with the fingers the whole spinal column, in which the smallest degree of tenderness may be deemed evidence of morbid action within. Where this is not easily ascertained, the susceptibility of the stimulus of heat will often detect the morbid part: thus "a sponge, wrung out of hot water, and carried down the spine, will often give a very acute degree of pain, while passing over the part where disease is going on." This the author discovered by accident, in sponging the bites of leeches over a diseased spine: but his subsequent observations have proved, that the effect is not quite uniform, though often an important auxiliary in determining the diagnosis.

In the concluding section, some brief, but judicious, observations are made upon the method of treatment, founded on the preceding views of the early detection of the disease; and the remainder of the volume is occupied by a detail of cases, partly from the author's own practice, and partly from the publications of Drs Jebb, Charlton, Pierce, Knox, and Maty. The volume also contains two plates illustrative of diseased spine.

It is scarcely necessary, after what we have said above, to add, that this volume is entitled, by the novelty of its views, and the candour and judgment which it evinces, to the attention of the profession.

IV.

Die Keratonyxis, eine neue gefahrlosere Methode den grauen Staar zu operiren. Von W. H. J. BUCHHORN, Med. et Chir. Doctor. Magdeburg, 1811.

DEPRESSION was for nearly two-thousand years the only mode of curing cataract, and was, with little change, performed according to the description and precepts of Celsus, and of the Alexandrian school, until about the middle of the last century, when the operation of extraction was invented by Daviel. Since that time, a competition has existed between the abettors of these two modes of operating, and the latter, by the preference it obtained, had nearly banished the former from practice. Both operations found numerous supporters, and various improvements have been made in each of them, by the simplification of the instruments and attention in the use of them, so that both have been brought to a degree of perfection that leaves little to

be altered or improved. That the depression gained many friends and defenders, perhaps arose from its being supposed possible to perform it with greater probability of success, when the number and importance of the accidents that might occur in extraction, were weighed against those that present in depression.

Attentive observation, even in the more early ages, and in more modern times, a minute investigation of the structure of the crystalline lens, as well as the examination after death of the eyes of those who had been at a former period cured by depression, discovered the solubility of the lens. This was so frequently remarked, that several surgeons, and especially Pott, who was a zealous patron of the old method, proposed a peculiar method of depression, resting on this fact. It consisted in the breaking down of the lens in the posterior chamber, by means of the needle introduced in the usual way through the sclerotica, leaving the subsequent solution of the lens to the absorbent powers.

Gleize* was also acquainted with the solubility of the lens. In extracting a cataract, the moment the knife entered the cornea, the patient was seized with convulsions, which prevented the incision of the cornea being completed. To give the patient some chance of cure, he introduced a couching-needle through the puncture, and destroyed as much as possible the structure of the lens and its capsule. In twenty days, the cataract was absorbed, and the patient's sight restored. He afterwards repeatedly performed the operation in the same manner with success. Conradi, perhaps encouraged by Gleize's success, passed a fine lancet-pointed cataract-needle through the cornea, punctured the capsule, and left the lens to be absorbed. Professor Scarpa, also, after breaking down and depressing as much of the opaque lens as possible, directed the remaining fragments to be pushed into the anterior chamber, and left to be absorbed. All these methods rested on the fact of the solubility of the lens in the eye.

In consequence of the favourable result of the above mentioned observations, the author of the treatise now before us was led to make a number of experiments on animals, which he published in 1806, in his inaugural dissertation *De Keratonixide*. His proposed method having been favourably received, and since adopted, by Professors Langenbeck and Himly of Göttingen,

* *Nouvelles observations pratiques sur les Maladies de l'Oeil et leur traitement.* Paris 1786.

the author prosecuted his investigations, and in the present work has given a more full description of his mode of operating, a comparison of it with depression and extraction, and has added the history of some cases in which it was successfully employed.

Keratonixis (from κεραξ and νόττω,) *punctio corneæ*, is defined by Dr Buchhorn to be the perforating the cornea by a proper instrument, to perform an operation in the internal part of the eye. Former experiments of a similar nature were confined to cataract, but this operation may be applied to other diseases of the eye, as for the cure of the closed pupil, the evacuation of matter, &c. In the following pages, however, the term is confined to the mode of cure of cataract.

The instrument employed by the author, resembles Scarpa's crooked needle, with this difference, that the curved part is not so long, and the curve not quite so great. The point and sides must be very sharp, and the body of the needle does not increase in thickness from the point, which allows it to be easily moved about in the eye. No preparation of the patient is necessary. Before the operation, the pupil is to be dilated by the solution of the hyoscyamus.

