and the length of time ill prior to treatment does not influence the treatment. Patients that have suffered from previous attacks, when murmurs in the region of the heart are left, are benefited by these preparations, as far as their recent symptoms are concerned, and in as short a time as those in their first attack, but their convalescence is more tedious. These preparations are useless, either as relieves of pain or as reducers of temperature, in cases which are complicated with pericarditis, even when the temperature is not high; nor does their early administration, and in large doses, keep off this complication. They also appear to be of no use in cases that have a temperature higher than 104·5°. Contrary to the conclusion come to by Dr. MacLagan, the large doses recommended by him are not necessary—ten to fifteen grains every one, two, or three hours being sufficient. And in cases where these drugs do not seem to suit, the most commonly observed symptoms are noises in the ears, accompanied with deafness and vomiting.

ART. VI.—*Some Clinical Observations on Two Cases of Hæmophilia.* By W. H. T. WINTER, L.K.Q.C.P.I.; House Surgeon to the South Staffordshire Hospital.

WHEN the Venetian barber pricked his nose and bled to death, he little thought that the disease of which he was the victim would baffle the researches of the physician for over three centuries, and prove one of the greatest enigmas of medicine.

This paper is written as an addition to existing statistics, rather than as an exposition of any fresh view of this awful malady.

The two cases I have to relate were under the care of Mr. Newnham, and I am indebted to him for allowing me to publish them:—

CASE I.—James S., a boy of twelve years of age, was admitted on 15th November, 1879. He had a fractured femur complicated by an old contraction of the knee-joint on the injured side. There was a considerable effusion of blood at the seat of the injury, and there existed an amount of pallor and shock disproportionate to the nature of the accident. Owing to the shape of the limb, we had to put up the fracture on a well-padded angular splint. In a month the fracture had firmly united without the formation of much callus, and it was thought advisable to try gentle extension. The limb was, in the course of a week, brought from a right angle to an obtuse angle, when a sudden and rapid effusion took place into the knee-joint. It was accompanied by considerable pain, and

was coincident with an attack of epistaxis. Extension was discontinued; suppuration took place into the joint; the skin thinned, as over a chronic abscess; an opening was formed by nature, and a large collection of blood-stained pus was let out. Convalescence was more rapid than was anticipated. The boy grew fatter about the face, and regained some colour. The wound into the knee-joint healed, and extension was again employed. By April the boy had a fairly straight limb.

From time to time the patient had an attack of epistaxis, which yielded temporarily to the perchloride of iron spray. If he cut himself or even received a scratch, he would have a prolonged attack of hæmorrhage—the blood coming with a slowness and persistency that I have since learned is characteristic of the disease. Iron, tannic acid, cold, and alum were only of temporary service. Pressure, applied with the greatest caution, caused superficial sloughing, and rest and the elevated position seemed the only means of arresting hæmorrhage for any considerable time. Internally drugs were useless, although small doses of sulphate of iron with sulphate of magnesia each morning seemed to improve the child's condition, and increase the periods between the hæmorrhages. As regards diet, the boy was allowed the most generous food and a small quantity of port wine at his dinner.

On 20th May, 1880, the patient was discharged in excellent health, having had no bleeding from the end of January. He had lost his bluish waxy complexion, and looked fat and rosy, and was able to get about on crutches.

Five weeks later I heard that the boy was lying ill at home, so I told his relations to bring him to the hospital. He had been well up to 9th June, and had till then suffered from no hæmorrhage since he left the hospital. On the 10th, when getting out of bed, the patient noticed there was a swelling of his left thigh—the side opposite the fracture. By mid-day the swelling had increased considerably. There was great pain, and the child was compelled to keep to his bed.

On the 24th June the child was admitted. He was profoundly anæmic. There was great emaciation of the lower extremities, and to a lesser degree of the rest of the body. He looked waxy and flabby. The tongue was white and soft, and the gums anæmic, and his appetite was bad; he had a bitter taste in his mouth; his bowels were not regularly open, and the smallest quantity of solid food made him sick.

