was highly albuminous, very dark, partly owing to bile pigments, but partly no doubt to the beta-naphthol. Microscopic examination showed a quantity of debris and a few scattered red blood cells. No spectroscopic examination was made.

Conclusion.

These cases teach us that in individuals suffering from diseases of the kidneys beta-naphthol should be used with the utmost caution, if at all. Probably it would also be wise to go back to the old Egyptian rule of leaving an interval of a full week between any two treatments.

Dr. J. E. A. Ferguson of British Guiana administers to patients with ankylostomiasis 10 grains of thymol in a cachet every night for many weeks, and finds that it cures the disease completely without any ill effects on the kidneys. Perhaps other physicians who have had experience in this thymol treatment may publish their results in the JOURNAL, especially noting its effect on kidneys.

One more observation, which may be interesting to those in charge of hospitals in the tropics, is that, in the writer's experience, whereas in *Necator* infection one treatment is usually sufficient to dislodge all the worms, in infection with *A. duodenale* three are generally necessary. Can it be that the more formidable mouth parts of the latter are responsible for this difference?

A FURTHER CONTRIBUTION TO THE DIAGNOSIS OF GOUT.

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A PAINFUL inflammatory swelling of the big toe, apparently of constitutional origin, or pain only, which soon after the consumption of a glass of generous wine is felt in a small bone of the hand or the foot, is commonly regarded as pathognomonic of gout. If that term is meant to denote a specific pathological process, of which a deposition of urates is supposed to be the exciting cause of its clinical manifestation, then its indefinite application to all cases presenting such symptoms is not only misleading, but, for more reasons than one, mischievous also in its consequences. For there are numerous cases called gout in which, when they happen to come to *post-mortem* examination, not a trace of a uratic deposit can be found. If, nevertheless, the clinical diagnosis of them is upheld, as is frequently done, it is on the alleged ground that the urates have been absorbed. This explanation would have some validity if it were conclusively established that the urates had been previously deposited. As it is, there is nothing to support it but the tacit yet unfounded assumption that the region above referred to has a singular immunity from other pathological processes except the one connected with uric acid. There is proof, however, of its inadequacy; for whether a deposit of urates acts as a mechanical irritant or as a toxic agent, invariably it leaves behind it indelible changes in the articular cartilage in which it has taken place; whereas, in the unanimous opinion of those who advanced it, there are numerous instances in which the articular cartilage appears on *post-mortem* examination to be perfectly normal.

The fact is that there is a pathological process of frequent occurrence which gives rise to clinical phenomena closely similar to those commonly called a gouty paroxysm, but which is not due to uric acid. The habit of looking for the cause of the painful swelling to the surface of the joint has diverted attention from its other constituents. Yet if the corresponding bone be carefully examined, it will be found that very often take place within it, silently and almost imperceptibly, changes which in their last stages fully account for those symptoms. Such examination discloses in the first metatarsals, and occasionally also in the phalanges, a cystoid degeneration, which starts in the epiphysis, extends to the articular cartilage, and after perforating it allows the discharge of the cystic contents into the joint, thus producing an acute "perforative synovitis." The resulting fistulous openings are generally minute (Figs. 1, *a*; 3, *a*), and readily escape detection, as do the cysts themselves so long as

they are of small size and concealed by the fat marrow; but when the bone is fully prepared for microscopic examination they are easily recognized, and are found to be either isolated in their earlier stages (Fig. 1, *b*) or

Fig. 1.—Section through the subchondral portion of a first metatarsal bone. *a*, Fistulous opening through the articular cartilage; *b*, softening of connective tissue and formation of cysts; *c*, *c*, *c*, areas of fibroid tissue; *d*, transverse section of an artery.

multiple (Fig. 2, *a*), and gradually coalesce so as to form a macroscopic excavation (Fig. 3, *b*).

Of the contents of those cysts little is definitely known, as they rarely, except in accidents or surgical operations, come under anatomical observation. They appear to consist, when of comparatively recent origin, of a coagulable substance (Fig. 2, *b*), which later on softens and becomes serous or haemorrhagic. So long as the canal thus formed remains pervious, or when its calibre becomes enlarged, the necrotic matter periodically passes into the joint and gives rise to periodic attacks of synovitis; only in the cases which are not here under consideration, where the cysts are situated near or within the diaphysis without reaching to and perforating the cartilage, it accumulates within the bone, which then is gradually expanded by its pressure.

Fig. 2.—Section through the epiphysis of a first metatarsal bone, of which the articular cartilage was worn off. *a*, *a*, *a*, Cysts; *b*, *b*, coagulated substance; *c*, *c*, fibrous tissue.

From the histological details of the affected epiphyses it may with safety be inferred that this cystoid degeneration originates from an anomaly of the vascular and osseous systems. Conspicuous amongst them is the abundance of dilated and thin-walled veins which are here and there studded with emigrated blood corpuscles.

There is consequently evidence of a state of chronic congestion under the influence of which the trabeculae are decalcified and the adjoining fat marrow becomes fibrous. From both these sources are formed patches of fibrous

tissue (Figs. 1, c, 2, c, and 3, c) which owing to thrombosis of the neighbouring vessels soften and are converted into cysts. To this abnormal vascularity also must be attributed the pain which some individuals feel in the smaller

Fig. 3.—Section through the epiphysis and adjoining part of the diaphysis of a first metatarsal bone. a, Fistulous opening through which a glass rod has been passed into a cyst b, which has formed in the area of fibrous tissue, c.

bones of the hands or feet after the consumption of even one glass of a generous wine. This pain is commonly regarded as a sign of gout and attributed to uric acid, whereas in reality it proceeds from an undue relaxation and consequent over-distension of the vessels which are deprived of their normal support by the osseous trabeculae.

