

only eight feet, when extended over an area of hundreds of square miles, would exert a pressure of millions of tons.

The real cause of earthquakes, he said, is erosion, by which rains carry soil from mountains to valleys, and sedimentation, by which rivers and streams carry material to their mouths and deposit it there. These work gradually, but in time the amount of material moved is enormous, and the distribution of weight on the earth's surface is greatly altered. Because of the earth's ability to yield, the crust gives, and a fault, or crack, develops, along which future quakes may occur. A recognized fault passed through Santa Barbara, and is shown on a map issued by the Seismological Society of America showing the California faults. The Santa Barbara fault was supposed to be dead, however, as no tremor had occurred along it within historic times. The famous San Andreas fault, which caused the San Francisco earthquake in 1906, extends for many hundreds of miles, but does not pass near Santa Barbara.

In spite of the great damage done by the California shake, it was not nearly as violent as the one in Montana, said Commander N.H. Heck, in charge of the Coast and Geodetic Survey's seismological investigations. This was indicated by the seismograph records obtained by the Survey's stations at Cheltenham, Md., and Tucson, Ariz., as the records of the Montana quake were much more distinct, and was borne out by the reports of the area affected. In California, only about four counties felt the tremors, while three states besides Montana were shaken.

CIVILIZATION'S ADVANCE WIPES OUT MANY WORLD'S SMALLEST CREATURES

The struggle of man with nature and civilization's consequent advance is wiping out many small and microscopic plants and animals just as it has meant death to the buffalo, the carrier pigeon, the fringed gentian, the moccasin flower, and dozens of other animals and plants.

As the result of a survey, Dr. Henry B. Ward of the University of Illinois has found that the destructive activities of man affect the minute organisms which form the fundamental food supply of larger forms.

"In connection with the extensive and in part unavoidable destruction of breeding and feeding grounds to provide for the improvement of the land and the maintenance of a larger population", said Dr. Ward, "is added a little appreciated but exceedingly pernicious influence. Aquatic organisms of all sorts are affected by the extensive pollution of streams and lakes by city sewage and manufacturing wastes. Once that the public is educated to a comprehension of these unnecessary losses, it will insist upon the proper care of such wastes at the source.

"The irrepressible conflict of a growing civilization with a rich fauna shows many changes that were unavoidable and includes also much wanton destruction of valuable natural resources.

"The early records of pioneers and explorers portray vividly the marvelous richness of the North American fauna. Multitudes of wild mammals on the land, birds in the air, and fish in the water furnished a varied food supply for settlers that did not disappear in many regions until fifty years ago. The total extermination of some species and the impending destruction of many other forces consideration of the proper methods for the conservation of our biological resources.

"The magnitude of the interests involved is demonstrated by the present day value. The game is almost gone. The fisheries, already greatly depleted in many regions, are threatened with early destruction in the absence of better control. Legal measures to limit the destruction of wild animals deserve more careful consideration and more strenuous enforcement. Such measures should be based upon adequate knowledge of the life history and breeding conditions favorable to the species. Maintenance of government hatcheries constitutes a partially effective correction for the heavy tax laid upon native fishes by commercial fisheries.

"Our national parks serve the purpose of preserving in native purity unique examples of the American wilderness. As national museums, they will exhibit to posterity native wild animals under primitive conditions. Their preservation from the encroachments of commercialism is a debt we owe to future generations, and deserves the unqualified support of all true Americans."

MICROBE HASH TO CURE EXTERNAL TUBERCULOSIS

An electrified mixture of pulverized microbes and iron filings for the cure of exterior tuberculosis, such as lupus, tuberculosis adenitis and the like, has been presented to the Paris Academy of Sciences, by Professor Charles Richet. The process is the invention of Dr. Arthur Grimberg, and has been tested on over 250 patients already. It consists essentially of a colloidal extract of the Koch bacillus, injected under the skin of the sufferer.

The microbes are the base of the preparation. The iron filings are used in breaking them up. By placing a culture of these bacilli in a tube together with iron filings, and subjecting them to a variable electro-magnetic current, they are broken up into a very fine powder-like condition, and brought into solution in the form of a colloidal mixture which will circulate in the blood vessels of a human being and react on the infected parts.

Dr. Grimberg and his assistants report results as being unusually encouraging. The normal treatment is two subcutaneous injections daily. From the number of patients treated, 54 per cent. of complete cures have been registered; 26 per cent. of ameliorated cases; and 20 per cent. of at least temporary checks of the progress of the disease. The latter group, it is said, all gave up the treatments for one reason or another before any permanent result could have been had. The greatest number of cures was had on the soft-lesion type of malady, such as glandular tuberculosis.

Many of these patients on whom the tests were made had been operated on one or more times without success, or had made long trips for cures. They all reacted promptly to this treatment, and the average case required only from 15 to 20 injections for a cure.

The treatment is being studied by the leading physicians of Paris, and in fact many of the tests were made in the clinics of the big hospitals. A large number of successful cures were presented in the Societe de Chirurgie by some of the leading members, who had made the tests personally in their clinics.