The left thigh was considerably swollen, and the skin discoloured. The middle third felt hard and brawny, but there was no œdema. There was considerable pain in the part, which prevented the patient going to sleep.

After the irritability of the stomach had been allayed by bismuth and soda, the appetite was improved by mineral acids and vegetable bitters. He was kept in bed, and the greatest care taken by the nurse to prevent

bed-sores. As his health improved, the blood tumour on his thigh gradually shrank, and the skin over it became shrunken and desquamated. He was placed in the ambulance on sunny days, and wheeled about the grounds, and before he had been here three weeks he was able to get about on a wheeled chair.

Latterly Mr. Newnham has ordered hamamelis, but we have had no results which would justify us in giving an opinion of the value of the drug in hæmophilia.

I have, so far, not mentioned the history of the patient's family. He is one of nine children—six boys and three girls. The girls are robust and large for their age. They have never suffered from any illnesses except those of infancy. The youngest boy, a baby in arms, has not had any manifestation of hæmophilia. The other five were healthy till they were about six years of age. They then bled after the slightest injuries, the hæmorrhages being stopped only by nature—any attempt at pressure being followed by blood blisters and sloughing. Four or five times a year they have an attack of epistaxis, when a knee or an elbow becomes painful and swollen and they have to lie up for a time in bed. The eldest brother (aged eighteen) has recently had pain and swelling of the wrists. The doctors tell them that they suffer from "rheumatism."

Mrs. S., the boy's mother, is a spare and florid woman. She has no tendency to bleed, and enjoys good health. She had no sisters, but she had two brothers; one died at two years of age from cholera; the other from about six or seven years of age had hæmophilia, and died from an injury to the shoulder at the age of twenty-three. Suppuration took place in the injured part; the abscess was opened; he bled obstinately, and died in a week or two.

The mother of Mrs. S. was healthy, and so were her maternal aunts. She had a maternal uncle who was the subject of the hæmorrhagic diathesis; he died before he arrived at the marital age. There is no history of tubercle, gout, or syphilis.

On the patient's father's side there is a tendency to rheumatism. His father's family die comparatively early, while if his mother's relations live beyond twenty-five they attain an advanced age.

CASE II.—The second case I have to relate is that of Henry A., a strong, well-built young man of twenty-one. On the 2nd July, 1880, he crushed his great toe in a threshing machine, and in Mr. Newnham's absence I amputated. I had no notion that he was the victim of this terrible diathesis.

After the operation the little bleeding there was was arrested by cold, and the wound dressed after Guérin's method. The temperature that night was 99°, and no anxiety was felt about the result.

On 3rd July, on visiting the patient in the morning, I was struck

with the forcible pulsation of the carotids. The pulse was 140, full and compressible; the temperature 100° ; and the foot looked inflamed. A purge was ordered. At mid-day the patient was again seen, and, as his condition had not improved, the dressing was removed. There was a clot in the wound, and there was a tendency to bleed, but the hæmorrhage was so slight that it seemed hardly to demand special attention. The evening temperature was 100.6° .

On the 4th the temperature was 102.8° , and the superficial vessels were seen to pulsate with painful distinctness, and there was a bruit in the veins of the neck. The pulse was 150. The dressings, on being removed, were somewhat soiled. The wound was laid open and the clots turned out, but there was no bleeding vessel to be discovered. The whole wound oozed with a scarcely perceptible slowness. After wiping it, it first looked sticky, then moist. In a moment or two a drop formed, grew larger, and rolled off the wound. I then found out that the patient was subject to the hæmorrhagic diathesis.

He told me that some months previously he had been kicked in the face by a horse, and that there was obstinate bleeding from the wound. He had, at intervals, had attacks of epistaxis. He had a brother who had been a bleeder till he was eighteen, but after that age he had not suffered from profuse hæmorrhages after injury. Another brother, too, had a tendency to epistaxis.

