Alexander J. Ellis

Algebra identified with geometry [Titlepage]

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With the Author's Compliments.

ALGEBRA IDENTIFIED WITH GEOMETRY;

THAT IS TO SAY,

ORDINARY OR COMMUTATIVE ALGEBRA, INCLUDING INCOMMENSURABLES, NEGATIVES, AND IMAGINARIES, SHEWN TO BE A PURELY GEOMETRICAL (AND NOT A PURELY ARITHMETICAL) CALCULUS, AND THE HIGHER PLANE GEOMETRY OF DESCARTES, PLUECKER AND CHASLES SHEWN TO BE PARTICULAR RESULTS OF ORDINARY COMMUTATIVE ALGEBRA, WHICH INCLUDES THE MUCH MORE GENERAL PLANE GEOMETRY OF STIGMATICS;

IN A SERIES OF ROUGH NOTES, FORMING FIVE TRACTS:—

I. EUCLID'S CONCEPTION OF RATIO AND PROPORTION,
EXPLAINED IN A PROPER FORM FOR ELEMENTARY INSTRUCTION:

II. "CARNOT'S PRINCIPLE" FOR LIMITS,
REDUCED TO AN ELEMENTARY GEOMETRICAL FORM:

III. THE LAWS OF TENSORS, OR THE ALGEBRA OF PROPORTION,
AN ORIGINAL CONCEPTION AND DEMONSTRATION, COMPLETING THE ALGEBRA OF THE GENERAL GEOMETRY OF MAGNITUDE OR OF RATIOS:

IV. THE LAWS OF CLINANTS, OR THE ALGEBRA OF SIMILAR TRIANGLES LYING UPON THE SAME PLANE,
AN ORIGINAL CONCEPTION, DEMONSTRATION, AND EXPOSITION, COMPLETING THE ALGEBRA OF THE PLANE GEOMETRY OF DIRECTION, WITH EXAMPLES OF PROCESSES:

V. STIGMATIC GEOMETRY, OR THE CORRESPONDENCE OF POINTS IN A PLANE,
AN ORIGINAL CONCEPTION AND DEMONSTRATION, WITH EXAMPLES AND ILLUSTRATIONS, GIVING AN ELEMENTARY GEOMETRICAL CONSTRUCTION FOR ALL CASES OF SO-CALLED IMAGINARY POINTS, LINES, AND FIGURES, HITHERTO CONSIDERED AS EXCEPTIONAL, BUT NOW SHEWN TO BE THE USUAL CASES OF THIS HIGHER PLANE GEOMETRY, WHICH INCLUDES THE FORMER REAL FIGURES AS RARE AND PARTICULAR OCCURRENCES.

BY

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WITH ONE PHOTO-LITHOGRAPHED TABLE OF FIGURES.

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