Catena of cases illustrating the use of forceps in extraction of cataract / by John F. France.

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Use of Forceps in Extraction of Cataract.

irritable, restless globe of a nervous patient even moderately quiet. Were proof of the correctness of this statement wanting, we should find it, on one hand, in the varied instruments which have been contrived with the view of ensuring that steadiness, on which accuracy in effecting the section must greatly depend; or (failing that object) with the purpose of making a safe section in spite of the opposite condition. I have, in my former paper,¹ made a brief historical résumé of these inventions; which have all, unhappily, in practice proved abortive, though numbering among their authors and patrons Benjamin Bell, Ware, Beranger of Bordeaux, Le Cat, Pellier, Guerin, Demours, Guthrie, Scott, &c. On the other hand, the careful rules laid down in the most approved modern treatises on ophthalmic surgery for enlarging an inadequate section of the cornea, and for avoiding injury to the iris when imminent, or treating it when inflicted, collaterally but strongly attest that the defect I have pointed out still exists at the present day.

The importance of fixing the eye effectually can hardly be exaggerated; for from the spasmodic or instinctive movements of the organ mainly arise the accidents, to which this operation is obnoxious. Thus, for example, is for the most part produced that imperceptible gaping of the unfinished section which permits premature escape of the aqueous humour, and, contingently thereon, entails displacement and, perhaps, wound of the iris. Thus, again, originates deficiency in the extent of the incision; which can be properly remedied only, and with risk, by the employment of the secondary knife or probebistoury. It is not, of course, disputed for a moment that this operation, performed in the ordinary way by competent surgeons, is, in the great majority of cases, successful in restoring sight. But still, as even in the best hands one or other of the casualties just adverted to will occasionally take place, and render more precarious, or less perfect (where it does not absolutely prevent) the favorable result; an unobjectionable means of obviating their chief cause is a great desideratum, and cannot but conduce materially to enhance the average of success.

Before proceeding with the detail of cases of extraction 1 'Guy's Hospital Reports,' 1858.

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aided by forceps, I will in few words repeat my description of the mode of employing that instrument in the operation. A pair of toothed artery forceps should be selected for this purpose, the dentations of which close at the extreme point of the nibs; as, if the latter are rounded off, so that their teeth do not project and bite at the very point, the forceps is likely to take hold only of the loose conjunctiva. The patient (being recumbent), is first desired to look upwards, while the operator at his head depresses the lower The open nibs of the forceps are then applied upon the lid. exposed globe beneath the cornea, and made by slight pressure to scrape along the surface as they close; in order to seize. together with a fold of conjunctiva, the tissues beneath (including, if possible, a few fibres of the inferior rectus tendon). and convert the forceps into a firm handle to the eye. The instrument is now delivered to an assistant, resting his hand upon the cheek; while the operator proceeds to raise the upper lid, and apply his fore and middle fingers above and on the nasal side of the globe in the usual manner, thus consummating his command of it.

Should any inconvenient reflection from the surface of the eye, the natural conformation of the parts, or other circumstance, render an alteration in the exact position of the cornea desirable; this can now be effected at pleasure by a word to the assistant, who can gently draw it into, and then (the surgeon's fingers co-operating) retain it steadily in, the precise position that is required. Meanwhile the attachment of the forceps serves simultaneously to keep the lower lid depressed, and enables the contact of additional fingers to be dispensed with. All things being thus prepared, the knife can be deliberately inserted, carried in a uniform, undeviating course across the anterior chamber, and be brought out accurately at the nasal margin of the cornea. No irregular movements of the globe delay the commencement of the section; no spasmodic inversion, without previous warning, obscures its progress, and invests its completion with sudden difficulty and danger. But the cornea remains stationary and central, alike while the cutting instrument pierces its temporal margin, while it divides the texture continuously, and when again it emerges at the nasal edge.

As soon as the cornea is fairly transfixed by counter-punctuation, and a narrow isthmus alone remains for division; the knife itself holds the eye still, the iris lies safely behind the instrument, and the forceps must be detached at the same moment that the pressure of the fingers is withdrawn. The section is then completed, and the operation from this stage (which is, indeed, the turning point of the whole) proceeds in the ordinary manner.

