These values we get from our graphical integration of the functions u and v, and they can be measured and carried over to the $\int udr - \int vdr$ plane; or by having our $\int udr - \int vdr$ plane on transparent paper, we can mark off the coordinates of the points $R_0, R_1, \cdots, R_n$ without the work of measuring these values. This second method also eliminates a small probable error in measurement.

Through the points $R_0, R_1, \cdots, R_n$ we draw a smooth curve, and this is our required curve $\theta = \theta_n$ in the $\int_0^{z_n} f(z)dz$ plane. In the same way we get the curves $\theta = \theta_0, \cdots, \theta_{n-1}$. Through the points r_n on each curve $\theta = \theta_n$ $(n = 0, 1, \cdots, n)$ we draw a smooth curve, and have a net of small squares covering the Z-plane which is the graphical representation of the function $Z = \int_0^{z_n} f(z)dz$.

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THE UNIFICATION OF VECTORIAL NOTATIONS*

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THE unification of vectorial notations has taken several steps during the past year, but whether the steps be backward or forward, sideways or up in the air, would be difficult to say.

1. One step was forced. A report from the international committee on vector notations, appointed at Rome in 1908 with instructions to lay its recommendations before the congress at Cambridge in 1912, fell due. A member of that committee, though not in attendance at the congress, I am unable to state whether or not any report was made; but I believe that an extension of time until 1916 was asked and granted. So far as I am aware the committee apparently did not organize prior to the meeting in Cambridge last summer, and except for desultory publication on vectors by a few members of the committee, there had been no inside activity which could lead to a report. It does not appear therefore that much of a step in any direction during the past year or

* This essay may be considered as a continuation of one by the same title in this BULLETIN, May, 1910, p. 415.