stood, almost invariably those used for the Berdan and Remington rifles, with which the Carlists are principally armed. The bullets of the latter weapons are small, solid, and conical, and resemble in outward appearance the bullet of the Chassepôt rifle. I can say with some degree of certainty that I saw no wounds caused by hollow bullets, otherwise the wounds of entrance and exit, as well as the destruction of parts, would have been very much greater. I was quite unable in one case to distinguish the aperture of entrance and exit until told by the patient, and in many cases the characters of such wounds as given in text-books were not present, though only a few days had elapsed since the receipt of the injuries. Had the form of the bullet, the charge of powder, the number of grooves and their depth in the barrel of the rifle, as well as the number of turns or degree of rifling, anything to do with this? The exit and entrance of the bullet-wounds were extremely small, and looked as if the tissues had been neatly and skilfully punched out; and there was remarkably little suppuration, on account, I think, of the peculiar form of the bullet causing very little destruction of parts as contrasted with the effects of hollow bullets, or even spherical ones, on animals and large game. There were a few cases of wounds from fragments of shells, and they presented the usual character of great laceration and contusion, and were accompanied by profuse suppuration. The wounds were all washed with water containing a little vanilla and dressed with simple water-dressing, lint, or charpie, or with a little resinous plaster. No antiseptic or other dressing was used, with the occasional exception of a little chloride of zinc solution to unhealthy sloughing sores; and it appeared to me singular that there was scarcely any smell in the wards, though there was a large number of open suppurating wounds. There was one case of gangrene, and, up to the date of my visit, erysipelas was quite unknown.

The patients were supplied with good strong iron bedsteads and very good bedding; but there were no special surgical cots, and, as might be expected in a temporary hospital, there were no appliances to assist the patients to raise themselves in bed, or to enable them to sit up or change their position. The wards were kept clean and well ventilated, and there was no overcrowding. Amongst other things, I was shown what appeared to me a very portable, light, and durable field-stretcher, which the authorities of the hospital very kindly explained to me, at the same time taking it to pieces and showing its construction and working practically. They had no other means, excepting this stretcher, for the conveyance of the wounded from the field or the mountains, and they appeared quite satisfied with its working.

Fig. A is a rough sketch of its appearance when ready for use. The canvas slipped on over the poles in the usual way, and near one end it was double, the upper layer being raised a little on a strong curved iron rod, thus serving as a pillow; and light iron traverses with short iron feet completed the arrangement. The superintendent of the hospital very kindly wished me to prolong my stay, in order to see more of actual warfare and its results; but my short leave would not permit of my doing so. I was treated most politely by, and received every attention and information from, Señor Ramon Masferrer y Arquimbau, medico-cirujano, a young military surgeon who was in immediate attendance on the wounded, and, in fact, without whose assistance my visit to San Sebastian would have been without interest.

UNUSUAL DISTRIBUTION OF RETINAL BLOOD-VESSELS: THREE CASES.

By EDWARD NETTLESHIP, F.R.C.S.,
Surgeon to the South London Ophthalmic Hospital.

DEVIATIONS from the usual course taken by the retinal blood-vessels at their entrance into, or egress from, the eyeball derive a special interest from the possible effects of such irregularities on the sequel to embolism of the *arteria centralis*, or on other sudden obliterations of the central retinal vessels. The vessels forming the circle of Haller, the only constant branches of communication between the retinal and ciliary blood-systems, would be, as is well known, too small to be seen by means of the ophthalmoscope, even if they were not for the most part too deeply seated in the substance of the optic disc to come clearly

into view; it seems, therefore, worth while to put on record cases in which any retinal vessels large enough to be seen with the ophthalmoscope show evidence of communicating with the vascular system of the choroid, instead of joining the central retinal artery or vein. Such a case has been described and figured by Loring ("Anomalous Circulation in the Eye", Knapp's *Archives of Ophthalmology and Otolaryngology*, vol. ii, part ii, page 9, 1872), from a myopic patient; a retinal vein of the second or third magnitude runs as usual to the border of the optic disc, then, bending suddenly at a right angle, the vessel pursues its course in the choroid, where, owing to the atrophied condition of that tunic, it can be traced for a considerable distance; the vessel finally disappears at the junction of the atrophic and healthy choroid, never having again approached the optic disc. Loring states that this was the only instance of the kind that he had then met with. It has chanced to me to notice, within the last few months, three cases nearly resembling the one given by Loring, and without any attention being directed to the subject otherwise than by the interest awakened by the first of them; it would, therefore, seem not unlikely that such variations are less rare than has been supposed.