“ When the dilatation is sufficient, an assistant raises the upper eyelid with his fingers, the operator lays hold of the needle, as in depression, with the thumb and two first fingers, the other two resting on the temple, nearly on the same level with the eye, as a steadying-point for the hand; the handle of the needle is so far turned backwards, as to lie over the ear of the patient. The point of the needle, which is then situated in the region of the outer angle of the eye, is directed towards the cornea, with its concave part to the cornea, the convexity towards the operator. In this position, he seizes the favourable moment, when the eye is steady, to enter the cornea, and the needle passes without resistance through it, on pressing its point gently at the proper point, moving the end of the handle of the needle from behind forwards, so as to describe the fourth part of a circle.”

The point at which the needle is to be entered, varies according to the structure of the eye, and the nature of the cataract. It should not be introduced nearer to the edge of the cornea than about the distance of a line, for fear of injuring the iris; it may even be passed through the centre of the cornea, as no cicatrix is left by it. The author then proceeds:

“ When the point of the needle has entered the anterior chamber, part of the aqueous humour flows out along it. But the cornea does not consequently lose its convexity; the pupil merely contracts a little. The point of the needle is then to be directed against the cataract, through the dilated pupil, and the capsule is to be torn in

every possible direction. If the lens is *milky*, or of a fluid or soft consistence, the contents of the capsule immediately flow out, mix with the aqueous humour, and render it muddy. The capsule now alone prevents vision. But after it is emptied, it collapses, and, by a slight pressure on its upper part, may be easily depressed into the bottom of the posterior chamber. The muddiness of the aqueous humour is removed by absorption in a few days, and the vision restored.

“ If the cataract is *pappy*, *caseous*, or *crumbly*, it is to be broken down in its natural situation as much as possible, without injuring the iris. We endeavour to draw some portions through the pupil into the anterior chamber, as they are more quickly dissolved there than in the posterior, and leave the diminishing, solution, and absorption of the opaque fragments, to nature. This practice resembles that of Pott and Scarpa, only with this difference, that they, as has been noticed, passed the needle through the sclerotica, while I introduce it into the eye through the cornea. Hard cataracts, which I cannot break down by this operation, I depress.”

After this, the needle is to be withdrawn in the same direction it was entered in; and if the cataract is fluid, part of the opaque matter frequently passes out after the needle is removed. The eye-lids are then to be closed, and after a few minutes they are to be opened again, to examine the state of the lens and iris. In some cases, we have seen in the adult the size of the opaque body so much diminished, that the patient was immediately able to distinguish objects held before him. The author says, that he has usually secured the eye-lids, after the operation, with strips of black court-plaster, and over this a compress and circular bandage. In general, we have found it unnecessary to confine the eye-lids, but merely to apply a compress of linen, and pin it to the night-cap. The eye may be opened daily after the operation, and gradually exposed to the light. At first, many of the patients were dismissed three, five, or eight days after the operation; but finding that many neglected the cautions given them of not using the eyes, the author observes, that it will be prudent, even in the most favourable cases, to keep them a fortnight.

In forty cases, seven were attacked by inflammation, and in three eyes the absorption had not taken place after a period of eight weeks. In four of the seven patients, the inflammation was owing to the misconduct of the patients. In one eye the keratonyxis failed, in consequence of the very firm texture of the capsule in a congenital case, which, although torn by the needle, was not absorbed in half a year, and was at last extracted. In a patient affected with amaurosis, previous to the appearance of the cataract, it naturally failed, but restored the pa-

tient to the same state as before the lens was affected. The result therefore is.

“Of forty operations, twelve failed. In three eyes, no complete solution has as yet taken place. Seven eyes suffered from inflammation; in five of these the pupil closed, and vision can only be restored in these cases by the formation of an artificial one;—in one the pupil adhered to the cataract, which rose again after being depressed, and one produced no bad effect. One operation failed; because the structure of the cataract prevented its being absorbed. I also reckon the operation on the eye affected with amaurosis among the failures. The remaining twenty-eight, succeeded completely, and the patients saw either immediately, or the absorption went on for six or eight weeks, after which time the sight was perfectly restored.”

From the failures, we may, with propriety, deduct the three cases of unabsorbed cataract, the case of amaurosis, and the capsular cataract, and one, where, although inflammation came on, active means were employed, and the patient ultimately saw very well. This leaves the proportion of failures six to twenty-eight,—unquestionably a very favourable result to Dr Buchhorn's operation. Professor Langenbeck only met with one case of inflammation out of ten cases, and it was evidently caused by an injury of the iris, from too thick a needle having been used.

