tables, can only be regarded as approximations to the truth. In arranging the computation of such a series of values it becomes a very practical matter so to select the intervals as to avoid unnecessary labor on the one hand and the possible introduction of inadmissible errors in the interpolated values on the other. We have here the practical rule evolved showing that this may ordinarily be accomplished by choosing our intervals such that differences beyond the fifth order may be disregarded. Of course, in the very uncommon case of a rational integral function we may reach absolute accuracy by carrying our computation to the point where the differences vanish.

The subject of mechanical quadrature is doubtless more familiar to the mathematical astronomer than to any other class of readers. Owing to the convenience and facility with which it may often be applied to the evaluation of definite integrals it seems to deserve a more prominent place in works treating of applied mathematics than is commonly the case. Here we find the processes of both single and double integration very fully developed, based in turn on Newton, Stirling and Bessel’s formulæ.

Every one naturally assigns a somewhat exalted position to his own special line of investigation. It is, therefore, perhaps not surprising to find, on page 79, what to some may appear to be a somewhat ‘dark saying,’ viz.: “Interpolation has undoubtedly done more for mathematical science than any other discovery excepting that of logarithms.” Not to mention the Arabic system of notation, why may we not with equal propriety make a like assertion in regard to multiplication?

Among the problems solved the following are suggestive:

To solve any numerical equation whatever involving but one unknown quantity.

Given a series of numerical functions embracing a maximum and minimum value. To find the value of the argument which corresponds to the maximum and minimum function.

An appendix deals with symbolical methods. Fifteen pages are given to tables, principally the coefficients in Newton, Stirling and Bessel’s formulæ, while two pages devoted to the bibliography of the subject complete the work.

Naturally a treatise like this will interest only a limited class of readers, such as workers and students in astronomy and mathematical physics. To all these it can be cordially recommended.

C. L. DOOLITTLE.

FLOWER OBSERVATORY.

BOOKS RECEIVED.


SCIENTIFIC JOURNALS AND ARTICLES.

The Journal of the Boston Society of Medical Sciences for May is more exclusively technical than usual. Harold C. Ernst and W. H.