tablishment of a uniform exemption from taxation of at least 600 marks for each member of a family, with elimination of the present maximal sum for the whole family."

DISCUSSION

"MAD ITCH" OF CATTLE

THE observations made in this note are based on an outbreak of "mad itch" in a herd of dairy cattle in Johnson County, Iowa, in 1930. The disease is a rapidly fatal one, the interval in this outbreak between the appearance of pruritus or "itch" and death ranged from 36 to 48 hours.

The source of our experimental material was the brain tissue, preserved in glycerol, of three cows. The specimens from two cows produced no effect when injected subcutaneously into rabbits. The remaining specimen was effective, and on injection produced conditions resembling "mad itch" in cattle and death in a total period of 100 hours or less. The symptoms of pruritus appeared in from 70 to 80 hours after the inoculation and death followed 12 to 24 hours later.

Not only rabbits, but guinea pigs, white rats and mice are susceptible to inoculation. A difference has been noted in the susceptibility of the rabbit and the other animals. Subcutaneous injection is regularly effective in the rabbit, and intracerebral injection in the other species. Inoculations by other routes are irregularly effective in guinea pigs, rats and mice.

We have been interested in the experimental production of "mad itch" in small laboratory animals because through them an exhaustive study will be facilitated, and the nature of the etiologic or causative agent of the disease may be determined.

It is obvious that the agent is resistant to glycerolation. This is equally true of the infected rabbit and cow brain. No ordinary bacterial organism has by methods of culture and direct microscopic examination been discovered. On the other hand, suspensions of emulsified brain of rabbits, when passed through Berkefeld filters V, N and W, and Chamberland filter L^3, are all effective in inducing the experimental disease in rabbits.

The indications, therefore, are that "mad itch" in cattle is a disease communicable to laboratory rodents and its incitant is a filterpassing virus.

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THE SORTING POWER OF WIND AND WAVE

THE sorting power of streams of water—the power to sift out light or fine material from coarse or heavy material, such as dust, sand, gravel, etc.—has long been known and much studied. The sorting power of winds and waves is also a matter of common knowledge, but perhaps the effectiveness with which this process is carried on under favorable circumstances is not quite so generally known. The thoroughness of the sifting depends upon several factors, including especially differences in the size, shape and specific gravity of the particles, and, to a lesser degree, the slope of the surface and velocity of the wind or waves.

During the past summer we found on the shores of Bear Lake, Idaho-Wyoming, immense numbers of mollusk shells, chiefly *Carinifex,* with some *Lymnaea utahensis, Paludestrina, Valvata, Fluminicola* and other genera. On some portions of the shore the shells had been gathered by the waves into low windrows, or, to coin a more expressive term for the particular phenomena, waverows, from one to three or four inches deep and two to five times as wide. On a fine, sandy beach at the north end of the lake we scooped four quarts of shells by double handfuls from the top of the windrows and sacked them. In the laboratory we found that the shells had been so thoroughly sifted from the surrounding sand, by the waves, that there was only about a teaspoonful of sand left after separating out all the shells. On a similar beach on the west side we scooped up two quarts of shells out of which only three tablespoonfuls of sand were obtained. South of Garden City, on gravel, our collections contained coarse pebbles, in size roughly comparable to the shells, up to about 3 per cent. On the east side of the lake not far from the southern end, on a beach composed chiefly of well-rounded gravel of about the same average size as the shells but of course much heavier in proportion to bulk, we scooped up three pints from the windrows, which yielded 20 per cent. gravel, in bulk, much more in weight.

Near Thermal, California, a little hollow in the sand was filled with *Paludestrina protea, P. longinqua* and *Physa,* from which the fine sand had been so completely eliminated by the wind that in a lot of about 12,000 specimens scooped up by the hands there was scarcely a trace of sand. Near Brownwood, Texas, we found a ledge of limestone composed largely of foraminifera (*Fusulina*), which were weathering out rapidly. These were gathered by the wind into little depressions in the rock, the finer débris resulting from