ON SELF-DUAL SCROLLS.

BY PROFESSOR E. J. WILCZYNSKI.

IN a paper, published in the BULLETIN for June, 1904, page 440, Mr. C. H. Sisam gives a proof for a theorem previously enunciated and proved by me in the *Mathematische Annalen*, volume 58, page 256.

Unfortunately, however, he follows me in giving an inexact formulation of the theorem in question. I have used the word *self-dual* in a more restricted sense than is usual, without having properly called attention to the fact. As others may be misled also, a few words of explanation seem to be in order.

A dualistic transformation may have the property of converting a ruled surface into itself *without interchanging its generators*, so that every generator of the surface is transformed into itself. It is merely of scrolls, for which such a transformation exists, that I wish to assert the theorem that they belong to a non-special linear complex. It is only to this case that Mr. Sisam's demonstration applies.

There actually exist ruled surfaces, self-dual in the general sense, which do not belong to a linear complex. The following example of such surfaces is due to Professor Corrado Segre, who first called my attention to the fact that my theorem was badly formulated.

Consider any dualistic transformation R, together with its various powers R^2, R^3, etc. A line g will be transformed successively into g_1, g_2, etc. It is possible to make g move in such a way, that g, g_1, g_2, $\cdots$ will describe the same scroll, which will obviously be self-dual without belonging necessarily to a linear complex. In this case however, the generators of the surface are interchanged.

CAMBRIDGE, ENGLAND,
June 29, 1904.