

REVIEW OF REVIEWS

INTERESTING EXPERIMENTS IN MALARIA

In the *Transactions of the Royal Society of Tropical Medicine and Hygiene*, Drs. James, Nicol and Shute, from the Ministry of Health Malaria Laboratory at London, describe a new procedure for testing the prophylactic effect of quinine in malaria:

"We have made the following experiment to ascertain whether or not quinine is a preventive of malarial infection: On October 12th two mosquitoes infected with *Plasmodium vivax* were placed in a 1-in-5,000 solution of quinine bisulphate made up with human blood-serum, and their salivary glands were dissected out. The glands were teased up in the quinine solution and 1 c.cm. of solution containing many sporozoites was drawn into a hypodermic syringe. After allowing the mixture to remain in the syringe for fifteen minutes it was injected intravenously into a patient, E. B. On the tenth day following the inoculation, the patient's temperature rose to 103.6° F., and malaria parasites (*P. vivax*) were found in blood films. At the time of writing (November 1st) we are awaiting the result of a similar experiment made with a solution of quinine of strength 1 in 2,500 instead of 1 in 5,000. We have also commenced a similar experiment with a solution of antimony and we are making arrangements to test organic arsenical preparations and other drugs in the same way."

The following abstracts are taken from the *Tropical Diseases Bulletin*, of London:

Schistosomiasis.

Bougenault has administered emetine, per rectum, to a case of schistosomiasis with success, giving 0.25 gm. in 50 gm. of water daily, for six days. A similar treatment for guinea-worm in two different cases resulted in the disappearance of the parasite. (Bull. Soc. Path. Exct.—1927—March 9.)

Intestinal Helminth Infection in Schools of Agriculture.

One thousand six hundred and eighty-nine children were examined in 47 schools in the province of Corrientes in Argentine. Seventy-three and four-tenths per cent were found infected with parasites. Hookworm occurred in 68.85 per cent; whipworm in 10.59 per cent, *Tenia saginata* 1.07 per cent and *Strongyloides Stercoralis*, 12 per cent. Within the province the incidence varies from 80 per cent and 100 per cent to 3 per cent. (*Semana Médica*, 1927, August 18.)

Examination of Feces.

A smear of feces from about five to ten times as heavy as ordinarily would be used, is made upon a slide and allowed to dry. If this is cleared with cedar oil and examined under coverslip, ova can be found without difficulty where repeated search of fresh smears without concentration failed to reveal them. (Jl. Lab. & Clinie. Med. 1927—Aug.)

Standard Method of Treating Tapeworm Infections in Man.

The procedure recommended is a combination of various methods and consists of three essential steps. The patient should not have luncheon or supper on the day preceding the treatment, but black coffee or tea and water may be taken freely. Fifteen to thirty gm. of magnesium sulphate is administered at 6 p. m. and repeated at 6 a. m. After the bowels have moved and without being given breakfast the patient receives 30 cc. of an emulsion containing oleoresin of aspidium, 6 cc. or gm., powdered acacia 8 gm., distilled water to make 60 cc. One hour later a second 30 cc. of emulsion is administered. This is followed two hours later by 30 cc. of magnesium sulphate and two hours after this a large soap-suds enema is given. If the patient has been properly prepared the stool should consist of little but water, a few shreds of digested food and a worm. The authors regard the enema as an extremely important part of the treatment and point out that a saline purge is essential instead of castor oil as aspidium is highly toxic and soluble in oil. (*Tropical Diseases Bulletin.*) (Jl. Amer. Med. Assoc. 1927—May 14.)

Intestinal Obstruction Due to Tapeworms.

Until sixteen hours before death from intestinal obstruction due to taeniasis practically no symptoms were noticed. At the post-mortem seven tapeworms were found aggregating over 100 feet in length. (*Tropical Diseases Bulletin.*) (Kenya & East African Med. Jl. 1927—Aug.)

Neosalvarsan in Filaria.

