narrow, but mountainous neck of land that ties Kenai Peninsula to the mainland and would have its deep water terminus on Passage Canal, an arm of Prince William Sound. The geologic investigation involved examination of the character and structure of the bedrock of the ridges through which it would be necessary to drive tunnels, one of which would be approximately 13,000 feet long; study of the conditions at the near-by glaciers which might jeopardize the project by advances or destruction of drainage; and observation of any other features that might be helpful in the selection of a route so as to avoid snowslides, springs and unstable ground.

A METEOROLOGICAL observatory is being built by the Soviet authorities on Kazbek, one of the highest mountains of the Caucasian range. Mount Kazbek is 16,546 feet high, and the observatory is being built above the snow line at an altitude of 13,125 feet.

DISCUSSION

THE DISTRIBUTION OF POLIOMYELITIS IN LOUISIANA

DURING the ten-year period ending January 1, 1939, there were reported to the State Department of Health from the 64 parishes of Louisiana 676 cases of poliomyelitis, nearly all of which were paralytic. Through the cooperation of parish public health units and other interested physicians, the exact residence of each patient at the time of the onset of the disease was plotted on large, detailed parish maps furnished by the Departments of Agriculture and Economics of Louisiana State University. It was thus possible to circumvent the custom of rural residents of giving the nearest town as the home address.

The population of all incorporated communities, wards and parishes in Louisiana was obtained from the fifteenth United States Census Reports (1930). The population of unincorporated communities was obtained from a commercial atlas, and was corrected, whenever this was possible, by data in the possession of the State Department of Health.

Rural areas, when interpreted as unincorporated communities of 0–99 inhabitants, and small urban communities of 5,000–49,999 inhabitants, had the same low incidence of poliomyelitis, 32.1 and 30.6 per 100,000 population, respectively, the two rates not being statistically different. The incidence in the only two large cities of Louisiana corresponded to the incidence of the disease in the rural and small urban communities. Statistically significant preponderances of poliomyelitis, however, were found in incorporated communities of 100–2,999 population, the rates of 68.2 and 92.7 cases per 100,000 population amounting to three times the rate for rural and larger (over 5,000) urban communities. The highest incidence was found in communities of 1,500–1,999 inhabitants.

The preponderance of poliomyelitis in the small towns of Louisiana could not be explained by age, sex or race factors. The only factor which was found to be statistically correlated with the preponderance of poliomyelitis in the small towns was the presence of a water supply system and the absence of an adequate sewage disposal system. A study of the water supply and sewage disposal systems was therefore undertaken in relation to the incidence of poliomyelitis, official data being used.[1]

The 64 incorporated communities in Louisiana which were without water supply and sewerage systems had 12 reported instances of poliomyelitis, or 39.7 cases per 100,000 inhabitants, which approximates the basal rural-urban rate. The 27 incorporated communities with both water supply and sewerage systems had 184 cases, or 26.6 cases per 100,000 inhabitants. The 87 incorporated communities with water supply but without sewerage systems had 101 cases of poliomyelitis among 120,811 inhabitants, a rate of 83.6 cases per 100,000. These values were of statistical significance.

The highest rates of poliomyelitis, 120 cases per 100,000 inhabitants, which were found in communities with water supply but with no sewerage systems, were in those communities in which the average daily water supply was from 50 to 89 gallons per capita. In communities in which the per capita daily water supply was from 90 to 500 gallons but which were without sewerage systems the rate of poliomyelitis for the decade was 39.0 cases per 100,000 inhabitants, or essentially the basal rural-urban rate. These values were of statistical significance.

These data suggest the effect of large amounts of fluid as a dilution factor or as a factor increasing the rate of flow. The studies also suggest the possibility that the epidemicity of poliomyelitis in the past few decades may have been influenced by the growing tendency of communities to liquefy their excreta without making adequate provision for the disposal of the accumulated fluids.

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[1] J. H. O'Neill, "Louisiana Water and Sewerage Systems," Publication of the Louisiana State Board of Health, 1938, New Orleans.