

What is the Physical Condition of Sun's Interior

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THE telescope reveals the Sun's exterior as of a mottled appearance, suggesting the idea of clouds. And the rapid changes that apparently take place at the Sun's bounding surface lend support to the view that what we see is of a volatile atmospheric nature. The spectroscope informs us that the Sun's exterior is composed of metallic and a few non-metallic substances in a gaseous state, chiefly iron, calcium and hydrogen. No doubt the formation is due to the partial condensation of the hot gases escaping upwards into the cooler regions at the surface. But the question as to the condition of the Sun's interior is a much more difficult one. W. Herschel held the truly extraordinary opinion that the interior of the Sun was a solid, and that the photosphere acting as a shield against the heat of the Sun's exterior, rendered the solid globe within fit for habitation! Since it has become recognized that the Sun's interior is at least as hot as its exterior, the view has generally prevailed that its interior must be composed of matter in a molten condition. It is, however, scarcely possible to regard the Sun's interior either as a solid or a liquid, for even at the cooler surface the most refractory metals are found in a gaseous state. It used to be thought that the enormous pressure that prevails towards the Sun's centre would reduce the gases to a liquid condition, since laboratory experiments proved that any gas can be liquified, if sufficient pressure be employed. But Andrews proved a few years ago that at certain critical temperatures gases resist liquification. Hence we cannot as yet tell what is the actual condition of the Sun's interior.

The Climate of the Planet Mars

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It has become the fashion now-a-days to speak of the climate of Mars as worse than arctic in character, and its surface as a succession of "bleak arid deserts over which the rays of the Sun would seem to struggle in vain to mitigate the blasting