made use of to explain away the obvious frequency of the presence of ununited fractures of the acromion in the dissecting-room, and that this theory, which has been accepted by many English writers, is to some extent responsible for the supposed rarity of fracture of this bone.

Professor Hamilton would wish us to imagine that such specimens are not ununited fractures, but "merely separations of the epiphysis, the bony union having never been completed." I will not refer further to this theory here, as I have already criticised it fully. It would hardly seem necessary to mention another explanation of this condition made by Dr. Adams, namely, that this separation of the epiphysis takes place at a later period of life, and that it is due to the presence of the so-called disease, rheumatoid arthritis, except that this astonishing theory is perpetuated by, and consequently, I suppose, receives the assent of surgical writers of the present day. It is, however, an interesting example of the manner in which a pathologist may confuse and transpose cause and effect. I have treated this subject in detail in the *Transactions of the Pathological Society*, 1886 (The Causation and Pathology of the so-called Disease, Rheumatoid Arthritis, and of Senile Changes).

I have frequently been able to determine clinically the presence of ununited fracture of the acromion and of united fracture of the outer third of the clavicle in patients who had been regarded and treated as suffering from simple contusion of the shoulder or deltoid.

Since writing the paper in the *Guy's Hospital Reports*, 1886, I have found in the dissecting-room many more specimens of these fractures. For instance, in the first twenty-two subjects dissected this session, 1886-87, there were two examples of fracture of the portion of the clavicle external to the conoid tubercle, and two examples of ununited fracture of the acromion, yet during the last five years I have observed in the dissecting-room no single instance of fracture of the clavicle inside a point two lines internal to the conoid tubercle. I mention this external limit instead of the conoid tubercle, as I have seen one instance of fracture internal to the tubercle, its direction running obliquely downwards and outwards from a point two lines internal to the conoid tubercle, so that a portion of the conoid ligament was attached to the outer extremity of the inner fragment.

✓ CONGENITAL PIGMENTATION OF THE SCLEROTIC.

By STEPHEN PAGET, M.A., F.R.C.S.,
Assistant-Surgeon to the Metropolitan Free Hospital.

H. T., aged 3½, was brought to the Children's Hospital in Great Ormond Street with severe rickets. She was an intelligent good-tempered child, with darkish complexion and brown hair. There was a curious deposit of pigment in both sclerotics; it was much more marked in the right eye than in the left, and in the right ear, also, there was a small round outgrowth at the upper part of the helix, like the vestigial ear figured in the *Descent of Man* (ed. 1871, i, 22); the left ear had a normal helix.

In the right sclerotic, all round the cornea, there was a deposit of greyish-purple pigment, like an ink-stain, surrounding the cornea with a ring, a quarter to half an inch broad, of dark, irregular, cloudy spots. This ring of pigment was broken at the level of the outer and inner margins of the cornea, but it just touched the cornea above and below. The cornea and the conjunctiva were clear and natural. The iris was of a very dark brown, much darker than its fellow; it was not easy to see its edge against the pupil.

The left sclerotic was discoloured in the same way, but much more faintly, and the ring of pigment was altogether wanting towards the outer part of the eye. Pupils 5 min., equal, sensitive, dilating well under homatropin. There was no pigmentation of the eyelids, either inside or outside. (See Illustration.)

Mr. W. H. Jessop made the ophthalmoscopic examination. Both the discs were normal; the choroidal pigment was more clearly seen in the right eye than in the left; there was no abnormal distribution of it, but of nine recorded cases of this congenital pigmentation of the sclerotic, four at least had melanotic cancer of the eye in later life. There is an admirable account of it, with references and illustrations, and three cases, by Hirschberg, in Graefe's *Archiv*, 1883. The cases are as follows:—

1. A boy, aged 17, dark-skinned; right iris was much darker brown than left; right sclerotic round cornea was marked with large dark-purple stains, clearly congenital. Right fundus much more darkly pigmented than left. Sight of both eyes perfect.

2. A woman, aged 34, dark-haired; had for some months been losing sight of left eye. Right iris of a mingled grey-green and brown; left iris a dark-brown; round the cornea the sclerotic was marked with

large, well-defined purple stains, which here and there extended almost to the equatorial line. The ophthalmoscope showed a tumour near the optic disc, with detachment of the retina. No treatment had succeeded in arresting its growth; enucleation would probably be necessary.

3. A woman, aged 56, dark-haired; had for some months been losing sight of left eye. Right iris of a greenish-grey; left iris of a dark brown. The left conjunctiva showed near the edge of the cornea four dark-brown spots of pigment, 3 to 4 millimetres broad. Also on the sclerotic were some well-defined, much larger, dark-violet patches, chiefly on the equatorial region, but also coming here and there close

E.M.P.

to the edge of the cornea. It was said these were more red when she was a baby. The ophthalmoscope showed a new growth at the centre of the fundus, with detachment of the retina. On excision the sclerotic was found marked with streaks and masses of pigment almost as far back as the optic nerve; here, too, and in other parts of the eye, there was an unusual quantity of pigment. The tumour was a sarcoma of the choroid.

4. A lady, aged 62, dark skinned, with jet-black hair; skin of right brow and eyelids deeply bronzed, and right sclerotic singularly mottled, from birth, with rich brown spots; had found the sight of this eye begin to fail. Symptoms of new growth. On excision the sclerotic was found discoloured by a web of brownish-black pigment, thickest in the ciliary region and at the back of the eye. The optic nerve and choroid, also, were abnormally pigmented. The tumour was a melanotic cancer of the choroid (Mr. Hulke, *Ophthalm. Rep.*, 1860).

5 to 7. Liebreich says: "I have only seen three cases of 'cyanosis bulbi'; they were all just alike. In all one eye only was affected; the iris was of a darker shade, and the sclerotic was marked with purplish-grey stains. In one case the optic papilla was deeply pigmented: Mr. S., aged 21, with light-brown curly hair, light eyebrows and lashes; the left iris was bright brown, the right was dark-brown, of so deep a shade that one could only just distinguish the pupil. All round the cornea, at some distance from its edge, the sclerotic was marked by patches of dark-grey, almost purple, pigment (*Atlas of Ophthalmology*, ed. 1863, p. 38).

8. Schöler (*Berl. Med. Gesellsch.*, 1882 3) gives a case of pigmentation of the conjunctiva and sclerotic, followed in after life by melanotic sarcoma.

9. The present case. She has a sister younger than herself, whose eyes are natural. There was a history that the mother of my patient, while pregnant with her, was continually looking at her husband's stepfather, who is said to have a similar discoloration of the eyes. Hirschberg also gives a history of "maternal impressions" in Cases 2 and 3; but the practical value of these cases is in the close relation between the deposit of pigment before birth and the occurrence of melanotic disease in later life.

Hirschberg points out that the iris also may be the seat of congenital black pigment, becoming in later life the seat of malignant disease; and that out of sixteen recorded cases of sarcoma of the iris, three were in irides which had these congenital black spots on them.

CHOLERA.—Cholera is reported to have broken out at Kharkow. Eighteen cases with seven deaths have occurred.