

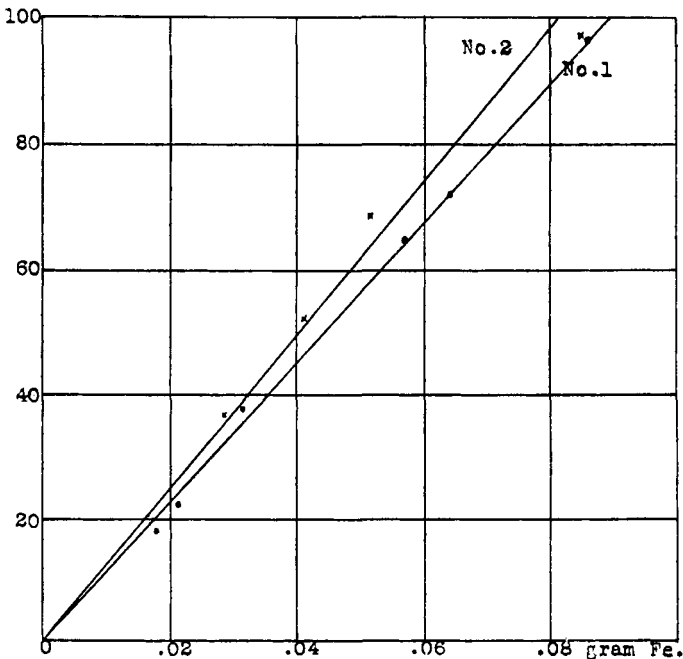
is therefore quite possible that some atomic transformations may occur which do not show radioactive phenomena, the initial velocity of the α -rays being, in such cases, below the minimum. Such change might occur at rates far greater than that of uranium and still be impossible of detection in the course of a lifetime by gravimetric or even probably by spectroscopic methods, since in the case of uranium the rate of change is so slow that no more than 0.001 per cent. disintegrates in 10,000 years; and yet the ionization method of recognizing α -radiations is so surpassingly delicate that one may detect with certainty the activity due to a single milligram of uranium in any form of combination!

In conclusion, it may be said that while the work of the 19th century produced abundant and varied evidence that between the elements there exists the most intimate interrelationships, the researches of the past few years of this new century have shown the fundamental significance of these relationships and lead us to the conclusion that the elements may no longer be considered immutable; that matter is probably of but a single sort, of which our commonest elements represent the more stable forms, which have resulted from a process of natural evolution.

UNIVERSITY OF CHICAGO.

CORRECTION.

Plot and footnote omitted by mistake from article on "The Corrosion of Iron and Steel," by W. H. Walker, A. M. Cederholm and L. N. Bent, in September number of this Journal, 1907. The plot should be inserted to



accompany page 1260 and the footnote¹ added to "2" at bottom of page 1255.

Plot showing the relation between speed of corrosion of iron in water and the partial pressure of the oxygen in the carbon-dioxide-free atmosphere.

EXPERIMENTAL DATA.

No. 1.		No. 2.	
Percentage oxygen.	Grams iron dissolved.	Percentage oxygen.	Grams iron dissolved.
18.2	0.018	20.0	0.017
21.8	0.021	37.1	0.029
28.0	0.031	52.2	0.041
64.5	0.057	68.7	0.055
72.1	0.064	97.2	0.085
97.0	0.086

¹ Concerning the passivity imparted to iron by chromates, see A. S. Cushman, Bulletin No. 30, Office of Public Roads, U. S. Department of Agriculture.

NEW BOOKS.

An Elementary Study of Chemistry. By WILLIAM MCPHERSON AND WILLIAM EDWARDS HENDERSON. Revised edition. viii + 434 pp. Ginn & Company, Boston. (No date on title page.) Price, \$1.25.

This is an important book for it is manifestly destined to be widely used in high schools and small colleges and thus to have much influence upon education in chemistry. In the preface the authors say "they have made a consistent effort to make the text clear in outline, simple in style and language, conservatively modern in point of view and thoroughly teachable." It is a pleasure to be able to offer congratulations upon the good measure in which these aims have been attained.

The elementary facts of descriptive chemistry, chosen with admirable judgment, are presented clearly and interestingly. Even in the latter part, treating of the metals and their compounds, material apt to condense itself to a tedious catalogue of substances and properties, interest is well kept up by judicious interpolation of applications and short digressions. The simplicity and directness of the language and its hold on the attention remind one of Professor Remsen's texts.

The treatment of the theories is less praiseworthy. The atomic theory is stated on page 62, immediately following the law of multiple proportions. The reviewer believes this theory should be reached cautiously and laboriously through not only the laws of definite and multiple proportions by weights, but also Gay Lussac's law of combining volumes and Avogadro's molecular theory. These latter subjects are not considered until pages 194 and 226 respectively.

The authors do not insist enough upon the uncertainty inherent in all theories. On the contrary they repeatedly make the serious mistake of using theory as solid, rock-bottom fact upon which to build.