

PUBLIC HEALTH

Good Health of Old Year To Continue Into 1933

**But Guess is Hazardous, Says Authority Citing Dependence
On Weather, Public Health Services and Research**

By **DR. LOUIS I. DUBLIN**, Past president of the American Public Health Association and Third Vice President and Statistician for Metropolitan Life Insurance Company.

THE YEAR 1932 has closed with the best health record in our history. There is no sign of any untoward circumstance which would indicate an early change in the situation. However, it is at best a very hazardous undertaking to say how next year will turn out.

An outbreak of virulent influenza is entirely possible at any time and that might change the entire complexion of the mortality of 1933. Health authorities have expected such an outbreak this year in view of the past history of influenza. It has fortunately not developed. But in some instances these epidemic outbreaks do register after a delay of some months, and that is something to keep in mind for 1933.

The meteorological conditions will also play a very important part in the health picture of next year. These last few years have been extraordinarily favorable in that regard. I have no idea whatever as to what the weather conditions will be in the future.

Much will also depend on the continued efficiency of the Federal, State and municipal health services. If the present tendency to curtail budgets continues or is accelerated, there should be a very decided reflection in the death-rates from certain of the infectious diseases. It would be the worst possible economy for communities to endanger their vital resources through parsimony with health expenditures.

Certain advances in medical science make it very dangerous to predict recurrence of epidemic diseases on the basis of past performance. This is especially true of diphtheria. This disease has been declining very remarkably because of the widespread immunization of children with either toxoid or toxin-antitoxin. The effect of this practice has been completely to modify the cyclical outbreak of the disease.

In the past, diphtheria, like measles, whooping cough and scarlet fever, has recurred in fairly well-defined cycles. The peaks in the death-rate have occurred with much regularity at intervals of about seven years. Measles, whooping cough and diphtheria have had secondary peaks every three or four years. Influenza has shown a peak in the death-rate every three years since 1920, that is, in 1923, 1926 and 1929. Nineteen thirty-two has, however, passed without any serious outbreak. This may have been merely deferred for some months and may occur in 1933. Pneumonia, closely related to influenza, is expected to follow about the same course or cycle as influenza. So far this year the very lowest pneumonia mortality ever recorded has been observed.

The continued drop in tuberculosis mortality in 1932 was particularly striking and the most unexpected of all favorable items in the mortality picture. It can only be explained by the fact that community facilities, including hospitalization and the feeding and shelter of the unemployed have been continued on a very effective basis. If these are continued, there is no reason to expect an increase in tuberculosis deaths, especially since it appears that the forces at work

PSYCHOLOGY

People Learn Faster When Not Punished For Mistakes

IF DAD STARTS to take you to the woodshed for not learning your lessons, just cite to him the lesson taught by psychological tests reported to the American Association for the Advancement of Science by Dr. Milton B. Jensen of Quenemo, Kansas. He found that punishment interferes with the operation of mental powers and is a handicap to scholastic accomplishment.

Dr. Jensen tested eleven men and

eleven women, who were blindfolded, with a device that gave them a painful electric shock every time their fingers took the wrong turn in a maze of tacks. Then he tried the same test on a similar group who were not shocked but politely informed of their mistakes. The persons tested by electricity made 58 per cent. more errors and they required 34 per cent. more trials to learn.

I do not believe that we have reached the peak in the cancer death-rate which will probably continue to rise in 1933. Very large increases in the cancer mortality were recorded in the last two years among industrial policyholders. On the other hand, the cancer death-rates for a group of cities showed a slightly lower rate in 1931 than 1930. It is difficult to understand why there should be this difference in the situation as between wage earners, on the one hand, and the general population, on the other. It will be very interesting to see what the figures for 1932 in the general population show.

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STATISTICS

70-Year Life Expectancy Foreseen For Americans

THE AVERAGE American of the future may confidently expect to live out the Biblical three-score-and-ten years, predicted Drs. Louis I. Dublin and Alfred J. Lotka of the Metropolitan Life Insurance Company in a discussion before the American Association for the Advancement of Science.

Some years ago, when the actual average length of life was about 57 years, Dr. Dublin estimated that ultimately this figure would be 64.75 years. Since then this hypothetical figure has actually been exceeded in New Zealand. Dr. Dublin does not see any reason why Americans may not exceed in due course the figure achieved ten years ago by New Zealanders. (Next Page)

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The American baby of the future, moreover, may have an expectation of living to be 70 years old in the light of present knowledge, and not as a result of any "radical innovations or phantastic evolutionary change in our physiological make-up, such as we have no competent reason to assume," Dr. Dublin pointed out.

Some of the factors that will increase the life expectancy are probable continued reduction in tuberculosis deaths, reduction in infant deaths as a result of better prenatal care of the mother, and even reduction in cancer deaths which should result with the present knowledge of the disease.

