



planets, to move in their accustomed orbits without any crowding. Even Mars would be some 53,000,000 miles from the surface, for the diameter of Antares is 390,000,000 miles, or 450 times the diameter of the sun.

The diameter of Antares was measured a few years ago at the Mt. Wilson Observatory, in California, by F. G. Pease, using the stellar interferometer, an instrument invented by the late Prof. A. A. Michelson, famous physicist of the University of Chicago. This instrument was used in conjunction with the 100-inch telescope, the largest in the world, and consists of a beam twenty feet long, fastened to the end of the telescope. Upon this beam slide two mirrors, which reflect the star light to the center of the beam. Here two more mirrors reflect the light down into the telescope. Under these conditions, most stars appear as discs, crossed by dark bands. This is due to interference, when the waves in the two beams of light come together at certain places so as to reinforce each other, and at other places so as to cancel each other.

New Interferometer

As the two sliding mirrors are moved apart, the dark bands begin to disappear, and at a certain point they vanish completely, only to reappear if the mirrors are moved still farther apart. From the distance of the mirrors, the astronomer can calculate the star's diameter. For most stars, the critical distance of the mirrors is far greater than twenty feet, so that only a few are within the reach of the twenty-foot interferometer, practically all of which have been measured, with Antares coming out with first honors. But there has now been completed at Mt. Wilson a new interferometer, with a beam fifty feet long, and with this, it is believed, perhaps a dozen or so additional stars can be measured.

Possibly one of these may turn out to be even larger than Antares.

Two planets will appear in the evening sky during July, though one will be visible for only a few days. This is Mercury, which will be seen low in the western sky about July 20. Mercury is so close to the sun that it is never seen far away from that body, and it moves so rapidly that it never stays in the same part of the sky very long. Very different, however, is the other planetary attraction for this month. This is the planet Saturn, most distant from the sun of all the naked eye planets. It is in the constellation of Capricornus, in the southeast, below Aquila. Its steady light helps one to distinguish it from a star, which is continually in scintillation. It is of the 0.3 magnitude, not quite as bright as Vega, but brighter than any of the other

stars now visible. Saturn is one of the most interesting of all the planets, for it is the one provided with the remarkable system of rings. During the coming months it will come into better position for viewing in the evening, and will be considered in detail a little later in this series of articles.

The earth during July reaches aphelion, that is, the position farthest from the sun. This happens on July third, when we are about three million miles farther from that body than we were last January. The phases of the moon during this month are as follows. On July 3 it is new, on the 10th it is at first quarter, directly south at sunset, on the 17th it is full, and visible all night, while on the 26th it is at last quarter, when it rises at midnight. Thus, from about the 7th to the 20th, will be moonlight evenings.

Though it will not happen until the 31st of next month, August, astronomers have now begun to get ready for the total eclipse of the sun which will be seen on that date along a path crossing parts of Quebec and the states of Vermont, New Hampshire, Maine and Massachusetts. It will happen about 3:30 p. m., eastern standard time, so it should be a good opportunity to see this rare and magnificent natural spectacle. Not until 1970 will another be seen from the United States. Details of this important event will be given in next month's article.

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ARCHAEOLOGY

Indians Ate Red Peppers Nearly a Thousand Years Ago

RED PEPPERS, such as the housewife uses in making salads and pickles, were part of the bill-of-fare of Southwestern Indians nearly a thousand years ago. That these hot dainties tickled Pueblo tongues centuries ago has been proved for the first time by the discovery of a lot of pepper seeds, buried four feet beneath the present ground level in the ruins of Mattocks pueblo, thirty miles east of Silver City, N. M., on the Mimbres river. The find was made by Paul H. Nesbitt, curator of the Logan Museum of Beloit College.

The seeds were identified by Dr. Melvin R. Gilmore of the University of Michigan Museum, a specialist on the

botany of ancient Indian food plants. Dr. Gilmore said of the present find:

"This is so far the first specimen of this species of plant to come to hand. Although an American plant it is scarcely known in the wild state. It is much used in Yucatan as well as Mexico for flavoring food. This is the first example to come from the Southwest."

The position and arrangement of the seeds as found indicated that they had been in a bunch of peppers hung up on a rafter to dry. The bunch had fallen to the floor, and the pods disintegrated.

The find belongs to the Indian archaeological period known as Early Pueblo III, dated at about 1000 A. D.

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