With respect to the cases which follow, I may again mention that nearly in all of them atropine was used; the patient was placed recumbent, and the upper section was made with Beer's knife in all; and, standing at the patient's head, I operated with the right or left hand, on the right or left eye, respectively.

CASE XXI.—Forceps-extraction; cure.

Mr. S-, æt. 65, a gentleman from Witham, in Essex, in the main healthy, though suffering occasionally from cerebral congestion, came to consult me in March, 1859. Cataract existed in both eyes; that in the left, of three years' duration. and hard; that in the right, softer and more bulky, pushing the iris forward, and developed only within the last few weeks, since the old man had remarried. He took lodgings near me, and on May 2d I extracted the left cataract, employing forceps as above described. The instrument gave steadiness to the globe, the section was ample, and the entire operation passed off satisfactorily. The flap at first turned down when the lid was allowed to drop, but was easily replaced, and, with the iris, lay in right position before the strips of plaster were applied. He made a good convalescence, and on the 26th of the same month returned into the country, having the cornea soundly healed, the pupil clear, central, and free, and vision excellent. It so remained in March of the present year.

CASE XXII.—Forceps-extraction in anæmic patient; threatening syncope; cure.

William N-, æt. 59, a coach-sawyer of St. Pancras-a pallid, unhealthy-looking, puffy-complexioned man, with the

edge of his pupils white from absence of their usual border of pigment—was admitted into Guy's in May, having hard cataract in the left eye of six months' duration. The right eye was unaffected. After six weeks of generous diet and steel medicine, I ventured on June 15th to extract. The eye was kept quite still by the forceps; a good flap was made, without casualty of any kind; and the cataract came forth spontaneously on opening the capsule, leaving a little, soft débris in front of the iris, which gentle pressure with the curette was employed to remove. The pupil became well contracted, and the flap lay in apposition before the plasters were put on.

While I was operating on another patient, an alarm was given that this man (who had been placed in a chair by his bedside) was fainting. The recumbent posture and a little wine soon restored him, and happily no disturbance of the eye was produced by the occurrence. On the 20th the flap was adherent, the anterior chamber replenished, and the cornea clear; but the pupil was covered by a film of whitish cortex, and vision was consequently impeded. On July 16th this film had disappeared by solution; and the anterior chamber being bright, the pupil central and clear, and vision good, he was presented.

CASE XXIII.—Irritable globe ; forceps-extraction ; cure.

Elizabeth Y--, æt. 63, a hale widow, residing in Bermondsey, with cataract in both eyes, had the left lens removed by me on May 25th. But for the forceps, the mobility of the globe would apparently have occasioned much difficulty; with their aid, however, a good flap was at once formed by Beer's knife. The cataract rose gently after the use of the curette; and upon its escape, the flap lay well in position, but the pupil appeared drawn towards the wound. The iris was therefore stroked back by the blunt extremity of the curette; and the eye being then exposed to light, the pupil readily became circular and central. The section had adhered by the fourth day; no unfavorable circumstance arose, and on June 17th the patient was presented with excellent vision.

CASE XXIV.—Forceps-extraction ; rheumatic iritis ; cure. Subsequent loss of sight from independent cause.

Esther B-, æt. 45, a nurse, tall, pallid, feeble, and of anxious temperament, had cataract on both sides, consisting of firm nuclei invested in an abundant soft cortex; the right most advanced. Keratonyxis performed in February not having produced any material effect, on March 30th I extracted the right cataract. The eye was held quite steady with forceps, and a good flap formed without casualty; immediately on the completion of which (the capsule being already open) the cataract emerged. Some of the softer peripheral portion, which remained, was then removed from the front of the iris with the curette; the pupil contracted moderately on exposure to the light, and the flap lay in situ. The section healed well in the usual time; but on the 9th of April an attack of rheumatic iritis, accompanied with much circum-orbital neuralgia, and an effusion of blood collecting at the angle of the anterior chamber, supervened. After some trouble, the unfavorable symptoms were subdued; and the patient returned into the country, convalescent, in May. The cornea was then clear, the pupil central, unobstructed, and responsive to light; vision was excellent for ordinary purposes, and enabling her to read the text of an octavo volume fluently.

