figure"; and to his absolute use of the term *double point*, speaking of a double point in a correspondence as if it were a double point on the circle considered, and then defining consecutive points as points that "fall together in a double point."

If Professor Smith could be induced to translate his work into ordinary mathematical English, we feel sure that he would greatly increase its usefulness not only in aiding "the first upward steps of the climber," but also in preparing him for the "much higher ascent."

CHARLOTTE ANGAS SCOTT.

BRYN MAWR COLLEGE, PA., *March*, 1893.

WRONSKI'S EXPANSION.

BY PROF. W. H. ECHOLS.

IN 1810 Höené Wronski presented to the French Academy of Sciences the following formula, without demonstration,

$$fx = a_0 + a_1\omega_1 + a_2\omega_2 + \ldots \text{ ad. inf.}, \quad \ldots \quad (1)$$

in which fx, ω_1, ω_2, ... are arbitrary functions of x, and a_0, a_1, ... are independent of x. This formula, or rather the law for the formation of the coefficients, he called *la loi suprême*.

Lagrange and Lacroix were appointed as a committee to examine Wronski's memoir and to report on it to the Academy. This report is an admirable production and in every way worthy of the distinguished names attached to it. It is especially noticeable for its conservative tone and yet its acknowledged recognition of the importance and possible future of the formula. The commissioners must have been very much impressed, to have repeated section III. in section IV., "Ce qui a frappé vos commissaires dans le mémoire de M. Wronski, c'est qu'il tire de sa formule toutes celles que l'on connaît pour le développement des fonctions, et qu'elles n'en sont que des cas très-particuliers." It would seem remarkable in view of this that nothing has been done toward developing his work and placing it on a sound scientific basis. The whole of Wronski's work and method of work appears to be purely qualitative; it is truly algorithmic, inasmuch as he