slowly during this interval and its strength was regularly checked by a stronger solution of iodine kept away from strong light. This correction on the last day amounted to about 1/4 percent. The readings recorded in the tables are corrected for this change in the thiosulphate solution.

Tables 16 and 17 are the two reverse rate measurements. In both the course of the reaction and the equilibrium readings are practically identical. The solutions used to make up the reacting mixture of Table 17 involved the formation of considerable sodium sulphate which, therefore, has no appreciable effect on the course of the reverse rate: neither is there a small quantity of any other material in one mixture only, affecting the course of the reverse rate. The columns headed K_1, K', R, R_1, K_1 [illegible] calculated as shown above from Equations (6), (8), (9), and [illegible]. It will be observed that K' shows a more rapid decrease approaching equilibrium than does K_1. K''_1, the corrected value of K', shows a regular increase as was also the case in Tables 11 and 12. K'_1 of Table 11, the slower of the two latter Tables, has the greater final value and this value is somewhat less than the initial values in Tables 16 and 17. It must therefore be concluded that at equilibrium, in dilute solutions at least, K'_1 [illegible] 2.0 × 10 [illegible].

Under "M" in Table 16 is given the value of the constant calculated from

$$dx/d\theta = M(E - x)^2 = K''_1(E - x) \qquad (12)$$

in which it is assumed that the arsenic acid acts according to the second power. The tabulated values show a much greater variation than K''_1. In these experiments C and D are practically non-variant and it must either be assumed that the arsenic acid (E — x) acts according to a fractional power or that the constant depends on $dx/d\theta$. To make the constant non-variant requires different fractional indices for (E — x) in the different experiments—for example, the experiment of Table 20 (page 385) of former paper has a 10 percent variation of K_1 for a 90 percent variation of (E — x) and the index in this case would be almost unity. It seems simpler to say that K is an inverse function of $dx/d\theta$. This is supported by the fact that the fast