On the outbreak of war the R.F.C. put into the field 105 officers, 775 other ranks, 63 aeroplanes, and 95 mechanised transport vehicles! Almost every machine fit for active service in France went there, and most of the pilots had never crossed the sea in an aeroplane before.

The history of the fighting in France and elsewhere is told in the following chapters, the appointment of the author as chief of the Air Staff and the formation of the Royal Air Force. In 1919 the author was appointed Controller-General of Civil Aviation, a post he resigned in 1922 to enter Parliament and ultimately to be appointed Governor of Bombay.

Sir Frederick Sykes' book is one which requires careful reading and one which it is necessary to read to avoid, if possible, the errors which held back the proper development of aircraft in this country for so long. It is hoped that the Government will, as the result of the experiences of this war, come down heavily on the side of research and development for all forms of aviation. Without energetic research and development this country will take a second place in world aviation.

CORRESPONDENCE

To the Editor of the JOURNAL OF THE ROYAL AERONAUTICAL SOCIETY.

Sir,—May I enter a strong protest against the title,
   " *Astronomical Navigation Without Mathematics,*"
of Lieut.-Colonel Mieville's otherwise quite excellent article which appeared in your August number?

The title is, I suggest, both untrue in fact and misleading in implication.

Navigation without mathematics is just impossible. Whether the mathematics is arithmetic (calculation), algebra (formulæ), or geometry (star charts) is a matter of convenience, coupled with the achievement of accuracy adequate to the purpose in hand. Surely, too, much mathematics lies behind the design and drawing of the star charts, in which the expert has " potted " his knowledge so as to allow the tyro to make use of it.

But the implication—that mathematics is a bad thing, to be avoided like the plague; and that it is so difficult that only a few can do anything with it—is surely out-of-date, even if it could ever have been explicitly maintained. If a job can be done more expeditiously and efficiently with mathematics than without, then let the mathematics be learned in the same way that the use of any other tool or machine is learned. In my experience, it is rare to find a student who is unable to master the mathematics of a subject in which he is *interested*, when he sees the meaning and use of the symbols and their connection with the real things in which his interest lies. Simplify, condense—" pot "—by all means, but accept what mathematics can do—and especially what *only* mathematics can do—frankly and gratefully!

Yours truly,
W. G. BICKLEY.