called physiography or elementary science. And if the new name only frees us from the old, technical, dry-as-dust type of physiography so loved by the instructors of twenty years ago, it is sufficient. But it does more. It gives latitude for individual eccentricities of environment so that Atlantic City children may study their ocean and Paterson youths their automobiles, and who shall say that either has missed the lesson, if both have learned to do their own thinking and discovered something of vital interest to themselves?

THE ELECTRON THEORY OF VALENCE.

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In the May, 1916, number of SCHOOL SCIENCE AND MATHEMATICS, there appeared an article by Robert W. Boreman on "A Few Theories of Modern Chemistry," in which the author took to task the term, "oxidation." It is certainly true that this term is no more of a philological model than its parent, "oxygen;" but when we point an accusing finger at the latter term, the spirits of Scheele and Priestly moan, and the ghost of Lavoisier forbids!

Oxygen is no longer the "acid producer," and oxidation has long since come to signify a positive increase of valence, whether the element, oxygen, be present or not.

My purpose is not to criticize Mr. Boreman's article, but to reemphasize the great value of the electron theory of valence in considering oxidation and reduction. When Berzelius and Davy proposed their electrical theory of valence, they unfortunately incorporated with it the untenable proposition that the valence of an element must always be one and the same. In spite of that fact, the theory found a good deal of use in some quarters. For example, the topic, "Equations, Rule for Balancing," in Prescott and Johnston's *Qualitative Chemical Analysis* illustrates such use. By reading the word "electron" where "bond" is written, that topic becomes one with which every teacher of chemistry should be thoroughly familiar. For those that are interested still farther, an article by Nelson, Beans, and Falk¹ may be suggested.

When the theories of chemistry come to be seen in a wider perspective, the ionic hypothesis will appear as a corollary to the electron theory of valence.

¹ See *J. Am. Chem. Soc.* 35, 1810 (1913).