Fig. 1 is a diagram of the optic disc (seen in the erect image) of a young woman aged 20. An artery of about the third or fourth magnitude is seen passing from the lower-outer part of the fundus on to the disc, where, instead of entering the substance of the nerve, it curves sharply round and disappears exactly at, or just external to, the edge of the disc. Its course is such that, unless it make a second sudden bend directly downwards, it cannot fail to pass into the choroid or sclerotic. A very small vessel, only just clearly visible, appears to form a communication between the anomalous artery and another small branch which takes the usual course. As, however, I saw the patient only once, and the examination was made without atropine, this anastomosis on the disc cannot be taken as quite proved. The eye was hypermetropic, but in other respects quite healthy. The sketch was made on the spot.

Fig. 2 is from the eye of a young woman aged 25. Mr. Hutchinson, whose patient she was, kindly allows me to use the case. The diagram was taken from the erect image; but the eye was myopic to the extent of a seventh, and there was a wide crescentic staphyloma on the yellow spot side of the disc; the choroid on this staphylomatous area was highly atrophied. A retinal vein of about the fourth size passes from the neighbourhood of the yellow spot inwards across the staphyloma, and, just before reaching the nerve, makes a short sharp curve upwards; it then disappears partly upon, partly external to, the boundary of the optic disc. It seems to dip directly into the atrophied choroid or into the sclerotic, and is slightly enlarged at its point of disappearance.

Fig. 3 shows the optic disc of a highly myopic boy aged 12 (from a drawing by Burgess in the inverted image). A moderately abrupt and rather narrow staphylomatous crescent surrounds nearly three-fourths of the circumference of the disc. A vein of about the third magnitude passes from the (apparent) lower-inner part of the fundus to the border of the disc; here, instead of pursuing a straight course, it curves sharply round, forming two-thirds of a small circle, passes outwards again over the crescent, and disappears at the junction between the atrophied and healthy choroid. Just as the vessel is about to dip into the choroid, it is joined by a much smaller venous twig, coming, like itself, from the yellow spot region. This case is very similar to the one described by Loring.

Although the majority of the vessels forming the circle of Haller are situated deeply, and pass into the substance of the optic disc about at the level of the lamina cribrosa, there are some branches which enter the nerve on a level with the choroidal rim of the disc, and a few of these turn abruptly round and run directly into the retina; and, while all these communicating twigs are, as a rule, very minute, some of them are occasionally met with of larger size. Thus, I have a section from an artificially injected human eye, showing a small artery from the choroid turning round the edge of the disc, and running uninter-

ruptedly for some distance in the retina, where it breaks up into capillaries. This twig, although of unusual size, is still much smaller than any of those figured above, and would have been barely visible during life even in the erect image; but the specimen again suggests that the passage of arterial or venous twigs from the retina into the choroid by way of the margin of the optic disc, in addition to the indirect capillary anastomoses in the deeper part of the disc, are not extremely uncommon.

[Since the above was written, I have seen two other cases of the same sort: in one of them the abnormality was present in both eyes; in the other, only one eye showed the unusual vessel; in both of them, as in the three cases above given, the vessel came from the yellow-spot region.]

NOTES OF A CASE OF SUBSPINOUS DISLOCATION OF THE HUMERUS.

By CHARLES B. BALL, M.D., Ch.M. Univ. Dub.,

Surgeon to the Blaenavon Iron Company, Monmouthshire.

LUXATION of the head of the humerus on the dorsum of the scapula is comparatively a rare accident; but, in the following example of this dislocation, the displaced bone occupied such a peculiar position, that the case appears to be worthy of record.

On January 10th, 1875, I was called to an accident, and, on arrival, found a lad, aged 19, with his right arm completely extended from the side, without any power of moving it, and complaining of great pain in the region of the shoulder. He gave the following history. He had been working in a coal-mine, and was stretching out his hand to get his lamp, when a portion of the roof of the mine fell upon him, and he was partially buried. When removed by his fellow-workmen, he was unable to depress his arm, and was carried home with it fully extended. The nature of the accident was very evident. The head of the bone could be felt lying under the spine of the scapula, and, on pressing deeply into the axilla, the empty glenoid cavity could with ease be determined.

Having passed a sheet round his thorax, the ends of which an assistant held, I grasped the hand and made extension. The bone left its abnormal position with a distinct jerk; and, on bringing the arm to the side, reduction was easily accomplished. Complete recovery of the joint followed in a fortnight.

