has disappeared completely or nearly so, while the typhoid agglutinin remains in practically the same amount. These results show that the typhoid agglutinin is the specific one, and therefore the case is one of typhoid with non-specific agglutinins (coagglutinins) for *B. paratyphosus* B. It is not a case of mixed infection typhoid-paratyphoid B.

(2) Let us assume we have had the following results:—

After saturation with *B. typhosus*, the typhoid agglutinin has disappeared or nearly so, while the paratyphoid *B. agglutinin* remains in practically the same amount. After saturation with *B. paratyphosus* B, both the paratyphoid B agglutinin and the typhoid agglutinin have disappeared completely or nearly so. These results mean that the paratyphoid B agglutinin is the specific one, and that the case is one of paratyphoid B, with secondary non-specific agglutinins for *B. typhosus*.

(3) Let us assume we have had the following results:—

After saturation with *B. typhosus* the typhoid agglutinin has disappeared completely or nearly so, while the paratyphoid B agglutinin remains in the same amount or nearly so. After saturation with *B. paratyphosus* B the typhoid agglutinin remains practically unchanged. The two agglutinins disappear on saturation with *B. typhosus* and *B. paratyphosus* B. The results show that both the typhoid and the paratyphoid agglutinins present are specific, and that the case is according to all probabilities one of mixed infection typhoid + paratyphoid B.

The Diagnosis of Closely Allied Bacterial Species and Types.

Suppose we have isolated a bacillus with the cultural and biochemical characters of *B. paratyphosus* B, and that the bacillus is well agglutinated by a paratyphoid B serum. Is it *B. paratyphosus* B, or is it *B. aertryke?* This latter organism it is well known possesses all the cultural and biochemical characters of *B. paratyphosus* B, and is well agglutinated by paratyphoid B serum. Castellani's absorption method will enable us to give a definite answer, as shown by the work of Boycott and of Bainbridge and O'Brien. If the bacillus we have isolated is really *B. paratyphosus* B, we shall have the following results: paratyphoid B serum saturated with the organism we have isolated will lose completely or nearly so its agglutinin for *B. paratyphosus* B, and also its agglutinin for *B. aertryke*. If the germ we have isolated is *B. aertryke*, then paratyphoid B serum when saturated with the bacillus we have isolated will lose its agglutinating power completely or very nearly so for *B. aertryke*, but will not lose, or only to a slight extent, its agglutinating power for *B. paratyphosus* B.

NOTES ON A CASE OF ANTIMONY POISONING.

By A. Breinl and H. Priestley.

(From the Australian Institute of Tropical Medicine, Townsville.)

Antimony and its salts have lately been extensively used since their beneficial and curative effects in the treatment of different protozoic diseases, and especially in ulcerative granuloma, have been recognized.

Antimony potassium tartrate (tartar emetic) has been employed by us in the treatment of five cases of ulcerative granuloma in Australian aboriginals. One of these cases succumbed to the toxic effects of tartar emetic, proving that intravenous injections, even of comparatively small doses, may suddenly give rise to severe and fatal toxic symptoms.

The patient was an aboriginal boy about 22 years of age. He was admitted to the hospital suffering from extensive ulcerative granuloma in the groin and around the anus, spreading up the rectum.

Treatment was begun with doses of 0·08 grm. of tartar emetic in normal saline solution, administered intravenously, increasing after two days to 0·1 grm., and after a further two days to 0·12 grm.; injections were given on alternate days, until altogether 1·74 grm. of tartar emetic had been given. The surface of the granuloma cleared up under the treatment, and the patient's general health improved considerably. The day following the last injection the patient complained of slight nausea and vomiting, looked ill, and therefore the injections were discontinued. His general condition became rapidly worse, and on the third day after this injection he became delirious, almost maniacal. His temperature rose to about 101° F., and he was found lying on the floor, throwing himself about, vomiting violently. The vomitus consisted at first of bile and mucus, and later of dark blood, which was expelled with considerable violence.

This condition did not improve, and the patient died shortly after the onset of his violent symptoms, sixty-four hours after the last injection. Diarrhœa was never observed, and even up to the time of his death the urine was free from blood and albumin.

The post-mortem performed six hours after death showed slight fatty degeneration of the heart muscle and a few ecchymoses in the pleura. The liver was of normal size, its substance soft and fatty degenerated; the kidneys were congested; the mucous membrane of the stomach was œdematous and congested, but did not show any ulcerations. In the other organs no pathological lesions were discovered. Urine collected at the post-mortem was examined for albumin with negative result.

The histological examinations of the liver tissue showed a widespread fatty degeneration and here and there acute fæcal necroses; there were no extravasations of blood. Sections of the kidneys showed lesions corresponding to an acute interstitial nephritis, with calcareous deposits in the

medullary substance. The other organs proved normal on histological examination.

The post-mortem proved that the patient had succumbed to acute poisoning, almost certainly due to the administration of tartar emetic.

This experience indicates that considerable care must be exercised in the administration of antimony salts, since in this case even comparatively small doses of tartar emetic caused acute toxic death.

VEGETABLE OILS AS ILLUMINANTS AND AS POWER AGENTS.

