

original proof. In Chapter 4, the subject of study is the class of power series with unit radius of convergence, and various justifications of the general remark that most of these have the unit circle for a cut; for example [Boerner], the set of  $\beta = (\beta_0, \beta_1, \dots)$  with  $|\beta_j| \leq \pi$  for which  $\sum a_n \exp(i\beta_n)z^n$  is continuable has measure zero, while [Pólya-Hausdorff] the class of non-continuable power series is open and dense in the space of power series.

Another general remark of somewhat similar nature is that whenever  $\{a_n\}$  is a sufficiently "nice" sequence,  $\sum a_n z^n$  is either rational, or has the circle of convergence for a cut. This is illustrated by the material of Chapter 6 which revolves around the classical theorems of Eisenstein, Szegő, Pólya, and Carlson. As an instance of the method of associated functions, the author digresses in §6.3 to include a sketch of some known results dealing with integral valued entire functions. If  $A(z)$  is an entire function of exponential type such that  $A(n) \in D$  for  $n=0, 1, \dots$  where  $D$  is a domain of algebraic integers, then one may consider the associated function  $g(z) = \sum_0^\infty A(n)z^n$ . If  $A$  is of sufficiently slow growth,  $g(z)$  is regular in a set of mapping radius greater than 1; if  $D$  is either the rational integers, or a quadratic complex domain, then the Pólya-Carlson theorem may be applied to show that  $g(z)$  is a rational function, from which the form of  $A(z)$  may be obtained. Finally, Chapter 5 deals with certain consequences of the Hadamard multiplication theorem, and Chapter 7 discusses the connection between a power series  $\sum a_n z^n$  and the related series  $\sum \phi(a_n)z^n$  where  $\phi(z)$  is a pre-assigned analytic function.

The author has not entered upon the general coefficient problems for schlicht functions and for bounded functions, nor has he discussed analytic continuation of power series by means of summability. Within his chosen framework, he has produced a remarkably interesting and coherent summary of recent work and literature.

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*Theory of differential equations.* By E. A. Coddington and N. Levinson. New York, McGraw-Hill, 1955. 14+429 pp. \$8.50.

It has become fashionable of late, in various mathematical centers, to present the fundamental tools of analysis, real and complex variable theory, in an increasingly abstract manner to those most defenseless, namely fledgling graduate students. In the process, motivation for the introduction of new concepts has been on the whole by-passed as an atrophied relic of those early pioneer days when mathematicians were forced to consort with astronomers and physicists, and indeed,