NON–EUCLIDEAN GEOMETRY.

The Elements of Non-Euclidean Geometry. By JULIAN LOWELL
COOLIDGE. Oxford, Clarendon Press, 1909. 8vo. 291 pp.

FOR some time there has been felt in our universities a
lack of English texts in the branches of higher mathematics,
while in the lower branches we have been literally flooded with
them.   If our books in the higher branches were to be merely
good translations of the best that the German, French, and
Italian have to offer, something is surely gained, but when the
English texts bear all the ear marks of elegance of form,
clearness and originality of presentation, and when they
embody within them the spirit of research, they are not
only worthy of the highest praise, but they should be re-
ceived with open arms.   It is therefore a great pleasure to
note how mathematical literature in English has been en-
riched within the last year by two treatises in two such far-
reaching and important subjects as the differential geometry
of curves and surfaces * and non-euclidean geometry.   Let us
hope that the good work thus begun will continue until we
shall have a mathematical literature of our own which will
stand comparison with that of other nations.

The book under review, the first real treatise in non-euclidean
geometry written in English, is at the same time a most note-
worthy addition to mathematical literature in general.   It is
one of the books that come under the desirable category above
described.   It contains some original work, part of it hitherto
unpublished.   As far as the general makeup of the book is con-
cerned, we should note the good table of contents and the
excellent index.   The axioms are printed in heavy type and
the theorems are numbered, attention being called to these
by italicizing the word *Theorem,* but not the body of the
theorem.   A large number of theorems are stated without
proof — some because they follow easily from the preceding
ones, and others because the author, as he expressly states,
wishes to leave them as exercises for the reader.   The discus-
sion is somewhat too condensed in parts ; it would add a great
deal to the value of the book if some portions were worked out

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* A Treatise on the Differential Geometry of Curves and Surfaces.   By
L. P. Eisenhart, 1909.