When once this process has reached the articular cartilage and has perforated it at several spots, the surface of the bone is apt to be worn off and laid bare, in consequence of which it becomes inflamed and rarefied. The first

phalanx may then be deflected outward. A frequent complication of this condition is a lymphangitis, and the whole leg may thus become the seat of a leucophlegmatic oedema. It is easily intelligible what mischief may be done if an obscure affection of some internal organ be supposed to be due to "misplaced gout," and if on the advice of some authorities the alleged materia peccans is then directed by mustard poultices to its supposed normal place of exit by the big toe. Such naïve practice presumes that the redness due to the irritation by mustard is equivalent to an attack of gout and serves to relieve the blood of its contained impurity.

This cystoid degeneration is readily distinguished from gout by the absence of swelling of the regional lymphatic glands. It may, however, become gouty if from a concomitant disease of the kidneys uric acid is retained and accumulates in the blood. The tissues, especially those of an inflammatory or a metaplastic nature, then undergo hyaline degeneration, and favour the deposition of uratic crystals.

Such change in the type of the disease is then shown by the accession of the diagnostic element of gout—namely, the enlargement, as just mentioned, of the regional lymphatic glands, which have also become hyaline, as I have already pointed out.¹ My observations of the involvement of the lymphatic system in these circumstances have been confirmed by Minkowsky, who apparently was unaware of my statement to that effect, which had been published ten years before the appearance of his work on gout.

REFERENCE.

¹ Vide *Lancet*, December 16th, 1893, Fig. 3.

WE learn that work has been begun on the hospital which is to form part of the School of Tropical Medicine in Calcutta, and that it is hoped that the building of the hospital will be completed next year, the necessary funds having been collected.

THE United States Public Health Service has recently set on foot an active campaign of education for the prevention of typhoid fever. The proportion of typhoid cases in the United States is said by the *Bulletin* of the Service to be from two to five times that in many European countries where systematic preventive measures are enforced. The number of deaths from the disease in the United States last year is stated to have been 30,000, while 400,000 persons were incapacitated. During the last forty years, although there has been a considerable reduction in the prevalence of the disease in some cities, the United States as a whole are a generation behind the time in respect to the reduction of the typhoid rate.

THE CARE OF THE ILLEGITIMATE BABY.

BY

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I AM unaware of any reports of investigations into the welfare of poor illegitimate babies throughout the early years of life, and consequently the results of an investigation undertaken in Edinburgh in the early part of 1914 may be of interest.

The object of the investigation was to trace the history of illegitimate babies in the city for three years after birth in order to gain an idea of the care bestowed upon them as compared with legitimate babies of their own class. Several ladies very experienced in social work most kindly assisted me in the work, and their aid proved invaluable, as is evident from the very considerable number of cases in which a thoroughly satisfactory and first-hand history was obtained.

Conditions in Edinburgh.

Illegitimate infants born in the Royal Maternity Hospital, Edinburgh, January 1st to June 30th, 1911, and their history for three years—that is, till June 30th, 1914:

(a) Dead-born or died practically at birth...	14
(b) No trace of mother or child ...	38
(c) "Reports" about ...	7
(d) Satisfactorily traced ...	82
Total ...	141

Of 82 cases traced for three years:

Child known to be alive and cared for ...	54
Child presumably cared for ...	9
Cases in which child died and mother known to have been good ...	6
	69

So that in 69 out of 82 cases the babies had fair attention.

Cases in which baby died in questionable circumstances ...	5
Cases in which the conditions prior to death were uncertain ...	8
	13

What do these statistics show?

1. It was possible to trace 82 cases for three years after the birth of the child out of 127 cases in which the child survived birth.

2. Of these 82 cases, the mother afterwards married in 36 cases.

3. In 69 out of these 82 cases the baby had fair attention.

4. Forty-five cases could not be traced satisfactorily, or at all.

It would seem that of cases under heading 4 a certain number could not be traced because of shame on the part of a good mother, but in many cases it was certainly because an undesirable mother wished to leave no tracks. It may be taken that in 75 per cent. of cases the illegitimate baby received fair attention, and that in 40 per cent. of cases the unmarried mother later married.

It seems reasonable to conclude that an illegitimate baby in 1 out of 4 cases does not receive the ordinary attention given to his legitimate brother. This does not mean that 3 out of 4 are properly attended to. At best it means that 3 out of 4 receive the ordinary treatment of legitimate children of that class. In the out-patient department of any sick children's hospital in a large city the time of the physician is to a very large extent occupied by attending to children under 3 years of age who suffer from preventable diseases. Their mothers are well-meaning and kindly, but, either from ignorance on their part or the effect of an unwholesome environment, or both combined, the children become unhealthy. But, distinct from these well-meaning though ignorant mothers are most of the unmarried mothers. In some cases they are as unselfishly devoted to their child as any mother could be. More commonly they are fond of their child, but the times of stress they have been through have left their indelible mark; they are laden, overborne, oppressed by the difficulties of their situation, they recognize the claims of the child on them and would respond if they could; but they cannot, and though they sincerely regret it, there seems little hope