The limb was raised and cold applied, but the bleeding was not stopped. It oozed drop by drop. Then powdered alum was tried, and afterwards tannic acid, but with no permanent success. The evening temperature was 103.8° , and evening pulse 140. The carotids pulsated violently. The patient was put on a mixture of tr. digitalis $\mathfrak{m}$ 5 and tr. ferri perchloridi $\mathfrak{m}$ 30 every four hours, and a hypodermic of morphia was administered.

5th July.—Morning temperature, 101° ; hæmorrhage stopped by tr. ferri perchlor. applied locally; evening temperature, 100° .

6th.—Bleeding from wound from 3 to 5 a.m.; morning temperature, 101° ; evening temperature, 103° .

7th.—Morning temperature, 103.6° ; evening temperature, 102.2° . Tenderness along the left external saphena vein.

8th.—Morning temperature, 102° ; evening temperature, 103.8° ; pulse, 116. Pain along left saphena; sloughing of wound. Patient was put on quinine and iron.

9th.—Morning and evening temperature, 103° ; morning pulse, 170. Tr. aconiti $\mathfrak{m}$ j. every hour. Evening pulse, 150.

10th.—Morning temperature, 102° ; evening temperature, 103° .

11th.—Morning temperature, 101° ; evening temperature, 102.8° .

12th.—Morning temperature, 100° ; evening temperature, 101.4° . The slough separated.

13th.—Morning temperature, 100·8°; evening temperature, 104°.

14th.—Morning temperature, 100°; evening temperature, 102·8°. The wound was covered with œdematous granulations. The pulse was 140, dicrotous. R.—Tr. digitalis, ℥ v.; tr. aconiti, ℥ ij.; ammon. carb., gr. 3; sextis horis.

15th.—Morning temperature, 100°; evening temperature, 102·8°. The pulse had steadied. It was noticed that there was a subcutaneous collection of pus along the inner side of the right leg.

16th.—Morning temperature, 100°; evening temperature, 102·4°.

17th.—Morning temperature, 100°; evening temperature, 105°. The collection of pus was let out by a puncture, and a fine drainage tube introduced.

18th.—Morning temperature, 103°; evening temperature, 105°. A collection of pus formed over the lumbar vertebræ.

19th.—Morning temperature, 103·5°; evening temperature, 105°. Potassa fusa was applied over the back, and an eschar as big as a shilling was made.

20th.—At 2 a.m. the patient vomited some yellowish, inodorous, pultaceous matter. At 6 he had a rigor, and his temperature was 103°. At 8 his temperature was 99°, his breathing was distressed, and it was found that an effusion of pus had taken place into the knee-joint. His complexion was yellow and waxy. He seemed improved at mid-day. He slept for some hours after dinner, and on awaking tried to speak but was unable. In a few moments he was dead.

A *post mortem* was made forty-eight hours after death by Dr. Mortimer. Rigor mortis was present, and there was some hypostasis. The right knee contained some thin sero-pus. The wound of the toe was covered with flabby granulations, and no pellicle had formed at the edges. The abscess cavity on the side of the right leg had shrunk up. There was an eschar on the back, which had begun to separate from the healthy tissues. In this situation there was some pus. Old adhesions were found on the surface of the right lung. Both lungs were healthy. The pericardium contained a slight excess of blood-stained fluid. The heart was pale and hypertrophied. There were large and firm fibrinous clots on the left side. The foramen ovale was closed. All the viscera, with the exception of the spleen, were pale. The spleen was gelatinous in appearance and pulpy to the feel; it weighed 12 oz.

These two cases have been related from notes taken at the time. Since then I have read Prof. Immerman's exhaustive article on "Hæmophilia." I have not thought fit, however, to alter anything I have already stated, as observation, unfettered by a knowledge of the literature of the subject, has a definite value, provided the basis of observation is not ignorance.

