trophied, and during life the veins in the neck would occasionally stand out like tubes the thickness of one's little finger. The pulse at first was rather hard and incompressible, later on small and jerky, whilst towards the end of life it became very rapid and small, but never to any extent irregular. Taken in conjunction with my remarks upon the distended right chambers of the heart and the venous system generally, the two attacks of profuse epistaxis are worthy of notice.

NOTE ON THE STAINING AND MOUNTING OF TUBE CASTS AND OTHER ORGANIC URINARY DEPOSITS.

By BYROM BRAMWELL, M.D., F.R.C.P. EDIN.,
Assistant Physician to the Edinburgh Royal Infirmary, etc.

THE interesting paper by Dr. Harris in the BRITISH MEDICAL JOURNAL of June 23rd leads me to publish the following note, which was written several years ago, on the staining and mounting of tube casts and other organic urinary deposits. It will be seen that the method is simple, and that no apparatus, other than the ordinary clinical appliances in everyday use, is required. The results are eminently satisfactory, and the preparations permanent.

THE STAINING OF TUBE CASTS.

The detection of tube casts when the urine is copious, the deposit scanty, and the tube casts few and far between is, as everyone knows, a matter of considerable difficulty, and one which involves (when the ordinary method of examination is employed) the expenditure of considerable time and trouble. And yet it is just in those cases in which the detection of the casts is most difficult (cases of polyuria, with scanty deposit and a small amount of albumen), that the presence or absence of tube casts is of the greatest importance for the purposes of diagnosis.

The recognition of tube casts under such circumstances is greatly facilitated by the use of staining reagents. Picro-carminic is the stain which I chiefly use. The method which I adopt is as follows:

1. An ordinary conical urine glass is filled with equal parts of urine and an aqueous solution of boracic acid and set aside until the deposit settles.

2. The deposit is then drawn off by means of a pipette and transferred to an ordinary test tube in which a small quantity (half a drachm is quite sufficient) of picro-carminic solution has been previously placed.

3. The urine and staining fluid are then thoroughly mixed by inverting the test tube two or three times, the end being, of course, closed by the thumb.

4. The test tube containing the urine and staining fluid is then set aside to stand for twenty-four hours.

5. The deposit, which has by that time settled at the bottom of the test tube, is then drawn off by a very fine-mouthed pipette (most of the pipettes used for clinical purposes are far too large in the mouth),¹ placed on a slide, covered, and examined under a low power.

If any tube casts are present they are very easily detected by this method.

When a cast is detected with the low power, it should be carefully brought to the centre of the field; the high power should then be applied, and the structure of the cast more carefully studied.

If there is reason to suspect the presence of amyloid degeneration of the kidney, a solution of methyl violet may be used instead of picro-carminic; for in some cases of waxy disease of the kidney, the tube casts give, with methyl violet, the characteristic rose-pink reaction.

PERMANENT PREPARATIONS.

In order to bring out the fine details of tube casts, which have been stained in the manner described above, and in

¹ The best pipette is, I find, a narrow glass tube which has been drawn out to a fine point; the end then broken off and heated in the flame of a spirit lamp so as to round off the edges. A pipette with as small an orifice as may be desired can be made by anyone for himself in this way in the course of a few minutes.

order to preserve them as permanent preparations, they may be mounted in Farrant's solution.

The procedure which I adopt is as follows:—

1. A small test tube—one of the small glass tubes, in which Messrs. Burroughs and Wellcome pack their specimen tabloids, answers the purpose admirably—is filled three-quarters full with Farrant's solution.

2. The stained deposit from the test tube containing the mixture of urine and picro-carminic solution is drawn off by means of a fine-mouthed pipette, and transferred to the small test tube which contains the Farrant's solution.

3. The small test tube is then securely corked, inverted two or three times in order that the coloured urine containing the stained deposit and the Farrant's solution may be thoroughly mixed, and set aside to stand until the tube casts or other urinary deposits have settled to the bottom.

4. In the course of three or four days a minute drop of the deposit, which is of course mixed with a certain amount of Farrant's solution, is drawn from the bottom of the test tube by means of a very fine-mouthed pipette, placed on a slide, covered and examined by the microscope.

5. The preparation may, in the course of a few days, be sealed in the ordinary manner, if it is desired to preserve it as a permanent preparation.

If the preparation mounted in this manner is overstained with the picro-carminic solution (that is, when the mounting fluid as well as the deposit is coloured) the deposit which has collected at the bottom of the small tube should be drawn into the pipette and transferred to a second small tube containing fresh Farrant's solution. The deposit which settles in this second small test tube is, after it has settled, then drawn off and mounted in the ordinary manner. The tube casts stained in this way and mounted in a perfectly transparent and unstained medium make beautiful microscopical preparations, their minute characters can be studied with the highest powers of the microscope.

Any organic urinary deposits may of course be stained, mounted, and preserved in the same manner.

HEREDITARY MALFORMATION OF THE HANDS AND FEET; WITH OPERATION ON ONE SUBJECT.

By W. RAMSAY SMITH, M.B., C.M., B.Sc. EDIN.,
Late Senior Assistant to the Professor of Natural History, Edinburgh University; Demonstrator of Anatomy, Edinburgh School of Medicine; and Examiner to the Royal College of Physicians, Edinburgh.

Rhyl, N. Wales;

AND

J. STEWART NORWELL, B.Sc.,
Thomson Scholar in Medicine, University of Edinburgh.

In April, 1894, a boy, aged 15 years, with malformed hands and feet, was brought by his father to Dr. Smith, on account of pain and difficulty in walking, due to the malformation of the feet. The case was of more than merely passing interest on account of the persistency and consistency with which the malformation had affected several generations. It will be well to begin by giving an account of the structure of the boy's hands, then to compare them with the father's hands; afterwards to describe the malformation in the feet, and to give the history of these malformations so far as it can be traced through various generations.

CONDITION OF THE BOY'S HANDS.

The malformation in the boy's hands affects the middle and ring fingers. The right hand shows these fingers webbed to the tip. The conjoined nails exhibit a slightly elevated ridge running from the lunule and ending at a notch in front; and at the tip of the conjoined fingers there is a small linear depression running from the nail notch to the palmar surface of the tip. These are the only indications of separation of the digits. Each digit has the usual number of phalanges. The ring finger has its first phalanx rather shorter than normal; the second phalanx is articulated to it at an obtuse angle, the distal end of the first phalanx forming thus a