

500 miles to the south, is a mystery.

No other land has such spectacular thermal activity, nor so many volcanoes, mostly extinct, as New Zealand. Auckland, the largest city, is built over 60 extinct volcanic cones.

Of the few active volcanoes in New Zealand, the smallest is the most fiery—White Island, a submerged mountain 30 miles off the East Coast of the North Island. With only its top above water, emitting clouds of steam, it seethes with activity. Within its small crater are boiling pools, turbulent molten sulfur, and steam and gas vents, as well as a small vent that splutters raw hydrochloric acid. The steam rising from the island is so hot that it must come straight off molten rock.

There is not only wonder in activity, for in the quietness of the Waitomo Glowworm cave, near Rotorua's thermal wonderland, is another breath-taking delight—a cavern 100 feet high, 50 feet long and 40 feet wide, the home of the glowworm. Covering roofs and walls in their thousands, the glowworms emit a soft ethereal blue-green radiance.

• Science News Letter, 83:26 January 12, 1963

MEDICINE

Measles Antibodies Clue To Multiple Sclerosis

➤ A "DISGUISED" measles virus may offer a clue to the mystery of multiple sclerosis, research at the University of California, Los Angeles, Medical School suggests.

Drs. John M. Adams and David T. Imagawa published a preliminary report in the Proceedings of Experimental Biology and Medicine, Dec., 1962, of finding antibodies to measles in the spinal fluid of multiple sclerosis patients.

These antibodies are substances made by the body specifically to destroy the measles virus. They were found in the spinal fluid of more than 75 per cent of 35 multiple sclerosis patients tested. No evidence of measles antibodies was found in 50 individuals who did not have multiple sclerosis.

Spinal fluid is the liquid that bathes the central nervous system. The presence of measles antibodies in it may indicate infection by the virus of some part of the nervous system. The question is: How does a childhood disease such as measles contribute to multiple sclerosis, a disease of young adulthood?

The researchers speculate that the measles virus may be able to remain in the central nervous system indefinitely, following a measles infection, in a disguised form. In this case the virus would not put on a disguise but achieve one by taking something off.

If it sheds its protein coat, remaining in the form of infectious nucleic acid, which is the core of the virus, it might go undetected and unmolested by the body's antibody defenses. Thus, coatless measles, or immature viruses, as scientists refer to them, may multiply in the nervous system unimpeded by antibodies.

In the process of multiplication, the virus may produce both forms of virus, some with the protein coat and some without. Presence of mature virus with protein coat

stimulates antibody production, which could account for measles antibodies in the spinal fluid.

The disguised virus may be responsible for progressive destruction of the myelin sheath surrounding nerves. Multiple sclerosis is characterized by loss of the myelin sheath around the nerves. Measles virus injected into mice will cause destruction of this sheath.

The evidence is all indirect, Dr. Adams emphasizes, and there is nothing to implicate definitely the measles virus in multiple sclerosis. These are promising new leads to a long-standing puzzle.

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PUBLIC HEALTH

Home Treatment of TB In 70 Alaskan Villages

➤ A PIONEERING health project in 70 Alaskan villages where drug treatment at home reduced the tuberculosis epidemic is offered as a model public health procedure in Public Health Reports (Dec.).

In many parts of the world conditions are similar to those existing in Alaska where home treatment at first served as a substitute for hospitalization.

Dr. George W. Comstock of the tuberculosis branch of the U.S. Public Health Service and Merilyns E. Porter, a public health nurse now in San Francisco, described the beginning of the project when day-to-day medical care was administered by the school teacher, aided by radio consultation with a doctor at the nearest field hospital.

About nine per cent of the village population, or 1,625 patients able to walk about, received drug treatment at home. Medical services were provided by four field hospitals located in villages, which also were headquarters for public health, education, welfare, business and transportation.

Combinations of isoniazid and sodium para-aminosalicylic acid (PAS) were given by mouth. Chest X-rays of the treated patients showed that 56 per cent became better and 13 per cent worse while they awaited hospitalization.

The first village visit was planned with assistance from the nursing supervisor, who accompanied new nurses. Along with bottles of medication, tuberculin-testing equipment and other nursing supplies, each nurse carried a sleeping bag, emergency food and extra clothing for a possible forced landing and overnight stay on the tundra.

Almost everyone in the villages, which consist usually of about 200 persons living in 30 to 40 households, cooperated in the health program. Patients, their families and neighbors, and workers at all levels in education, health and welfare helped. Now, even with enough hospital beds, home treatment is used for TB patients before and after hospitalization.

The researchers reported that although TB among Alaskan natives has receded from its almost "overwhelming prevalence" of ten years ago, it is still a major health problem. Control measures should be sufficient to allow the largely uninfected younger children to remain free of TB throughout life.

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