

# Mars, Ruddy Planet, Closest to Earth This Month

By JAMES STOKLEY

Since last spring Mars has been approaching the earth, but so far has only been visible as a morning star, in the eastern sky before sunrise. This month, and better still in the coming months, it will be conspicuous in the eastern evening sky as a brilliant red object.

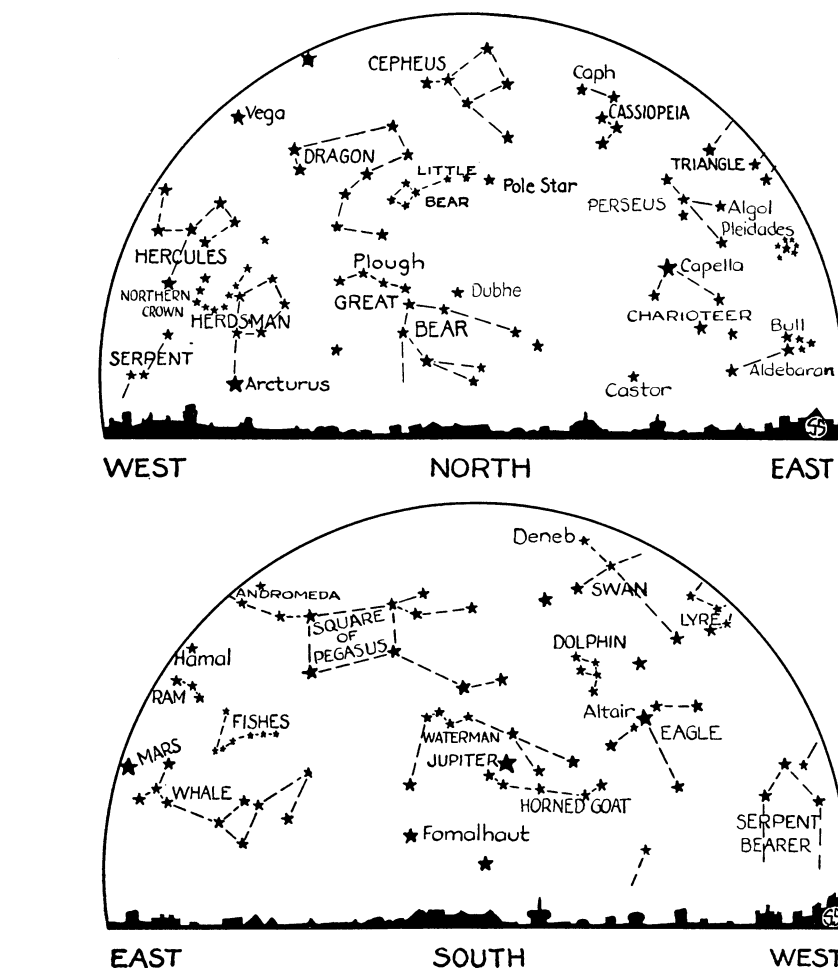
To those who watched Mars in the summer of 1924, it now comes as an old friend returning after many wanderings. On the 27th, when it will be closest, it will have more than completed an entire circuit of its orbit, traveling more than a billion miles, since the night of August 22, 1924. In the same time, the earth will have traveled more than a billion and a quarter miles in its orbit.

Last September, when Mars was on the side of the sun directly opposite the earth, the two planets were farthest apart, over 230,000,000 miles separating us from each other. But on the 27th of October, it will be but 42,624,200 miles from us, farther than in 1924, but better for astronomical observation, despite the additional distance because earth's atmosphere absorbs light.

Stars, and planets likewise, appear fainter and more unsteady when they are near the horizon. This autumn Mars will be considerably higher in the sky for observers in northern countries than it was in 1924; and as most of the world's observatories are located north of the equator, the planet will be better situated for observation, though its distance is about 25 per cent greater than in 1924.

Of most popular interest when we speak of Mars are the so-called "canals." Discovered in 1877 by the Italian astronomer Schiaparelli, they have since been a bone of contention among astronomers. But in 1924, at the great Lick Observatory of the University of California, situated on Mt. Hamilton, near San Jose, California, Dr. R. J. Trumpler watched the planet with the thirty-six inch telescope and was well rewarded for his pains. He made many drawings of the canals and what he saw was verified by Prof. W. H. Pickering, at the branch station of the Harvard College Observatory at Mandeville, Jamaica.

A photograph is often accepted in a court of law as the best possible evidence, and when one sees a photograph of the "canals," it would seem that there is no further question of



These two maps show the principal constellations that are visible in October. Face north or south, and hold the map in front of you, and it will show the stars as they appear in the sky.

their existence. But the best photograph of Mars that has ever been made shows but a small fraction of the detail that can be perceived by a trained observer, when looking through a powerful telescope.

One reason for this is the red color of the planet. When a photograph is made of Mars, the exposure must be very much longer than if the planet were blue, a color which has a greater effect on the photographic plate. While the exposure is being made the planet moves slightly, but this does not produce as serious an effect as the atmosphere of the earth. Continually in motion, the layers of different temperature in the air bend the rays of light from the planet first one way, then another, so that sometimes the edge of the object is sharp and distinct, and the next moment it seems to "boil."

When an experienced observer looks at such an object, the occasional glimpses that he gets when the "seeing" is good, suffice to give him an

accurate idea of the general appearance. The plate, however, can not select the most favorable moments, but must take the combined appearance over a period of at least several seconds.

Despite these difficulties, E. C. Slipher, at the Lowell Observatory at Flagstaff, Arizona, has succeeded in recording them on the photographic plate, and Dr. Trumpler, at the Lick Observatory has also made pictures which reveal them. This does not necessarily prove them to be artificial, and the general idea is that they are due to some unknown, but natural cause.

As for the other planets, Jupiter is the most conspicuous in the evening sky, for it is still the brightest object, next to the moon. Saturn has descended so low in the east that it is barely visible just after sunset, and soon it will vanish from our sight until next year. Venus is visible as a morning star.

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