

**ELEMENTARY
APPLIED
MECHANICS**

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Elementary Applied Mechanics by Thomas Alexander

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THOMAS ALEXANDER

**ELEMENTARY
APPLIED
MECHANICS**

ELEMENTARY APPLIED MECHANICS.

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APPLIED MECHANICS.

BEING

THE SIMPLER AND MORE PRACTICAL CASES OF STRESS AND STRAIN
WROUGHT OUT INDIVIDUALLY FROM FIRST PRINCIPLES BY MEANS OF
ELEMENTARY MATHEMATICS, ILLUSTRATED BY DIAGRAMS AND GRADUATED
EXAMPLES, INTENDED AS AN EASY INTRODUCTION TO THE GENERAL TREAT-
MENT OF THE SUBJECT IN RANKINE'S APPLIED MECHANICS.

BY

THOMAS ALEXANDER, C.E.,

PROFESSOR OF CIVIL ENGINEERING IN THE IMPERIAL COLLEGE OF ENGINEERING
AT TOBEI, JAPAN.

London:
MACMILLAN AND CO.
1880.

TAB50

A5

V.1

To my
attention

In memoriam
J. Stinson

LBC

PART FIRST.

ELASTICITY, RESILIENCE.

PURE STRAIN, SIMPLE AND COMPOUND

THE ELLIPSE OF STRESS.

APPLICATION TO EARTHWORK.

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P R E F A C E.

THIS volume is the first of two on the subject of Internal Stress and Strain which are intended to supply the felt want of a complete and systematic set of exercises. It is based on the late PROFESSOR RANKINE'S treatment of the subject in his *Applied Mechanics and Civil Engineering*, and will serve as a companion, or as an introduction, to these volumes.

22nd July, 1879.

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 transparency and accountability, particularly in financial reporting and auditing.

2. The second part of the document outlines the various methods and tools used to collect and analyze data. This includes the use of surveys, interviews, and statistical analysis to gather and interpret information. The document also discusses the importance of ensuring the reliability and validity of the data collected.

3. The third part of the document focuses on the ethical considerations surrounding data collection and analysis. It highlights the need to protect the privacy and confidentiality of individuals whose data is being collected, and to ensure that the data is used only for the purposes for which it was collected.

4. The fourth part of the document discusses the challenges and limitations of data collection and analysis. It notes that data collection can be a time-consuming and costly process, and that there may be limitations on the scope and depth of the data that can be collected.

5. The fifth part of the document concludes by emphasizing the importance of ongoing monitoring and evaluation of data collection and analysis processes. It suggests that organizations should regularly review their data collection and analysis practices to ensure they remain effective and efficient.