With regard to the symptoms consequent to the operation, the author observes that he has sometimes observed vomiting, which however always yielded to appropriate remedies, and was of no consequence. This symptom we have never met with, and would not be led to expect it, as in this operation no nervous tunic is injured, as in the old mode of depression. In young people in whom the operation succeeded, he never observed the distention of a single blood-vessel of the conjunctiva, and, even in patients of fifty or upwards, there was merely a passive congestion of the vessels of the sclerotica, and slight fulness of the conjunctiva, without pain, or other symptoms of inflammation.

Without declaring this method as advisable in every kind of cataract (although he hopes to show that it is so), the author proceeds to mention a few cases in which it is particularly applicable. To these belong,

“1. Cataracts which the operator distinguishes to be *soft* or *fluid*. This is the case where the *keratonyxis* is almost immediately beneficial. The opaque mass flows out, the capsule collapses, is partly depressed, and absorption accomplishes the rest.

“2. *Adhering* cataracts. Their *depression*, as well as the *extraction* of them, is the more difficult the more generally they adhere to

the circumference of the pupil. If, according to the old method, force is in any way used in separating them from the iris, iritis and closure of the pupil are the consequence. After the destruction of the capsule by the *keratonyxis*, in which the iris is not injured, the lens is absorbed, if it is not osseous, (and how rare are such cases?) in a longer or shorter period.

“ 3. *Cataracts in young people*: Children were formerly rarely submitted to either of the former methods before the tenth year, as both were liable to inflammation, which required remedies, and a regimen which children could only be forced to submit to. After the performance of the *keratonyxis*, on the contrary, no other care of the eye or patient is necessary, than to prevent the child from rubbing the eye, if affected with itchy or stinging pain. The light, even in some cases, need not be kept from the eye, as the pupil becomes clear only in process of the absorption, and till then the remains of the cataract act as a veil before the eye.

“ 4. *Congenital cataracts*. These, according to the assertion of most surgeons, are always fluid. The effect of the *keratonyxis*, is sensible at the very moment of the operation; the whole of the mass contained in the capsule flows out.

“ 5. In persons who have very contracted eyelids, or very *deep-seated* eyes.

“ 6. In persons who are only blind in one eye. The old methods always occupy a considerable time from the consequent symptoms, and require in extraction the guarding against inflammation, and in the depression the same, with the avoiding violent motion, in order not to make the cataract rise again. All this is seldom necessary in the *keratonyxis*, which is not followed by inflammation. The patients, although with their eye tied up, follow their affairs as formerly. Perhaps the absorption is even promoted by the motion. Many of my patients from the country, and among these, persons between fifty and sixty years of age, left me on the third day after the operation, and awaited the effect of it at home.

“ 7. In persons who are weakly, or disposed to convulsions. The depression causes pain in the puncture through the sclerotica, and the subjacent coats; the extraction indeed only perforates the insensible cornea, but occasions painful sensations in the passage of the lens through the pupil. The *keratonyxis* occasions, as already shewn, no pain, and is peculiarly applicable in persons who are very timid, and are subject to nervous affections.

“ 8. If one of the old methods fail in the one eye, we ought to choose for the other the *keratonyxis*, which undoubtedly does less violence to the eye, than the repetition of the depression, or extraction.

“ 9. In persons, whom we do not wish to expose to the uncertain event of the old methods, whether they will restore the sight or make the person totally blind. As for example, at present in the King of England, where the opposition party, in case of an unsuccessful issue of the operation, raise the doubt, whether the King can still reign? If the *keratonyxis* fails, that is, if it has no effect, and

the lens with its capsule is not absorbed, it may be frequently repeated at short intervals, depending on the state of the eye and of the patient. The eye is never destroyed by this operation; and if it should not succeed, both of the other methods might still be employed."

Such are the cases in which the keratonyxis is principally applicable. But even in cases of firm cataracts which cannot be broken down, the author conceives that it might be employed by simply depressing them. In such cases, however, our experience of both methods would lead us to give a preference to the extraction of the lens, as the keratonyxis, although not liable to all the objections urged against depression, is still exposed to that of the pressure occasioned on the nervous and irritable tunics of the eye exciting inflammation and other symptoms.

