

The primary oxide may be one of the following:

(1) A peroxide of arsenic represented by the formula, As_2O_6 , or one of its hydrates, *e. g.*, H_3AsO_6 .

(2) An intermediate oxide of chromium of the formula, Cr_2O_5 , or one of its hydrates, *e. g.*, $H_2Cr_2O_6$.

(3) A complex peroxide of arsenic and chromium of the same degree of oxidation as (1) and (2).

Other evidence is in support of the view that the peroxide is one of arsenic; and still other evidence favors the assumption that the primary oxide is a compound of chromium; *the view that the primary oxide is a complex peroxide of arsenic and chromium is, however, in best accord with all the facts.*

Methods are described by which the degree of oxidation of a hypothetical primary oxide may be determined.

The above experimental work was completed in the Chemical Laboratory of the University of Toronto in May, 1905.

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