where H is a ("homogeneous") set having relative exterior measure 1 *at every one of its points, and Z is of measure zero.*

We obtain a particular case of our theorem if we assume A to be a measurable set. Exterior measure will then be replaced by measure, and relative exterior measure by "relative measure." We thus have

COROLLARY 2. *The relative measure of a measurable set is* 1 *at every one of its points except possibly at those of a set of measure zero.*

Corollary 2 is equivalent to a theorem of Lebesgue-Denjoy.* The present note, therefore, also gives a very simple proof of this important theorem.

So far the author has not succeeded in proving the theorem of this note for higher dimensions, although there seems to be little ground for doubting its validity in n-space.

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A GENERAL FORM OF GREEN'S THEOREM.

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IN this paper a form of Green's theorem is considered which applies, on the one hand, to the boundary of any set E, measurable Borel, and relates, on the other hand, to potential functions which satisfy a general integral form of Poisson's equation,

$$\int_{B(E)} \frac{\partial V}{\partial n} ds = \int_E d\alpha(x, y),$$

where $\alpha(x, y)$ is some function of limited variation in (x, y). In particular it can be used in mathematical physics in problems in which mass (or electric charge) is not distributed continuously.

Let $V_1(x, y)$, $V_2(x, y)$ be two potential functions defined and

* Lebesgue, Leçons sur l'Intégration, pp. 123–124, and Denjoy, loc. cit., pp. 132–137. "Relative measure" is equivalent with Denjoy's "épaisseur." Lebesgue's considerations are indirect (as far as the theorem in question is concerned), being based on properties of integrals. Denjoy's proof is direct, but still comparatively involved and long.