Paper on "The climate of Mars and the possibility of organic life thereon."

By Rev. A. C. Ridsdale, M.A., F.R.A.S., etc.

The mean temperature at the surface of Mars used to be thought to be ten degrees above zero, taking into account the rapidity of the equinoctial melting of the polar caps. Although this mean temperature is much below that of the Earth, which is 16 degrees above zero, it would not be inconsistent with the existence there of protoplasm, or even with living beings analogous to those on the Earth. Recent spectroscopic discoveries, however, seem to have disproved the possibility of such life on other grounds. For the spectroscope has shown that the lines of vapour-absorption on identical with those of the Moon. This proves that mass processes practically no vapour, not more than 0·4 grammes per cubic metre, when the Sun is in the zenith. This can only be explained on the supposition of an extremely low temperature, which (even if we admitted the possibility of a humidity equal to that of our deserts) could not exceed 17 degrees below zero, as the diurnal mean temperature. The poles of the planet, where insolation persists for long periods, are probably the warmest regions of the planet. Here the temperature may possibly rise at times above zero, and thus allow of a painful life to some beings, possessed of rapid development, and anti-cold resisting power.

Note on "The Angle of depression of the Horizon."

By Rev. A. C. Ridsdale, M.A., F.R.A.S., etc.

A large number of measurements have lately been taken from a point 38·78 metres above the Medeterranean, in order to find the angle of depression. The mean being 11 minutes 46 seconds, the minimum 8 minutes 30 seconds and the maximum being 16 minutes 30 seconds, the difference between the minimum and maximum can then reach 7 minutes. If we eliminate for refraction, in accordance with the well known formula tangent inclination of

$$\text{depression} = (2e/R)^{\frac{1}{2}}.$$

where e = elevation of the eye.

and R = Earth's radius, we get 12 minutes as the result.