pains in the joints and down the legs, and occasionally hyperæsthesia over the tibiæ. The signs in one or two cases seemed to point to beri-beri, in others to ankylostomiasis. However, the majority of the prisoners appeared to be in good health.

The stools.—I was led to examine the stools for helminthic infection, which I did in 30 cases taken at random (Table I.).

TABLE II.—Showing Results of Examination of the Blood.

Number.	Polymorpho-nuclears.	Eosino-philes.	Large mono-nuclears.	Small mono-nuclears.	Mast cells.	Myelocytes.	Hæmo-globin.
2	24	36	4	36	—	—	60
3	51	16	6	27	—	—	60
4	57	4	1	38	—	—	50
5	58	18	3	21	—	—	50
6	54	9	6	30	1	—	70
7	22	42	6	30	—	—	60
8	32	35	5	28	—	—	60
9	57	11	15	16	—	1	60
10	31	40	7	22	—	—	65
11	28	56	3	13	—	—	60
12	42	30	1	27	—	—	70
13	36	16	20	26	—	2	80
14	62	6	7	25	—	—	60
16	74	3	4	19	—	—	40
17	43	28	7	22	—	—	70
18	60	3	3	34	—	—	60
21	46	12	6	34	2	—	60
22	64	5	3	28	—	—	60
23	47	19	6	27	—	1	60
24	28	21	3	48	—	—	55
25	57	16	7	18	2	—	60
26	29	17	12	42	—	—	—
27	30	30	10	28	1	1	70
28	26	34	4	36	—	—	50
29	44	15	11	28	2	—	60
30	35	29	6	30	—	—	70

In these 30 cases I found :—
Single infection in 12, 40% | Triple infection in 1, 3·3%
Double „ „ 6, 20% | No infection „ 11, 36·6%

The ova found were as follows :—
Ankylostome (or necator) in 14, 46·6% | Tania solium in 4, 13·3%
Ascaris lumbricoides „ 6, 20% | Trichuris trichiura in 3, 10%

Examination after the administration of anthelmintics proved the presence of both ankylostome and necator. Table I. shows the results in more detail.

The blood.—I then proceeded to examine the blood of the same cases, except of four who were not available. The most noticeable feature was eosinophilia, which was present in almost every case (see Table II.), rising in one case as high as 56 per cent. This was seen not only in cases with ankylostome infection, but with other helminths, T. solium, ascaris, T. trichiura.

In some cases I believe it was due to skin diseases, probably parasitic, collectively termed “craw-craw” by the patients. These lesions usually commence as exceedingly irritable papular eruptions, beginning on the thighs or scrotum, sometimes on the arms, often becoming pustular from scratching, and often spreading on to the trunk. Wyler¹ suggests that the eruption on the thighs and buttocks is really the seat of infection with ankylostomes, owing to the native habit of squatting on the ground.

In other cases the eosinophilia had no obvious cause, but I believe further search in the stools might have shown ova. Many cases showed great relative increase in the lymphocytes, possibly attributable to a preceding infection with malaria. Two cases showed malarial parasites, and two

¹ Some Observations on Ankylostoma Infection in the Udi District of the Central Province, Southern Nigeria, by E. J. Wyler, Journal of Tropical Medicine and Hygiene, July 1st, 1913.

showed microfilariæ—one M. bancrofti, the other loa loa and M. perstans.

A rough hæmoglobin estimation showed the following results (see Table II.) :—

1 had 40% hæmoglobin.	1 had 65% hæmoglobin.
3 „ 50% „	5 „ 70% „
1 „ 55% „	1 „ 80% „
13 „ 60% „	

The case showing only 40 per cent. had a large abscess in addition to ankylostome infection.

Treatment.—The treatment first adopted was 6 drachms of the eucalyptus, castor oil, and chloroform mixture in the early morning, repeated after an hour and a half, the double dose being again given three days later. This seemed quite inefficient, and better results attended the administration of thymol in divided doses. As I was shortly afterwards transferred from the station I was unable to observe the effects of treatment on the general health of the patients.

Remarks.—The above observations, though limited to 30 cases, would serve to show the extreme prevalence of infection with ankylostomes amongst the Bassa pagans. The Hausas seemed to me to be much less affected, though this could not be observed amongst the prisoners, of whom very few were Hausas. One reason for their comparative immunity appears to be their use of deep cement-lined pits for defæcation, whereas the pagan tribes make use of the nearest convenient spot in the bush, thus providing the ankylostome ovum with its most favourable conditions for development.

Ankylostomiasis probably has a distinct bearing on the fact that Hausa carriers are able to carry heavier loads for far greater distances than can pagans. A remarkable point was the absence of symptoms in many cases that showed infection and even considerable anæmia. The men were able to do their ordinary work, which was certainly not as a rule heavy, without complaining even of shortness of breath ; in other words, infection with ankylostomes is not synonymous with ankylostomiasis.

