with artificial anus, noisome to others, and a burden even to himself. But this is a subject too extensive to be here more fully considered. Endeavours towards the cure of artificial anus are made by the apparatus, and according to the system of treatment, invented by Dupuytren ; and sometimes they prove successful.

In the treatment of calculous disorders, modern improve­ment has effected much. Chemistry, happily combined with pathology, has taught the surgeon in many cases to antici­pate cure by prevention, detecting the tendency to deposit in the secretions of the kidney, ascertaining the exact nature of that deposit, and then applying, according to its nature, the suitable corrective. When there is reason to believe that calculus has actually formed in the bladder, its presence is to be ascertained by careful sounding. Many affections— for example, diseased kidneys or fundament, worms or other causes of irritation in the bowels—occasion all the ordinary symptoms of stone ; and it is only after the surgeon has dis­tinctly heard the stroke of his sound on the foreign body, that he can be certain that a stone exists. The most con­venient instrument for exploring all parts of the bladder is a sound, steel throughout, with a sharp and sudden curve. When, by its cautious and patient use, the presence of a calculus is no longer doubtful, and some estimate has also been made of its size and form, the question then arises between patient and surgeon as to the preferable mode of its summary extrusion ; for removal by chemical solvents, though sanctioned by act of parliament, is no longer trusted to. It is only within these twenty years that a power of se­lection has existed ; till thcn, the knife alone presented hopes of relief. Now, however, *cutting* is often superseded by *crushing,* and rightly. Indeed it is a *qutestio vexata* among many, as to whether lithotomy or lithotrity be the better adapted for general use ; and each has its zealous and un­compromising advocates. As is usual in such cases, we shall probably find that truth lies in the middle, and that both operations must still be employed, each finding cases to which it is peculiarly applicable. Lithotrity was at first a very imperfect art, difficult and complicated in perform­ance, often failing in the attainment of its object, and not seldom followed by the most untoward results. Its practice was likewise in a great measure confined to a particular set of operators, not the best qualified for such undertakings, who, regarding it as a means of gain alone, were not long in bringing discredit on its reckless and indiscriminate use. Thus a great advantage was given to the old operation, over its imprudently managed rival. But the instruments and pro­cedure of lithotrity have of late been greatly improved, and have become, as is usual in such improvements, more easy and simple, and at the same time more effective. They now receive the attention of every well-educated surgeon ; the student applies to lithotomy and lithotrity with equal care and attention, and endeavours to perfect himself in the ma­nipulations of both; and in consequence, the latter operation has been rescued from the empirical professor, and placed in the better qualified hands of the regular practitioner. There is not now, as in the time of “ the invasion of professed stone-grinders,” some years ago, an indiscriminate performance of one operation, in all cases, simply because the operator knows no other. The circumstances of the case had then very little influence in determining the nature of the operative procedure. If a surgeon was applied to, the knife was recommended; and “ if the patient fell into the hands of the professed stone-grinder, he was certain, under all circumstances, of being subjected to the hammer­ing and boring processes.” Now, application being made to the regular practitioner, at least in the first instance, he, equally acquainted with either mode of operating, consci­entiously advises the one which circumstances require, either operating himself, or employing one whom he may consi­der more dexterous and equally skilful. Lithotrity can only

be safely performed by those “ who understand well the healthy anatomy of the urethra and bladder ; who are ac­quainted with their sympathies, vital actions, and patholo­gical changes ; and who understand and practise the treat­ment of their deranged functions.” And by such it is now performed, in the cases to which it is applicable. In pati­ents above the age of puberty, when the symptoms have not been of very long duration, when the stone has been ascertained not to exceed a chestnut in size, when the ure­thra is free from contraction, when the bladder is capacious, tolerably healthy in its coats, and free from irritability of its lining membrane, and when the individual is of an easy, patient disposition ; under a combination of such circum­stances, lithotrity is the preferable operation ; in other cases, lithotomy. It is thus apparent, that possibly lithotrity may in time almost entirely supersede lithotomy in the adult ; all that is necessary being, that the patient apply to a well- qualified surgeon at the very commencement of his ailments. But until wisdom shall pervade mankind to this extent, very many cases must occur in which the old operation, well performed, is much to be preferred ; and this need not be greatly regretted, for the actual difference between the two operations as to pain and danger is not so great as is gene­rally supposed.

The simple instrument of two branches, as made by the Messrs Weiss, has superseded all the more complicated and less effective apparatus for lithotrity ; as also Cooper’s for­ceps for removal of small stones by the urcthra. The in­strument having been introduced into the bladder, tolerably distended, is brought in contact with the stone ; its blades are opened, and the stone brought between, great care being taken that the mucous membrane is uninjured; the blades are then approximated by the screw, and the interposed stone crushed more or less completely. When the stone is single, small, and friable, one such proceeding will suf­fice : if not, the fragments are seized and bruised in suc­cession, either at the time, or at one or more subsequent sittings. The screw-power is preferred to that of the ham­mer, as equally efficient and more safe, not endangering the twisting or breaking of the instrument. Diluents are freely exhibited, to promote and facilitate passage of the detritus with the urine. Should the pain and irritation thus occa­sioned prove severe, opiates, blood-letting, and hot bathing, may be required. But, in general, if the case have been judiciously selected, and the operation skilfully performed, the subsequent irritation will be but slight ; and after a few days, examination of the bladder may be resumed, to ascer­tain whether or not all the fragments have been extruded. This exploration cannot be too minute and careful, for the greatest stumbling-block to the advancement of lithotrity in the confidence of the profession, has been the uncertainty as to whether or not the bladder has by such proceedings been completely freed from every fragment, it being well known that but a very small portion of foreign matter re­maining will become the nucleus of further deposit, and speedily re-establish the disease. The advantage of litho­tomy is, that, for final exploration of the bladder, it has the finger, which, if at all experienced, can seldom be deceived. Lithotrity has but the sound for the same purpose, and must endeavour to make patience, dexterity, and care, com­pensate for the inferiority of the instrument.

But when the stone is large, and has been long resident in the bladder, this viscus has its cavity contracted, its coats fasciculated, and its surface irregular, affording receptacles for the fragments, from which the most careful manipula­tions may not dislodge them. Besides, such a bladder will not bear the annoyance of instruments often introduced ; indeed the mere change of a tolerably smooth stone into angular fragments, may be sufficient to excite even fatal disturbance of the viscus and of the system. In all such cases, therefore, lithotomy is the preferable operation ; it