



ARCHAEOLOGY COLLECTIONS—Covering the entire prehistoric period in the Southwest, are the Gila Pueblo archaeology collections, more than 10,000 pieces of pottery, stone, bone, tools and weapons, and other artifacts. The exhibition in the Arizona State Museum has just been opened to the public.

ASTRONOMY

44 New White Dwarf Stars

New discoveries bring to nearly 150 the number of white dwarfs now known. Cubic inch of one such star, brought to earth, would weigh a ton or more.

► FORTY-FOUR NEW white dwarf stars in the southern skies have just been reported by Dr. Willem J. Luyten of the University of Minnesota, Minneapolis. This brings to almost 150 the total number of known white dwarfs, small stars with intensely hot surfaces.

These peculiar stars are noted for their great density. A cubic inch of one of them, if brought down to earth, might weigh anywhere from one to a thousand tons.

These stars are genuine dwarfs in every respect. Some are as small as our moon. They give off relatively little light, which makes them hard to find. It would take about 10,000 of the average white dwarfs to give off as much light as our sun. They shine with a light much whiter than that of the sun, and often even blue in color.

The stars were found by observing on plates borrowed from Harvard Observatory the color of some 16,000 stars that seemed to move around in the heavens more than their neighbors. Most of the stars were red, but some 800 were singled out as definitely

bluer than expected. Further study indicated that 44 were probably white dwarfs, Dr. Luyten reports in the PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES (Oct.).

The first of these stars ever discovered was found because of little erratic shifts in the motion of Sirius, the brightest star in the sky. This star is so small that it is only a little larger than the earth. In volume, it is 40,000 times smaller than the sun, yet within that small space is packed just as much matter as there is in the sun itself. This makes the star so dense one cubic inch would weigh about 2,500 times as much as the same amount of gold.

In these stars astronomers are dealing with matter in the raw. Heated to terrific temperatures, perhaps billions of degrees, all the atoms are "stripped" of their protective covering of electrons. This makes the atoms so much smaller it is possible to "pack" them much closer together.

The discovery and explanation of these stars caused a minor revolution in astronomical thinking.

Science News Letter, December 8, 1951

On This Week's Cover

► STREAKING ACROSS California's sky in the 600 miles-per-hour class is the newest all-weather interceptor, the F-89D, shown on the cover of this week's SCIENCE NEWS LETTER. Nearly as large as World War II medium bombers, its gross weight, including fuel and armament, is over 40,000 pounds. The Northrop Aircraft plane is equipped with rockets, electronic aiming and automatic triggering equipment, enabling the pilot to direct his fire with great accuracy.

PUBLIC HEALTH

Citizens' Committee Plans Helping Hospitals Pay Bills

► NEEDED: A PLAN to help hospitals meet their bills as Blue Cross and similar plans help patients pay their hospital bills.

The rising costs of everything have hit the hospitals, like the rest of us. All of them, except proprietary hospitals, go in the red and must pass the hat at the end of each year to make up their deficits.

With the hope that something can be done about this, so that hospitals can continue to give high quality care at the lowest possible cost to the patient, a citizens committee of 30 national leaders has met in Washington.

They call themselves the Commission on Financing of Hospital Care. Gordon Gray, president of the University of North Carolina and former Secretary of the Army, heads the group.

Science News Letter, December 8, 1951

ZOOLOGY

Frog and Turtle Remnants Of Drier Midwest Long Ago

► THE MIDWEST was much drier 10,000 years ago than it is now. That is the conclusion of Dr. Philip W. Smith of the Illinois Natural History Survey in Urbana from a study of new species of mud turtles and of chorus frogs of western Illinois' sand prairies.

Both these animals have now been found for the first time three to four hundred miles farther east than usual. Dr. Smith considers them survivors of a time when western Illinois was a prairie peninsula. Since both the turtle and the frog are subspecies of animals found on the Great Plains, Dr. Smith believes that the present specimens are remnants of subspecies that were formerly widespread. Dr. Smith reports in the BULLETIN OF THE CHICAGO ACADEMY OF SCIENCES that the frog has been named *Pseudacris streckeri illinoensis* and the turtle, *Kinosternon flavescens spooneri*.

Science News Letter, December 8, 1951