

**AN INTRODUCTION TO THE  
ELEMENTS OF EUCLID, PART I:  
BEING A FAMILIAR EXPLANATION  
OF THE FIRST TWELVE  
PROPOSITIONS OF THE FIRST BOOK**

Published @ 2017 Trieste Publishing Pty Ltd

ISBN 9780649055982

An Introduction to the Elements of Euclid, Part I: Being a Familiar Explanation of the First Twelve Propositions of the First Book by Stephen Hawtrey

Except for use in any review, the reproduction or utilisation of this work in whole or in part in any form by any electronic, mechanical or other means, now known or hereafter invented, including xerography, photocopying and recording, or in any information storage or retrieval system, is forbidden without the permission of the publisher, Trieste Publishing Pty Ltd, PO Box 1576 Collingwood, Victoria 3066 Australia.

All rights reserved.

Edited by Trieste Publishing Pty Ltd.  
Cover @ 2017

This book is sold subject to the condition that it shall not, by way of trade or otherwise, be lent, re-sold, hired out, or otherwise circulated without the publisher's prior consent in any form or binding or cover other than that in which it is published and without a similar condition including this condition being imposed on the subsequent purchaser.

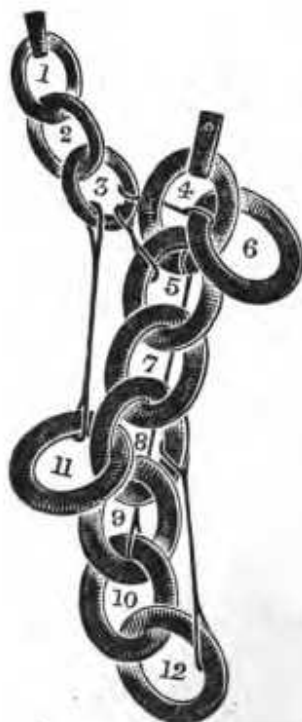
[www.triestepublishing.com](http://www.triestepublishing.com)

**STEPHEN HAWTREY**

**AN INTRODUCTION TO THE  
ELEMENTS OF EUCLID, PART I:  
BEING A FAMILIAR EXPLANATION  
OF THE FIRST TWELVE  
PROPOSITIONS OF THE FIRST BOOK**



*Frontispiece.*



SHOWING THE INTERDEPENDENCE OF THE FIRST TWELVE PROPOSITIONS OF THE  
FIRST BOOK OF EUCLID.

[For explanation see page 124.]

AN INTRODUCTION  
TO THE  
**ELEMENTS OF EUCLID**

PART I.

BEING A FAMILIAR EXPLANATION  
OF THE  
FIRST TWELVE PROPOSITIONS OF THE FIRST BOOK

BY THE

REV. STEPHEN HAWTREY, A.M.