In July she returned to the hospital for operation on the other eye, seeing to read well with the operated one, which then continued quite sound. Unhappily, exposing herself imprudently, she caught an attack of acute general inflammation in the latter, which eventually terminated in extinction of sight.

CASE XXV.—Forceps-extraction in intemperate patient; partial recovery, but eventual loss of vision from arthritic ophthalmia.

John J—, æt. 54, a hale-looking seafaring man, underwent extraction in October, 1858. There was considerable spasm of the orbicularis; but the globe was held steady, until counterpuncturation had been effected; it was then released from the forceps, and a good section completed. The curette was not required, the capsule having been previously opened by keratonyxis: the cataract emerged satisfactorily on gentle pressure, and the pupil was left clear, round, and central, and the flap *in situ*, on applying the plasters.

The man's subsequent progress, however, was unfavorable. First there were threatenings of suppuration of the cornea, with serous chemosis and œdema; which led to closer inquiry than before as to his previous habits, and to the admission that he was accustomed to take a half-pint of gin daily, and sometimes three times that quantity, besides other stimulus. The apprehended mischief was therefore combated by generous diet, and a liberal allowance of spirit and porter; with the effect of averting the immediate danger, and procuring sound union of the corneal wound. But unhealthy quasi-arthritic inflammation of the iris and lining of the anterior chamber, accompanied by severe neuralgia, kept anxiety awake; and, though relieved by the treatment adopted, and especially by guaiacum, led to adhesion of the pupil to a disc of lymph occupying its area. He, nevertheless, convalesced so far, that on quitting Guy's in December, the cornea was clear, the cicatrix linear and crescentic, the pupil circular and central, and the lymph which occupied it attenuated to a thin film. Through this, fair vision for ordinary purposes was enjoyed; and he left the hospital of his own accord, to assume the skippership of a sea-going barge. As might be expected, the exigencies of this duty, and the return to his wonted habits, were ere long followed by recurrent inflammation, increased opacity in the pupil, and eventual loss of vision.

CASE XXVI.—Abnormal prominence of globes; forcepsextraction; cure.

Mrs. M. J—, of Streatham, aged about sixty-two, an obese person, with congested face, and exceedingly prominent as well as large globes, and long palpebral apertures, had double hard cataract, the right one complete. From the peculiar conformation of the eyes, there seemed little prospect of avoiding escape of vitreous humour; and I accordingly forewarned my assistant of this anticipation, which proved correct. On ap-

plying the forceps a good deal of spasm arose, which again subsided; and the section was accomplished steadily and accurately, the forceps being of course disengaged before its completion. No sooner, however, had the knife divided the last band of cornea, than a gush of vitreous took place, carrying with it the cataract. The amount lost was so considerable, that the globe sank perceptibly, and the corneal flap turned down. After a pause, I succeeded in replacing the flap; which, on closing the lid, continued concave from the loss of tension in the globe: the pupil (though the iris had not been wounded) was, as usual in such cases, horizontally oblong; its upper edge, however, not being entangled in the section. The lips of the wound were adherent on the third day; a smart attack of conjunctivitis, with abundant mucous secretion, afterwards occasioned some anxiety; a fine membranous film, partially obstructing the pupil, at a later period required the use of the needle; but by the 29th of August, the date of my last note, this lady was quite convalescent. Good vision for every ordinary purpose was re-established ; and, having before the occurrence of cataract been extremely short-sighted, she was now able to do needlework, and had read a chapter in the Bible, with the operated eye, without a glass.

CASE XXVII.—Extraction of right cataract seven years before; forceps-extraction of left; cure.

John H—, æt. 72, a cheerful and hale man, was admitted in May, 1859. I had extracted a cataract from his right eye in April, 1852; he had worked at his business in an ironmerchant's yard ever since, and still retained good vision (so as to read well) with it; the pupil remaining clear, round, and free.

A cough from which he was suffering on admission having been allayed, I removed the left lens; the forceps fixed the globe satisfactorily; a good flap was at once completed; and a large, dark-coloured cataract was then extracted in the usual way. The pupil on exposure resumed its circular form and central position, and the flap lay accurately in place. The cornea was adherent when inspected on the fourth day, and an excellent recovery ensued. He was presented on July 16th, being able to read with the newly operated eye, and to see for all other ordinary purposes well.

