

AVERAGE LIFETIME SOON TO BE A CENTURY

The average baby born around the year 2000 A.D. may expect to spend 100 years on earth, instead of about half a century, which is the average lifetime at present. This is the prediction made by Dr. Hornell Hart, of Bryn Mawr college, before the American Sociological Society recently.

"Unless we wreck our civilization in the next 75 years, which is unlikely, many a baby will be born with 200 or more years of life before it, and men and women 100 years of age will be the normal thing, but instead of being wrinkled and crippled, they will still be in their vigorous prime," said Dr. Hart. "This may be predicted with more certainty than that with which Jules Verne predicted the submarine or Bacon the automobile and airplane."

There is a chance that we have about reached the limit of reducing the death rate, and that there will be few spectacular gains in the future, he explained. It is also possible that medical science has now found its stride and that further gains in life expectation may be made at about the present rate. This means that the average individual born in the year 2000 could expect to live about 87 years. The hypothesis which Dr. Hart finds most plausible, however and on which he bases his forecast, is that the gain will be even swifter than in recent years.

"During the past million years, the tendency has been for man to gain control over his environment with increasing swiftness," he explained. "A second line of evidence is that since 1910 medical science has begun to cope successfully with diseases of later life."

"In the field of preventive medicine, research workers are making major discoveries which bid fair to eclipse past attainments in life saving. Furthermore, new research laboratories are being opened, new apparatus and techniques are being discovered, an increasing number of trained investigators is available, and unprecedented sums of money are being placed at the service of scientists in this field."

"Present tendencies indicate the practical elimination of disease and of old age through scientific discoveries in the next century or two," said Dr. Hart.

MAY PREDICT WEATHER BY USE OF RADIO

Studies of the effect of weather conditions on radio reception by which it may soon be possible to forecast the weather by noting the clarity with which programs from near and distant stations come in were described to the American Association for the Advancement of Science by Prof. J.C. Jensen, professor of physics at Nebraska Wesleyan University.

Prof. Jensen, who is also engineer-in-charge of radio station WCAJ, has been studying the relations of wireless and weather for nearly ten years. "Actual reception," he stated, "depends not only on the signal strength, but also on the ration of signal to static. When the strength of static interference begins to approximate the signal strength, reception becomes impracticable.

Static noises are known to vary from day to day and have been shown to be worst on the approach of a storm area. When the storm has passed, the high area which follows is characterized by settled weather in which 'atmospherics' are largely absent."

Some of the conclusions which have been reached as a result of this work are as follows:

Reception is best when the broadcasting station and the receiving set are within the same area of high atmospheric pressure, or when the weather conditions are settled.

Good reception may occur when the transmission is from a high pressure area into an adjoining low pressure area, or vice versa; but when it takes place across a low pressure area so as to extend through it to a high on the opposite side, low audibility occurs.

Static disturbance is most troublesome when the low pressure area of an approaching storm is to the northwest.

Fading is more troublesome at night than in the day and is most severe when there is little difference in atmospheric pressure in different parts of the country, a condition which accompanies unsettled weather.

Prof. Jensen pointed out that these conclusions are only preliminary and require further study, but to test them, he has been issuing a daily forecast of radio conditions from his station, and that the success of these has been very encouraging.

SOUND ABSORBENT PLASTER INVENTED

In response to the assertion of a prominent hospital official that "noise is the curse of modern hospital construction" comes the invention of a "sound absorbing" plaster which is from eight to ten times as absorbent of sound as the ordinary plaster, according to actual tests by its inventor, Dr. Paul E. Sabine of the Riverbank laboratories near Chicago.

"Modern buildings of solid construction with smooth hard surfaces make the present day interior an almost perfect reflector of sound," said the inventor. "Proper sanitation and satisfactory acoustics are apparently mutually antagonistic requirements.

"Ordinary masonry walls are much better reflectors of sound than the best mirrors are of light. The best mirrors reflect about 90 per cent of their light energy, but a tile wall with hard plaster reflects more than 97 per cent of the sound energy which strikes it. From such walls it can be shown that a sound initially of ordinary intensity must undergo some 450 reflections before it is absorbed so as to be inaudible. A simple computation shows that the sound remains in the room for 4.8 seconds before it is absorbed.

"If a carpet is put on the floor it absorbs 25 per cent of the sound energy which strikes it, and reflects 75 per cent. Instead of 450 reflections as above