénées), had endured a miserable existence for a long time previous to his entering the hospital, on the 28th of February, 1845. I cut him on the 2nd of March. The case presented a circumstance worthy of being mentioned. There was contraction of the bladder to such an extent, as to impede the separation of the blades of the forceps. The stone, however, was seized and extracted; it weighed 32 grammes. Its appearance might have suggested the idea, that it was a substance moulded in the bladder of a child. On its upper part there was a plane surface; but, upon digital exploration, I satisfied myself that there was not a second stone. The patient left the hospital cured, on the 11th of April.

**CASE 9.** G., aged 4½ years, of Gravasón (Bouches-du-Rhône), had suffered from the time of his lactation. I performed Lithotomy on the 22nd of July, 1847, as, in young children, I infinitely prefer this operation to Lithotrity. He was placed under the full anæsthetic influence of ether. I used polypi forceps, being an instrument which I prefer in children. I removed an oval calculus, of the size of a large bean; after which, I introduced my finger (as I always do in children), and discovered a second calculus, of the size of a pea, which was easily extracted by means of the index finger, without the aid of any instrument. The two stones, collectively, weighed 3 grammes. On examining the second calculus with care, it was found to be covered with facets, which led me to conclude that there were a group of small calculi; but, on again introducing the index finger, I found the bladder completely unembarrassed. The only explanation which can be given of these facets, is to suppose that friction took place between the two calculi. The issue of this case was fortunate. At the end of a month, the child was well; and, though thin, he was in good health. I have seen him this winter, and can testify that he is a superb child, and in the enjoyment of perfect health.

**LITHOTOMY PRECEDED BY ATTEMPTS AT LITHOTRITY.** **CASE 10.** A. B., of Avignon, aged 8 years, was brought into hospital on the 27th March,

1845. I detected a small calculus in the bladder; and, yielding to the wishes of the parents, though in opposition to my own opinion, consented to perform Lithotrity. Having dilated the urethra, I introduced Charrière's modification of Heurteloup's lithotrite. I seized the calculus, and broke off a pretty large fragment, which was voided into the bath in which I placed the patient immediately after operating. The operation was quickly performed; but the restlessness of the patient induced such severe pain, that I thought it my duty at once to propose lithotomy, as offering less inconvenience than Lithotrity. I performed the operation on the 18th of April, and it was followed by quick recovery.

If we may judge from the complaints of the patient, he would seem to have suffered less from the operation of Lithotomy than from Lithotrity, although the calculus had been readily seized and broken. The calculus extracted from the bladder, weighed 5 grammes; and the piece broken off by the lithotrite, one gramme and 50 centigrammes.

CASE 11. Mademoiselle P. M., aged 17 years, of Angles (Gard), had been the subject of calculus for some years, the existence of which she concealed for a considerable time. Her family attendant having discovered its presence, advised Lithotrity; and she was placed under my care. On the 10th of May 1817, I operated on her at Angles, in the presence of Drs. Salomon, senior and junior, Dr. Touzet, and others. The patient having been placed under the influence of ether, I easily introduced a No. 3 Lithotrite, and immediately found a large calculus. The instrument was opened in the bladder with some difficulty; the calculus was broken at three attempts. The patient experienced no pain whatever; and, when she awoke, said she thought she was at church with her father. She was placed in a bath immediately after the operation, where she voided some fragments of the calculus: she also voided some fragments, and a large quantity of detritus, during the night.

The operation was twice repeated, at intervals of a few days; but we found that the calculus still remained large. The patient experienced pretty severe pain in passing the larger fragments; and on the last two occasions of operating, she suffered severe pain, and was very restless: she refused to be etherized. Considering it imprudent to continue Lithotrity, we proposed that Lithotomy should be performed. This was accordingly done on the 25th of June, 1847. We adopted the method improperly attributed to Dubois, but which, according to Paré, belongs to Laurent Collot, a surgeon of the sixteenth century. The incision was made directly upwards, with the lithotome of Friar Côme. As the calculus had been broken in several pieces, we had to introduce the forceps several times. The largest fragment measured 4 centimètres in its greatest diameter. The fragments which had been passed before this operation, weighed 7 grammes; and those which we extracted, amounted to 26 grammes. The result of the operation was most fortunate: on the twentieth day, the patient was completely cured, and was able to visit me at Avignon.

