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# THE NEXT TWENTY YEARS

After reviewing the achievements of the recent past, men of science, industry, and public service present a preview of the next two decades.

By DONALD S. ARNOLD

The lucky people of the year 1959 will be living nearer Utopia than any of their ancestors, if the predictions of a number of the prominent industrial, scientific, and humanitarian leaders of Pittsburgh and vicinity come true. From the progress of the past fifty years they have forecast the achievements of their respective fields in the next twenty-five years.

These predictions are engraved on wax transcription discs which are hermetically sealed in a special light-filtering glass crypt to protect them from the sun and air. This is a part of the dedication of the new 50,000 watt transmitter of radio station KDKA. The forecasts will be broadcast in 1959 as a greeting from the past on KDKA's celebration of the anniversary of commercial broadcasting.

Of the political developments, Mr. S. H. Church, president of Carnegie Institute, says the educated man of 1959 will have a much closer association with the aims and necessities of the human race. The public service will be transferred to men trained "in common intelligence and common honesty". Education will consist of an intimate usage of science as it is developed by personal contact from day to day. All parliaments will speak into the ears of the world through radio and television.

Of international relations he states, "If the power of science has made possible the destruction of the life and property of mankind, the human conscience has taken on a new courage and a new strength in an ever-growing resolution that the resources of science shall be confined to benevolent uses. Out of this merger of all the educational forces of the world let us hope that the American idea of political equality will prevail through the earth, so that men of all races, in all lands, finding themselves free, will cease to live within the dark boundaries of the ancient tribes, and we shall have peace. Science will create this dream, and the imagination will give it life."

Along this same line, Dr. Freehof says "It is only mutual understanding, mutual respect, sensitiveness to the pain of others which can form the moral basis for the world of the future".

"The resources of science have speeded progress amazingly in the past twenty years," observes Dr. Weidlein of the Mellon Institute of Industrial Research. "And that pace will be maintained to meet human needs.

If what has happened already seems incredible, what are we likely to see in the not-distant future?" He continues:

"We can expect that tomorrow probably won't resemble today in important respects. Too many 'impossibilities' have come true in our own life span. We have not forgotten the error that 'man will never fly'; that conversing without wires was labeled an absurdity; that typhoid, tuberculosis, and malaria were regarded as incurable. The progress being effected in treating pneumonia will no doubt bring this dreaded disease under medical control in the next twenty years. Likewise cancer will be much better understood. Advances will be made just as the oxcart has been superseded by the soaring plane; the mechanical music box by delightful radio . . .

"If yesterday's miracles are today's commonplaces, what an age tomorrow will be, with science as its constant guide, insistent on solving human needs, making the improbable come true!

"Laws will not prevent men from thinking. And so long as they think, so long as they refuse to accept the present age as perfect, advances will be made . . .

"We have made only a beginning in utilizing for our needs the substances that nature has placed around us. Many important laws of science still await discovery and also stand as a beckoning challenge. By attacking these problems and numerous others in the next twenty years science will continue to bring about rapid changes for our well-being."

The photoelectric cell has many possibilities and much will probably be made of applications. It may be used in any process in which the intensity of color of a beam of light can be changed by the movement of material being processed or handled.

According to Mr. Bucher, president of Westinghouse and Electric Company, the appliances of the home of the future will probably be operated by remote control from any part of the home. This includes the cooking, laundering, answering the door, reception and greeting visitors, and numerous home tasks.

The time may come, he says, when we shall use high frequency radiation to cook our food. Hams have been cooked in this way in fifteen minutes where it requires four to six hours by steam.

Further the homes may be furnished with mood control lamps which will permit selection of color and

shade of light to suit the moods of the occupants.

Mr. Bucher continues, "All of these developments are the result of applied research founded on our heritage of pure research, but they by no means represent the ultimate in scientific advancement. Even now more than a score of 'atom smashers' are busy in all parts of the civilized world, firing away at matter with tiny invisible particles. They are seeking to blast new secrets from nature by shattering the very hearts of matter. No one can say what new wonders may develop in the next twenty years of this atomic pioneering, but there are many possibilities from transmutation to a new source of power."

" . . . We know so little about nature's underlying principles today that it is incredible that anyone should think that our knowledge of natural laws is anything but exceedingly small when compared with vast realms of the unknown. If we can accomplish all that we have on such poor understanding, what vastly better results can we reasonably expect as we obtain more basic knowledge?"

Only twenty years ago the principal uses of glass were for windows, tableware, light bulbs, and "looking glasses". So states Mr. Wherrett of the Pittsburgh Plate Glass Company. In the future he expects the use of all glass building blocks to form entire walls of buildings, glass furniture, utensils made of low-expansion glass, and beautiful cloth made of glass fiber.

Mr. Hunt, of The Aluminum Company of America,

anticipates the use of aluminum in new methods of transportation; rocket ships (if and when developed!) superplanes, airdromes, and landing fields of transoceanic flying; small speedy private planes; and fast stratosphere long-distance aircraft. He also expects increased use in building construction.

Major L. R. Lohr, president of the National Broadcasting Company, envisions the time when there will exist cooperation in the systems of broadcasting and technical advancement. He foresees the extended use of the ultra-high frequencies and microwaves for practical use as well as high powered transmitters, about 500,000 watts, for standard clear channels.

"As a social force, radio will have come fully into its own. Today it feels its way cautiously, recognizing its own power to sway people to action, fearful lest that power be misused. Today's consciousness of responsibility the forerunner of tomorrow's sure, forceful handling of that responsibility. It will not be surprising, when we open this crystal case of tomorrow in 1959, if we find a world system of broadcasting . . . standing as a beacon to guide the nations of the world into the harbor of peace and friendly relations."

"Today, television stands about where sound broadcasting stood twenty years ago—sure of a brilliant future, but uncertain of just how to accomplish it. What lies ahead of this latest radio child no man knows, but it is certain to be marching relentlessly forward into the homes and hearts of the world."