

## CORRESPONDENCE.

## CALCULUS AND PROBABILITY.

*To the Editors of the Journal of the Institute of Actuaries.*

SIRS,—It is not my intention or desire to criticize the stimulating and carefully considered review of my book "Calculus and Probability" which appeared in the March number of the *Journal*, and I ask you to insert these remarks only because I fear that what may be regarded as the official review may lead students and tutors to a misconception of the real requirements of the Part I examination.

The object of the syllabus and course of reading is attained if the student who passes his final examination has acquired sufficient knowledge to make him a sound actuary. In this curriculum pure mathematics must be his servant and not his master. No considerations can excuse slovenly methods of treatment of principles, but the actuary has normally to deal with functions which are finite and continuous, and can therefore afford to disregard considerations which are of prime importance in the work of the pure mathematician. The object of the book has been to give the student a working knowledge of the subjects included sufficient to enable him to attack the later parts of the syllabus with confidence, but to avoid the dangers of too wide generalizations by the insertion of cautionary notes which would give him the necessary warnings without involving him in difficult conceptions which are not really met with in practical work. That your reviewer would have desired more elaborate treatment on certain points is evident from his remarks on limits and the remainder after  $n$  terms of Taylor's theorem (where, incidentally, I think the construction placed upon my words can hardly be justified).

As regards the non-inclusion of a chapter on Trigonometry this course was definitely decided by the Council, since they were advised that students satisfying the examination tests required for a probationer of the Institute would be sufficiently equipped in this respect. There is, of course, no intention on the part of the Council to examine candidates in trigonometry, the assumption of knowledge of the subject being merely made in order to enable certain forms of integral to be included in the reading which are difficult to treat by other means.

I do not propose to deal with the other criticisms in detail, but I would only say that it was not without much consideration and regret that I decided to omit Mr. D. C. Fraser's illuminating "honeycomb" note.

In conclusion I would say that the book has been reviewed, so far as I know, by six journals or periodicals of standing, and that a perusal of those reviews will show how difficult a matter it is to satisfy the demands of every school of thought. As your reviewer says, the real test will be that of experience—by the student and in the examination room.

I am, Sirs,

Your obedient Servant,

ALFRED HENRY.

*Treasury Chambers,  
Whitehall, London, S.W. 1.*

4 June 1923.