WATER BOILER REACTOR—This "baby" reactor, designed and built by North American Aviation to run on less than one watt of power, is being used to learn more about reactors. The shielding concrete blocks have been removed to show the tank-line housing where the graphite reflector and core are located.

RADIO-ASTRONOMY

Mysterious Radio Stars

➤ HUNDREDS OF stars in the heavens are hissing at us. Astronomers are not yet certain just what these peculiar, noisy stars look like. Only one or two have definitely been seen with a telescope.

These steady hisses certainly do not come from the nearest or brightest of the stars with which we are familiar. In most cases there are no outstanding stars in the regions concerned. They signal their presence with radio waves rather than with visible light.

Some believe these peculiar stars are black stars, giving out so little light they are invisible. Others picture them as planetary nebulae, with the star in the center of the bright ring of nebulosity broadcasting the microwave radio signals.

Some believe the stars are dwarfs, others think of them as supergiants. But all agree that they are very unstable stars with frequent flares such as are noticed on the sun, but occurring billions of times more often.

Radio astronomers from all over the world gathered in Sydney, Australia, to attend the General Assembly of the Union Radio-Scientifique Internationale. This is the first time an international scientific union has met outside Europe and the United States.

When members met in informal groups, questions such as "What do you think a radio star really is?" and "What theories have your countrymen developed about radio stars?" were frequently heard.

The heavenly static was first spotted coming from the direction of the center of the Milky Way, in the constellation of Sagittarius, the archer. Radio stars also have been located in the constellations of Cassiopeia; Ursa Major, the big bear; and three in Taurus, the bull.

Radio antennas are usually not exact enough, however, to give more than an approximate direction in the sky for a radio star. Thus there are usually many faint stars visible in the radio star's direction.

An exception is the radio noise coming from the constellation of Taurus. Here the crab nebula, inside our own Milky Way galaxy, seems to be beaming broadcasts to the earth. This intriguing nebula is believed to be the expanding remnants of a star which exploded almost a thousand years ago.

Another exception is the radio star in Cassiopeia. This has been photographed as a bright knot in a much more extensive ring-shaped piece of nebulosity. The center of the ring coincides exactly with the radio source.

Radio signals also seem to come from stars outside our galaxy. They have been found to originate in the Andromeda nebula, one of our closest neighbor galaxies and yet almost five billion billion miles away. They also have been detected in three or four other bright spiral galaxies.

Science News Letter, August 23, 1952

GEOGRAPHY

World Areas Declared Capable of Raising Food

➤ GREAT AREAS of the world, capable of raising food by the globe's increasing population, can be farmed when man has conquered the unused lands of the Amazon, Africa and parts of Asia.

Prof. E. H. G. Dobby, British geographer teaching at the University of Malaya, urged that land utilization necessary to increase agricultural production should be given high priority in geographical planning for the future.

Prof. Dobby discussed these problems as guest of Watson Davis, director of *Science Service,* over the CBS Radio Network, in a program devoted to the International Geographical Union meeting.

An extreme shortage of rice, the staple grain of the orient, plagues the Far East at the present time, Dr. Dobby reported.

Science News Letter, August 23, 1952

Do You Know?

Most *lizards* can move each eye separately and probably have keener vision than human beings.

Due to improved freezing techniques, Americans are eating more *berries* now than a few years ago.

In Pakistan, a nation of 80 million people, only four or five *eggs* are available for each person each year.

A single pound of *tungsten* can be drawn into a wire 8.5 miles long, enough to provide filaments for 23,000 60-watt lamps.

The maximum *depth* of Lake Superior is about 1,300 feet; maximums for Lakes Michigan, Huron, Erie and Ontario are about 900, 750, 210 and 750 feet, respectively.