(1) conditions under which the surgical treatment of stone in the bladder, in the adult male particularly, have to be undertaken, at all events in this country ; and (2) various operations which may be selected for its cure or relief. Of course, the relative proportions of the latter to each other will vary in some degree, and it is only reasonable that this should be expected. I well remember some years ago, when "lithotomy *versus* lithotripsy" was a burning question, being present as a junior at a consultation where after the diagnosis of stone in the bladder had been made the operating surgeon in charge asked the opinion of his senior colleague, a man possessed of much common-sense and surgical experience, as to whether crushing the stone or cutting should be practised. "Whichever you can do best," was the prompt but somewhat curt reply. Lithotomy was selected and the patient made an excellent recovery. I doubt if at that time crushing had been resorted to whether the case would have terminated equally well. Where the pathological conditions were so equally balanced I do not think a better answer could have been given.

Lower Berkeley street, W.

GENERAL PARALYSIS OF THE INSANE:
AN ATTEMPT TO ASCERTAIN ITS
AVERAGE DURATION AT THE
PRESENT DAY.
BY JAMES ADAM,
FORMERLY PHYSICIAN SUPERINTENDENT TO THE CRICHTON ROYAL
INSTITUTION, TO THE SOUTHERN COUNTIES' ASYLUM, AND
TO THE METROPOLITAN DISTRICT ASYLUM,
CATERHAM, ETC.

PERHAPS there are no cases which come under treatment in the various institutions for the insane throughout the country which excite more interest or attract greater attention than those of the prevalent disease known as general paralysis. I use the word prevalent because it is found so in and near large centres of population, although in districts more sparsely populated it may be more rarely met with. Often obscure in its earlier manifestations, there usually no longer exists any doubt as to the actual character of the malady as it presents itself in these institutions, for by the time the case reaches them it has developed at least some of its typical and unmistakable features. So much has been already written by competent writers on the subject of general paralysis that there is little or nothing left to add regarding its general characteristics and it would not accord with the object held in view by the writer of this article were he to attempt to do so. It may therefore suffice for the present purpose to allude to four stages through which the disease commonly passes and to remark in passing that the duration of those various stages differs much in different cases ; that the disease occurs more frequently in males than in females ; and that when it does occur in the female sex the symptoms, especially the mental symptoms, differ from those in the male sex.

The first stage which calls for notice is the period of onset during which the patient, with his malady more or less unrecognised, is usually resident in his own home, goes about, or attempts to go about, his daily avocations and still remains a free agent, brooking no control, squandering his money recklessly, and being immoral to his heart's content. The importance of a correct diagnosis being made at this stage is evident, so that proper steps may be taken for care and treatment with as little delay as possible. But these steps are too often, almost of necessity, delayed until much and irretrievable mischief is done.

Then follows the second stage, during which, the disease having fully developed itself, removal to an asylum becomes imperative, and it is usually in this stage that the patient is first seen in such an institution and for the first time becomes subject to carefully and accurately recorded statistics. There is, I think, little doubt that much may be done by treatment during this second stage to favour arrest or possible cure. The value of such arrest or cure if brought about goes without saying, for not a few of those affected by general paralysis are persons of property, and a successful and just disposition of property may be accomplished at such a period.

In favourable cases a third stage sooner or later sets in—a stage of arrest of the disease, during which the patient

becomes quiescent and docile and gains flesh. He also regains much of his lost mental power and coherence and self-control return. In some cases he even wholly recovers, there being well-authenticated instances, as recorded below, not only of recovery from well-marked general paralysis but of successful resumption of business, and this even in the busy heart of the metropolis itself.

The fourth stage needs little comment. Utter helplessness is usually ushered in by epileptoid or apoplectiform seizures, and as a rule such seizures are continued or are frequently repeated until exhaustion or coma mercifully closes the scene.

