# SOME GENERAL DEVELOPMENTS IN THE THEORY OF FUNCTIONS OF A COMPLEX VARIABLE.

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## 1. Introduction.

It is well known that, following the classical procedure of Cauchy, the theory of analytic functions of a complex variable $z(=x+iy)$ is effectively developed if one starts with a definition according to which the functions under consideration possess a unique derivative in an *open* set $O$ (in the $z$-plane) and on the basis of this definition establishes the two fundamental Cauchy contour-integral formulas[1]; with the aid of the latter formulas a great number of essential properties of analytic functions can be established. If in the above definition the open set $O$ is replaced by a set $E$, which is not necessarily open and which, in fact, may be without interior points, one would obtain, of course, a very general

[1] The conditions with respect to the derivative can be somewhat lightened (GOURSAT, MONTEL, BESIKOVICH, MENCHOFF and a number of others).