

## GENERAL SCIENCE

# Describe Future Science

**Conquest of many virus diseases, treatment for mental illnesses, new sources of power, world-wide television communication, all lie within the grasp of the future scientist.**

► IF MAN CAN avoid "the dangers of destruction" that can result from an atomic or biological war, he faces a future that will make people "healthier, wealthier and perhaps even wiser," Watson Davis, director of SCIENCE SERVICE, Washington, told a Conference on Technical and Scientific Writing at Michigan State University.

"Compiling timetables for the science of the future is risky and hazardous," the veteran science writer said, "but here are some guesses at what may happen."

About a decade hence (1970):

1. Cures for some of the most prevalent kinds of cancer, whether through chemotherapeutics, or prevention arising out of better understanding of metabolic processes.

2. The conquest of more virus diseases, including the so-called common colds, either through vaccination or drugs.

3. Treatments for more of the mental diseases that will rescue and return to usefulness more of those psychotically ill.

4. Power from atomic fusion, the hydrogen bomb reactions.

5. Harnessing of the sun's energy through artificial photosynthesis that beats the green leaf at its own game.

6. Exploration of the moon by unmanned, but information-gathering, rockets, and similar space probes towards Mars and Venus.

7. More major mechanizations of industrial processes, together with development of economic devices to keep employment at an optimum level.

8. More universal assaying of human abilities and the enhancement of educational opportunity that will more nearly utilize the talent of all the world's population.

9. International television through signals relayed by reflection from special TV satellites.

10. Development and application of a simple and safe birth control method that could modify the world's population explosion.

More distant in the future, some perhaps by 2000, there are these possibilities:

1. Discovery and harnessing of unknown forces within the atomic nucleus, giving new sources of energy, transmutations of matter, and new knowledge of the possible ultimates of the physical universe.

2. Exploration of the cosmos by new astronomical methods that will delineate its size in time and space, whether the universe has boundaries, whence it came, whither it is going, how long it will last, and its operation and control.

3. Approaches to the postponement of individual death, through understanding and remedial treatment of the degenerative diseases and by the prolongation of life

through nutritional, biological and other means.

4. Understanding of the nature of life, through biophysical and biochemical exploration of the functions and mechanisms peculiar to animate matter.

5. The creation of life from inanimate materials, duplicating the genesis of primordial slime in the opening eons of the living earth.

6. Attempts to discover whether some of the probable hundred million planets of other stars have life or conditions for life like that on earth.

7. Development of new methods of rocket propulsion that will make interstellar travel more practical.

8. Development of standard synthetic diets easily assimilated that will supply the calories and protective factors for optimum mental and physiological existence, possibly available to all as a public utility.

9. Universal communication facilities so that sight and sound will link on demand any individuals anywhere on earth, coupled with world-wide TV channels for music, education, information, public meetings and ceremonies, etc.

10. Development of artificial intelligence machines, that will do things people do now—write letters, do bookkeeping, translate languages, file and retrieve information, teach students individually, plan and operate industrial processes, cook, serve meals and clean houses, drive automobiles and airplanes, etc.

Science News Letter, May 3, 1958

## CHEMISTRY

## Hardwoods Better for Rocket Fuel, Ice Cream

► **HARDWOOD** is preferred over softer wood not only for home floors, but also for making rocket propellants, clothing and even ice cream.

Hardwood trees of northeastern United States and Canada are invading the field of cellulose production once held exclusively by cotton, the American Institute of Chemical Engineers and the Chemical Institute of Canada meeting in Montreal learned.

Wood cellulose recently has gained wide favor in production of cellulose acetate film, triacetate yarn, solid rocket propellant bases, explosives and ice cream ingredients, Dr. Morris Wayman, technical director of Columbia Cellulose Co., Ltd., Prince Rupert, B. C., reported.

A present major goal of the cellulose industry, he said, is to perfect processes so that even more of the hardwoods such as aspen, cottonwood and poplar can be used.

Hardwood is more attractive than the softer pines and other cone-bearing trees because it contains a higher proportion of the commercially important alpha cellulose and less mannan, a natural compound important to many industries but not desired in production of pure cellulose.

One disadvantage of hardwoods over soft is that hardwood contains a higher percentage of xylan, a gummy substance that must be removed.

Derivatives of cellulose are among the most widely used natural raw materials of the chemical industry. Dr. Wayman pointed out that their uses range from rocket fuels and fuel binders to thickening agents for ice cream.

Science News Letter, May 3, 1958

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VOL. 73      MAY 3, 1958      NO. 18

The Weekly Summary of Current Science, published every Saturday by SCIENCE SERVICE, Inc., 1719 N St., N.W., Washington 6, D. C., NO. 18 7-2255. Edited by WATSON DAVIS.

Subscription rates: 1 yr., \$5.50; 2 yrs., \$10.00; 3 yrs., \$14.50; ten or more copies in one bundle to one address, 7½ cents per copy per week; single copy, 15 cents, more than six months old, 25 cents. No charge for foreign postage.

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Printed in U.S.A. Entered as second class matter at the post office at Washington, D. C., under the act of March 3, 1897. Acceptance for mailing at the special rate of postage provided for by Sec. 34.40 P. L. and R., 1948 Edition, paragraph (d) (act of February 28, 1925; 39 U. S. Code 283) authorized February 28, 1950. Established in mimeograph form March 13, 1922. Title registered as trademark, U. S. and Canadian Patent Offices. Indexed in Reader's Guide to Periodical Literature, Abridged Guide, and the Engineering Index. Member Audit Bureau of Circulation.



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