THE ELEMENTS OF GEODETIC ASTRONOMY, FOR CIVIL ENGINEERS

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He who would measure the Earth must
first measure the Stars.

M. J. Hussey
Nov. 20, 1905.

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OF

GEODETIC ASTRONOMY

FOR CIVIL ENGINEERS

BY

H. C. LORD

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OF THE
EMERSON MCMILLIN OBSERVATORY

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1904

CONTENTS

PREFACE

This book was written for the students in the course in civil engineering at the Ohio State University and to put in permanent form the author's manner of presenting this subject. After an experience of over sixteen years in teaching geodetic astronomy to engineering students, he is firmly convinced of the value of this subject as a training for the young engineer. Practical astronomy gives, as nothing else does, experience in precise measurement and in handling long and intricate calculations.

The equipment which this book presupposes is not expensive. An investment of $4000 would be sufficient to provide amply for a class of twenty.

In the derivation of formulæ, the author has sought directness of method rather than elegance of mathematical analysis. In the numerical examples, taken from observations made at the Emerson McMillin Observatory, he has aimed to furnish the student with models of correct forms for note-book record as well as of correct forms for reduction sheets. He has placed much emphasis upon the theodolite, as that is the instrument of the engineer and the one above all others with which he should become familiar.

Though, in a work of this kind, it is impossible to state all sources which have been consulted, the author

wishes to mention the classics of Chauvenet and Doolittle, and Professor Perry's gem of popular exposition "Spinning Tops". He also takes this occasion to express his obligation to his assistant, Mr. B. F. Maag, who has not only gone over all the proof and checked all the calculations and formulæ, but has also made many valuable suggestions during the progress of the work.

H. C. LORD.

EMERSON MCMILLIN OBSERVATORY
OHIO STATE UNIVERSITY
JUNE, 1905.

GEODETIC ASTRONOMY