

ASTRONOMY

# Star Is Found to Have Mass 23 Million Times the Earth's

## Heaviest Known Eclipsing Double Star Found at Harvard; Larger Part Has Radius of 10 Million Miles

THE heaviest eclipsing double star ever known, 23 million times as heavy as the earth and seventy times as heavy as the sun, has been found by the Harvard College Observatory. Its mass is thus 138,000,000,000,000,000,000,000,000 tons—138 with twenty-seven ciphers after

The star has been known to astronomers for some time as twenty-ninth Canis Majoris, but the fact that it holds a record for weight was unknown until Dr. Sergei I. Gaposchkin of the Harvard staff established this through a study of hundreds of photographs of the heavens taken at the Observatory. The star is a brilliant one and is easily visible to the naked eye as it sits in the southern sky under Sirius, close to the constellation Orion. It is seven thousand light years distant and one of the hottest stars in the sky.

Its diameter is estimated to be more than four thousand times that of the earth.

With the discovery of the great weight of the star, Dr. Gaposchkin has also established for the first time that number twenty-nine is a double eclipsing star, composed of two giant parts revolving about one another and hiding each other at regular intervals. It was this eclipsing property of the star that enabled Dr. Gaposchkin to determine its mass.

Measurements of how long one star is hidden behind the other and of the distance between the two stars were used to determine the effect of the gravitational forces on the bodies and thus to obtain their weight. According to Dr. Gaposchkin's calculations, the larger star of the pair comprising the eclipsing system is forty times as heavy as the sun and has a radius of ten million miles, about twenty-three times that of the sun. The smaller star has a mass thirty times as great as the sun and a radius of seven million miles.

Gravitational behavior of the stars was studied through an examination of the changes in light coming from the stars and of changes in their spectra, all of which were recorded on photographic plates. Although these changes have also been known to astronomers for some time, Dr. Gaposchkin is the first to discover and measure them accurately and thus to complete the data needed to fix the size of the star. Scientists previously have known of only one eclipsing double star with a mass even close to that of number twenty-nine. This star, AO Cassiopeiae, found in the constellation of that name, is composed of parts nearly equal in weight, neither of which, however, is as massive as the greater star in number twenty-nine. AO Cassiopeiae is barely visible to the naked eye.

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### Lazy Legatees

HOW LAZILY contented we are, with the inheritance we have received from our ancestors of the New Stone Age!

With hardly any important exceptions, all the cultivated plants, all the domesticated animals, practically all the arts and applied sciences we have (excepting only those dependent on metals) were discovered and developed by men we would patronizingly call savages, or at most barbarians, if we could make their acquaintance today.

Yet the woods and fields are full of wild plants, many of which are at least as good as the wild fruits, the wild grains, the wild vegetable crops which our less favored forebears first used as they found them, then cultivated in practically their original forms, and finally improved to something approaching their modern states of excellence.

The wild cherries of Eurasia, for example, are no better for either size or flavor than the wild cherries of America which we reject in their present state as too sour, or bitter, or acrid, and which we do not care to take the trouble to improve by selection and breeding. Similarly we neglect our wild crab-apples.

Our wild plums are as good as many a cultivated variety, just as they grow. We do gather them, a little, but as for trying to breed them up for better size or higher disease resistance—no, we stick to the Old World varieties that some Stone Age tribal wise man started on the road of betterment. At most, we condescend to admit native species to miscegenous matings, to produce

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