CASE XXVIII.—Forceps-extraction in cachectic patient; sinking and recovery of cataract; suppuration of cornea.

A decrepid old man, who reported himself 67, but looked 76 years of age, was received from the workhouse in July, 1859, suffering from senile entropion and cataract. The former I remedied by operation; and then, at his earnest desire (though with much misgiving), after a month's course of generous diet, proceeded to remove the cataract. The globe was held steady by forceps, and a good flap formed at once without difficulty or apparent casualty. Nevertheless, on reopening the eye to introduce the curette, the vitreous was found exuding in considerable quantity. I then endeavoured to impale the lens from behind on the point of the curette, but ineffectually; the body rolled freely in the fluid vitreous. and then sank out of sight. On closing the eye, it again rose behind the pupil; and now by dint of slight pressure, in spite of the continuous oozing of vitreous, I succeeded in expelling the cataract,-very dark-coloured, hard, and smooth. A few red particles appeared in the anterior chamber; but the globe was not noticeably sunken, the iris was in situ, the pupil circular though not contracted, and the flap fairly replaced, ere the lids were closed. I had, previously to operating, explained to this poor fellow how very precarious were the chances in his case; and the result bore out the anticipation too faithfully. Disintegration of the hyaloid membrane (not undue pressure) had occasioned the loss of vitreous humour in the first instance; and subsequent melting away of the cornea by suppuration, without an attempt at healing, did but exemplify anew that defect of reparative power, which has become notorious in workhouse patients.

CASE XXIX.—Forceps.extraction; impalement of cataract; cure.

Matthew W-, æt. 69, from one of the hospital estates at Long Sutton, in Lincolnshire, a tall, spare, moderately healthy

man, with apparently healthy eyes, except for the presence of double cataract and arcus senilis, was received into Guy's in June, 1859. The cataracts had been forming for three years, and been complete about six months. On June 15th the forceps were applied to the left eye, and an adequate flap was made at once without injury to the iris. Upon exerting the usual pressure after withdrawing the curette, the vitreous humour presented above the edge of the lens, bulged in the wound, and a small portion escaped. The eye was closed directly; a pause of a few moments was allowed; and then (as on again raising the lid, the cataract betrayed a disposition rather to sink behind the iris than to advance) I impaled it from behind with the curette, and brought it forth without further difficulty. The quantity of vitreous lost was inconsiderable; but the pupil of course became drawn towards the wound, and the flap was prevented lying in perfect adjustment. However, the continuous support of the lid, carefully plastered, counteracted any material ill effect from this circumstance; for on the 20th the section was adherent, the anterior chamber replenished, the degree of inflammation not in excess, and the vision satisfactory. Convalescence was progressive, though retarded for awhile by a quasi-vesicular elevation towards the temporal extremity of the wound, from yielding of the cicatrix. This gradually flattened down; and on July 18th the cornea was firmly healed, the pupil clear, but irregular from extension upwards, and sight good. He called on me afterwards to get an order for spectacles, having the eye strong, enjoying good vision, and full of gratitude.

CASE XXX.—Cataract complicated with granular conjunctiva, and synechia posterior; forceps-extraction; cure.

A. B—, a stout woman, of about 60 or 65 years of age, had presented herself for operation in 1858, but been remanded till the succeeding year, on account of the granular condition of the conjunctiva; which, though comparatively slight, was intractable. Fearing an ill result from ordinary extraction under these circumstances, I twice performed keratonyxis on the left eye, with the hope of diminishing the bulk of the lens; but the only apparent effect was the unfavorable

one of causing adhesions between the pupillary margin and the capsule. Hence, when, on August 3d, I determined to run the risk of extraction, and had atropine applied for the purpose; the pupil became expanded to a moderate degree, but very irregular from connecting filaments at several points, a condition promising badly for the facile execution of the operation. The globe, which proved very irritable, was held sufficiently steady with forceps for the completion of an ample section; but great difficulty was experienced in effectually using the curette.

