Ted Underwood. *The Work of the Sun.* New York: Palgrave Macmillian, 2005. Pp. 240. ISBN 1-4039-6599-4

Ted Underwood's *The Work of the Sun* argues a unique and overlooked view of sun-energy animating nature, work, and economy in the late-18th and early-19th centuries. It merges a variety of literature on science, economics, and fiction to illustrate the ubiquitous relation of sun-energy on material transformation. Drawing upon a wide array of writers of the period, such as James Hutton, Joseph Priestley, Erasmus Darwin, Humphrey Davy, Herbert Spencer, David Ricardo, John Stuart Mill, Karl Marx, William Blake, William Cowper, and William Wordsworth, Underwood by and large sustains his study's premise.

Commencing with an overview of scientists interested in the sun's energy as relating to the production of oxygen and life animation, the text affords a well-developed insight into Joseph Priestley's and Antoine Lavoisier's observations of the transforming powers of "phlogiston" or "factitious airs" (*vital airs*) through respiration. Priestley's and Lavoisier's investigations intersect with prominent medical and non-medical scientists of the period, such as Thomas Beddoes and Humphrey Davy, who in turn greatly contributed to the understanding of human energy, mechanical force, and work.

Underwood offers compelling and convincing textual examples to his readers, revisiting leading scholarship concerning moral and social reform grounded in reason and the period's natural sciences, such as that of Marilyn Butler, Nicholas Roe, Jerome McGann, and Paul Keen. In his treatment of the growing popularity of Deism, Protestant dissent and social reform, Underwood cites numerous examples of how perceptions of sun-energy gains popularity, entering the public sphere through writers who saw it as a self-powering activity of individual and social perfectibility. His illustrations of the fraught theological and political polemics of the 1790s demonstrate the importance both conservatives and radical-reformers placed on the emerging scientific understanding of sunlight and energy towards moral conviction and social organization. Conservative satirists relied heavily on light imagery in works such as *The Loves of the Triangles* (1798) and *Anti-Jacobin* (1797-1798) to vilify radical-reform writers use of sun-energy, economy, and moral perfection, such as Erasmus Darwin's *Loves of the Plants* (1789), Richard Payne Knight's *Progress of Civil Society* (1796), as well as the many works of first and second generation Romantic writers.

The study's chapter on William Cowper's *The Task,* though lengthy with textual examples, is somewhat less compelling in its textual support of sun-energy relating to social progress than preceding chapters. It does, however, satisfactorily argue Cowper's widely read influence on religious sentiment and numerous examples of labour born of sun-energy. *The Task*, as Underwood demonstrates, is a rectification of social tensions relating back to agriculture: a natural spontaneity of rural labour's "no toil," as Cowper suggests, boundless as sun-energy itself and constant in wealth creation through its application to land.

Further, Underwood illustrates the influences of emerging Brunonian medical science, Lavoisier's "flame of oxygen," and Davy's "Elements of Chemical Philosophy" on the various works of Romantic writers, such as William Wordsworth and Percy Bysshe Shelley (pp. 142-150). Wordsworth's "protean universality of natural force" extols a "propertylessness" connection to all natural existence in *The Excursion* (pp. 111-113), and Percy Shelley's portrayals of Greek mythology, especially that of Apollo's and Prometheus's *light and fire*, advances reform as a diffuse symbolism of liberty and social progress informed by science.

Underwood's concluding chapters survey energy's *fluidity* on the thought of economists like David Ricardo and Karl Marx, marking capital accumulation as an appropriation of nature by industry and human labour which transfigures social mores (especially child labour) through indifferent conditional right(s) of property (pp. 121-127). Likewise, caloric energy measurements by French and English engineers lay the basis for mechanical efficiency and Utilitarian philosophy, which in turn, underscore the latent energy in *living machines* echoing such economic expositions as Ricardo's *origin of value* and JS Mill's and Marx's *productivity of energy* in labour (pp. 167-183).

In sum, although Underwood's study may have benefited by the inclusion of other prominent scientific figures of the era, especially those working on electrical and biochemical connections between inorganic and organic matter such as Volta, Galvini, Franklin, Helvitius, and d'Holbach, (signaling the monism known to Anaxiamander, Pythagorus, Zeno and Socrates), the book's sun-work premise remains both novel and convincing. Underwood's elaborations of 19th-century *productivism* of sun-energy in terms of WB Carpenter's illustrations of sunlight converting to phyto-chemical potential in plants as heat in animal bodies and coal fires, as well as John Tyndall's demonstration of light's multifaceted interconnection to the *first law of thermodynamics*, clearly foreshadow later 20th-century theories such as Albert Einstein's theory of relativity on the mutual convertibility of matter and energy.

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