and independent of obvious structural defects.

Intermittent noise was found less effective than continuous noise as a mask for other sounds.

Noise of escaping steam heard at moderate loudness in one ear was found to make conversation heard with the other ear seem louder and more distinct.

Salt may taste salty, bitter or sweet, depending upon the mobility of its ions rather than upon its composition as a salt, it was observed.

An odor-free double glass house was constructed for testing a person's ability to detect smells, the observers being required to bathe and dress in an odorless envelope before entering.

Time was slowed by suggestion during a hypnotic trance so that within a few seconds incredible tasks were accomplished in the mind.

An automobile driver was put into a hypnotic trance, induced by monotony while at the wheel, indicating that some accidents may be caused by drivers hypnotized by the monotony of the highway.

A cringing dog, smallest and most submissive of the litter, was made to assert himself by giving him a dose of alcohol.

Behavior while tracing a maze seen only reflected in a mirror was found to reveal emotional instability.

Males were found to be more emotional than females.

Rhythm of the heart beat is affected by emotional disturbances, so that it seems to skip a beat, graphic tracings of the electric current produced by the heart's contraction showed.

Pigeons were taught to be "superstitious," or to repeat meaningless rituals they happened to be engaged in when given food in a hungry state.

Fish were found capable of remembering which way to turn for food even after the food had disappeared from their sight, and of differentiating between the scents of underwater plants and various samples of water.

Science News Letter, December 18, 1948

GENERAL SCIENCE

Ten Top Science Advances

➤ THE TEN most important science advances made during 1948, as picked by Watson Davis, director of Science Service, are:

1. Creation artificially in world's largest cyclotron of subatomic particles, called mesons, that may unravel mystery of composition of matter.

2. Achievement by jet plane of speeds well beyond the barrier of the speed of sound, opening a new air age.

3. Demonstration that a single penicillin pill, swallowed a few hours after exposure, can prevent one of the two major venereal diseases, gonorrhea.

4. Synthesis of glycerine from petroleum, making its commercial production independent of fat supply.

5. Discovery of aureomycin and polymyxin, drugs effective against diseases unconquered by sulfa drugs and other antibiotics.

6. Completion of the 200-inch world's largest telescope on Mt. Palomar, Calif., seeing deepest ever into cosmic space.

7. Authorization of two gigantic atom smashers, to produce three to five years hence sub-atomic "bullets" rivaling cosmic rays of three to seven billion electron-volts, vastly extending scope of nuclear physics.

8. Commercial production of "low-temperature" rubber, giving chemical rubber superiority over natural rubber.

9. Discovery of the fifth moon of the planet Uranus, with 30-hour orbit.

10. Use of neutrons to explore the structure of matter by production of diffraction pattern photographs.

Science News Letter, December 18, 1948

PHYSICS

Zero Isn't Freezing Point

➤ WATER does not freeze at freezing-point but at a considerably lower temperature. Really pure, clean water, free of particles that might serve as nuclei for starting-points of freezing, does not begin to crystallize into ice at zero Centigrade but at zero Fahrenheit or a little below it.

This upset of one of the standard "facts" of all physics books comes as the result of a series of very carefully conducted experiments in the research laboratories of the General Electric Company.

They are reported in SCIENCE (Dec. 10) by Dr. Robert Smith-Johannsen.

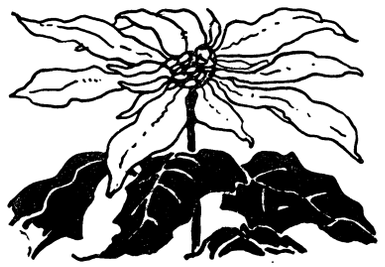
Carefully prepared, absolutely clean water was chilled in a specially built apparatus, and the first formation of ice was detected through the use of polarized light. Four sets of experiments produced first ice at temperatures ranging from 18 to 20 degrees Centigrade below the traditional freezing-point, or from about one-half degree to four degrees below zero on the Fahrenheit scale.

Various powdered substances, ranging from graphite to pepsin, were added to the water as freezing nuclei. Even then nothing was found that would cause water to freeze at the "freezing-point." Most of the powders did raise the freezing temperature of the water, but none got it closer than about seven degrees below zero Centigrade, or approximately 20 degrees above zero Fahrenheit.

Science News Letter, December 18, 1948

BOTANY

NATURE RAMBLINGS by Frank Thone



Poinsettia

➤ CHRISTMAS wreaths and greens are appearing in the shops, and florists are displaying poinsettias. Odd, exotic flowers, from warm lands far removed from the Germanic traditions of our typical Christmas celebrations, nevertheless their bright red flower-heads and shining waxy-green leaves have captivated popular imagination and established themselves as part of the modern Christmas scheme.

To anyone who looks at all carefully at a flower, the poinsettia must be a rather puzzling object. The structure is not at all like that of the flowers we are used to, but looks more like a group of brightly colored leaves on top of a closely-branched twig. As a matter of fact, that is exactly what it is. The red objects that at first look like petals are simply red leaves, very little different, except in color, from the green leaves of the rest of the plant. The real flowers are the tiny, nubbiny, club-shaped objects clustered at the center. The poinsettia, then, is a whole group of small flowers surrounded by a collar of red leaves.

The poinsettia is not the only member of its family that does this sort of thing. Its tribe, the euphorbias, rather make a specialty of surrounding their inconspicuous flowers with showy leaves. The old-fashioned ornamental called "snow-upon-the-mountain", with its striking white-striped leaves at the top of the plant, is another euphorbia.

There is an old-world euphorbia that is prominent in the Christmas tradition of England. This is the famous Glastonbury thorn, reputed to be the staff of Joseph of Arimathea which he planted on the site of the Glastonbury Abbey, and said to blossom only at Christmastide. This is a thorny euphorbia that is plentiful in Palestine and elsewhere in the Mediterranean region.

Science News Letter, December 18, 1948