or, since $e^{is}ds = dc/i$ and $e^{is} = c$ on the circumference,

$$f(z) = \frac{1}{2\pi i}\int_0^{2\pi} f(c)\,\frac{dc}{c - z}.$$

The transition from the case of the circle to any region which can be conformally represented on the circle is easy, as Green's function is transformed into Green's function for the new region and $dc/(c - z)$ differs from the corresponding expression for the new region only by a function which disappears upon integration.

PRINCETON, N. J.,
November 20, 1903.

BAUER'S ALGEBRA.

Vorlesungen über Algebra. Von GUSTAV BAUER. Herausgegeben vom Mathematischen Verein München. Leipzig, B. G. Teubner, 1903. vi + 376 pp.

THIS volume was planned in honor of the 80th birthday of Professor Bauer by the Mathematischer Verein of the students of the university and the technical high school of Munich. It presents in fact, not merely in title, lectures as actually given to students in their first or second year at the university, the course extending over two semesters. The preface is by Karl Doehlemann, who saw the book through the press at the request of the Verein.

Treating a wide range of subjects in a strictly elementary manner with many illustrative examples considered in detail, these lectures are certainly very attractive. If one can overlook the lack of rigor in two or three fundamental matters (discussed in detail below), one must regard the volume as one to be specially commended to beginners.

Part I (105 pages), is entitled "General properties of algebraic equations." The usual elementary theorems on complex quantities are given in 12 pages. In the construction of z^n by a series of similar triangles (page 13), n is restricted to positive integers, whereas the series may be continued in the opposite direction to give the negative integral powers. The mere statement that an elementary geometric construction for $z^{1/n}$ is impossible in general would attract the student more if accom-