In most instances the eye spontaneously becomes tranquil after the corneal section is made, and tension has ceased from the outflow of the aqueous humour; in most cases, too, in which keratonyxis has opened the capsule previously, the curette is superfluous, and the lens is dislodged immediately the knife has cut itself out. But the present example differed from the rule in both respects ; extreme irritability remained, while the twice-lacerated capsule had so firmly healed, that its reopening was indispensable. This was accomplished on the second attempt, and the cataract, though still sluggish in rising from its matrix, was disengaged by gentle pressure. Notwithstanding the previous operations, it proved of the full ordinary size, and dark coloured. No injury was sustained by the iris, nor did any vitreous escape; the flap lay well in apposition, and the pupil was fairly contracted before the plasters were put on.

Pain ensued in the afternoon of the operation (probably from the stretching of the adherent iris), but it soon subsided; and adhesion of the wound, sufficient to retain the aqueous humour, had taken place on the third day. After this, some trouble arose from prolapse of the iris; but the protrusion, being once punctured, subsided kindly. Superficial inflammation and pain accompanied this formation; yet the pupil continued clear, and the vision satisfactory. In October the patient was convalescent, the cicatrix being firm and even; and good vision (to read, &c.) was re-established.

CASE XXXI.—Double cataract; forceps-extraction; cure.

Elizabeth P-, æt. 50, was admitted, in June, 1859, with cataract, on both sides, of six months' standing, that of the left eye being most advanced. She was a stout, fair-complexioned woman, of rather indifferent health, and subject to gall-stones. On June 29th, I operated on the left eye. The forceps were affixed a little on the nasal side, instead of directly beneath the centre of the cornea; and, consequently, did not keep the lower lid quite so well depressed as usual. They, however, held the globe steady, and an adequate section was made at once. No untoward accident occurred, and after use of the curette the lens came out favorably. The eve required exposure to the light two or three times, stroking through the lid, and introduction of the spoon of the curette, to replace The membrane was thus restored to good position, the iris. the pupil contracted, and the flap lay duly adjusted. The case did perfectly well; and on July 13th the cornea was soundly healed, the pupil circular, central, and clear, and vision excellent. It continues so at the present time (June, 1860).

CASE XXXII. — Forceps-extraction; patient insubordinate; arthritic iritis; atresia iridis; removal of false membrane; cure.

David E—, a Welshman, æt. 62, was operated on, June 29th, 1859. He proved nervous and excitable when on the table, contracting his orbicularis violently. Without forceps there would probably have been extreme difficulty in accomplishing the section properly; with their aid, however, I formed a good flap at once. The curette was introduced a second time to divide the capsule, as the cataract was sluggish in moving; a large and hard one then emerged satisfactorily. A bubble of air made its way into the anterior chamber, when the flap was raised by the curette; and remained as a minute globule, even after the expulsion of the cataract—an occurrence very frequent in operations on the dead body, but not so in the living. As this was not extricated readily, while the flap and

iris had resumed their position, and the pupil was contracted, it was suffered to remain. An hour afterwards the bubble had disappeared, having probably been washed away by the aqueous humour, after the patient was placed erect in his chair.

The troublesomeness of which this man had given an earnest at the time of operation, was subsequently carried to an extent, which threatened to be fatal. He refused, in spite of repeated warning, to be confined to bed; to abstain, when there, from lying on the operated side; to keep the eye continuously closed, &c. The natural consequences of such conduct ensued; and, although the cornea healed well, a severe attack of catarrho-rheumatic ophthalmia, involving the iris, arose, and was at its height a fortnight after the operation. On July 23d the cornea was clear, the cicatrix semicircular and scarcely perceptible, the pupil central and perfect in form ; but arthritic inflammation still continued, the iridal aperture was entirely blocked by inflammatory exudation, and vision of shadows alone remained. The inflammation at length subsided; and in November the man was readmitted, presenting simply the sequelæ of iritis, in a pupil contracted and closed by false membrane. With a fine needle, introduced through the cornea, I detached this, and stretched open the pupil, when vision of large objects was immediately re-established. He had learned a lesson of docility, submitted properly this time to the subsequent treatment, and a fortnight afterwards again left the hospital, with good vision and able to read an ordinary type.

CASE XXXIII. — Forceps-extraction; hæmorrhage from wound of the iris; cure.