Having thus described the stages through which this strange malady usually passes I will now endeavour to ascertain as nearly as possible the average length of time occupied in passing through them. It will, I think, be found practically that duration is governed by that stage which I have described as the third or arrest stage, for without this the average duration would be infinitely shorter than it even now is. General paralysis of the insane would, in fact, nearly always be a rapidly fatal disease if it ran its course without interruption. A question is not infrequently addressed to the medical practitioner by the guardians or relatives of general paralytics as to the probable duration of the disease after its existence has been ascertained. The question is usually answered by the aid of the general belief that on an average general paralysis of the insane runs its course and terminates in death within two years. My experience for several years has led me to doubt the accuracy of this assumed average, for I have seen so many cases of prolonged arrest, and more than one of recovery, as to suggest the possibility of a general modification of the disease having taken place, rendering it more amenable to treatment. On the other hand, this prolongation may be accounted for by the fact that the experience of later years has been among the more educated classes, and education generally exercises a modifying influence in all the varieties of mental disorder. Be that as it may, I resolved to make the attempt to verify or to rectify if necessary the old-standing estimate of duration and as a first step addressed questions on the subject to the superintendents of all institutions for the care of the insane in England. I was favoured by numerous replies, for which I beg here to express my thanks, and although they are not quite complete the figures so obtained are valuable and enable an approximate estimate at least to be given, which appears to be not far removed from what would prove to be the complete facts of the case. In framing these figures difficulties, of course, presented themselves, not the least of which were the vagueness attending the inception of the disease and the incorrectness or unreliability of the data received with the patients at the various institutions at the time of admission. Moreover, the early symptoms of general paralysis are not always easily recognisable. There are also the wandering cases, which may or may not be recognised or taken notice of at all until a late stage of the disease. The returns obtained were from 26 county asylums, 16 private asylums, 6 lunatic hospitals, 2 military and naval hospitals, and 4 borough asylums. The returns extended over the past ten years, which accounts for the smallness of the returns from the borough asylums, some of which have only recently been called into existence. The following figures give the results arrived at :—

Table showing approximately the Average Duration of General Paralysis (in Male Patients only) in Institutions for the Insane in England, with the Age at Death.

Institutions.	Average duration of disease.		Average age at death.	
	Years.	Months.	Years.	Months.
County asylums	1	10	42	6
Private asylums	2	6	46	0
Lunatic hospitals	1	7	44	0
Military and naval hospitals ...	1	11	37	5
City and borough asylums	1	8	46	6

Thus the correctness of the stated old-standing average is practically verified by the present figures, taken as a whole, although it would appear that the educated and well-to-do

classes have a longer period of existence meted out to them after the onset of the disease than have the poorer classes. The explanation of this may be the earlier recognition of the disease in the wealthier classes and the earlier resort to care and treatment.

Annexed are notes illustrative of three typical cases, with recovery in two.

CASE 1. *Undoubted general paralysis with typical and marked mental as well as physical symptoms of the disease.*—The following characteristic letter was written two or three months after onset whilst under care: "I am going to astonish the whole world this week; the papers will be full of it. I am going to reform the world—England to be made a paradise. Work for all the unemployed; no more taxes, workhouses or prisons required. All diseases will be banished; there will be simply a few paying hospitals. No one to be married before they are twenty-four years of age, women twenty-one years. The first thing to do is to get together all the vagabonds, thieves, drunkards, and wife-beaters, and I shall have them punished with a cat-and-nine-tails. The sea to be brought all over England, also electric light, good roads to be made, plants, trees, and wild flowers on the banks. Electric trams. I shall have plenty of money to do what I like with. Your dad will 'be a bishop' and my private chaplain. I have learnt to sing and play anything on the piano; you will hardly know me, I am so improved. Nice church and cathedral will be built. I am going all over the world and you shall come to some of the best places with me. Address to me, Grand Hotel, Charing Cross." At the end of six months, arrest having been in progress for some time, a consultation among leading psychologists and neurologists was held in London, with the result that no trace of the mental disease was discovered. A three months' probation followed, at the end of which time the patient was discharged recovered.

CASE 2.—In this case equally typical symptoms presented themselves, but an enumeration of them would prove too lengthy. The patient believed he was making £190,000 per diem, &c.; six months later an inquisition in lunacy was held by a master in lunacy on the request of the family, but by the time it was held there was no evidence to produce of existing insanity. Three months later ordinary work was resumed in London and at the end of another three months the patient, remaining perfectly well mentally, was also discharged recovered.

CASE 3.—This case was of about six years' duration and during a considerable portion of the time the disease was in a state of arrest.

West Malling, Kent.

AXIS-TRACTION FORCEPS.

By WALTER COLQUHOUN, M.A., M.B., C.M. GLASG.

