

Use Science

Labor, politics, government, agriculture would pursue different tactics under present conditions if we were really highly civilized and intelligent, Dr. Karl T. Compton, president of the Massachusetts Institute of Technology, charged in addressing the dinner in connection with the dedication of the Mellon Institute's new building.

Science is at the very root of our national program of objectives which President Roosevelt has phrased as "the more abundant life," Dr. Compton explained.

If we were willing to sacrifice present pleasures for the sake of future benefits, Dr. Compton believes that we would see labor unions demanding the introduction by all industries of labor-saving and rapid production machinery in order that they might achieve higher wages and shorter hours. We would see the political forces of the country even more insistent in demanding the creation of wealth than its distribution.

The government would be strengthening its scientific services instead of curtailing them most severely of all services. The agricultural problem would be tackled by a powerful scientific attempt to find new uses for agricultural products rather than trying to achieve prosperity by curtailing production.

We might see, said Dr. Compton, income taxes which would encourage rather than suppress the man who creates a great and useful industry and who uses his wealth in a far-sighted manner for the public good.

Retirement Age

The age at which our elders should be "placed on the shelf" because of physical and mental incapacity might well be advanced by ten years because medical science has added a decade to life expectancy in the United States during the past quarter-century.

This suggestion, which has a direct bearing on the Supreme Court controversy and the whole problem of old age retirement, was made by a Nobelist in medicine, Dr. W. P. Murphy of Boston, codiscoverer of the liver extract treatment for pernicious anemia.

This means that the conventional retirement ages of 60 and 70 might be advanced to 70 and 80. It is logical to assume, argued Dr. Murphy, that the addition to life expectancy at birth of a decade represents not merely an increase in longevity but that there has been a coincidental increase of ten years of physical and mental vitality.

Science needs to know much more

about the familiar properties of matter, Dr. Irving Langmuir, Nobelist and General Electric chemist, told the gathering of noted scientists and industrial leaders.

He predicted that X-rays, electron diffraction, and optics would open new fields to chemists because these new tools make possible magnifications far greater than are possible with microscopes.

Wool From Meat

The possibility that artificial wool made from the casein of milk may ruin the sheep farmers of the West was suggested by Dr. Harold C. Urey, Columbia University, another Nobel prize winning chemist.

Italian scientists have succeeded in making a wool substitute from the milk by-product and two regiments of Italian soldiers are now wearing uniforms made of this imitation wool.

Such textiles can also be made from meat scraps and Dr. Urey suggested that in the future the less tender cuts of meat will appear as a lady's smart, spring suit or as a man's dress suit.

Scientists who bring about such revolutions in industry should not overlook the sentence of poverty, privation and disappointment that such changes in our methods of doing things often bring upon an innocent fraction of our population. Scientific institutions should consider the social and economic questions that arise from the research.

New Kind of Insulin

A new kind of insulin, that may make even more effective the older kind, which for a decade has rescued thousands from death due to diabetes, was made known by Sir Frederick Banting, Nobelist and the discoverer of insulin.

The conqueror of diabetes told how a modification of insulin is being tested. Zinc, a metal, is added to ordinary insulin. Tests on dogs show that the new zinc insulin lowers the dangerous blood sugar for a prolonged period after its injection. At present it has not yet been given adequate tests on human patients.

The Canadian scientist explained that the new zinc insulin is a development that arose from the Danish discovery of how to delay the action of insulin so that a day's supply of insulin could be given in only one injection. Protamine obtained from the sperm of rainbow trout and mackerel was added to insulin to produce this effect, and this protamine insulin was called by Sir Frederick "the greatest advance in the treatment of diabetes since the discovery of insulin."

Plastic Houses Predicted

The making of better houses out of plastic and synthetic materials was forecast by Dr. G. O. Curme, Jr., vice-president of the Carbide and Carbon Chemicals Corporation and one of the early Mellon Institute investigators.

Homes may not be thought of as a chemical project, Dr. Curme said, but in the countless applications of plastic materials, lacquers and synthetic fibers, he expects new types of house assembly to emerge with greatly reduced costs. This will give sanitary, noiseless, fire-proof, moisture-proof and vermin-proof construction.

He expects rail transportation to follow the trends of automobiles and he said that the Diesel engine used on railroads is of far greater significance than the more obvious streamlined exterior.

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PHYSICS

Two-Pound Battery Will Deliver a Thousand Volts

ATINY, compact battery that weighs less than two pounds and yet will deliver 1,000 volts was described by Willis E. Ramsey of the Bartol Research Foundation of the Franklin Institute to the American Physical Society. Moreover the battery will keep indefinitely when not in use because it is completely dried and sealed in an airtight box. When operation is desired a few drops of ammonium chloride are applied to the battery and its high voltage is obtained. After use it is again dried. Original purpose of the equipment was to supply high voltage without undue weight in the cosmic ray measuring apparatus sent aloft on un-manned small balloons.

On the same program Prof. H. P. Robertson, Princeton University mathematician, described calculations on the dynamic effects of the sun's radiation on small pieces of matter up to one or two inches in diameter. The involved mathematics of Prof. Robertson show that the effect of the radiation which a particle of matter might receive from the sun and then given off by the particle has the net result of retarding the orbital velocity of the particle about the sun. This slowing down, in turn, has the effect of gradually drawing the particle nearer and nearer to the sun until it is finally drawn into it. Thus the solar radiation is an agency for clearing the neighborhood of the sun of small particles, by sweeping them into it.

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