Dalal has treated three patients suffering from filarial fever with injections of 0.6 gm. of neosalvarsan with encouraging results. After a single injection, each of the three cases became free from fever. The swelling of the glands, although somewhat reduced, persisted and the author inquires as to the best measures for treatment as to these swellings. (*Tropical Diseases Bulletin.*) (Indian Med. Gaz. 1927—Aug.)

Whipworm.

In 90 per cent of 512 patients who had whipworm eggs in their faeces there was a definite eosinophilia of more than 4 per cent and averaging about 12 per cent. In ten out of sixteen autopsies on labourers dying from various causes in Colombia whipworms were present in the caecum and in two cases in the appendix. Ten out of 100 reported cases of appendicitis were due to infection with whipworm alone. In the Magdalena river valley of Colombia 41 per cent of 1,336 persons examined harboured whipworm. Approximately 30 per cent of cases commonly diagnosed in tropical America as amebic dysentery are of whipworm origin. Purpura haemorrhagica, acrocyanosis dystrophica, pernicious anaemia, urticaria and goitre may be associated with infestations. As whipworm is associated with hookworm in 33 per cent of all cases in the tropics and as hookworm treatment is often ineffective against whipworm the campaigns against hookworm cannot be considered entirely effectual unless attention is given to the elimination of whipworm. (*Tropical Diseases Bulletin.*) (Arch. Intern. Med. 1927—July 15.)

AUTOMOBILE ACCIDENTS IN THE UNITED STATES

The Department of Commerce announces that in the registration

area in continental United States there were 18,871 accidental deaths in 1926 charged to automobiles and other motor vehicles (excluding motoreycles), and that the death rate from this cause was 17.9 per 100,000 population against seventeen in 1925, 15.7 in 1924, 14.9 in 1923, and 12.5 in 1922.

It should be noted, however, that the deaths assigned to automobile accidents do not include those due to collisions of automobiles with street cars and with railroad trains. Therefore, as in 1926 there were 464 deaths due to collisions of automobiles with street cars and 1,556 due to collisions with railroad trains, these deaths if added to 18,871 assigned to automobile accidents would make for the registration area a grand total of 20,891 deaths due to accidents in which automobiles were involved and would raise the rate from 17.9 to 19.9 per 100,000 population.

—(*Public Health Reports.*)

PREVENTION OF MEASLES BY USE OF CONVALESCENT SERUM

The Journal of Hygiene for November, 1927, brings an interesting article by A. Neave Kingsbury, on the serum prophylaxis of measles. Kingsbury endeavored to control an epidemic of measles on rubber plantations in India, by injecting contacts with the serum of convalescents. He describes his technique as follows:

“Blood was taken four to ten days after defervescence from the convalescent adults. Patients were placed on a plank bed, and a serum needle, sterilized in boiling oil, inserted into a vein in the cubital fossa of each arm, after the loose application of a tourniquet. The blood was received into sterile 100 c.c. flasks so that 200 c.c. were obtained from each case. If clotting occurred, the needle was cleared by applying a syringe and withdrawing a few c.c. of blood. After collection the flasks were taken to the laboratory where they were placed on ice until the following morning, when the serum was pipetted off and filtered through a Berkefeld candle. A Wassermann reaction was carried out on each batch, and 0.5 per cent of phenol added, after which the serum was allowed to stand at room temperature for two days. At least three batches were then pooled, refiltered, and stored on ice, after the usual aerobic and anaerobic tests for sterility. Double filtration, combined with the addition of phenol, was considered sufficient precaution against the possible transfer of malarial infection to the children, and no ill effects followed any of the inoculations.

“The time of exposure in any particular instance was quite unknown when injections were given, so that the attempted protection of individual contacts, by employing larger doses for those in the later stages of inoculation, was not feasible. The children were therefore treated en masse, and it was decided to try the effect of 2, 2½, 3 and 3½ c.c. of serum on different groups. In some instances only three-quarters of the children were treated on an estate, the rationale being that a large reduction in the number of susceptibles will bring an epidemic to a close.

