

**SUNSPOTTERY: OR, WHAT DO WE
OWE TO THE SUN? A POPULAR
ACCOUNT OF THE SPOTS ON THE
SUN, THEIR PHENOMENA,
NATURE, AND CAUSE**

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Sunspottery: or, What do we owe to the sun? A popular account of the spots on the Sun, their Phenomena, Nature, and Cause by J. A. Westwood Oliver

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J. A. WESTWOOD OLIVER

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165



SUNSPOTTERY:
Or, What do we Owe to the Sun?

A POPULAR ACCOUNT
OF THE
SPOTS ON THE SUN,
Their Phenomena, Nature, and Cause:

WITH AN INQUIRY
INTO THEIR ALLEGED INFLUENCE UPON
**THE WEATHER, FAMINES, PESTILENCES
COMMERCIAL PANICS, &C.,**

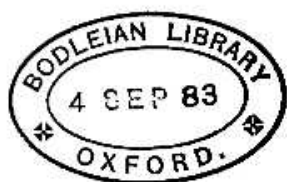
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SUNSPOTTERY :

OR, WHAT DO WE OWE TO THE SUN?



PREFACE.

THE following pages are intended to convey to the public a general notion of the new science of Sunspottery. By some its importance has been unduly exaggerated; by others its value has been unreasonably depreciated; and much squabbling has resulted. The writer being of neither party, he hopes to give the reader an impartial view of the subject.

J. A. W. O.

LONDON, MAY, 1883.



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"The sun's rays are the ultimate source of almost every motion which takes place on the surface of the earth. By their heat are produced all winds, and those disturbances in the electric equilibrium of the atmosphere which give rise to the phenomena of lightning, and probably also to those of terrestrial magnetism and the aurora. By their vivifying action vegetables are enabled to draw support from inorganic matter, and become, in their turn, the support of animals and of man, and the sources of those great deposits of dynamical efficiency which are laid up for human use in our coal strata. By them the waters of the sea are made to circulate in vapour through the air, and irrigate the land, producing springs and rivers. By them are produced all disturbances of the chemical equilibrium of the elements of nature, which, by a series of compositions and decompositions, give rise to new products, and originate a transfer of materials. Even the slow degradation of the solid constituents of the surface, in which its chief geological changes consist, is almost entirely due on the one hand to the abrasion of wind and rain, and the alternation of heat and frost; on the other, to the continual beats of the sea waves, agitated by winds, the results of solar radiation. Tidal action (itself partly due to the sun's agency) exercises here a comparatively slight influence. The effect of oceanic currents (mainly originating in that influence), though slight in abrasion, is powerful in diffusing and transporting the matter abraded; and when we consider the immense transfer of matter so produced, the increase of pressure over large spaces in the bed of the ocean, and diminution over corresponding portions of the land, we are not at a loss to perceive how the elastic power of subterranean fires, thus repressed on the one hand and relieved on the other, may break forth in points where the resistance is barely adequate to their retention, and thus bring the phenomena of even volcanic activity under the general law of solar influence."

—*Sir John Herschel.*