used and advocated these and other improvements. And Wordsworth might have known, too, of the then recent rise of the new shorthand, Isaac Pitman's Phonography (1840). Pitman established the *Phonetic Journal*, and collected a large following. Soon there were many shorthand authors in the field, who, in connection with the propagation of shorthand, advocated a phonetic or a simplified spelling—Ellis (1844), Bell (1852), E. J. Jones (1862), Everett (1877), and others in England; Andrews and Boyle (1845), Longley (1849), Graham (1854), Ben Pitman (1855), Lindsley (1864), Munson (1867), Scoville (1871), Cross (1877), and others in the United States.

If those elder men had not thus wrought in a sad sincerity, the structure of the English language and of English literature would have been less round and goodly than it is now. By the labors of the later reformers, the idea of improvement in spelling and in language was brought to the serious attention of thousands of persons who were led to study the subject in a scientific way. The agitators kept the traditional spelling from absolute stagnation, compelled its defenders to receive an idea now and then, and thus held the way open for the more scientific attempts that followed.

One of the results of the increased interest in phonetic knowledge was the movement conducted by Sir Charles Trevelyan, in coöperation with Dr. Duff and other missionaries in India, to establish, upon the basis laid by Sir William Jones, a uniform Roman transliteration of the Sanskrit, the Hindi, the Hindustani, and the other languages of poly-alphabetic India. This effort resulted in the transliteration which now prevails, and which is undergoing additional regulation in the hands of the philologists interested. Connected with this was the movement among the missionary boards of England and America to establish something like a universal phonetic alphabet for missionary use. This movement resulted in the publication of Lepsius's "Standard Alphabet" (1855; second English edition, 1863), and of Max Müller's "Languages of the Seat of War in the East" (1854; second edition, 1855, with the "Missionary Alphabet").

To the same impelling cause, the desire for a more accurate knowledge and use of the English language, in its written and printed forms, the world owes it that Alexander J. Ellis turned the resources of his acute intelligence and his liberal mind to the scientific study of English phonetics. Ellis published the results of his studies in several books and pamphlets, and especially in his great work, "On Early English Pronunciation, with Especial Reference to Chaucer and Shakespeare" (five volumes, London, 1869-1889). With the name of Ellis is linked the name of Alexander Melville Bell, inventor of "Visible Speech" (1867), the first set of alphabetic symbols formulated upon an intelligible system. Another name great in these fields of research is that of Henry Sweet, who has, by his works in phonetics and Anglo-Saxon, made all scholars his debtors. The impulse of these earlier movements (1840-1860) was felt by a young American scholar, William D. Whitney. He dealt with phonology in his philologic lectures, revised Lepsius, and presented a modification of the European alphabet which was the basis of many subsequent essays and proposals. The same zeal for scholarly reform seized another young American scholar, destined to become no less eminent, Francis A. March, who devoted himself, amid excursions into philosophy, literature, and law, to the scientific study of the English language in connection with the other languages of the Indo-European family, the results of which appeared in his "Comparative Grammar of Anglo-Saxon" (1869), and in his "Method of Philological Study of the English Language" (1870), and other works, all bearing the marks of a great and lucid mind. Another American scholar, Prof. Samuel S. Haldeman, was one of the first to state the facts of Latin pronunciation ("Elements of Latin Pronunciation," Philadelphia, 1851). This brilliant and versatile man applied the scientific principles which he had discerned to the composition of several works of instruction, whose value has never been sufficiently recognized: "Analytic Orthography" (1860), "Affixes to English Words" (1867), "Outlines of Etymology" (1878).

It was the declaration of these scholars, and of their colleagues, Trumbull, Packard, Child, Lounsbury, Price, and others in favor of a scientific regulation of English spelling, that led also to the formation of a committee of the American Philological Association (1875), which in successive reports laid down the principles of such a reform, and recommended in detail the steps to be taken. The American Spelling Reform Association was formed in 1876 to keep up and guide the agitation, to inform the public, and to secure recruits. A similar agitation was carried on in Great Britain. The leaders there had been zealous in the effort to bring to light the long-hidden records of the English language before the time of Shakespeare. The indefatigable Dr. Furnivall founded the Early English Text Society, the Chaucer Society, the New Shakespeare Society, and other printing clubs, and, seconded by Morris, Skeat, Murray, Sweet, and others rescued from oblivion a large part of the records of the English language for a period of a thousand years. And now we know, or can learn, accurately, what the English language was, what the words were, how the words were spelled and pronounced, and what they meant, in the long period from the Saxon and the Norman conquest to the time of Shakespeare. And the world now has access, among other works of the new learning, to the great "Oxford English Dictionary," in which the facts of the language are recorded with wonderful accuracy and fulness.

"What has become of these attempts?" That is part of what has become of them. And who made these attempts? Who brought about these results? They were William D. Whitney, James Hadley, Francis J. Child, Samuel S. Haldeman, Richard Morris, and other great scholars who have ceased from their labors. They were Francis A. March, Frederick J. Furnivall, Walter W. Skeat, James A. H. Murray, Thomas R. Lounsbury, and others, who, as members of the Simplified Spelling Board, are still working at the same problem, now at length in the sure and certain hope of practical success. With them are working scholars and men of letters of the younger generation, some of whose names are well-known to the public. With them are working the university professors to the number of nearly three thousand, and the teachers in public schools to the number of many more thousands, who have signed the agreement to use the simplified spellings, and are advocating the idea and teaching the facts that underlie it.

Information on this subject may be had by writing to the Simplified Spelling Board, No. 1 Madison Avenue, New York.

CHARLES P. G. SCOTT.

New York, October 12.

THE WORK OF GEORGE W. HILL.

TO THE EDITOR OF THE NATION:

SIR: I am sorry to see the *Nation* promulgate so inadequate an idea of the work of George W. Hill and other investigators like him in celestial mechanics, as it does in the issue of October 17. In substance the statement is that the science of planetary and lunar theory, which once represented the highest climbs of scientific intelligence, is to-day reduced to an art of performing excessively intricate calculations. You then imply that the performance of these calculations is all that the class of men of whom you are treating have to do, and you naturally see very little interest in it from the standpoint of philosophy or of positive science. Now, if you will slightly change your wording, and say that through the labors of a series of investigators from the time of Newton to that of Hill the theory in question is being reduced to an art of performing intricate calculations, you will hit the truth. What gives significance to the work of Hill and those in the same field is not their patience in performing calculations, but their ability to show how it is possible, by calculations within the power of one man, to reach results which would have required the labor of many lives if the methods had not been invented. Any good computer, under capable supervision, can make the intricate calculations. It is the method that costs. SIMON NEWCOMB.

Washington, D. C., October 17.

[By calculations, we did not mean numerical computations. Professor Newcomb expresses, as his own dictum, what we intended to say. We have already done justice to Dr. Hill's mathematical invention; but there is little of that in the fourth volume, which we had under examination.—THE REVIEWER.]

Notes.

After her death, in 1906, Madame Jessie White Mario's reminiscences came into the hands of T. Fisher Unwin for publication. There has been some delay in preparing them for press, as the MS. required careful editing by some one familiar with the Risorgimento. The Duke Litta-Visconti-Arese has now undertaken this difficult task, and we may expect to see the memoirs in type within a reasonable period.

Gaillard Hunt, of the Department of State, Washington, has undertaken the collection and editing of the papers of Elihu B. Washburne, secretary of state and minister to France, and of his brothers, and