This result must be allowed to be infinitely preferable to that which must have been produced by Lithotrity. This proceeding would have required, perhaps, fifteen or twenty sittings, each nearly as painful as Lithotomy, and have exposed the patient to the risk of fatal cystitis.

We now come to a case in which Lithotrity was impossible, and Lithotomy was the only resource.

CASE 12. Mademoiselle M. M., aged 30 years, of Malaucène (Vaucluse), had, a month previously, introduced a pen-case into the urethra, which escaped, and fell into the bladder. She came to me, and, with much hesitation, confessed what she had done. I detected the presence of the foreign body by means of a catheter, and endeavoured, but in vain, to extract it with Heurteloup's lithotrite. It was easily seized; but, on attempting to extract it, resistance was encountered, and the patient was put to great pain. It was evident that the foreign body lay transversely, and that it was probably impossible to make it change its direction. We proposed Lithotomy, which

was immediately accepted. On the 19th June 1847, having perfectly etherized the patient, I operated with a lithotome, making the incision directly upwards. I introduced the index finger of my left hand, and discovered that the body was actually placed transversely: I caused it to assume a longitudinal direction, and introduced a pair of polypus forceps along the finger, by the aid of which I extracted the substance without difficulty. It was almost entirely covered with an incrustation of phosphate of lime; there was a depression at the point where it had been seized by the lithotrite: it was eight centimètres in length, and weighed three grammes.

The rapid success of this operation could not have been surpassed. Eight days after the operation, the patient was able to return home, perfectly cured.

It is somewhat remarkable, that, a few days after, I read in the *Bulletin de l'Académie* (15 July, 1847), an account of a perfectly similar case to that which I have just related, occurring in a male. As in my patient, Lithotrity was impracticable, and Lithotomy was followed by cure.

**LITHOTRITY.** CASE 13. M. P., of Avignon, aged 68 years, had long suffered from calculus; but he would not consent to Lithotomy. The pain, however, becoming more severe, the general health being impaired, and the urine depositing a glairy fœtid matter, he was compelled to decide on an operation, and chose Lithotrity. On the 25th January 1832, after having previously calmed the patient with baths and refreshing drinks, we proceeded to the operation, using M. Civiale's instruments, which were then generally employed. Although I had several times performed Lithotrity on the dead body, and had demonstrated it to the pupils at the hospital, this was the first occasion of my operating on the living subject.

The instruments were introduced easily enough; but there was difficulty in seizing the stone, from its large size, and from the contracted state and excessive sensibility of the bladder. At last, however, the stone was seized, and perforated in several points, by slightly relaxing the hold and rotating it. This sitting lasted eight minutes. A pretty large quantity of detritus was passed on the same day: on the next, the patient felt tolerably well; but, two days after, there was tenderness and tension in the hypogastrium, with difficult passage of urine. This was ascertained, by means of a sound, not to arise from the retention of a fragment of the calculus in the urethra. A large number of leeches were applied; and baths, lavements, with calmative draughts and applications, were prescribed; but nothing could arrest the progress of the inflammation of the bladder. The patient went on getting worse, and died on the 26th February, a month after the operation. Although the cystitis only appeared on the third day, and death did not take place for a month, we think that no one can doubt that the Lithotrity was the cause of death. At the autopsy, we found the calculus broken into numerous fragments. It weighed altogether 52 grammes, and the nucleus bore the mark of the perforator. The mucous membrane of the bladder was red, softened, and covered with a layer of purulent mucus, having the appearance of a false membrane. The peritoneum presented some red points of inflammation. The abdomen was distended with gas: this had distressed the patient during the whole course of his illness.

