

## ASTRONOMY

## South Africans Take Many Pictures of Mars

### See Front Cover

► The photographs of Mars shown on the right and on the cover of this week's SCIENCE NEWS LETTER were taken during the recent close approach of the planet to earth by Dr. W. S. Finsen and an assistant at the Union Observatory, Johannesburg, Union of South Africa.

They are black and white blow-up prints made from 16mm. color movie film.

The first two at right show the gradual diminishing of the south pole cap with the approach of the Martian summer. They also show the apparent increase in size of the planet as it drew closer to the earth, from 44,000,000 miles on July 31 to 36,000,000 miles on Aug. 26.

To estimate the size increase, the marker dots on each side can be used as reference points, since the space between them is uniform. The dots form a horizontal axis.

The south pole cap points upward because the image of an object is reversed in a telescope.

The third photograph at right was taken on Aug. 30 when Mars was 35,500,000 miles away, very close to its minimum distance from the earth during 1956. It shows the last stages in the disappearance of the pole cap.

These black and white photographs do not show many of the interesting features and changes from night to night seen in the color versions. The white areas can be the polar cap, light orange markings on the surface, or yellow and other clouds above the surface.

Dr. Finsen photographed what appeared to be a yellow cloud moving across Sinus Sabaeus. (See SNL, Sept. 15, p. 165.)

The cover photograph was taken the night of closest approach, Sept. 7, Greenwich time, when Mars was "only" 35,120,000 miles away. It shows the presence of large masses of yellow clouds in the Martian atmosphere, obscuring much of the permanent surface markings. Through a gap in this cloud formation, Syrtis Major and part of Sinus Sabaeus are visible.

The best opportunity for studying Mars is near opposition, when earth is roughly between the sun and the planet, and when it crosses the meridian near midnight. Favorable oppositions occur in pairs, separated roughly by two years and two months, at intervals of about 15 years. (See SNL, June 30, p. 407.)

Dr. Finsen and his assistant used the 26 and one-half inch refractor at the Union Observatory to make these and hundreds of other photographs.

Dr. E. C. Slipher of Lowell Observatory, Flagstaff, Ariz., traveled to South Africa both this year and in 1954 to use the 27-inch refractor of the Lamont-Hussey Observatory at Bloemfontein for taking pictures of Mars.

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