“For inoculation, the children were mustered in the shade outside the estate hospital or school, and admitted one by one. They were placed on a plank bed and the skin on both sides of the umbilicus painted with tincture of iodine. For some of the babies two inoculations were necessary, as injections were made subcutaneously and the actual serum content of the inoculum had been reduced to about 87 per cent by the addition of the phenol in 4 per cent solution.

“Serum was poured into a sterile conical glass and covered by one-half of a Petri dish. Syringes were sterilized in boiling oil, and needles by immersing in undiluted lysol for 5 minutes, after which they were washed through and placed in saline until required. When an inoculation was completed the needle was removed from the syringe, and again washed in saline before being returned to the lysol bath. The required quantity of serum was then drawn into the syringe, and another sterilized needle applied. By this technique it was possible to inoculate one child every two minutes, with the aid of two assistants.”

ADVANTAGES OF LIFE IN THE TROPICS

Tropical and subtropical conditions have played a larger role in the early career of humanity than the masses today imagine, and are pretty sure to play a great part in the future evolution of man.

A stupid notion that clings with surprising tenacity, in spite of much that has been written by travelers to the contrary, is the idea that tropical conditions lead to indolence and degeneration in man. Many of the very people who turn with awe to the early and venerable civilization on the Nile, the Euphrates and Tigris may be inconsistent enough to say in the next breath that man degenerates in warm countries.

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Man's physical requirements are undoubtedly for a very mild and genial climate, and wherever, as in the temperate and arctic zones, we find him adjusted to very different conditions, it is by artifice, gradually acquired, that he has contrived to make it possible for his warmth-loving body to live in health, although the time elapsed has been far from sufficient to permit the body to physically adapt itself to the rigorous climates without artifice.

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Increasing numbers of folk with good heredity will probably colonize the pleasanter regions of the tropics, at moderate altitudes. There they will not need fuel except for cooking or manufacturing. There they will not need to store forage for their livestock, but they will have fuel and food and forage right at hand, and may produce it rapidly and for an indefinite length of time.

Roses and jasmine may be grown in abundance, all around one's home, the most fragrant varieties and the most beautiful being se-

lected, of course. Lilies, heliotrope, gardenia—and many other flowers of beauty and fragrance may be massed in the gardens. For its marvelous perfume an *ylang-ylang* tree (*Canarium odoratum*) should be planted, while against some support the false *ylang-ylang*, a semi-climbing shrub with fragrant yellow flowers, may be grown. The allamanda, with its huge cups of brilliant gold, will brighten its environment throughout the year.

Birds and butterflies will cheer the heart with their sprightly beauty each day. Verdure and life and growth go on about one all the time. The shortening days do not shorten enough to bring the touch of melancholy.

The open-air life is lived all the time, for even when busied in a building the large and numerous windows and doors are always open. Streets and roads may be dusty, but one may locate somewhat above and away from these. The purest fresh air may be had always by those who plan aright and seek it.

Ultra-violet rays, so healing and so vigor-conserving, abound in the generous sunshine of the tropic regions, and need not be lost in window glass. Undoubtedly much of the unsanitary neglect and ignorance of many natives is in part compensated for by the health-giving sunshine and open air. There is no need to shut one's self in for the long winter months, nor to clothe one's self heavily.

Fresh fruit, just picked from the trees, is always in season—if not one variety, then another, always one's choice of several, throughout the year; and green vegetables from the gardens.

Dairy cows and poultry may have the vitamin-producing rays of the sunlight, and hence keep their milk and their eggs in the most serviceable state through the entire year. Experiment has shown that in northern winter, eggs and milk may be deficient in vitamin D. Even the milk of nursing mothers has been shown to lack this essential when the mothers spent most of their time indoors.

Human evolution in the present and the future may be affected by life in the tropics, therefore, by increased aesthetic pleasure from sights and sounds abounding in life, beauty and sparkle; by increased health and comfort; by time, money and energy saved from fighting winter, and so set free constructive work aimed toward real and lasting progress; by an environment which can be made into a more ideal one than would be physically possible to north or south of the tropics.

—(Professor Ralph E. Danforth, Chesterfield, Mass., in *The Scientific Monthly*.)