

Oct. 6

? WHY THE WEATHER ?

By Dr. Charles F. Brooks
of Clark University.THE CLIMATES OF MARS

If one of us took a trip to Mars to visit the Martians, whom, we are now told, do not exist, we should find their climates very much like ours, yet strikingly different in some of their phases. The sun would rise and set much as it does on earth, and the days would be about as long as here. Though the sun would look only half as big as it does to us, its rays would, nevertheless, be intense, for the Martian atmosphere is much thinner and less cloudy than the earth's. Of the sunlight that reaches the outer atmosphere of the earth some 44 per cent is lost by reflection. For Mars the loss by reflection is but 15 per cent. The days, therefore, are comfortably warm, at least in summer. Recent observations of radiation from Mars indicate a temperature of 48 degrees Fahrenheit. The nights, on the other hand, probably have a chill that we experience only in the clearest weather, for, owing to the thinner atmosphere, the loss of heat by radiation is rapid. Radiation from the morning side of Mars is appreciably less than that from the afternoon side.

The Martian seasons and climatic zones would be found much like ours, though the seasons would be more extreme, being nearly twice as long as those here, and the climatic zones would be half as wide as ours and rather more contrasted. Astronomers see an ice cap spreading over the northern hemisphere with the approach of winter, while that capping the South Pole is diminishing. Their radiometer observations show that the northern hemisphere is now colder than the southern, where summer is now advancing.

Clouds would not be seen so often as on earth, and they would be less dense. Storms would be less intense, and rainfall lighter, for there is less water vapor, and far weaker gravity and thinner air than on earth. The large temperature contrasts, however, probably make Mars generally rather windy. If the visitor to Mars could find a seaside resort, and was prepared for great changes in temperature from day to night and summer to winter, he might enjoy a vacation there, if he brought enough food, water, and oxygen with him.

(Tomorrow: Waterspouts)

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