$$f(s) = \int_a^b K(s, t) g(t) dt,$$

where $g(s)$ is any continuous function satisfying

$$\int_a^b p(s) g(s) ds = 0,$$

can be developed into the uniformly convergent series

$$f(s) = \frac{p(s) \int_a^b p(s) f(s) ds}{\int_a^b [p(s)]^2 ds} + \Sigma_i \phi_i(s) \int_a^b \phi_i(s) f(s) ds,$$

where $\phi_i(s)$ are the normalized solutions of (1) and (2).

That this expansion may not hold in case $g(s)$ is any continuous function (as Mr. Cairns states the theorem) is shown by the special example

$$K(s, t) = A(s)p(t) + A(t)p(s) + B(s)B(t),$$

$$A(s) \not\equiv cB(s), \quad \int_a^b A(s)p(s)ds = 0, \quad \int_a^b B(s)p(s)ds = 0,$$

$$g(s) = p(s).$$

THE UNIFICATION OF VECTORIAL NOTATIONS.

Elementi di Calcolo vettoriale con numerose Applicazioni. By C. BURALI-FORTI and R. MARCOLONGO. Bologna, Nicola Zanichelli, 1909. v + 174 pp.

Omografie vettoriali con Applicazioni. By C. BURALI-FORTI and R. MARCOLONGO. Torino, G. B. Petrini, 1909. xi + 115 pp.

1. IN view of the plan that the fourth international congress of mathematicians held at Rome in 1908 should discuss the notations of vector analysis and perhaps lend the weight of its recommendation to some particular system, Burali-Forti and Marcolongo awhile ago set themselves the laudable but somewhat thankless task of collecting and editing all the historical, critical, and scientific material which might be indispensable to a proper settlement of the question by the congress, and this material they published in a series of five notes beginning in