as this battery already supplied the Mark I button torch, extra leads were avoided by using the torch as the source of light for the box. A coupling was fashioned from a rubber torch hood or mask which gave easy removal of the torch head when required for other purposes.

The dimensions in the accompanying diagram may be altered to suit almost any lens, the height being best decided by trial so that a satisfactory compromise is reached between magnification and clarity. A piece of blue carbon paper introduced at the base of the rubber adaptor serves to give a bluish light, which picks out the red roads on the map, intensifying their marking.

Owing to the degree of magnification introduced distance-gauging would appear to be interfered with but this is not found to be the case as the operator soon becomes accustomed to using the box which has proved to be of very great use in night convoy work.

AN EPIDEMIC OF INFECTIOUS MONONUCLEOSIS ON A TROOPSHIP.

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INFECTIOUS mononucleosis or glandular fever was so named by Sprunt and Evans [1]. It is a disease which occurs in small epidemics resembling, in the early stages, acute lymphatic leukaemia but differing in being usually of short duration and running a benign course. The disease is obviously of an infectious nature since it occurs in small epidemics. The incubation period is believed to be from seven to ten days.

The causative organism has not yet been identified however. Listerella monocytogenes hominis has been suspected but Wising [2] was unable to reproduce the disease in human volunteers by injecting cultures of Listerella. At present a virus has the strongest claim to be the infecting agent. Nettleship [3] was able to produce small white growths infiltrated with mononuclear cells on chick chorio-allantoic membranes using bacteria-free filtrates of blood and nasal washings of patients and van den Bergh and Liessens [4] reproduced the disease in monkeys by injection of these cultures.

Two clinical types of the disease are described by Box [5]. Firstly, in the anginose type occurring in children, there is a sudden onset of malaise and slight sore throat followed by enlargement of the lymph glands. The superficial glands are involved but involvement of the mediastinal glands may be shown by cough and dysphagia and of the abdominal glands by vomiting and abdominal pain. The glands may attain a considerable size and be easily palpable through the abdominal wall.

Secondly, there is the febrile type occurring in adults with pyrexia, malaise, headache and muscular pains. During the second week an erythematous or maculo-papular rash may occur and the glandular enlargement appears towards the end of the second or beginning of the third week. This glandular enlargement is never extreme.

The disease is protracted and convalescence slow.

A blood count shows a decrease in the polymorphonuclear leucocytes with a large increase in the monocytes or the presence of large atypical basophil lymphocytes with nuclei having a coarse chromatin pattern unlike the delicate structure of the nuclei of immature lymphocytes or lymphoblasts. These cells resemble in some respects monocytes and in others lymphocytes and are called aberrant cells. The red blood cells are normal. The blood film distinguishes immediately infectious mononucleosis from leukaemia, in which the cells are
more numerous and more uniform in type, and from other diseases characterized by chronic
enlargement of the lymph glands.

We, on board a troopship in the tropics, had a small epidemic of infectious mononucleosis
with certain distinguishing characteristics which we believe should be recorded. The
disease was predominantly glandular, the patients complaining primarily of painful swellings,
and was of short duration. Convalescence was also rapid. The disease resembled the type
described by Pfeiffer (Tidy [8]) as occurring at times in children.

The disease appeared in four officers all of whom had been together on a course lasting
one week just before coming on board. No other cases occurred that we are aware of.

On the first day two officers reported sick:

(1) M., aged 27. Complained of headache and pain in the left groin. On examination
there were enlarged, discrete, tender superficial femoral and inguinal glands. The over­
lying skin was normal. On the next day there was pain in the right groin and at the back
of the neck with enlarged glands at these sites. The spleen was not palpable.

The white blood count showed polymorphs, 40 per cent; lymphocytes, 42 per cent;
monocytes, 18 per cent.

Seven days later the patient felt all right although there was some enlargement of the
glands. Fourteen days later the enlargement was still present, but painless, and the white
blood count was: Polymorphs, 70 per cent; lymphocytes, 24 per cent; monocytes, 6 per
cent.

(2) S., aged 22. On the first day complained of headache and general malaise. Examina­
tion revealed enlarged glands at the site. There was a temperature of 101° F. which was
maintained for three days and then became normal when the patient felt well again
although enlarged glands were still palpable.