The apparent position of the bones is shown in the woodcut. The

tendency of the arm to be depressed must have been great, in consequence of its weight, the action of the muscles in the axillary borders, and the decreased strength of the deltoid muscle through the approximation of its points of origin and insertion. There must, therefore, have been some mechanical impediment to depression of the extremity, and that was, I think, the fact that the surgical neck of the humerus was wedged in between the acromion process and the rim of the glenoid cavity.

Dr. E. H. Bennett of Dublin has pointed out to me a plate of a somewhat similar dislocation on the dorsum scapula. In this case, the arm is considerably elevated, but not so completely extended as in the above case. The plate is given by Auger in his work on *Fractures and Dislocations*, page 23, and is stated to be copied from the *Journal des Connaissances Médicales*, March 15th, 1835.

DR. CROKER KING, Medical Inspector under the Local Government Board, has been appointed to the Medical Commissionership, vacant by the resignation of Dr. M'Donnell. He is well qualified for the office, having had long experience in the department.

REPORTS OF MEDICAL AND SURGICAL PRACTICE IN THE HOSPITALS AND ASYLUMS OF GREAT BRITAIN.

CHLOROFORM AND ETHER AS ANÆSTHETICS.*

KING'S COLLEGE HOSPITAL.—Mr. MOSS (Chloroformist to the Hospital) has forwarded the following report. I am in the habit of administering chloroform, ether, and nitrous oxide gas. In many cases, the selection is made in accordance with the expressed wish of the patient or the medical attendant. When the choice of the anæsthetic is in my hands, I usually prefer chloroform, provided, after examination of the patient, there are no reasons to contraindicate its use. In young children below the ages of from ten to twelve years, I always administer chloroform; it is more agreeable to the child; it is taken with less struggling, and, except a little occasional sickness, I have never had any unpleasant result. I take, however, the precaution of making the child fast for at least four hours before its administration.

When I give ether to adults, I commence with a short inhalation of chloroform well diluted with atmospheric air, and keep up the state of insensibility with ether. In cases of patients suffering from irregular heart's action, I prefer ether alone. It seems to act as a stimulant to the heart, and, if it be diluted with air at the commencement of the inhalation, struggling for breath, which is the great objection to its use, is avoided.

In all operations of the mouth, and in patients who are suffering from chronic cough or any bronchial affection, I always give chloroform, as the increased secretion of saliva in the mouth and mucus in the bronchial tubes occasioned by the ether proves very troublesome and frequently dangerous.

I only use nitrous oxide gas in short operations, such as the division of tendons, opening of abscesses, and extraction of teeth.

GREAT NORTHERN HOSPITAL.—Mr. G. EASTES (Chloroformist to the Great Northern and to the National Dental Hospitals) reports as follows.

1. I have administered chloroform extensively for the last twelve years in all kinds of surgical cases; and, upon the whole, have had much cause to be satisfied with it. A few years ago, I used bichloride of methylene; I have also within the last year given ether alone in many cases, and am now beginning to use nitrous oxide gas and ether. Nitrous oxide I consider best suited for dental and other short operations; nitrous oxide and ether for operations in adults lasting more than a minute; and chloroform for all children, or for operations in adults about the mouth or throat. Bichloride of methylene I have abandoned since using nitrous oxide and ether.

2. I have given chloroform by means of Clover's apparatus since 1865, always with most satisfactory results. Ether I have given upon a sponge; gas and ether I am now administering by means of Clover's newly introduced apparatus. The bichloride of methylene was always given in a leathern cone lined with flannel.

3. Chloroform or bichloride of methylene were the agents employed by me in all cases until about a year ago; the latter I used only for short operations. I then had recourse to ether, and subsequently to gas and ether; and was influenced to make the change by many considerations. Firstly, reports of deaths from chloroform were being continually published, and I myself had witnessed four or five with different administrators in public practice. Secondly, the advocates of ether incessantly vaunted its greater safety as compared with chloroform. Thirdly, it appeared to me that the action of the two agents upon the heart was quite diverse; so that, whilst chloroform often depressed the heart's action, weakened the pulse, and embarrassed the circulation, ether always produced the opposite effect. And, lastly, one single case tended greatly to strengthen my growing predilection for ether. It was that of a young lady, whom I was asked to anæsthetise on three separate occasions. The first time I used Clover's bag, charged with a four per cent. chloroform vapour. During the operation, the patient's pulse became almost imperceptible, the respiration feeble and irregular, and the blood seemed entirely to leave her face and hands. After about five minutes, however, the pulse slowly strengthened, and all went well. At the second operation, I again used Clover's bag with chloroform, but adopted every precaution

* Continued from page 75 of the number for January 15th, 1876.