WARDEN OF ST MARK'S SCHOOL, WINDSOR  
LATE ASSISTANT MASTER AT ETON

SECOND EDITION

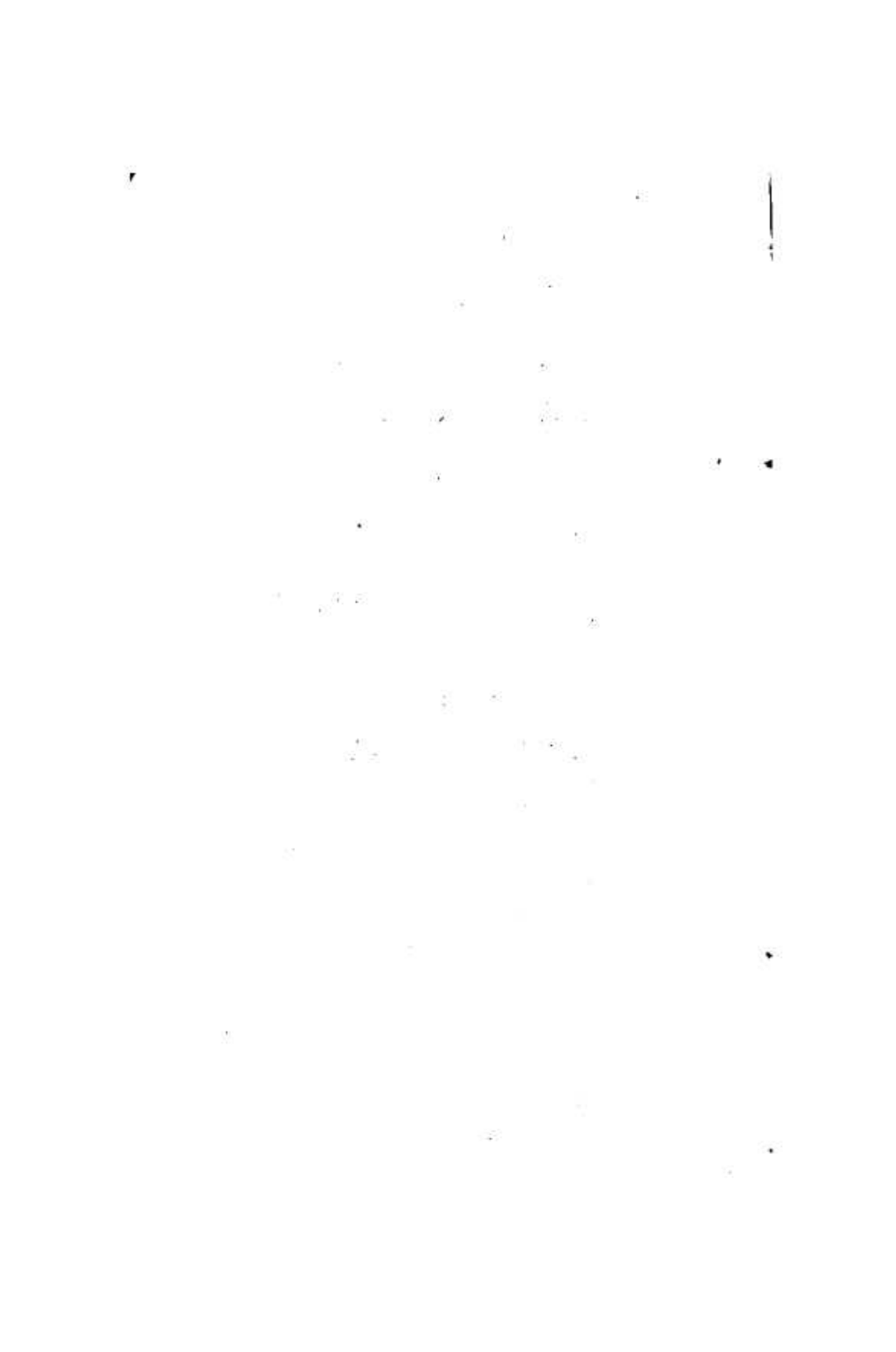


LONGMANS, GREEN, AND CO.

1878

*All rights reserved*

183 . 4 . 1 . 1 . 2 .



# ΜΥΣΤΑΙΣ

SUIS

ἀγαπητοῖς

HOC OPUSCULUM DICAT

S. H.

*Extract from 'Narrative Essay on a Liberal Education,' by the writer of this Treatise.—'And not only is the Euclid lesson an interest full of charm,—it forms a bond of firm friendship in after-life. How often, amidst the mountains and valleys of Switzerland, do I find my hand grasped, and, looking up, I see an animated face radiant with pleasant memories. "What, don't you know me? I am one of your old μύσταις," alluding to a long and growing list, that used to hang up in the Mathematical School at Eton, of the Initiated—that is, of those who understood and could apply the Fourth Proposition of the First Book. These were my μύσταις. The Platonic motto "μηδὲὶς ἀγαμέμνωνος εἰσέρω" standing at the head of the list shut out the profanum vulgus; and hearty—nay, vehement sometimes—were the struggles to get into it.'*



1. The first part of the document discusses the importance of maintaining accurate records of all transactions and activities. It emphasizes that proper record-keeping is essential for ensuring transparency and accountability in financial operations.

2. The second part of the document outlines the various methods and techniques used to collect and analyze data. It highlights the need for consistent and reliable data collection processes to ensure the validity of the results.

3. The third part of the document describes the different types of data that can be collected and analyzed. It includes information on both quantitative and qualitative data, as well as the various sources from which data can be obtained.

4. The fourth part of the document discusses the various statistical methods and techniques used to analyze the data. It covers topics such as descriptive statistics, inferential statistics, and regression analysis.

5. The fifth part of the document discusses the various applications of the data analysis techniques. It includes information on how the data can be used to make informed decisions, identify trends, and predict future outcomes.

6. The sixth part of the document discusses the various challenges and limitations associated with data analysis. It highlights the need for careful planning and execution to ensure the accuracy and reliability of the results.

7. The seventh part of the document discusses the various ethical considerations that must be taken into account when collecting and analyzing data. It emphasizes the importance of protecting the privacy and confidentiality of the data.

8. The eighth part of the document discusses the various tools and software used to facilitate data analysis. It includes information on both traditional and modern data analysis tools.

9. The ninth part of the document discusses the various best practices for data analysis. It includes information on how to design effective data collection processes, how to analyze the data, and how to communicate the results.

10. The tenth part of the document discusses the various future trends in data analysis. It includes information on emerging technologies and techniques that are expected to shape the future of data analysis.

PREFACE  
TO  
THE SECOND EDITION.

---

IN PREPARING a Second Edition of this treatise, the writer has taken great pains to make it a practically useful school-book. In doing so he has been much assisted by communications received both from teachers and learners. The names of three of his correspondents he cannot suppress :—ISAAC TODHUNTER, NORMAN MACLEOD FERRERS, and HENRY J. S. SMITH; whose kind and suggestive letters have given him the most valued encouragement and help.

In comparing the present edition with the former, it will be found that a good deal of it has been re-written; especially the discussion of the seventh and eighth propositions, which some, perhaps, will think too elaborate.

The writer would say in reply, that a long experience has taught him that beginners find none, among the early propositions of Euclid, so baffling as the

seventh and eighth. After a very long time spent on them, learners, for the most part, show that they have not taken in Euclid's meaning and aim; and so have failed to reap the intellectual benefit which is to be derived from a right appreciation of them.

Now, by approaching these propositions as is done in this treatise, it is found that one or two lessons, interspersed with pleasant laughter, are quite enough to make learners thoroughly see Euclid's intention; and get a grasp of the propositions, which they never let go.

For more than forty years the writer has found, in teaching Euclid, one of the chief enjoyments of his life, and before his time is ended he very much wishes to leave behind him as good an account as he can of his method, in order that others, coming after him, may derive the same enjoyment that he has done from the work; at the same time that they will be doing very great good to future generations of the boys and girls of England.

He hopes, then, that, under these circumstances, he will not incur the charge of self-sufficiency, if he specifies two or three results of this mode of teaching which tutors will not fail to appreciate.

First it makes the Euclid lesson to be thoroughly enjoyed; instead of its being repulsive, it becomes interesting—often, indeed, a delight to pupils as well as teachers.

In the year 1868 a sketch of the mode of teach-