Conran² states that all his cases complained first of epigastric pain, but this was uncommon in my series ; the earliest symptoms seemed to be dyspnœa and dizziness, especially in a bright light, and these were followed by pains in the legs, œdema, and the ordinary symptoms of ankylostomiasis. Several of these cases were extremely like cases of beri-beri, and in some of these ankylostome ova were not found till the second or even third examination, and after the administration of a mild purge. The diagnosis between these two diseases, usually said to be easy, may in actual practice be a matter of considerable difficulty.

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SUPPURATING ENDOTHELIOMA OF
MECKEL'S DIVERTICULUM SIMU-
LATING APPENDICITIS.

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MECKEL's diverticulum is very rarely found in mammals with the exception of man, but is constantly represented in certain birds. The London museums contain about 100 specimens from the human species, half of which were obtained from post-mortem examinations ; about one-third had caused obstruction during life ; a few had caused intussusception ; and only three were the seat of inflammation.

Very few cases of inflammation of Meckel's diverticulum are to be found in literature ; those simulating appendicitis could be counted on the fingers of one hand ; and the presence of a suppurating tumour resembling an abscess of the appendix seems to be unique. In other cases in which there has been inflammation this has been usually due to torsion, perforation, or the presence of foreign bodies.

A woman, aged 38, was admitted under my care in 1910 for supposed appendicitis. Following weakness of a few weeks' duration she had sudden sharp pain in the right

² A Report on Ankylostomiasis in the North Nyasa District, by P. C. Conran, Journal of Tropical Medicine and Hygiene, July 1st, 1913.

abdomen two days before admission, with cold shivers. There had been some indefinite trouble with the bowels about 12 years before. On admission her temperature was 101° F. and the pulse 120; the abdomen was distended and very tender on the right side, where a soft swelling could be felt. Operation was as follows. A median incision was made. Free fluid was present in the peritoneum, serous generally, but puriform in the right loin. The bowel was then examined and a gangrenous broken-down mass was found, originating in a Meckel's diverticulum, and necessitating the resection of 15 inches of the small intestine. The appendix was normal. The patient remains well.

The specimen (see figure) is preserved in the museum of the Bristol Royal Infirmary, and Professor I. Walker Hall gave

The abdomen contained free fluid, with localised stinking pus in the right loin. The appendix was normal. The omentum formed a hood adherent over the mass, and is represented as having been partly cut away to show the structures beneath it. (Surgical Specimen No. 522, Museum, Bristol Royal Infirmary.)

the following microscopical report which he has subsequently confirmed: "Sections taken from separate parts of the tumour show masses of endothelioid cells and dilated blood sinuses, adult in type. The lesion is therefore a hæm-endothelioma."

Although the instances are so few in which inflammation of Meckel's diverticulum may simulate appendicitis, yet this should be borne in mind; and it may be of interest to append references to such recorded cases, grouping them together.

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INDICATIONS FOR OPERATION ON CEREBRAL TUMOUR FROM THE POINT OF VIEW OF THE OPHTHALMIC SURGEON.¹

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I FEEL that my intrusion in the discussion on indications for operation in cerebral tumours demands some apology, but there are one or two aspects of it where the opinion of the ophthalmic surgeon may become requisite, and with those alone I shall deal as briefly as possible. His opinion may be asked firstly as to whether operation is necessary in a particular case to prevent loss of sight, or whether operation will be of any avail in procuring any recovery when vision has already failed or begun to fail. If the tumour can be definitely localised, the sooner operation, either palliative or radical, is done the better, not only for the sight but also for the life of the patient. But if the position of the tumour has not been determined, and if marked papilloedema is present, it becomes the duty of the ophthalmic surgeon to give his opinion as to whether a palliative operation must be performed to save sight, and, if so, when it must be performed. In other words, he must be prepared to say what delay may be allowed in the hope of definite localising signs manifesting themselves without serious risk to the sight of the patient. In attempting to give an answer to this question I must briefly refer to some of the pathological features of tumour papilloedema.

In the early stages of tumour development, if the tumour itself is not directly pressing on the chiasma or on one or other of the optic nerves, the increased pressure in the chiasmal neighbourhood is probably mainly a fluid pressure; at any rate, it is not sufficient to interfere with the normal conduction of nerve impulses from the retina, except possibly in a temporary way. We do get fleeting attacks of blurred vision or possibly, according to Cushing and Bordley, temporary dyschromatopsia, but there is no definite diminution of visual acuity and no obvious loss of peripheral field. In the optic disc at this stage the principal changes seen are due to the oedematous fluid filling up and squeezing apart the meshwork formed by the interlacing of the nerve fibres and the fibres of the pars choroidalis of the lamina cribrosa. There is as yet no degeneration of the nerve fibres and no increase in the connective tissue elements in the disc. If at any time while this stage persists intracranial tension be restored to the normal level, there will be a restoration to the normal condition of all these affected tissues, and no trace may be left to show that they have ever been affected. Even where the oedema has been so great as to overflow the disc neighbourhood and run along the fibres of the papillo-macular bundle and give rise to a macular fan, complete restoration of normal appearances may take place on relief of pressure, and I have seen such cases 12 months after operation in which it was almost impossible for any candid observer to say that there had ever been optic neuritis.

¹ A paper read at a combined meeting of the Sections of Neurology and Surgery at the International Congress of Medicine, London, 1913.