injury; and this not unfrequently. Again, in the female sex, but much more rarely, the bones of an extrauterine fetus have gradually made their way into the bladder, and have been removed from it by the surgeon. The present instance, however, of safe elimination of bone by the way of the male bladder, adds one more to the many examples of successful issue to those natural processes, extremely slow in their action, through which the human organism accomplishes results which from any surgical proceeding, however skilfully conducted, would be impossible.

A careful examination of the calculi preserved in the metropolitan pathological museums has been made, and I find that all the examples in any way related to the case before us are as follows.

In the museum of the Royal College of Surgeons is one example, numbered "H. a. 11," of a calculus having for its nucleus a fragment of bone; but it was removed from the bladder of a woman, and is without history. It was presented by Sir Wm. Blizard, and forms one of the illustrations in the published catalogue of calculi.

In the museum of Guy's Hospital there is an example, numbered 2150, of a light-coloured calculus, composed of phosphate of lime. It has a spongy cancellated structure. Dr. Babington has remarked in the printed catalogue respecting it: "This is unlike any calculus I have seen; it seems like a bony concretion, and not a deposit."

In the museum of University College is "a sequestrum from the pubes, covered with calcareous deposit." It was taken, however, not from the bladder itself, but "from a cyst which communicated with the urethra close to the neck of the bladder, and opened into the perineum." The sequestrum was removed from this cyst by operation.

No similar specimens were found in the museums of St. Bartholomew's, Middlesex, St. George's, King's College, and St. Mary's Hospitals.

In reference to my patient, I have only further to add, that the remainder of the stone was very soon removed, and that he was discharged from the hospital cured on the 15th of July. I have recently heard from Dr. West that he is now perfectly well.

AMPUTATION AT THE KNEE-JOINT IN MILITARY PRACTICE.

By THOMAS LONGMORE, Esq.,

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IN the BRITISH MEDICAL JOURNAL of December 8th 1866, page 627, a table is quoted by Mr. Swain in his excellent essay on Diseased Conditions of the Knee-Joint, to show the rate of mortality following amputation of the thigh in various parts during the Crimean war; among other parts, at the knee-joint. The table, as mentioned, is extracted from Dr. Macleod's valuable *Notes on the Surgery of the War in the Crimea*; its original source having been the Director-General's official surgical report of the war. It seems well to call attention to the fact, however, that the number of cases in which amputation at the knee-joint was performed in the British army was so limited, that hardly any fair statistical deductions can be made from their results. The columns in the Return of Amputations, and their ratios of mortality, in the official report, show there were only 6 primary amputations at the knee, of which 3 proved fatal, or 50 per cent.; and 1 secondary, which proved fatal, or 100 per cent. With such small numbers,

statistics are of little use. Nothing could better prove this, than the circumstance that, if this secondary case had survived, the recoveries after secondary operations would have appeared as 100 per cent. in the official return.

In the French army, amputation at the knee was resorted to much more frequently than in the English army. Dr. Chenu, of the French military medical service (who undertook, and has admirably executed, the herculean task of compiling the statistics of upwards of 400,000 admissions into the French hospitals during the Crimean war), has traced the results of 69 amputations of the knee-joint in a special table. Of these, he shows that 63 proved fatal; a ratio of mortality of 91 per cent. Dr. Legouest, in his *Traité de Chirurgie d'Armée* (p. 735), refers to 78 cases of amputation at the knee-joint in the French army during the Crimean war; but Dr. Chenu's returns have been so carefully elaborated, that his numbers are doubtless the more correct. It is of no importance, however, as regards statistical reference, which number is right; for in each the ratio of mortality is the same. Dr. Legouest's table records that of the 78 cases, 71 died; showing, therefore, a mortality of 91 per cent., the same as Dr. Chenu. Hence, Dr. Legouest affirms, amputation at the knee should be abandoned, and amputation of the thigh employed instead.

The United States army surgeons do not appear to have been deterred by the results of the Crimean experience from practising amputation at the knee-joint during the late civil war. On the contrary, the most recent report from the Surgeon-General's office at Washington, states that this operation "has found numerous advocates during the war, and has been frequently performed. The returns to October 1864 give 132 cases. Of these, 52 recovered and 64 died; in 6 cases, amputation of the thigh was subsequently performed, with 3 recoveries and 3 deaths; in 10 cases, the result is undetermined. These figures are encouraging; and, if we look at the primary operations alone, the result is still more gratifying. Of 49 cases of primary amputation at the knee-joint, 31 recovered and 16 died; while 2 underwent re-amputation, of whom 1 recovered, and 1 (a tuberculous subject) died. This gives a percentage of mortality in primary amputations at the knee-joint of only 34.9."*

I have a very strong hope that in any future war amputation at the knee-joint will be performed more frequently than it has hitherto been performed by surgeons in our own army, and with results at least as favourable as those recorded in the United States army reports. Mr. Syme has recently pointed out so fully the safety and the excellent results of Mr. Carden's single skin-flap amputation at the knee, and the operation avoids so many of the difficulties and untowards circumstances which attend the ordinary mode of performing the operation, especially under the conditions of campaigning, that I trust Mr. Carden's operation will not be forgotten in our future field surgery. There are so many kinds of gunshot injury to which it is applicable, and for which amputation of the thigh is now practised—cases of laceration at the upper part of the leg on its posterior aspect preventing the formation of an underflap cut from the calf on the old plan; penetrating wounds of the articulation by bullets when the end of the femur has only received superficial injury; fractures at the upper part of the tibia complicated with lesion of the principal blood-vessels or involving its articular surface—that, if it be adopted,

* Circular No. 6, Surgeon-General's Office, Washington, Nov. 1st, 1865, page 47.

