



A GIANT FROM THE INDIAN HILLS

Has found a home in the American Museum of Natural History. He is a huge tortoise (or what remains of one), seven feet, four inches long over the arch of his shell and five feet wide. It is estimated that his live weight was over a ton. He was found, broken in a thousand pieces, in the Siwalik Hills by Dr. Barnum Brown.

ASTRONOMY

Nearest Outer Galaxy Found to Contain 214,000 Bright Stars

SOME 214,000 stars, each at least a hundred times as bright as the sun, along with a gaseous nebula so brilliant that about 15 million suns would be required to rival it, are contained in the Large Magellanic Cloud, according to researches of Dr. Harlow Shapley, just announced at the Harvard College Observatory, of which he is director. The nebula, known as 30 Doradus, is probably the most luminous light source known to exist anywhere in the universe. Among the stars in the cloud is the brightest known, with a candlepower of about a hundred thousand times that of the sun. This is the star S Doradus. A telescope is needed to reveal it, but this is only because of its vast distance.

The Large Magellanic Cloud can be seen only from southern countries, and appears as a detached piece of the Milky Way. Like the Milky Way, it is made of a swarm of stars, but is separate from our own system, or galaxy. It is the nearest of these outer systems of stars, and therefore can be most readily studied. With no great reflecting telescope comparable with those of the northern observatories yet in opera-

tion in the southern hemisphere, a detailed study cannot now be made, Dr. Shapley pointed out. However, photographs made with the Bruce telescope at the Harvard Observatory's station at Mazelspoort, South Africa, permit a preliminary study of some of its general features, and particular study of some of the brighter objects that it contains.

Counting the number of bright stars involved the very tedious task of examining 57,000 separate star images on the plates. This work was performed by Miss Mary L. Miller, of the observatory staff. Twelve typical regions, each covering eight square centimeters on the plates, or about two-ninths of a square degree in the sky, were selected, and a census taken of the stars in them. A total of about one-fourteenth of the whole area of the cloud was examined. One of the most interesting results is that the cloud contains a total of about 26,710 stars brighter than absolute magnitude minus 2, and about 214,000 brighter than absolute magnitude zero. The absolute magnitude refers to the "candlepower" of the star. Actually, an intrinsically faint star often appears bright because it is very close, while a

highly luminous one, like S Doradus, may seem faint because it is so far away.

The absolute magnitude of the sun is 4.85, and the value of the individual steps is such that a star is 100 times as bright as another, when it is five units lower in the scale.

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MEDICINE

Progress Toward Control Of Infantile Paralysis

ALTHOUGH not yet capable of application to human patients, Dr. William B. Brebner of the Washington University, St. Louis, has reported to the American Association of Pathologists and Bacteriologists progress in the understanding of the nature of infantile paralysis or poliomyelitis.

Working with monkeys, the animal that is most closely related to man in its reactions to medical treatments, Dr. Brebner was able to produce immunity against the virus of poliomyelitis by the injection of the virus of the disease directly into the spleen of the animals. This was a purely experimental procedure since an operation, impractical in the case of a human patient, is necessary in order to make the injection into the spleen. However, blood from the immunized monkeys showed resistance to the active virus of the disease and this was taken as an indication that the procedure may prove of some use in suggesting ways of protecting against this disease of childhood.

Physicians expect an increased prevalence of infantile paralysis this summer and fall. At present the only advisable method of treatment is to use serum obtained from the blood of those who have had the disease and who have recovered. Dr. Brebner's experiments will be continued in the hope of perfecting better methods of treatment and control.

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No substitutes have been found for some of the uses of platinum metals.

Periodicity of Sunspots

discovered by

SCHWABE

is the subject of

NEXT WEEK'S CLASSIC OF SCIENCE