CASE 14. M. R., of Orange (Vaucluse), had Lithotrity performed by M. A. Jourkoski, on the 3rd of October 1841. I was not present at the operation, but only know that percussion instruments were used, and that there is no reason to doubt that it was performed skilfully. On the 5th of October, two days after the operation, I was called to the patient, who was in a state of ardent fever, with burning skin, tension, and pain in the abdomen, and difficulty in micturition. By aid of the catheter, I recognized the presence of a calculus, and drew off a large quantity of urine. The patient felt great pain in the bladder, and earnestly requested me to relieve him by an operation. I confined my treatment, however, to calmatives and antiphlogistics, but without any hope of a favourable result. In this I was not mistaken, for the patient died on the following day. An autopsy was not made. In this

case, death was so evidently and rapidly the result of a single sitting of Lithotrixy, that we do not think that the most ardent admirers of this operation can mistake it. We will now relate some successful cases.

CASE 15. E. B., aged 16, of Tarascon (Bouches-du-Rhône), had been suffering for about a year, and was supposed to have a calculus. He came to Avignon to consult me; I recognized the presence of a small stone, and proposed Lithotrixy, to which he consented. On the 5th of March 1832, we operated with Civiale's instrument. The instrument was easily introduced, and the calculus was readily seized and broken up, being small and friable. The patient experienced severe pain during the search for the calculus, but afterwards did not complain. A pretty large quantity of detritus was passed in the warm bath, and a larger quantity during the night; some of the fragments were rather large, and gave some pain. The whole of the detritus weighed three grammes. The next morning, the patient had no pain; and, though we sounded him on several occasions, we could discover nothing in the bladder. He was evidently perfectly cured. If Lithotrixy were always attended with such results, it would be one of the most splendid operations.

CASE 16. M. J. A., aged 82, of Avignon, presents us with an interesting case. He was a timid man, who had suffered for a number of years, but had never been able to determine to be operated on, not even to be sounded. At last he consented; and I recognized the presence of several apparently hard and resistant calculi, which gave a very distinct sound on being struck. Lithotrixy seemed the only practicable operation; it was accordingly performed for the first time on the 25th of February 1833, with M. Heurteloup's instruments. The canal was very large; the instrument was easily introduced, and I soon seized a large calculus, about the size of an egg, which offered some resistance to the action of the lithotrite, but which I succeeded in breaking down. The patient groaned a good deal, but did not seem to suffer much; he appeared to have more fear than pain. He immediately voided a considerable quantity of detritus. Four days after, the operation was repeated with the same results; and we were obliged to have recourse to it fourteen times. He was under treatment up to the end of October; and there were several circumstances which gave me anxiety. On several occasions, the operation was followed by an attack of violent fever; and the patient each time became more impatient of the operation, and appeared to suffer more. At last I had the happiness of telling him, that I could find nothing in his bladder. The disappearance of pain confirmed my diagnosis; and, in spite of his advanced age, M. A. was restored to health.

It cannot be denied, that, in spite of the pain and of the difficulties attending the operation, the success was due to Lithotrixy. The detritus, as far as they could be collected, weighed 20 grammes; but it is probable that the patient lost a considerable quantity.

CASE 17. M. B., aged 22, of Bollènes (Vaucluse), had suffered for several years from a single and rather small calculus; his general health was good. On the 9th of May 1840, we performed Lithotrixy with M. Heurteloup's instrument, and repeated the operation thrice subsequently. The patient returned home, perfectly cured, on the 9th of June. The detritus of the calculus weighed 6 grammes.

CASE 18. M. A. A., aged 22, of Cèbagola, (Corsica) presents us with an analogous case. First sitting, 21st of March 1842. Calculus of moderate size, but hard: operation performed with percussion instruments: cured on the 19th of April, after five sittings. We collected 15 grammes of detritus.

