$E_\gamma = E_{\gamma+1} = \cdots = E_\alpha = \cdots$, $\gamma \leqq \alpha < \Omega$. In generalizing some classical results of Baire the author proves that (*) is stationary if it is decreasing and if, in addition, each E_α is F_σ. The problem in the general case is unsolved.

3. This useful pamphlet consists of an Introduction followed by three chapters. In Chapter I the author gives a rapid but clear and rigorous survey of properties of convex and subharmonic functions, in some places giving new proofs or supplying missing details in older proofs existing in the literature. Chapter II contains the author's own investigation concerning the behavior of a subharmonic function in a neighborhood of an isolated singular point. The last Chapter, III, contains applications to the theory of harmonic functions and of solutions of the equation $\Delta u = \phi(P)$. The bibliographical references are numerous.

4. The operator $Af(x)$ defined over the space $L_2(-\infty, \infty)$ is said to be an integral operator if it can be represented in the form $\int_{-\infty}^{\infty} a(x, y)f(y)dy$ where $\int_{-\infty}^{\infty} |a(x,y)|^2 dy < \infty$ for almost all x. The main purpose of the author is to find necessary and sufficient conditions which have to be satisfied by a spectrum of a self-adjoint Hermitian operator in order that it be the spectrum of an integral operator. By a very elegant argument it is shown that necessary and sufficient conditions in question consist merely in the requirement that $\lambda = 0$ should be a limit point of the spectrum. An important place in the proof is occupied by the following theorem: *Being given any self-adjoint Hermitian operator H, it is always possible to find a completely continuous operator X of E. Schmidt's type of arbitrarily small norm, so that the spectrum of $H+X$ would reduce to a pure point-spectrum.* This theorem was proved by H. Weyl in the case of a limited operator H.

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Introduction Mathématique aux Théories Quantiques. By Gaston Julia. Paris, Gauthier-Villars, 1936. vi+220 pp.

This book is the sixteenth of the well known series, *Cahiers Scientifiques*, and is the first of a series which proposes to give the mathematical foundation of quantum mechanics. In this first volume the essential difficulties of quantum mechanics (some of which concern the fact that Hilbert space is not finite dimensional) are merely foreshadowed, the attention being directed in the main to vector analysis in a space of finite dimensions. However, the treatment is sophisticated and designed, as far as possible, to carry over to the infinite dimensional case. Thus the treatment of linear equations is given in which the concept of rank is developed without the introduction of determinants. The derivation of the Jordan normal form for matrices is particularly clear, as is also the chapter on metric spaces. We can heartily recommend the book as an easy introduction to the well-known works of von Neumann (*Quantum Mechanics*), Stone (*Hilbert Space*), and Wintner (*Infinite Matrices*). There are only two parts of the book which seem to the reviewer other than highly commendable. The first of these contains the statement that unitary and Hermitian operators "se correspondent biunivoquement par les relations" (Cayley) $U = (H+i)/(H-i)$; $H = i(U+1)/(U-1)$. This is misleading since unitary matrices with a characteristic root unity are not cared for (except by a some-