The white blood count showed: Polymorphs, 57 per cent; lymphocytes, 23 per cent;
monocytes, 20 per cent.

This film showed many aberrant cell forms.

On the second day the remaining two officers reported sick.

(3) A., aged 37. Complained of pain in the left groin and during the next day in the
right groin. Enlarged discrete inguinal glands were found on examination. Two days
later there was pain at the back of the neck; headache and sore throat with a temperature
of 100° F. Enlarged glands were now present in the submaxillary, inguinal, and occipital
regions. The white blood count showed polymorphs, 48 per cent; lymphocytes, 21 per cent;
monocytes, 31 per cent.

The temperature returned to normal in two days and at this time only the inguinal glands
were palpable. The patient felt well.

On the eleventh day a small maculo-papular rash appeared on the chest. No malaise
was present. By the fourteenth day the rash had disappeared and only a few painless
glands were palpable in the right groin.

The white blood count was polymorphs, 63 per cent; lymphocytes, 26 per cent;
monocytes, 11 per cent.

Many aberrant cells were still present.

(4) G., aged 21. Complained of pain in both groins with severe headache. Glandular
enlargement was present in both groins. Two days later there was stiffness of the neck
with a sore throat; temperature 101° F. Glands enlarged in both posterior triangles. The
temperature varied between 102° and 103° F. and on the fifth day a generalized erythematous
rash appeared followed by a maculo-papular eruption the next day. This rash was confined
to the lower extremities with a few spots on the chest. By the twelfth day the temperature
had fallen to 99° F. and by the fourteenth day there was no pyrexia and no palpable glands.
The rash was rapidly disappearing and the patient was fit for duty.

The white blood count showed:

First day, polymorphs, 49 per cent; lymphocytes, 23 per cent; monocytes, 28 per cent.
Seventh day, polymorphs, 48 per cent; lymphocytes, 34 per cent; monocytes, 18 per
cent.
Clinical and Other Notes

Fourteenth day, polymorphs, 63 per cent; lymphocytes, 28 per cent; monocytes, 9 per cent.
In all the blood counts the aberrant cells were classed according to which cell they resembled most—lymphocyte or monocyte.

CONCLUSIONS.
The main points in the diagnosis were:
(1) The presence of a small epidemic.
(2) An increase in the non-granular leucocytes with the absence of primitive cells.
(3) Normality of the red blood corpuscles.
(4) The benign course of the disease.
The interesting points were the marked predominance of glandular symptoms in four officers who had been together on a course and the quick subsidence of the attack. Three of the four officers were back on duty within a week instead of the usual two to three weeks illness. In the fourth case the persistence of the rash was the main cause keeping the officer from duty.
The blood counts in each case were characteristic and by the end of a fortnight the counts were practically normal. The granular cells had increased and only the monocytes remained slightly above their normal level.
It must be borne in mind that malaria, a great mimic of other diseases, also gives a monocytosis of from 15 to 20 per cent in the early stages. No aberrant white cells are present however. Repeated examinations failed to show any plasmodia or granules and no anaemia was present.
Treatment consisted of rest in bed, light diet and aspirin for the pain. All were allowed up as soon as the pyrexia had subsided.
We wish to thank the S.M.O., Captain D. M. Cathie, R.A.M.C., for permission to forward the notes of these cases.

REFERENCES.

THE DIAGNOSIS OF TRYPANOSOMIASIS IN WEST AFRICA.
By CAPTAIN J. R. HOLDEN,
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Trypanosomiasis is endemic in West Africa. It is therefore not surprising that a number of African soldiers has been found to be suffering from the disease which has been contracted either before enlistment or possibly as a result of service, even though surveys carried out before the siting of camps have, as far as possible, kept troops from the more highly infected areas.
Experience has shown that the vast majority of patients with trypanosomiasis are admitted to hospital only when the central nervous system has become involved. This is largely because the early symptoms are vague and non-specific and may easily be mistaken for other conditions unless the possibility of trypanosomiasis is kept in mind. In addition, the technique of palpating and of successfully puncturing the posterior cervical lymph nodes is one which has to be carefully practised before any degree of expertness can be attained. Enlarged positive lymph nodes may thus be easily missed.
The distribution of Trypanosoma gambiense, which is the species of trypanosome found in West Africa, corresponds to that of the tsetse flies Glossina palpalis, G. tachinoides, and...