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SEISMOLOGY

Epicenter of Alaskan Quake Located in Mountains

THE ALASKAN earthquake reported as having shaken the city of Seward had its epicenter some distance from the place, in the mountains north of the Kenai peninsula, according to calculations based by scientists of the U. S. Coast and Geodetic Survey on seismological reports gathered by Science Service from American and Canadian observatories. The approximate location of the point of greatest disturbance was in 62 degrees north latitude, 148 degrees west longitude, and the time of origin was four-tenths of a second before eleven o'clock, eastern standard time, on the night of Tuesday, Jan. 3.

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ECOLOGY

Studies Show Alaskan Forest Is Marching Into Arctic

Forest Front is Made Up of Young Trees While Few Miles To Rear Three-Century-Old Specimens Abound

THE FOREST of Alaska is marching northward. Its front is made of young trees, none of them over a hundred years old, though a few miles to the rear there are plenty of specimens that can boast three centuries.

This and other evidence of advancing tree line in the North was presented before the Ecological Society of America by Prof. Robert F. Griggs of the George Washington University. His observations in Alaska are supported by similar studies made by other botanists in the Scandinavian countries.

Prof. Griggs' most striking observations were made at Kodiak, which is now just beyond the timbered area, though old records indicate that areas now heavily forested were treeless a few generations ago.

"The trees at the edge of the forest are small and squat, suggesting an adverse climate," he said, "but when examined they were found to be growing as rapidly as the same species a thousand miles within its borders to the southeastward. They are likewise reproducing freely.

"The marginal trees are small because they are young. None of the trees within a mile of the forest border at Kodiak is more than a hundred years old. There are no fallen logs nor other remains of trees older than the present generation. Many trees now standing in thick forest have large dead branches clear to the ground and evidently began life in the open. Three miles back from the forest border the trees are more than three hundred years old and have attained great size. Dead trees and fallen logs are present as in ordinary forests.

"Instead of being held in check by climatic factors this forest is rapidly migrating into new territory . . .

Not Recovered From Ice Age

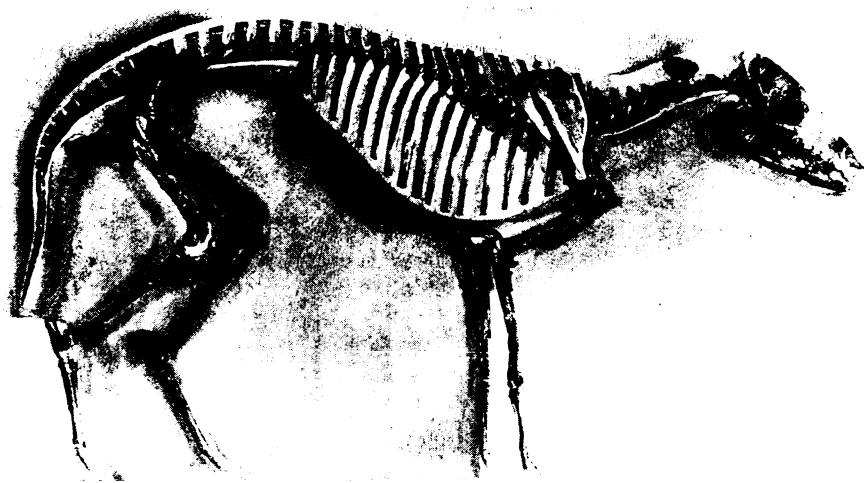
"The forest migration thus demonstrated is taken to be a continuance of the readjustment since the last glaciation. It suggests that the vegetation of boreal and north temperate regions generally may not yet have fully recovered from the last glacial period."

Additional support for the theory that the Alaskan forest is migrating northward is offered by microscopic examination of peat from a bog near Kodiak, collected by Prof. Griggs and analyzed by his associate, Dr. Paul W. Bowman.

The bog is thirteen feet deep, and situated several miles within the edge of the spruce forest and surrounded by well-grown trees. The upper three feet of this deposit were too soupy to permit the collection of material for analysis, but below this level core-cuttings were made all the way to the bottom.

Microscopic analysis of this material showed great numbers of spores, but they all belonged to several species of ferns, with exceedingly few pollen grains from trees. This is taken to indicate that when the lower ten feet of peat were being formed, the bog stood in open country with ferns dominating the vegetation, and that the forest has moved in and taken possession of the land since that time.

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THE HORSE THAT RAN LIKE A DOG

The whippet-like outline of this skeleton could easily fool one unversed in anatomy into guessing the animal to be a dog. But it is an *Eohippus*, the earliest and smallest of known fossil horses, recently mounted for the American Museum of Natural History.