to remove him, it was with difficulty the subject of this paper could be got into the mind to go to the hospital. He said he was "all right," and had only the back of his head grazed.

State on Admission.

He ultimately did go, and walked alone from the ambulance wagon up to the wards without difficulty. His head was dressed, and dinner being just served he asked for some dinner. He ate the meal, and afterwards walked about the ward, and chatted to several of the inmates whom he knew. They remarked that he was in good spirits.

In a short time, within an hour, his condition became "hilarious." Then he vomited his dinner, and it was noticed that some blood was mixed with the food. Drowsiness came on. He mentioned some stiffness in the right leg and arm. He asked to go to bed, and within two hours after walking into the hospital he was comatose.

Operation.

On being brought into the theatre, six hours after the accident, he was still comatose. Pulse 50 per minute. The left pupil was dilated. It was decided to do a decompression operation.

Dr. W. H. Hender Bennett, Dr. Russell, and Dr. Keighley assisted. The usual preliminaries—shaving, toilet, and painting with iodine solution—having been carried out, an obliquely-vertical incision was made through the scalp and subcutaneous tissues. A point $1\frac{1}{2}$ in. behind the external jugular process of the frontal and $1\frac{1}{2}$ in. above the zygoma was cleared. We found a fracture of the vault crossing our exposed area, and a trephine 1 in. in diameter was used. On removing the "disc" it was found that we were dealing with an extradural haemorrhage. We came upon large clots at once. Failing to find a bleeding point we trephined again behind and below, with the object of examining the posterior branch of the middle meningeal artery. The intervening bone between the two "discs" was broken through by bone forceps. The whole exposed area was cleared of blood clot.

Result.

The effect of these measures was immediate. The pulse improved to 72. The dilatation of the left pupil disappeared. The breathing changed its character. Within a few minutes he moved his right arm and leg. The improvement was so great that it was decided not to do the bilateral operation. The case made an uninterrupted recovery. The man is now walking about as usual, without any ill effects of his injuries.

BLUE SCLEROTICS AND BRITTLE BONES.

BY

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THE following genealogical history is of interest, as it points definitely to a connexion between fragility of the bones and blue sclerotics.

At a recent meeting of the Section for the Study of Disease in Children, Dr. J. D. Rolleston,¹ to whom I am indebted for the references in this article, showed a child who had blue sclerotics, and who had sustained when a few months old a so-called spontaneous fracture of the humerus. The child's mother and the mother's sister both had blue sclerotics, and the maternal grandmother is said to have been similarly affected. But in this case there was no family history of fragilitas ossium; and, as the child had congenital syphilis, it is uncertain whether the fracture was due to the syphilis or to a constitutional peculiarity.

That, there is a connexion, however, between thin sclerotics and fragilitas ossium was first suggested by

Dr. Eddowes,² to whose original communication Dr. Rolleston referred. Dr. Eddowes mentioned the case of a young woman who had markedly dark sclerotics, and who had suffered from several broken bones. Her father had similar eyes, and also had sustained many fractures. In another case a child with very dark sclerotics had nine fractures within the space of two years.

Dr. Eddowes offered the suggestion that the translucency of the sclerotics indicates a want of quantity or quality of the fibrous tissue forming the framework of the various organs of the body, and probably explains the want of spring or toughness in the bones of these peculiar individuals. And it has been shown by Dr. L. Buchanan³ that the condition of blue sclerotics is due to deficiency of fibrous tissue in the sclerotic, whose thinness and translucency allows the underlying choroidal pigment to be seen.

In the pedigree at the foot of this page, which represents four generations, two interesting facts may be observed. In the first place there is no instance of transmission of blue sclerotics except from a parent who actually showed that condition. The children of those members of the family who had white sclerotics themselves had white sclerotics without exception.

Secondly, not a single case of fracture was known to have occurred among the members who had normal sclerotics; although the other individuals suffered with exceptional frequency from broken bones. The two members of the family to whom I am indebted for the details were very well aware of the two family peculiarities, but they had not noticed how often they were associated. The fractures had, in many instances, been caused by relatively slight violence. For example, a child sat down suddenly on the nursery floor, and was found to have broken its femur. A lady thought she had reached the bottom of the stairs when there was one step more, and she fractured her tibia.

It will be observed that of the 29 individuals concerned 13 had blue sclerotics, and of these no fewer than 9 suffered from brittle bones.

No details are obtainable with regard to Cases 10 and 11. Among the remaining 14 individuals, who had white sclerotics, there was not a single one who was known to have sustained a fracture.

Of the 9 cases which are said to have had brittle bones 7 have suffered from multiple fractures, and there is a sufficiently definite history of the condition. In Case 4 there is a positive history of only one injury causing fracture of both bones of the forearm, but the two members of the family to whom I am indebted for the pedigree believe that she sustained other fractures during her life. In Case 23 there was only one broken bone, but as in this case the femur was broken by very slight violence—by the child sitting down suddenly on the nursery floor—it is fairly safe to assume that he would have broken more bones if he had lived to adult age.

It may be well to mention that many people, especially when young, have a shade of blue in the sclerotic coat of the eye. But this is distinct from the pathological condition of blue sclerotics. In the latter the sclerotic is coloured a pale china blue, and the appearance is so striking that one's attention is drawn to it at once on looking at the patient.

REFERENCES.

¹ *Proc. Roy. Soc. Med.*, April, 1911, p. 96. ² *BRITISH MEDICAL JOURNAL*, 1900, vol. ii, p. 222. ³ *Trans. Oph. Soc.*, 1903, vol. xxiii, p. 267.

B.S. denotes blue sclerotics; W.S. denotes white sclerotics; and B.B. indicates a history of brittle bones. The individuals are numbered consecutively for convenience of reference.