CASE 19. M. P. R., aged 17, of Avignon, was as fortunate as the two preceding patients. On the 15th February 1843, we operated for the first time; but the narrowness of the canal caused considerable resistance and pain. The calculus was small and friable; in fact, the smallest I ever met with. The collected fragments weighed 10 grammes. The operation was repeated four times, at intervals of a few days: on each occasion, fever supervened. The patient was cured in the space of a month.



**CASE 20.** M. M., aged 25, of Borey (Haute-Saône), had suffered several years from stone. He told me that M. Pétrequin had discovered the existence of one, at Lyons; but he had not been able to determine to submit to an operation. Having, however, seen a patient at Avignon, on whom I had operated, he requested me to perform Lithotrity. To this I consented; and, on the 14th January 1844, operated for the first time. The stone was large; the graduated scale on the instrument indicated 35 millimètres: it was easily broken down, but offered some resistance, which increased towards the centre. The patient experienced some pain, from the retention of one of the fragments in his urethra; and I was obliged to remove it with a three-branched forceps. The operation was repeated six days after, and in all, nine times. The patient was under treatment during two months, and was found to be cured on the 11th March. The calculus weighed 30 grammes: it was formed of two layers; the external soft, friable, consisting of phosphate of lime; the internal hard, brittle, composed of uric acid.

**REMARKS.** When we take into consideration the duration of the treatment, the number of sittings which were necessary, the necessity of using Hunter's forceps to search for fragments—we may ask, whether Lithotrity possesses any marked advantages over Lithotomy. It will be seen that, out of sixty patients operated on by my father, there were only five deaths, or one in twelve. I have arrived at exactly the same result: of nine patients on whom Lithotomy was primarily performed, one died; and of three, in whom Lithotomy was preceded by attempts at Lithotrity, none died; which gives one death in twelve cases of Lithotomy.

In Lithotrity, I have been less fortunate; for in eight operations, seven by myself, and one by another operator, two patients died. This gives a proportion of one in four. I have three times found Lithotrity useless, or attended with such inconvenience that I was obliged to have recourse to Lithotomy. I know that it will be said, that I do not praise Lithotrity, because I do not know how to perform it. This reproach, however, has been addressed to my illustrious masters, MM. Roux and Velpeau.

My father had five relapses among fifty-six cases; and in the case of M. Baldy, of Nîmes, I found a calculus in the tissue of the perineum. In 72 operations, then, there were six cases of relapse. I would desire much to know, whether, in an equal number of cases of Lithotrity, there would not be a greater proportion of relapses.

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OPERATION FOR THE EXTRACTION OF A WOMAN'S DOUBLE HAIR-PIN FROM THE MALE URETHRA.

DR. SOULÉ, Surgeon to St. Andrew's Hospital, in Bourdeaux, has published the following case in the *Journal de Médecine* of that city. A man, aged 23, came to Dr. Soulé, stating that his mistress had, while he slept, introduced into his urethra, one of those black forceps-shaped pins which women use for arranging their hair; but he afterwards owned that he had himself committed the folly. The blunt curve had been pushed inwards; and the two sharp points were scarcely two centimètres from the orifice. Attempts at extraction by the natural passage having failed, the penis was strongly bent, so as to cause the points of the pin to traverse the inferior wall of the urethra. The curved portion uniting the two stems was then straightened, and one of the stems was cut off close to the penis, when the extraction was completed with much difficulty. The penis was enveloped in compresses wetted with cold water; and in two days the patient left the hospital, presenting no trace of what had happened, except two ecchymotic spots, corresponding to the two punctures made by the points of the pin. The procedure of Dr. Soulé is similar to that recommended in 1847, by Dr. Boinet, in the *Journal des Connaissances Medico-Chirurgicales*, to which work we must refer for farther details.