Rebecca B—, æt. 56, a person in good health, had the right eye operated on, July 13th, 1859. The forceps held the globe quite steady, and an ample section of the cornea was made; but the iris was wounded close to the ciliary margin on the nasal side. The anterior chamber quickly filled with blood, which, in spite of cold sponging, accumulated again after evacuation, and quite hid the pupil from view. I was compelled, therefore, to open the capsule without seeing this aperture, by cautiously directing the curette to the centre.

This endeavour succeeded; and then, on gentle pressure, the cataract quietly emerged, clearing out the blood from the chamber as it advanced. Happily, no further hæmorrhage took place; but the flap lying accurately adjusted, the iris was visible in good position, with the pupil central and contracted, before the plasters were applied.

Five days later the flap was found adherent, but the anterior chamber not fully replenished; the pupil appeared circular, partly clear, partly occupied by a pellicle of soft cortex detached in transitu; the small false pupil, formed by the wound of the iris, could no longer be distinguished; the inflammation was moderate, there was no pain; and the degree of vision was satisfactory. A trace of blood was just perceptible within the chamber. After another interval of five days the cornea was clear, the anterior chamber free from red particles, full and bright; a fragment of lens still occupied a portion of the pupil, which had become elongated upwards, from the cicatrix yielding and permitting the iris to protrude. She left the hospital, of her own accord, on the 30th, with good vision; the prolapse, however (which she would not allow to be touched), yet remaining. She subsequently altered her mind, suffered me to remove the projection with Maunoir's scissors, and made, without further interruption, a good recovery. The cicatrix became consolidated without bulging or prominence; the pupil cleared, by the solution of the fragment which had partly obscured it; and she regained good sight for ordinary purposes, and, with a suitable glass, was able to read.

CASE XXXIV.—Forceps-extraction in feeble woman with trichiasis; cure.

Sarah C—, æt. 60, a debilitated subject, who, besides double cataract, had slight trichiasis and epiphora, was operated on by me, July 13th, 1859. By forceps the left globe was kept quite still, a good flap was made, and every step of the operation was accomplished without drawback; but the cornea was so thin and inelastic, that it fell into wrinkles after the removal of the lens. The pupil, however, contracted on exposure to the light, was central and circular, and the flap *in situ*, before the

eye was closed. She made an undeviatingly good convalescence, and was presented within three weeks, enjoying excellent vision, having the corneal wound well healed, and a central, round, clear pupil.

CASE XXXV.—Forceps-extraction; wound of iris; impalement of cataract; cure.

Charles G-, æt. 65, a waiter and lamplighter at Greenwich, was admitted in October. Cataract was fully formed in the right eye, incipient in the left. On October 19th the forceps were employed to fix the globe, and an ample section of the cornea was made. Before its completion a jet of aqueous humour spirted out, and a portion of iris, advancing in front of the knife, was removed. A small quantity of vitreous now escaped, and more on reopening the lids; I succeeded, however, in withdrawing the cataract at the first attempt, on the point of the curette. The flap of cornea then turned down (showing the attenuation of that texture in common with the hyaloid), but was quickly replaced, and the lids were carefully strapped. The man proved a tranquil, hopeful subject; and, notwithstanding the untoward incidents of the operation, did well. In the course of his recovery a slight attack of iritis with nocturnal neuralgia supervened; but by the 19th of November this had yielded, the cornea and pupil were clear, and though the latter extended up to the cicatrix, the sight for ordinary purposes was good, and he could read the second type on the diet-card. The cicatrix itself was sound, level, and crescentic. He retains excellent vision at the present time (June, 1860) with the right eye, and has now regained the sight of the left also, from which I extracted the cataract this season, employing forceps as usual.

CASE XXXVI.-Forceps-extraction ; cure.

Catharine M—, æt. 64. During my absence from town in September, Mr. Poland kindly undertook my duty, and extracted the cataract from this woman in Guy's. She proved difficult to control when on the table; and, though the globe

was steadied with forceps, a bit of iris becoming involved in the incision was removed, and an escape of vitreous took place. The pupil was thus extended upwards, but no other ill result ensued, and the patient was discharged convalescent, and with good sight restored, in October.

