

## CORRECTION.

**The Equilibrium between Carbon Monoxide, Carbon Dioxide, Sulfur Dioxide and Free Sulfur.**—The following corrections should be made in the article appearing under this title in the November issue:<sup>1</sup>

P. 1630. Equations at top of page should read:

$$K_1 = \frac{P_{\text{CO}_2} P_{\text{S}_2}^{1/2}}{P_{\text{CO}} P_{\text{SO}_2}^{1/2}} \quad K_2 = \frac{P_{\text{CO}} P_{\text{S}_2}^{1/2}}{P_{\text{COS}}}$$

P. 1630. Last line in Table I, 1st column, 41.2 should be 44.2.

P. 1640. First column in Table V, 7th formula, CO should be CO<sub>2</sub>.

P. 1641. Experiment 7, (CO<sub>2</sub> + S<sub>2</sub>) should be (CO<sub>2</sub> + 1/4S<sub>2</sub>).

P. 1642. First equation, the *IT* term should be positive. Line 19, equation should read:  $-(1.375 - 0.0028T + 0.0000093T^2)$ .

P. 1643. Middle of page,  $F_{298}$  should be  $\Delta F_{298}$ .

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## RETARDATION BY SUGARS OF DIFFUSION OF ACIDS IN GELS.

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The experiments described in this paper were first undertaken in order to find out, if possible, whether the protective action of carbohydrates against certain toxic agents in the body could be paralleled outside of the body. The results obtained are very interesting from this physiological point of view, but they also have some importance as data on the diffusion of electrolytes in gels, and it is from this chemical point of view that they will here be chiefly considered.

The greater part of the recent work on diffusion in gels has dealt with the phenomena of Liesegang's rings, precipitation membranes, etc., where the simple process of diffusion through the colloidal medium is complicated by the permeability of the precipitate formed during the diffusion. While it is undoubtedly true, as Bechhold and Ziegler<sup>2</sup> suggested, that a substance diffusing into a colloidal system actually changes the properties of the diffusion medium, it is possible, with suitable experimental conditions, to avoid any such marked changes as accompany the formation of rings or membranes of precipitate. Moreover, any process of diffusion in any medium whatsoever, necessarily brings with it some modification of the medium, as is shown empirically for instance by the inconstancy of Fick's "diffusion constant" with changing concentration;<sup>3</sup> there is therefore no

<sup>1</sup> THIS JOURNAL, 40, 1642 (1918).

<sup>2</sup> Bechhold and Ziegler, *Z. physik. Chem.*, 56, 105 (1906).

<sup>3</sup> For hydrochloric acid, for example, the "diffusion constant" varies from 1.39 to 2.31, as the concentration changes from 0.21 to 4.23 moles per liter. Landolt-Börnstein, 1912, p. 135.