Secondly, as in cases of calculus, the coats of the bladder are thickened, while its cavity is diminished; the ureter as it runs through these coats is subjected to further constriction.

Thirdly, the spasmodic contraction of the bladder on a stone in its interior, would tend to occlude the openings.

Judging by the analogy of the urethra, we may, I think, conclude that spasmodic contraction of the ureter is more frequent than is generally supposed; and that a spasmodic stricture, which would cause considerable retention during life, might leave but slight traces *post mortem*.

We are, I think, justified in the conclusion that the chief factor in the production of renal disease in cases of contracted bladder, whether from calculus or other cause, is the strictured openings of the ureters.

The structure of the stone appears to be very unusual, the intense hardness of the middle layer, which is composed of phosphate of lime, being remarkable; it is susceptible of a high degree of polish; and had it been subjected to lithotrity it would have, no doubt, taxed to the utmost the powers of the instrument.

ART. III.—*A Few Remarks on Enucleation of the Eyeball for Traumatic Inflammation.* By H. MACNAUGHTON JONES, M.D., M.Ch., F.R.C.S.I. and Edin.; Surgeon, Cork Ophthalmic and Aural Hospital, &c.

SOME time since I published in this Journal, with some accompanying observations, the particulars of a case in which I enucleated the eyeball on the suspicion of a foreign body remaining in the eye, and where a piece of percussion cap was found, after removal of the eyeball, lodged in the vitreous humour. I then dwelt (Feb., 1876) on the responsibility which rests on the surgeon who, in certain traumatic cases, advises the injured ball to be retained, and pursues an expectant plan of treatment. Having then epitomised the views of modern Continental and British ophthalmologists on this subject, it is not necessary again here to refer to these. Since that paper was written, during the year 1876, it has fallen to my lot, in hospital and in private practice, to see an unusually large number of serious accidents attended with severe injury to the eye. In forty-five cases of serious wounds treated in the hospital the operation of enucleation had to be resorted to fifteen times; besides, I saw three patients in private practice requiring removal of

the eyeball. Of the hospital cases three had the eye removed for sympathetic inflammation occurring previous to admission to hospital; in the remaining cases the wounds were of such a hopeless nature that it became a matter of expediency to remove the eye at once. Two of the three cases in which the eye was removed for sympathetic changes in the sound eye recovered with a permanent impairment of vision in the sympathetically affected eye. Of the three cases operated on in private, one, a little boy of about four years, was brought a long distance for removal of a stump, with sympathetic changes occurring in the other eye from irritation caused by the collapsed ball. This child narrowly escaped loss of vision, as for months, with constant care and watching, the sound eye remained very sensitive to light, injected, and watery. It was only recently that I learned from the child's father that the eye had nearly altogether recovered, and had lost the extreme sensibility which was present for some time after the operation. The second case was that of a gentleman who came some weeks after an injury, caused by the accidental stab of a knife, with sympathetic mischief setting in in the other eye, marked by intolerance of light, injection of the vessels, slight diminution of tension, lachrymation, and some pain. The eye improved immediately on removal of the injured ball; but even yet there is a diminution of vision and an increased sensibility. The third case was that of a gentleman whose eye was removed for an explosion of the cartridge of a breechloader; he was pushing the cartridge in with a stone, when it suddenly exploded in his face; the grains of powder were imbedded all over the face, and several penetrated one of his eyes.

The notes of the case I now append (the first I operated on in 1877) are instructive, as it was one of those cases in which hesitation might have been fatal to the uninjured eye, yet in which no foreign body was found on enucleation, though the fear that such might be present was one of the grounds urged on the parents to decide to have the organ removed:—

Mast. C., aged fourteen, consulted me in February last. Twenty-five days previously a bottle containing some gunpowder exploded, and a portion of the glass had either struck or entered the eye. The eye was blind from the time of the injury, and he had suffered great pain for a week subsequent to its occurrence. He had been seen by other medical men, and in consequence of the great sensitiveness to light and the non-improvement of the eye was sent to me. When I saw him there was that extreme intolerance of light so characteristic of intra-ocular mischief.

He could not bear even a glimmer of light without pain. On examination I found the tunics of the injured eyeball generally injected; the cornea and iris healthy; and a small healed wound at the sclero-corneal junction, at the upper and outer margin of the cornea, about four lines in extent to the cicatrix, of which the iris was adherent. The lens was swollen and opaque. Towards the displacement of the pupil there appeared to be a different reflection with transmitted light, and I fancied I could distinctly define a region to the upper and outer margin of the crystalline lens, from which a dull reflection came. The eyeball was sensitive to the touch, but not extremely so. The fundus of the sound eye, on examination with the ophthalmoscope, was found to be generally hyperæmic; the optic disc had an abnormally red look, all the vessels being congested. I proposed and carried out enucleation the day on which I saw the patient, for the following reasons:—1st. The uncertainty of a foreign body being in the injured ball, and the possibility or even the probability of such being the fact; 2nd. The probability that pus had formed and was forming in the posterior chamber and in the neighbourhood of the ciliary body; 3rd. The imminent risk to the sound eye from delay, as evinced by (*a*) the intolerance of light, and (*b*) the ophthalmoscopic appearances in it. The eye was taken out under ether. The patient had next day complete relief from the great intolerance of light. He returned home one week after the operation, improved in his general health, which was affected by the suffering he underwent, and with the sound eye perfectly recovered. I examined the globe with Dr. R. Atkins. We searched carefully for a foreign body, and could not find any. The iris was healthy; the lens was opaque and dense; the vitreous was all disorganised, being in parts purulent, and in parts on the verge of suppuration; the retina was separated extensively. We examined portions of the vitreous under the microscope, and confirmed these naked-eye appearances, seeing distinctly the pus corpuscles and granule cells—"the vitreous humour being," as Dr. Atkins subsequently wrote me on a more careful examination, "clouded, containing numerous flocculi, in parts of a greenish yellow colour, consisting of multitudes of minute fatty globules and large granule cells. The retina was thickened and tough. Under the microscope many of its nerve-cells were studded with oil and fatty globules."

It is not necessary to add that had an expectant plan been adopted in such a case as this, or any doubt been exhibited, the result in all probability would have been ophthalmitis in the injured ball, and impaired or lost vision in the now healthy eye.