

## AEROMEDICINE

**Longer Days Proposed For Space Travelers**

SPACE TRAVELERS may work best and get better sleep if they discard the 24-hour days of earth and establish longer rhythms for their lives, a symposium was told at San Antonio, Tex.

Prof. Nathaniel Kleitman of the department of physiology at the University of Chicago said there are good reasons for developing non-24-hour rhythms. In studies of artificial rhythms, it was shown that the longer the cycle, the greater the body's temperature range, Prof. Kleitman said.

"This means that one can expect to reach a greater degree of alertness and height of performance, on the one hand, and a more complete relaxation, perhaps better sleep, on the other."

Prof. Kleitman spoke at opening sessions of a three-day symposium on psychophysiological aspects of space flight. The symposium was arranged by the Southwest Research Institute and sponsored by the School of Aviation Medicine, USAF Aerospace Medical Center, Brooks Air Force Base, Texas.

Science News Letter, June 11, 1960

## MEDICINE

**Number of Physicians Increases in 29 States**

THE NUMBER of physicians in the United States and its possessions increased by about 4,800 last year, the Council on Medical Education and Hospitals of the American Medical Association reports.

The 1959 report, as compared with 1958 figures, shows increases in 29 states. The total number of additions to the medical profession last year was 8,269, including 1,626 who were foreign-trained. Approximately 3,500 physicians died. The council's complete report appears in *The Journal of the American Medical Association*, 173:374, 1960.

Science News Letter, June 11, 1960

## ASTRONOMY

**Galaxy Age Is From 11 to 15 Billion Years**

THE MILKY WAY galaxy in which the sun and its planets are located is from 11 to 15 billion years old, two astronomers have found.

Drs. William A. Fowler and Fred Hoyle of California Institute of Technology said the choice of an age for the Milky Way depended on the way in which the solar system and the rest of the galaxy was formed. Basis of either age is the radioactive decay of uranium and thorium, also used to date geological events on earth.

The age of the Milky Way is about 15 billion years if the galaxy from its origin has been independent, with no important additions of material from intergalactic space since its formation. Within the galaxy, the formation of stars has declined at a steady rate over the Milky Way's lifetime.

Errors in this method could make the age as old as 20 billion years or as little as 12 billion years.

The Milky Way's age is some 11 billion years if matter is being continuously created, the two astronomers reported. This is its age, they calculated, if the abundance of elements in intergalactic matter has reached a steady state through interchange with galaxies in which stars are producing elements heavier than hydrogen. From this point of view, the Milky Way has picked up significant quantities of intergalactic material at various times.

This acquiring of material, in this view, occurred particularly about a billion years ago, before the sun and solar system were formed. Errors in the 11-billion age calculated on this basis could be as little as plus or minus two billion years.

Science News Letter, June 11, 1960

## LINGUISTICS

**Teaching Spanish By Using Filmstrip**

A POSTER and filmstrip method of teaching Spanish is being developed at the University of California, Los Angeles, under a \$132,000 Federal grant.

Making use of one of the largest grants ever given to an individual under terms of the National Defense Education Act, Dr. William E. Bull, professor of Spanish, is developing 500 poster-size drawings to be used as aids in teaching Spanish.

When completed in about a year, the pictures, which will also be available in filmstrip form, will be made available to elementary and secondary schools and to colleges.

Explanatory material for use by teachers is also being prepared.

Based on a long-term, original study by Dr. Bull, the picture series allows the student to discover how the Spanish-speaking native organizes his world in terms of linguistics.

The picture series hits hard at the usual Spanish language "trouble spots" by allowing the student to make grammatical choices, not by use of confusing rules, but by observing correct usage in real life situations.

"We present the student with a set of situations identical to that which the Spanish-speaking native learns to react to as a child," Dr. Bull said.

Science News Letter, June 11, 1960

## LINGUISTICS

**Glass-Disc Memory Holds Dictionary****See Front Cover**

A MACHINE has translated Russian newspapers into English by the use of a rotating glass disc "memory," as seen on the cover of this week's SCIENCE NEWS LETTER.

Words of an entire Russian-English dictionary, including idioms, can be stored on this ten-inch disc. The words are stored in 700 tiny tracks in the dark area near the edge of the disc.

Science News Letter, June 11, 1960

## MEDICINE

**Inflammation May Have Role in Producing Cancer**

EXPERIMENTS on the ears and breasts of rabbits indicate that inflammations may have a role in the development of cancer.