THE matter of this paper, the subject of which has caused me considerable thought, may not appear inopportune at the present moment, when so many busy practitioners are giving up their old forceps for forceps guaranteed to pull in the direction of the pelvic axis. If I may seem to some readers to deal with points which have been thrashed out elsewhere at greater length my answer is that they did not seem to be known to able practitioners, my friends, and, further, that they have evidently been missed more or less by inventors whose forceps are in good enough repute. Dr. Playfair pertinently remarks concerning forceps: "It would be a wearisome and unsatisfactory task to dwell on all the modifications of the instrument which have been made, which are so numerous as to make it almost appear as if no one could practise midwifery with the least pretension to eminence unless he has attached his name to a new variety of forceps." Nor can it be expected that those who dwell in the valleys will altogether escape the epidemic ranging among dwellers on obstetric heights. In many a humble medical home in Scotland some secluded cupboard contains weapons which may probably be hung on the walls by female posterity and be pointed to with pride as relics of the battle of Bannockburn. I also invented a beautiful pair of forceps, superior to anything in existence, but convalescence fortunately setting in while the matter was at the paper stage I began to consider the essentials demanded from axis-traction forceps, and also how those

demands are met by the various forms in use. It is my purpose in this paper to deal with the general question from that point of view.

A pair of forceps is said to act in three ways: (1) as a tractor; (2) as a lever; and (3) as a compressor. An axis-traction forceps (since it is inconvenient to use two different pairs in the same case) should combine these three properties with that of confining traction at each point to the direction of the pelvic axis. To these properties attempts are now made to provide for free movement of the foetal head in flexion, extension, and rotation, and in addition it is demanded that the forceps should act as a guide to the foetus and as an indicator of the direction of traction. Let me consider the points in detail.

Direction of traction.—In many instruments the forceps are used, but used erroneously, as an indicator of the direction in which traction should be made; that is to say, the pelvic curve of the instrument is considered to coincide with the pelvic axis, and traction being made on the instrument after locking by means of a tractor which enables it to swing more or less freely it is supposed to slide out keeping to the pelvic curve. The instruction given with most instruments is that the bar of the tractor should be kept parallel to the handles of the forceps. Now, to pull in the direction of the axis the pull must be given at each instant in the direction of the tangent to the pelvic curve at the point where it passes the centres of the fenestræ. Accordingly, if it is intended to use the handles of the forceps as an indicator of the direction of traction they should be bent backwards. A glance at Tarnier's excellent instrument will show that the part of the forceps corresponding to the handles of our instruments is practically parallel to the curve at the centre of the fenestra. In Neville's forceps also, Rotunda pattern, an arrow indicates the direction of pull which is inclined backwards from the handles. In connexion with this point the following quotation from Barnes's "Obstetric Operations" is interesting: "Dr. Aveling curves the handles of a short double-curved forceps backwards, thus increasing, he affirms, the tractile power." Here the idea does not seem to have been to change the direction of the pull, but rather to approach the point to which traction was applied to the line representing the axis, just as is done in axis-traction instruments by curving the traction rods backwards. The direction of traction altogether depends on the direction in which the pull is made and not at all on the point at which it is made. Thus it is of little use to curve the traction rods backwards if the pull is in the wrong direction. They are curved backwards because the forceps and the child's head forming a rigid lever, the fulcrum of which is above the point of application of the forceps, if any force be applied in a given direction to the handle of the forceps the point of application of that force tends to lie on a line drawn through the fulcrum in the given direction. Hence the application of a force at the handles of the forceps, even when applied in the right direction, may wrongly cause or prevent flexion or extension, or, what is of more serious consequence, may press the forceps and head injuriously against the soft parts of the mother. The curving of the traction rods backwards tends to place the point of application of the pull on the line of direction of the force which passes through the fulcrum. If this condition be satisfied and the pull be at each instant in the right direction it is of little importance whether the traction rods be attached high up or not.

Rotation, flexion, and extension.—Why, then, is it asserted to be a distinct advantage in practice to have the traction rods attached high up? I have heard it asserted that such an arrangement allows of free flexion or extension, but I hope to show presently that there is little truth in the assertion. If there is any advantage in the high insertion of the traction rods it seems to me to lie in the fact that such an arrangement allows the forceps to act as guide to the foetal head more easily and tends to minimise the disadvantage accruing from wrong application of force at the end of the long rigid lever formed by head and forceps. Flexion and extension occur at the proper stages during delivery by rigid forceps and as a matter of necessity. It is claimed that some of the recent axis-traction forceps by allowing the forceps to swing about the points of application of the traction rods allow free flexion and extension and yet the inventors of the instruments use them as indicators of the direction of traction. As a matter of fact, forceps which fit the pelvic curve and are rigidly connected with the foetus can have no free swing, and flexion and extension, except within