Oil is assuming an important place in the world, especially that produced from the vegetable kingdom. Time was when such oil was the sole illuminating agent, and in view of the exhaustion of the world's supply of coal, these plant-produced oils, as heating and motor agents, must again come into prominence. They will in the course of time supplant oil springs, petroleum and its products, for they also must give out. The rape oil once so much used will again become of high value, and in many districts attempts are being made to develop the vegetable-oil products. Oil produced from *Sesamum indicum* under the name of simsim or sem-sem is a large industry on the east coast of Africa and the interior lake districts. Uganda and the coastal plains of British East Africa are the chief producers of the plant, from the seeds of which the oil is produced. This oil is often used as a substitute for olive oil, and even for oil of almonds. It is used extensively for cooking purposes in India and by the Arabs. The Brazilian "bicahyba" nut is being thus also utilized, but the production is on too limited a scale at present to yield anything but a limited quantity. Cocoanut oil, olive oil, &c., maintain their place in the world's market, but in course of time these values will grow.

It seems unnecessary to recall what the soya-bean cultivation and soya-bean oil mean to commerce dietetically, agriculturally, and in the arts. It is the foundation of almost all the sauces, relishes, &c., used on the dining-tables throughout the world, the refuse derived from the preparation of the bean is one of the most sought after of manures, and the oil has its uses in many branches of the arts.

Another useful vegetable oil—the Chinese wood oil tree (*Aleurites fordii*)—has a value all its own. Amongst other phases of usefulness this oil has a drying property which has revolutionized the varnish industry in America, and as the oil becomes better known will dominate the world's markets in this branch of industry. Amongst other properties the seeds of the fruit have a purgative action resembling castor beans, with which plants the *Aleurites fordii* is closely allied.

Notices.

BUSINESS AND GENERAL.

1.—The address of The Journal of Tropical Medicine and Hygiene is Messrs. Bale, Sons and Danielsson, Ltd., 83-91, Great Titchfield Street, London, W.

2.—Papers forwarded to the Editors for publication are understood to be offered to The Journal of Tropical Medicine and Hygiene exclusively, and if accepted the Author thereof transfers any copyright therein to the Publishers of the Journal.

3.—All **literary communications** should be addressed **to the Editors.**

4.—**All business communications and payments,** either of subscriptions or advertisements, should be sent **to the Publishers** of The Journal of Tropical Medicine and Hygiene. Cheques to be crossed The Union of London and Smiths Bank, Ltd.

5.—The Subscription, which is **Eighteen Shillings** per annum, may commence at any time, and is payable in advance.

6.—Change of address should be promptly notified.

7.—Non-receipt of copies of the Journal should be notified to the Publishers.

8.—The Journal will be issued about the first and fifteenth of every month.

TO CORRESPONDENTS.

9.—Manuscripts if not accepted will be returned.

10.—As our contributors are for the most part resident abroad, proofs will not be submitted to those dwelling outside the United Kingdom, unless specially desired and arranged for.

11.—To ensure accuracy in printing it is specially requested that all communications should be written clearly

12.—**Special Notice.**—Papers can only be illustrated by special arrangement. In order, therefore, to avoid delay, all those desiring to have their papers illustrated are advised to communicate direct with the Publishers at the earliest possible moment.

13.—Authors of original communications are entitled to 6 copies of the Journal containing same, free of charge.

14.—Authors desiring reprints of their communications to The Journal of Tropical Medicine and Hygiene should communicate with the Publishers.

15.—Correspondents should look for replies under the heading "Answers to Correspondents."

Reprints.

Contributors of Original Articles will be supplied with reprints **if the order for these,** with remittance, **is given when MS. is sent in.** The price of reprints is as follows:—

50 copies of four pages	... ...	7/6
100 " "	... ...	9/-
200 " "	... ...	12/6
50 copies beyond four up to eight pages		12/-
100 " "	"	14/6
200 " "	"	19/-

Postage extra according to weight.

One page of the Journal equals 3 pp. of the reprint.

If a printed cover is desired the extra cost will be, for 50 copies, 8/-; 100 copies, 9/6; 200 copies, 13/-

The above figures are subject to 25 per cent. increase.

THE JOURNAL OF

Tropical Medicine and Hygiene

FEBRUARY 15, 1918.

THE THREAT OF PLAGUE.

The reappearance of plague in what seems an epidemic form along the Chino-Siberian frontier is a matter of serious import at the present time. For some months now we have had reports of the prevalence of plague, now in the confines of Mongolia, now in the North-western Provinces of China, but nothing is exactly known what the outbreak amounts to. There have also been newspaper statements of trouble between the central Chinese

THE JOURNAL OF
Tropical Medicine and Hygiene

With which is incorporated "CLIMATE"

AND

Embodying Selections from THE COLONIAL MEDICAL REPORTS.

A BI-MONTHLY JOURNAL DEVOTED TO MEDICAL, SURGICAL AND SANITARY WORK IN THE TROPICS

VOLUME 21

JANUARY 1 TO DECEMBER 16

1918

SWETS & ZEITLINGER N.V.
AMSTERDAM - 1967