Although the basic cause of tumor formation appears to involve inherited susceptibility, Dr. Valy Menkin, professor of pathology at the University of Kansas City, Mo., has demonstrated the presence of a growth-promoting factor in inflammatory substances.

Reporting the study in the *British Medical Journal*, May 28, 1960, Dr. Menkin tells of injecting concentrated materials in the vicinity of the nipples of rabbits with resulting multiplication of cells.

When the period of injections is extended, Dr. Menkin says that the picture recalls the chronic cystic mastitis, disease of the breast, of human beings.

In the case of experiments on rabbit ears, about 70 rabbits received a mild type of long-standing injury by piercing the ear lobe with staples and fixing a metal tag held on the external surface of the ear. Twenty-five percent of these rabbits developed tumors.

Science News Letter, June 11, 1960

## MEDICINE

**Small Cars Cause Two New Ailments**

A CHICAGO doctor has warned fellow physicians to look out for patients with two new ailments: "Jaguar chest" and "Corvette hip."

Writing to the editor of the *Journal of the American Medical Association*, 173:444, 1960, Dr. Jerome F. Strauss Jr. said that four patients have come to him in the past six months with ailments related to sports cars and small sedans.

Two new drivers of sports cars suffered chest pains because their muscles were not accustomed to shifting gears and steering without power assistance.

Dr. Strauss said that foot room limitations may compel drivers to sit in positions that will cause hip and back pains.

Science News Letter, June 11, 1960

## DENTISTRY

**Stress Can Hurt Teeth and Gums**

STRESS CAN HURT a person's teeth and gums, Dr. Ira F. Ross of the New York University College of Dentistry reports. The stress may cause a patient to continually clench and grind his teeth.

This rocks the teeth in their sockets. Done continually when there is already some gum inflammation present, the rocking may cause the teeth to shift or cause gum disease and damage to underlying bones.

Dr. Ross reports in the *Journal of the American Dental Association*, June, 1960, that dentists must not only treat the tissue in such cases but should also work to remove the contributing causes.

Science News Letter, June 11, 1960

ASTRONAUTICS

## Icebox for Space Travel Involves Many Problems

A SPECIAL TYPE refrigerator is being built for space travel. General Electric Company, under contract with the Air Force, has scientists studying how food reserves can be kept fresh in space ships for long periods. About nine pounds of supplies are needed for one man each day, the scientists reported. Some of the problems to be considered are: the possible effects of radiation, extreme heat during entry to the earth's atmosphere and that of other planets, the near vacuum of space and weightlessness inside the space ship.

Science News Letter, June 11, 1960

PSYCHOLOGY

## Television Hypnosis Is Called Dangerous

TELEVISION VIEWERS thousands of miles away can be hypnotized while watching demonstrations on the screen and may require later psychotherapy, the American Academy of General Practice reported in Kansas City, Mo. The Academy urged that television trance inductions be stopped and further warned against the use of hypnosis by unqualified practitioners, even dentists. The Academy considers hypnosis a psychiatric tool unsafe in the hands of amateurs, and deplors the current "parlor hypnosis" fad as well as other entertainment uses.

Science News Letter, June 11, 1960

OCEANOGRAPHY

## Oceanography of USSR Compared to That of U.S.

RUSSIAN RESEARCH in oceanography seems to compare favorably with American, according to a survey of United States oceanographers taken at the University of California's Scripps Institution of Oceanography. However, work done by the Russians is almost inaccessible to the U. S. workers as more than 80% of the American oceanographers cannot read Russian and reports by the Russians are only occasionally translated.

Science News Letter, June 11, 1960

GENERAL SCIENCE

## Science Fellowships Applications Available

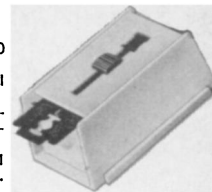
THE NATIONAL SCIENCE FOUNDATION will accept applications for fellowships through Oct. 10, 1960, under its Senior Postdoctoral and Science Faculty Fellowship programs. Fellowships carry up to \$12,000 annually, adjusted to the incomes of applicants. Details may be obtained by writing the Fellowships Section, Division of Scientific Personnel and Education, National Science Foundation. Approximately 300 will be chosen to work in mathematical, physical, medical, biological, and engineering sciences and overlapping fields.

Science News Letter, June 11, 1960

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