I anticipate a considerable saving of life will result: on the one hand, by proportionably avoiding the established high rate of mortality accompanying amputations of the thigh; and, on the other hand, from the intrinsic safety of the operation according to Mr. Carden's plan.*

Reports

OF

HOSPITAL PRACTICE: METROPOLITAN AND PROVINCIAL.

KING'S COLLEGE HOSPITAL.

REMOVAL OF DEAD BONE FROM THE RIGHT TIBIA.

(Under the care of Sir W. FERGUSSON.)

THE subject of this case was a pale scrofulous-looking boy, between 12 and 14 years of age, who, in consequence of some injury to the fore part of his right leg, had become affected with extensive necrosis of the shaft of the tibia. The point of interest in the case is, that the patient had, about six or eight weeks previously, been brought into the operating-theatre, and an incision had been made down to the bone, although it was uncertain at the time whether the bone were denuded or not. Such a procedure would, as Sir W. Fergusson remarked, have been considered most objectionable—in fact, as opposed to all rule in good surgery—a few years ago; but experience had taught him, he said, that it was the best and wisest plan to pursue whenever, from concomitant circumstances, it could be inferred that there was necrosis of a bone. The rule used formerly to be, and still is with some surgeons, to do nothing, and wait until Nature has loosened the dead bone completely, when it can be extracted. But Sir William maintains that, by so doing, time is allowed for such an amount of new bone to form that it becomes very difficult, nay, in some cases impossible, to get at the sequestrum; so that amputation of the limb has to be performed as a last resource, when the patient is worn out by the long continued and exhausting discharge which is kept up by the irritation caused by the retained sequestrum. The plan advocated by Sir William consists in cutting down to the diseased bone, and in dividing the periosteum, the bone-forming membrane, so as to prevent the dead bone from being completely encased in or overlaid by a mass of new bone. In the present instance, the risk attendant on delay was well exemplified; for new bone, still soft and spongy, and therefore easily removable, was already encroaching on a necrosed portion of the shaft, low down in the leg, which was not yet loosened so as to admit of removal. The piece of dead bone, which was taken away from about the middle third of the tibia, exhibited the well known jagged irregular outline of exfoliated bone, with long angular projections.

* "The advantages of this operation are not limited to its facility and satisfactory results in the event of recovery, since its great claim to respect and confidence is the safety that attends its performance. This I believe mainly depends upon the dense bone and medullary texture not being concerned; but, however explained, it certainly presents a most remarkable contrast with the danger which attends amputation at the thigh." (Professor Syme, in the *Edinburgh Medical Journal*, April 1866, p. 872.)

UNIVERSITY COLLEGE HOSPITAL.

FRACTURE OF THE PELVIS: LACERATION OF THE URETHRA: ABSCESS IN PERINEUM: RECOVERY.

(Under the care of Mr. ERICHSEN.)

THE exact seat of fracture was not made out in this case, as it was not considered advisable to handle the parts too much, for fear of increasing the damage already done; but, from the extreme mobility of the left half of the pelvis, the pain felt at the upper and inner part of the thigh whenever the limb was moved, and the laceration of the urethra, fracture of the pelvis, probably in its left pubic portion, was diagnosed. We are indebted to Mr. J. W. Langmore, house-surgeon, for the following notes of the case.

J. H., a very tall, strong, healthy-looking stonemason, was admitted on October 11th, 1866. He was working in the yard that morning, when a fellow-workman called out to him that a mass of stone was coming down; and, before he had time to get out of the way, it fell on his hip and knocked him down. It was a piece of rough stone, standing on end about 6½ feet high, and weighed about a ton and a half.

On admission, he complained of great pain at the upper and inner part of the left thigh, when the limb was moved. On undressing him, blood was seen oozing from his penis. Over the left trochanter was a large semi-fluctuating swelling, and the skin was slightly abraded; the leg was rather everted and abducted, but there was no shortening. The patient could not move it himself, but it was moveable though it gave great pain. On pressing on the iliac crests, the left os innominatum was found to be abnormally mobile. The house-surgeon attempted to introduce a No. 10 elastic catheter; but, after passing a rough place in the neighbourhood of the triangular ligament, the instrument was arrested by some obstruction, and its point could be felt per anum to be in the middle line, but too close to the gut. About the middle of the day, the patient seemed to be getting worse: his pulse became rapid (120) and lost strength, his skin was hot, and he complained of great thirst. In the absence of Mr. Erichsen from town, Mr. Thompson was sent for, and after some trouble succeeded in introducing a flexible India-rubber catheter on a nearly straight stiletto: about one-third of a pint of bloody urine came away, and the catheter was tied in.

October 12th. Urine flows freely through the instrument, and is quite clear. Slight tenderness over the bladder; tenderness in the perineum on firm pressure. Patient slightly feverish.

October 15th. He had severe rigors for a quarter of an hour, immediately after which, the temperature rose to 104°, and the pulse to 135.

October 24th. The catheter was removed, and no fresh one introduced; but, four days afterwards, the patient having been unable to void his urine, an instrument had to be passed again, and some greenish pus then came away. The patient's urine had from that time to be drawn off every day; no instrument could be left in the bladder, as it set up inflammation, and the urine became thick and full of mucus. After a catheter had been introduced in the morning, however, the patient could micturate in a full stream for the rest of the day.

He gradually and steadily improved, and was discharged well on November 20th. He had learnt in the meantime to use a catheter himself. He has lately come to show himself at the hospital, and stated that he is still obliged to have recourse to the catheter about twice a week. Some roughness is