

The latest scientific methods for saving lives under nuclear attack

# SURVIVAL HANDBOOK

By Robert C. Suggs

Here are the results of a special study of the controversial problem of civil defense. Dr. Suggs has compiled a concise guide for the layman, covering blast and heat effects of nuclear weapons, the nature of fallout, radiation sickness, fallout shelters, and survival in the post-attack world.

Much of the material is completely original, including sections on the use of existing buildings as shelters, and on interpreting radiation-rate meters and dosimeters to determine when and for how long a shelter can be safely left.

A glossary and numerous illustrations add to the value of the text. \$3.95

MACMILLAN



With artificial satellites already launched and space travel almost a reality, astronomy has become today's fastest growing hobby. Exploring the skies with a telescope is a relaxing diversion for father and son alike. UNITRON's handbook contains full-page illustrated articles on astronomy, observing, telescopes and accessories. It is of interest to both beginners and advanced amateurs.

**CONTENTS INCLUDE:**

Observing the sun, moon, planets and wonders of the sky • Constellation map • Hints for observers • Glossary of telescope terms • How to choose a telescope • Astrophotography

## UNITRON

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**NUTRITION**

## Roast Turkey Outranks Chicken in Protein Value

► ROAST TURKEY is better in protein value than chicken, beef and pork, and also milk. Turkey proteins contain more amino acids that are essential to protein building in the body.

Studies with growing rats in which the animals were fed diets of light and dark turkey meat, egg solids and milk solids were made by Dr. S. P. Yang at Purdue University.

The greatest weight gain occurred with the diets of egg solids. Both light and dark turkey meat caused greater weight gains than similar diets of milk solids.

A turkey meat diet supplemented with methionine, one of the essential amino acids, gave the food a greater nutritional value, not quite as high as that of the egg solids.

Addition of the amino acid cystine to milk solids gave the food as great a nutritional value as turkey meat supplemented with methionine.

Of the three foods, turkey meat was found to have the most digestible proteins. The addition of extra amino acids did not affect digestibility.

Earlier tests showed the superiority of turkey to beef, pork and chicken.

Dr. Yang's findings were reported in the Journal of the American Dietetic Association, 41:448, 1962.

• Science News Letter, 82:332 November 24, 1962

**TECHNOLOGY**

## Huge Cavity Created By "Gnome" Detonation

See Front Cover

► ONE THOUSAND two hundred feet underground in a salt bed 28 miles southeast of Carlsbad, N. Mex., is a huge cavity created by the first peaceful nuclear detonation.

The roughly hemispheric cavity 160 to 170 feet in diameter (larger than the base of the dome of the U.S. Capitol Building) and 60 to 80 feet high (equivalent to a seven to eight story building) was formed by the Gnome detonation on Dec. 10, 1961, with a yield of about three kilotons. Seem on this week's front cover is a view toward the top of the cavity.

Entry to the cavity was made May 17, 1962, through an underground tunnel excavated parallel to the original one. Temperatures up to 130 degrees Fahrenheit were recorded. Although some "hot spots" of radiation were found, the general level was from 50 to 60 milliroentgens (mr) per hour. The radiation level in the cavity is now five to 15 milliroentgens per hour.

The experiment was conducted for the U.S. Atomic Energy Commission by the Lawrence Radiation Laboratory, Livermore, Calif.

The cavity and Gnome related workings are in a standby condition. Preliminary work for Project Coach, a heavy element production experiment, is underway at the site.

• Science News Letter, 82:332 November 24, 1962

# Questions

ASTRONOMY—What is the magnitude of the star Sirius? p. 338.

BIOPHYSICS—How do cells in the top of the brain react to flashes of light presented to the eyes? p. 343.

ENTOMOLOGY—How far can an insect spray its poison? p. 335.

MEDICINE—How many amino acids does the human growth hormone have? p. 331.

MILITARY SCIENCE—How much infrared energy is generated by man? p. 337.

PSYCHOLOGY—What is the phenomenon known as imprinting? p. 336.

TECHNOLOGY—What is the most commonly used complete word in conversation? p. 333.

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