heat of the sun is correct, but they despair of creating the millions of degrees of heat necessary to make it operate. The Bethe theory is that atomic energy is obtained in the sun from the light elements, hydrogen being transformed into helium in a complex cycle involving carbon, nitrogen and oxygen, and liberating large amounts of energy.

One theory of the origin of cosmic rays is that they are generated when medium weight elements like oxygen and nitrogen are transmuted.

The new speculations abroad may justify intensive cosmic ray explorations on potential military grounds alone. It is significant that cosmic ray recorders were in the nose of the first V-2 rocket fired experimentally in New Mexico.

Science News Letter, May 18, 1946

NUTRITION

Longer Productive Life

Super-sufficient diet can result in earlier maturity and longer retention of youthful vigor, Franklin Medalist declares.

➤ BECOMING a grownup sooner, the ambition of every youngster, and retaining youthful vigor longer, the wistful wish of every oldster, can both be accomplished by a super-sufficient diet, Prof. Henry Clapp Sherman of Columbia University declared in an address before the Franklin Institute after receiving the Institute's coveted award, the Franklin Medal.

For some years, Prof. Sherman has been maintaining a race of more-than-well-fed white rats in his laboratories. On a high-vitamin, high-calcium, high-protein diet they become mature more quickly and live longer. Yet they do not have a long old age. Instead they maintain the full vigor of their prime of life into the period when control animals kept on a merely adequate diet become definitely senile. Comparable results, Prof. Sherman feels sure, could be achieved with human beings, bringing on the vigor of adulthood earlier and making it last into the years that are too often wasted in the ills and ails of old age.

The speaker said, in part:

"A certain food mixture called Diet A was found adequate to the support of normal nutrition generation; yet Diet B, differing only in its proportion of protective food has been found to result in better life histories. Growth and development are beneficially expedited, but not forced, vitality is higher and death-rates lower at all ages, full adult capacity or 'prime of life' is attained earlier and retained longer, and the life-expectation is increased not only for the young but also for the adults.

"The previous general progress of public health had increased the life-expectation of the infant but not the adult. Now, the nutritional improvement of the norm raises the life-expectation of the adult as well.

"The extra years thus offered are not to be pictured as added to old age. Rather it appears that something like an extra decade can be inserted at the prime or apex of the life lived in accordance with today's newer knowledge of nutrition. Life becomes longer because it is lived on a higher health level throughout. The apex of attainment is higher, the period of the prime is longer, and in human terms there is a smaller percentage of years of dependence, in the improved life history to which nutritional knowledge now guides us."

Possible social benefits of thus improving the human race through an abundance of the right foods are obvious, Prof. Sherman pointed out. On the one hand, there would be a great deal more clear thinking and decisive action, since men and women in later middle life would not be weakening, growing overcautious and becoming obstructive just when they have reached positions of greatest influence and power. On the other, the shortening of the years of childhood and of helpless old age would relieve the productive world of its greatest load of dependency.

At the same meeting, a second Franklin Medal was awarded to Sir Henry Thomas Tizard of Magdalen College, Oxford, eminent research worker in aeronautics Since he was unable to come to this country to receive his medal in person, he was represented by the Hon. Roger M. Makins, Minister in Charge of Economic Affairs at the British Embassy in Washington, who read an address prepared by Sir Henry, on Teamwork in Research.

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CHEMISTRY

1080 Rat Repellent Also Rough on Cats

➤ 1080, war-born rough-on-rats, is also rough on cats. Cats find rats that have been poisoned with the deadly stuff, eat them and thereby get a second-hand but still effective dose of 1080. If rat eradicators are using it in your neighborhood, keep Tom or Tabby shut up close until the job is finished, warn scientists in the U. S. Fish and Wildlife Service. And never, under any circumstances, buy a rat poison that contains 1080; it's just too dangerous for any but professionals to handle.

Some such rat poisons have been appearing on the market. 1080 is not supposed to be sold indiscriminately for that purpose, but a loophole in existing legislation permits it to leak through, and a few firms seem willing to take a chance on it.

1080 will not only kill rats and cats. It will kill dogs and even children, if they find a 1080 bait intended for rats and nibble it out of curiosity. Trained professionals know how to set such baits so that only rats can get at them; nonprofessionals should let the stuff severely alone.

Science News Letter, May 18, 1946

GENERAL SCIENCE

Wetmore and Valentine Join Board of Trustees

➤ DR. ALEXANDER Wetmore, secretary of the Smithsonian Institution, and Dr. Willard L. Valentine, editor of the Journal *Science,* have been elected trustees of Science Service, the institution for the popularization of science.

Dr. Wetmore is a nominee of the National Research Council and succeeds Dr. Charles G. Abbot, former secretary of the Smithsonian Institution, who has resigned from the Science Service board after many years of service as vice-president and treasurer.

Dr. Valentine, a nominee of the American Association for the Advancement of Science, filled the vacancy caused by the death of Dr. Henry B. Ward, University of Illinois biologist.

Dr. Harlow Shapley, director of Harvard College Observatory, was reelected president, Dr. Alexander Wetmore was elected vice-president, Frank Ford, editor of the Evansville Press, was reelected treasurer and Watson Davis, director of Science Service, was renamed secretary of the corporation.

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