

*Fonctions Entières et Fonctions Méromorphes d'une Variable.* By G. Valiron. Mémorial des Sciences Mathématiques, Fascicule II. Paris, Gauthier-Villars, 1925. 56 pp.

*Sur les Fonctions Hypergéométriques de Plusieurs Variables. Les Polynômes d'Hermite et autres Fonctions Sphériques dans l'Hyperspace.* By Paul Appell. Mémorial des Sciences Mathématiques, Fascicule III. Paris, Gauthier-Villars, 1925. 75 pp.

So brief a time has elapsed since the appearance of Valiron's former work, *Lectures on the General Theory of Integral Functions*, that one naturally expects the present small volume to follow essentially the development given in the former book. The condensation of material in order to confine the subject to fifty pages is most noticeable. On this account the beginner in this field will probably prefer the older book, where the pace is more leisurely and the exposition more detailed. The bibliography is more complete in the later treatment. The author's own fertility almost caused him embarrassment, since he just exhausted the alphabet in listing his own titles.

In the work on the hypergeometric functions of several variables Appell has brought together a brief account of the work, extending over a number of years, of a number of mathematicians, of whom he himself is very conspicuous. The work consists of generalizations in rather natural directions. Guided by the celebrated series of Gauss, four different series in two variables and four to five parameters are constructed. For the functions so defined properties analogous to those of the hypergeometric function are developed. One expects to find nothing especially novel or interesting, and his expectations are confirmed. It seems to the reviewer that a number of celebrated mathematicians have deprived lesser ones of much fine material for theses. It is, of course, useful to have an account of what has been done in the field, even though it has limited significance, and it gives gratification to have it done so ably.

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*Exercices de Calcul Différentiel et Intégral.* By Abbé Potron. Volume I. Paris, Hermann, 1926. xviii + 332 pp.

This book is a typical representative of the set of French "Exercices" or "Collections of problems." The final goal here is to train the students for the technically difficult examination for the "Certificate in Differential and Integral Calculus."

Accordingly, the problems which have been given at such examinations for a number of years in Paris and in other cities, are "analysed" here, or decomposed into their simplest elements, where the solution is reduced to a mere question of routine computation. The "synthesis," namely the problems as they have been actually given and their solutions, are promised in the second volume.

This method perhaps is well fitted for the particular purpose as mentioned above, but it is at least questionable as to its general educational value. However, American teachers will find many a good example to be