I have drawn the following conclusions from Prof. Immerman's paper, and have supplemented them by my own experience :—

Hæmophilia may be defined as a tendency to persistent idiopathic and traumatic hæmorrhages. The diathesis is generally hereditary, and in the vast majority of cases is transmitted through the mother. Parents connected with bleeding families are generally prolific ; they have nine or ten children, as compared with the average of ordinary marriages, which is five. Male hæmophilists rarely procreate, as they generally die before the marital age ; but when they live and marry healthy women, they usually do not transmit the diathesis. In children of the same families the disease occurs 4·7 times more frequently in the sons than in the daughters. The diathesis generally lasts throughout life.^a

The Anglo-German and Jewish races are more liable to the diathesis than other races.

The first appearance of the disease is generally in early childhood. In the S. family it first showed itself in five individuals, between the ages of five and six ; and in the A. family in two boys somewhat earlier. The third son has occasionally excessive bleedings, but can hardly be classed as a hæmophilist.

Disposition to bleed, says Grandidier, is specially marked at the second dentition, at puberty, and—in females—at the first appearance and at the cessation of the menses.

Any traumatic lesion in a bleeder may excite a characteristic bleeding. The danger from the same kind of wound is not equally great at all times ; it may be greater at certain critical periods of the patient's life and at the changes of the seasons.

A traumatic hæmorrhage aggravates temporarily the manifestations of an already developed diathesis. I have seen many instances of this in James S. For instance, Jan. 19th, 20th, 21st and 22nd, hæmorrhage from cut of thumb ; Jan. 23rd, epistaxis ; 24th, hæmorrhage into knee ; 25th, epistaxis.

In the table of 308 cases, drawn from Grandidier's statistics, hæmorrhage from the nose occurred 152, from the gums 38, and from the intestines 35 times ; hæmoptysis 17 ; hæmaturia 16 ; and hæmatemesis 14 times. The rest of the hæmorrhages took place from the genitals, tongue, ear, &c.

The hæmorrhage in these cases is capillary. Its danger is more

^a Thomas A., aged twenty-two, the brother of Henry A., bled habitually till he was eighteen. He has not bled excessively since then, although he has wounded himself more than once.

due to its duration than to its profuseness. Bleeders bear great losses of blood well, and the loss is soon repaired.

The blood, it seems, contains an unusually large quantity of fibrin and red blood-cells, and therefore the habitual condition is rather that of plethora than that of anæmia.—(Ziemssen, Vol. XVII., p. 45.)

The superficial vessels are more numerous than natural. The superficial arteries are abnormally wide, while the aorta, pulmonary artery, and their branches are abnormally narrow. There is an excessive thinness of the coats of the arteries, and the inner coat has been found undergoing fatty degenerations, as in anæmia and chlorosis.

The heart is often hypertrophied. When this condition exists it affects the left ventricle more often than the whole organ.

The most frequent complications of hæmophilia are neuralgia, rheumatism, and joint affections.

For further information on the disease I would refer the reader to Vol. XVII. of Ziemssen's "Encyclopædia," and to Dr. Wickham Legg's "Treatise on Hæmophilia."

In many recorded cases operative interference has terminated fatally in bleeders. Circumcision and division of the frænum linguæ have caused death, and the opening of abscesses has had disastrous results. Dr. Hunt has related to me the case of a gentleman who underwent lithotomy, and who was the subject of the hæmorrhagic diathesis. He died a short time after the operation.

In nearly all these cases there was no pre-knowledge of the existence of the diathesis; and, after my own experience, I would earnestly entreat the profession to make some inquiries with regard to hæmophilia before using the knife.

In both the patients whose cases I have related all the hæmorrhages were of the same type; and so much have I been impressed by it that I am led to believe that the method of bleeding which I have described is pathognomonic of the disease.

To one other point I would call the attention of the profession. Are not the high temperatures which follow attacks of hæmorrhage due to septic poisoning? As far as I have seen, interstitial hæmorrhages are not followed by such high temperatures as bleeding on free surfaces, and the temperature does not rise till time has been allowed for the products of hæmorrhage to putrefy.