CASE XXXVII.—Forceps-extraction; cure.

Keziah P-, æt. 68, residing at Newington Causeway, was admitted into Guy's in June, 1859. She had cataract on both sides, and strongly marked arcus senilis; the globes were difficult of access from prominence of the brows, and deficiency of fat in the orbit. I operated on June 15th. The left globe was held with forceps, but from unusual laxity of the conjunctiva and submucous tissues, or an insufficient grasp of the latter, proved less under command than is in general the case, until the cornea was punctured. A good section was made, and the operation finished quite satisfactorily. The pupil contracted duly on exposure, and the flap was in apposition, before the eyes were finally closed. A pellet of cortex, peeled off in the cataract's transit, created a little temporary uneasiness a few days after the operation : but this dissolved, convalescence progressed favorably, and on July 13th the patient was presented. The cornea was then healed, the pupil circular and central, at its upper part a still shrinking relic of the pellet above mentioned was perceptible, the rest of the pupillary area was quite clear, and excellent vision (to read, &c.) was restored.

CASE XXXVIII.—Forceps-extraction; cure.

Joseph D—, æt. 61, a native of Liverpool, and lately an inhabitant of Guildford, by occupation a coach-smith, was admitted in 1859. He had cataract of ten months' duration in the right eye only. On May 11th, the globe being held with forceps, I effected a good section without casualty. The cataract emerged gently after the use of the curette, and a soft portion which had become detached was then removed. On exposure of the eye the pupil contracted ; and the flap lying in accurate position, the lids were closed in the usual way. May 20th.—The cornea had healed some days; nor had an unfavorable symptom arisen until the last few hours, when he had experienced intermitting pain, with a good deal of conjunctival vascularity; the tongue was coated and white.

These symptoms were prescribed for; he again did well, and on June 17th was convalescent; the cornea being firmly cicatrized and clear, the pupil round, central, free, and unobstructed, and vision excellent for ordinary purposes and reading.

CASE XXXIX.—Forceps-extraction; cure.

Thomas T-, æt. 74, a grocer of Petworth, was admitted with cataract in both eyes of eighteen months' duration, in 1859; he was a hale, spare, dark-complexioned man. The right cataract being that most advanced, was selected for removal; and the eye (a well-formed one) was drawn into, and held steady in, position by forceps. The section was completed at once without casualty, and the operation concluded in every respect satisfactorily. The pupil became well contracted, and the flap in perfect adjustment. The operation was performed on May 11th; the cornea had adhered on the fourth day; and on June 11th he was convalescent, the pupil being circular, central, and clear, the cornea sound, and vision good. He was presented on the 18th, seeing excellently for all ordinary purposes, and able to read with fluency. [He has since recovered the sight of the left eye also, from which I retracted the cataract in July of the present year, using forceps as before.]

CASE XL.—Forceps-extraction ; cure.

Patrick C—, æt. 74, a moderately hale labouring man, with well-formed eyes, and a cataract in the left only, of two years' duration, was admitted into Guy's on 25th April, and operated on on May 9th of the current year. The pupil was opened to a limited degree by atropine, and the globe commanded efficiently by forceps. The corneal section was enlarged by the bistoury, and the capsule lacerated a second time with the curette, as the cataract was sluggish in moving from its fossa. It then slowly rose, and emerged; one cause at least of its previous inertia becoming apparent in the unusual size and firmness of the body. The stretched pupil did not fully contract, in spite of exposure to the light; and I had occasion to reduce a nascent prolapse with the spoon of the curette. The iris then appeared to lie in fair position, unwounded; and no vitreous escape took place. The cornea adhered readily; the tendency to prolapse of the iris did not recur; no bad symptom arose during his confinement; and on June 2d, being anxious to go home, he was discharged, having the cornea bright and clear, the pupil central and circular, and vision good. He was subsequently supplied with spectacles, and enabled to read with the operated eye.

CASE XLI.—Forceps-extraction ; cure.

