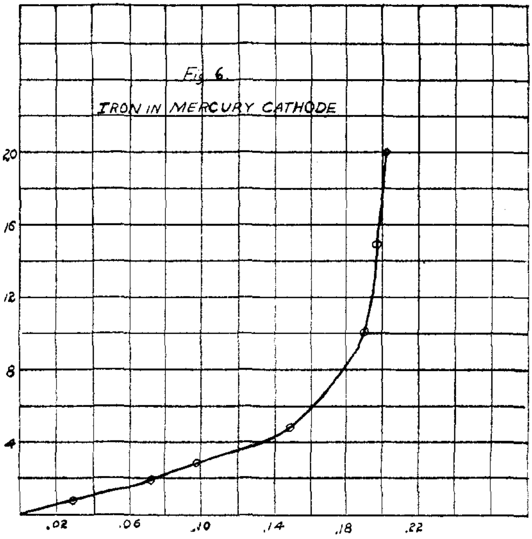

The exact variation of conditions can best be seen from the table given above.

Conclusion.

(1) Comparison of the rates of precipitation under like conditions of current, volume of solution, etc., shows that, although the rate of precipitation with the rotating anode is greater than with the stationary anode, it is not sufficiently so to recommend the use of so much more complex a piece of apparatus.

(2) The results obtained by this method are as accurate as those obtained by means of other mercury cathode methods.

(3) With the different metals determined it is possible to use about the same conditions as for the determination by means of the rotating anode and the mercury cathode.

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CORRECTIONS.

"*A Simple System of Thermodynamic Chemistry Based upon a Modification of the Method of Carnot*" and "*The Fundamental Law for a General Theory of Solutions.*"—The two papers which appeared under the above titles in the April and May numbers of This Journal require the following corrections:

Page 479, line following equation (12), for V read *v*.

Page 486, equation 44, the term ($U + \Delta x RT$) should be enclosed in parentheses.

Page 498 and page 666, the terms of the right-hand member of equation 85 should read *alternately plus and minus*.

Page 498, last line, page 654, first line, and page 667, second line, for *decrease* read *increase*.

Page 499, equation 86, the letter t has been omitted just in front of the last bracket sign.

In the 8th line of footnote 23 omit the negative sign before the last term of the equation.

Page 501, in equation 95 and the second line following it, for T read T_F.

Page 663, equation (111), for V read v.

Page 667, equation (126), for $\Delta C_{P_0}-$ read $\Delta C_{P_0}\Delta t_F+$. Equation (129) change the sign in front of each term containing α.

Page 670, line 20, for *to* read *by*.

Edward W. Washbu

THE ELECTRON CONCEPTION OF VALENCE.

By K. George Falk and J. M. Nelson.

Received October 3, 1910.

Introduction: 1. Limitations of the Problem. 2. Fundamental Hypothesis. 3. Carbon Compounds Containing Single Bonds. 4. Carbon Compounds Containing a Double Bond. 5. Carbon Compounds Containing a Triple Bond. 6. Relative Asymmetry. 7. Nitrogen Compounds Containing a Single Bond. 8. Nitrogen Compounds Containing a Double Bond. 9. Compounds Containing a Double Bond between Unlike Atoms. 10. Partial Valence. 11. Complex Inorganic Salts. 12. Summary.

Introduction.

In a paper published in 1909,[1] the hypothesis of Sir J. J. Thomson, according to which the linkages between atoms in a compound are caused by the transfer of corpuscles,[2] was applied to a number of facts drawn chiefly from organic chemistry. An attempt will be made in this paper to develop the subject somewhat farther. The same fundamental hypothesis, in the sense of a "supposition which it is expected will be useful" will be used. The deductions which will be made from this fundamental hypothesis are not put forward as the only explanation of the phenomena in question but as a possible explanation simpler in some ways in correlating facts than some of the explanations in current use, and in a few cases offering explanations for facts which have not been explained heretofore. The isomerism in compounds containing a double bond may serve to illustrate the former and the physical properties of the saturated dibasic acids the latter.

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[1] *School of Mines Quarterly*, **30**, 179.

[2] "The Corpuscular Theory of Matter," pp. 138–9 (1907).