We now proceed to give a short comparison of the keratonyxis, with the operations of depression and extraction. In *depression* we pierce first the conjunctiva, a very irritable tunic, so far as it covers the sclerotica; then the sclerotica, after that the choroid-coat full of vessels and nerves, and the ciliary circle; or if the puncture is more forwards, the corpus ciliare, and processes. At last the needle appears in the pupil before the lens, which is depressed, a movement effected entirely in the dark. The patient may perhaps see after it is finished, but the frequent consequence of the injury of so many delicate parts is inflammation, and the exudation of an opaque membrane or closure of the pupil. In extraction, as in keratonyxis, only the cornea, and the less irritable conjunctiva over it, are wounded; but there is a great difference between the extent of the wound, and the injury occasioned by the passage of often a very large lens, besides the discharge of a portion of the vitreous humour, and the risk of the collapse of the eye, irregularity, or even closure of the pupil. In the keratonyxis, on the other hand, the insensible cornea is pierced only at one very small point, the needle passes through the anterior chamber and pupil, and posterior chamber, into the capsule and substance of the lens. All these steps are visible through the cornea; they excite no pain, and no parts are injured which are particularly predisposed to inflammation. Scarcely any confinement is necessary, and the failure of the operation merely consists in its having no effect, and the lens remaining from some cause unabsorbed. The eye remains in the same state as before the operation, and we have it still in our power to perform depression or extraction, or, what is still better, the repetition of the keratonyxis, according to Professor Langenbeck's advice, which we have also frequently practised with success.

We now proceed to consider how long we ought to wait before we conclude that the operation will have no effect. This is very indeterminate, and depends on the age, constitution of the patient, and other circumstances of the case. In children, and in soft or very fluid cataracts, the cure is very rapid, often taking place at the time of the operation. But it is different with hard or capsular cataracts. The author says, that in most of his patients, he has observed the absorption take place in six weeks; and when it did not go on well, he has either repeated the operation, or employed extraction or depression, according to the circumstances that presented during the first operation. He, therefore, conceives himself justified in fixing sixty days as the time in which the greater part of the cataract will be absorbed. Gleize mentions fifty days, and Conradi twelve weeks, and Voelkers a year, as the boundary of the absorption of the lens. From the experience we have had, we are disposed to wait a much shorter period before repeating the keratonyxis. We have observed, that, after two or three weeks, the absorbent process seems stationary; and, after that time, we have been in the practice of again puncturing the opaque body with the needle, or of making a small incision with a cataract knife, and of following Gibson's plan of extracting the fragments through this opening, with the curette or a small hook, and we have often had the satisfaction of thus materially accelerating the cure; so that we would by no means follow the author's advice, of keeping the patient for so long a period in a state of doubt and anxiety.

The author, after mentioning a few disadvantages attending this operation, which appear to us of no material consequence, and equally applicable to depression and extraction, proceeds to relate the history of twelve operations on different kinds of this disease, beginning with the fluid or soft, and ending with the hard and capsular cataract adhering to the posterior surface of the iris. In all these different states the operation was successful, and several minute circumstances are noticed, of importance in operating on these various states.

In our account of this treatise, which appears to us to be the result of actual experiment, and drawn up with care and attention, we have abstained from any comparative view of its merits, opposed to the other methods employed for the cure of cataract. We have always considered that an operator for cataract should be familiar with all the methods of operating, as there are some cases where we would give a preference to extraction, and others where we would expect similar benefit from depression. The keratonyxis, we believe, is not as yet generally employed in this coun-

try. From the perusal of the tract before us, and from our own experience in congenital cataract, as well as in the cataract of young people, and even of the adult or aged, we are disposed to recommend its employment as in many respects preferable to depression, or the breaking down of the lens, as now generally practised.

V.

De la Methode Jatraleptique; ou Observations pratiques sur l'Efficacité des Remedes administrés par la voie de l'absorption cutanée dans le traitement de plusieurs Maladies Internes et Externes, et sur un nouveau Remede dans le traitement des maladies Veneriennes et Lymphatiques. Par A. CHRESTIEN, Docteur en Médecine de l'Université de Montpellier, &c. &c. 3vo. pp. 464. Paris, 1811.

WE notice this work chiefly on account of its last section, and shall therefore pass quickly over the preceding ones. Dr Chrestien, following Brera and Chiarenti, has extended considerably the method of administering remedies by applying them to the skin. In the first part of this volume he details many observations on the effects of this mode of administering camphor, opium, colocynth, digitalis, and cinchona, in a great variety of complaints.

He next treats of the good effects of what he calls the resin and resinous extract of cinchona taken internally. These are the extracts prepared by slow evaporation from the tinctures made with rectified and proof spirit, preparations, the one well known in this country under the absurd title of *essential salt of bark*, and the other officinal in a great part of Europe. He administers them in the following manner.

“ I triturate a drachm of the resin with the same quantity of salt of wormwood, dissolved in three ounces of water. The solution is not complete, but it is proved to have taken place in part, by the water remaining deeply coloured, after the undissolved part subsides. I commonly employ only half the proportion of carbonate of potass, on account of a sharpness which is sometimes felt in the throat and stomach, when the dose is considerable, and the vehicle in small