Sarah B—, æt. 52, a pallid, rather feeble person, had cataract in both eyes, in April, 1860. The anterior chambers were rather shallow, and the globes deep. On May 9th I extracted the right cataract, having had the pupil dilated by atropine, and using forceps, which perfectly steadied the globe. No accident of any kind occurred, and the iris lay in position with the pupil fairly contracted, before the lids were closed. The section had adhered on the fourth day; her recovery was uninterrupted; and on June 6th she was presented convalescent, with a sound cornea; central, clear, round pupil; and excellent vision, to read, &c. [At the time of correcting the press this patient is recovering from the extraction of the left cataract, which I performed ten days since; and so far, the description just given is exactly applicable to this second occasion.]

On reviewing the above cases it will, I think, be admitted that their results were eminently satisfactory. Of the twenty-one operations, nineteen were successful. One failure occurred in a cachectic workhouse patient, with respect to whom an unfavorable prognosis had been given at the outset. The section was in this instance accomplished at once, and no injury was inflicted on the iris; but the disintegration of the hyaloid membrane, and fluidity of the vitreous humour, corro-

borated the evil anticipation which had been formed, and harbingered the issue. The suppuration of the flap simply depended on deficient restorative power, and was in no way connected with the mode of performing the operation. In the other case, failure arose from unhealthy quasi-arthritic inflammation, and was probably traceable to the debauched habits of the patient; for the operation itself had been accurately executed, without any deviation from its desired course or the slightest accident, and, like that in the preceding case, was considered simply as a surgical process—perfectly successful.

It will be observed, that in but a single case was it necessary to use the bistoury to enlarge the first section of the cornea; this (which it is the especial object of the forceps to facilitate) proving in every other case ample.

Taking the present in connection with the former series, and so completing the entire number of extractions I have performed in the method under consideration, up to the date of the last two cases; it will appear, that in forty-one operations of this kind, the necessity of extending the section arose but four times. In the same number of cases, the iris was compromised four times (and once doubtfully); and of the whole number of forty-one operations four alone failed,—if an old man of eighty, who died three days after operation (from bronchitis supervening on heart disease), be excluded from the catalogue.

It is rather singular, that in every one of the cases of failure the operation had, at the time, been quite satisfactory, as far as respects the corneal section and the freedom of the iris from injury. So that even these failures, regarded in relation to the use of forceps, contribute evidence in support of the practice.

The mode of operating, to which the favorable issue of the above cases is greatly due, needs little further recommendation than the character of its results on a scale thus extended. Yet I may be permitted, in conclusion, to adduce a communication on the subject, *ab extra*; which the kindness and candour of an intelligent practitioner have placed spontaneously at my disposal. Dr. Steventon, late of Cheadle, thus wrote to me, in December, 1859: "Accept my humble testimony to the

efficacy of that invaluable aid to the operation of extraction, which I first observed in 'Guy's Hospital Reports.' I have altogether operated many times, but the 'pleasure' of operating was, until the last season, held in complete subjection. * * * * Now, however, with the assistance of the forceps, I feel that there is no occasion for hurry; and I have had six successful cases in succession during the last summer, a result which I attribute mainly to having adopted your suggestion. * * * * In truth, the comfort I have felt ever since my first case under your plan, has left no desire to return to the former."

It is unnecessary to pursue this subject at greater length, or to adduce from the records of the current year additional cases to those already given. Enough has been written in this, and my former papers, to explain the precise object and bearings of the suggestion I have made; enough to show the very general desire entertained for some such accessory in this operation, from its first promulgation to the present time; enough to clear the means proposed from the charges of inadequacy or risk; enough to prove, by a catena of facts, that the mode of operating described is a real improvement on that ordinarily followed, — facilitating the process of extraction, obviating the chief dangers which attend it, imparting greater uniformity to its course, and (as a natural consequence) enhancing the ratio of its success. The accompanying Plate shows, in figure 1, the mode of operating advocated and exemplified in the preceding pages. The upper fingers are those of the operator, while the lower, which hold the forceps, are those of the assistant.

Figure 2 is copied from the work of M. Desmarres; and possesses interest, as delineating the first crude suggestion for bringing forceps in aid of extraction. The knife and forceps are held by the operator; while the fingers, both above and below, are those of the assistant. The objections to this plan, from the inconvenient position of the forceps, the loss of the support of the finger at the inner canthus, and the operator's non-control of the upper-lid, &c., are too obvious to the practical surgeon to require further comment.







