BOOK LIST

A short list of typical books with brief comments is given to aid the student of this text in selecting material for collateral reading or for more advanced study.

1. Some standard elementary differential and integral calculus.

For reference the book with which the student is familiar is probably preferable. It may be added that if the student has had the misfortune to take his calculus under a teacher who has not led him to acquire an easy formal knowledge of the subject, he will save a great deal of time in the long run if he makes up the deficiency soon and thoroughly; practice on the exercises in Granville's Calculus (Ginn and Company), or Osborne's Calculus (Heath & Co.), is especially recommended.

2. B. O. PEIRCE, *Table of Integrals* (new edition). Ginn and Company.

This table is frequently cited in the text and is well-nigh indispensable to the student for constant reference.

3. JAHNKE-EMDE, *Funktionentafeln mit Formeln und Kurven.* Teubner.

A very useful table for any one who has numerical results to obtain from the analysis of advanced calculus. There is very little duplication between this table and the previous one.

4. WOODS and BAILEY, *Course in Mathematics.* Ginn and Company.
5. BYERLY, *Differential Calculus* and *Integral Calculus.* Ginn and Company.
6 TODHUNTER, *Differential Calculus* and *Integral Calculus.* Macmillan.
7. WILLIAMSON, *Differential Calculus* and *Integral Calculus.* Longmans.

These are standard works in two volumes on elementary and advanced calculus. As sources for additional problems and for comparison with the methods of the text they will prove useful for reference.

8. C. J. DE LA VALLÉE-POUSSIN, *Cours d' analyse.* Gauthier-Villars.

There are a few books which inspire a positive affection for their style and beauty in addition to respect for their contents, and this is one of those few. My Advanced Calculus is necessarily under considerable obligation to de la Vallée-Poussin's Cours d' analyse, because I taught the subject out of that book for several years and esteem the work more highly than any of its compeers in any language.

9. GOURSAT, *Cours d' analyse.* Gauthier-Villars.

10. GOURSAT-HEDRICK, *Mathematical Analysis.* Ginn and Company.

The latter is a translation of the first of the two volumes of the former. These, like the preceding five works, will be useful for collateral reading.

11. BERTRAND, *Calcul différentiel* and *Calcul intégrale.*

This older French work marks in a certain sense the acme of calculus as a means of obtaining formal and numerical results. Methods of calculation are not now so prominent, and methods of the theory of functions are coming more to the fore. Whether this tendency lasts or does not, Bertrand's Calculus will remain an inspiration to all who consult it.

12. FORSYTH, *Treatise on Differential Equations.* Macmillan.

As a text on the solution of differential equations Forsyth's is probably the best. It may be used for work complementary and supplementary to Chapters VIII-X of this text.

13. PIERPONT, *Theory of Functions of Real Variables.* Ginn and Company.

In some parts very advanced and difficult, but in others quite elementary and readable, this work on rigorous analysis will be found useful in connection with Chapter II and other theoretical portions of our text.

14. GIBBS-WILSON, *Vector Analysis.* Scribners.

Herein will be found a detailed and connected treatment of vector methods mentioned here and there in this text and of fundamental importance to the mathematical 'physicist.

15. B. O. PEIRCE, *Newtonian Potential Function.* Ginn and Company.

A text on the use of the potential in a wide range of physical problems. Like the following two works, it is adapted, and practically indispensable, to all who study higher mathematics for the use they may make of it in practical problems.

16. BYERLY, *Fourier Series and Spherical Harmonics.* Ginn and Company.

Of international repute, this book presents the methods of analysis employed in the solution of the differential equations of physics. Like the foregoing, it gives an extended development of some questions briefly treated in our Chapter XX.

17. WHITTAKER, *Modern Analysis.* Cambridge University Press.

This is probably the only book in any language which develops and applies the methods of the theory of functions for the purpose of deriving and studying the formal properties of the most important functions other than elementary which occur in analysis directed toward the needs of the applied mathematician.

18. OSGOOD, *Lehrbuch der Funktionentheorie.* Teubner.

For the pure mathematician this work, written with a grace comparable only to that of de la Vallée-Poussin's Calculus, will be as useful as it is charming.