CAMBRIDGE SCHOOL AND COLLEGE TEXT BOOKS: ELEMENTARY HYDROSTATICS. THIRTEENTH EDITION

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Cambridge School and College Text Books: Elementary Hydrostatics. Thirteenth Edition by W. H. Besant

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W. H. BESANT

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CAMBRIDGE SCHOOL AND COLLEGE TEXT BOOKS.

ELEMENTARY HYDROSTATICS

BY

W. H. BESANT, D.Sc, F.R.S.

LECTURER OF ST JOHN'S COLLEGE, CAMBRIDGE.

THIRTEENTH EDITION.

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PREFACE.

I HAVE endeavoured in the following treatise to place before the student a complete series of those propositions in Hydrostatics, the solution of which can be effected without the aid of the Differential Calculus, and to illustrate the theory by the description of many Hydrostatic Instruments, and by the insertion of a large number of examples and problems.

In doing this I have had in view the courses of preparation necessary for the first three days of the Examination for the Mathematical Tripos, for some of the Examinations of the University of London, and for various other Examinations in which more or less knowledge of Hydrostatics is required.

As far as possible the whole of the propositions are strictly deduced from the definitions and axioms of the subject, but it is occasionally necessary to assume empirical results, and these assumptions are distinctly pointed out. I have thought it advisable to give a slight account of some cases of fluid motion, and also to give an explanation of some of the more important phenomena of sound; in each of these cases I have assumed, as the basis of reasoning, certain facts which can be deduced from theory by an analytical investigation, but which it may be useful to the student to accept as experimental results.

The Geometrical facts which are enunciated at the end of the Introduction are such as can be demonstrated without the aid of the Differential Calculus.

By Professor Miller's kind permission, I have been allowed to make use of the Chapter on Instruments in his Hydrostatics: of this permission I have availed myself in many cases, and, in particular, I am entirely indebted to Professor Miller for the descriptions of the Piezometer and Stereometer, and for information and references having regard to those instruments.

The slight historical notices appended to some of the Chapters are intended to mark the principal steps in the progress of the science, and to assign to their respective authors the exact values of the advances made at different times.

I have given, in most cases, the answers to the examples and problems, and these will, I hope, sufficiently illustrate the subject, and form for the student a collection of useful and instructive exercises.

W. H. BESANT.

St John's College,
April, 1863.

PREFACE TO THE TWELFTH EDITION.

In the tenth edition the Chapter on Capillarity, and the first Appendix were inserted, and some other important additions were made to the text. For the present edition the text has been carefully revised, and a number of examples have been added, taken chiefly from recent Tripos and other examination papers.

W. H. BESANT.

June 15, 1886.

TABLE OF CONTENTS.

		PAGE
	INTRODUCTION	1
	CHAPTER I.	
ARTICLES		
1—18.	Definitions and Fundamental Properties of Fluids, Hydrostatic Paradox, Hydraulic Presses	4
	CHAPTER II.	
19—31.	Density and Specific Gravity . . .	17
	CHAPTER III.	
32—50.	Pressures at different points of a fluid, Pressures on plane surfaces, Whole Pressure, Centre of Pressure . . .	25
	CHAPTER IV.	
51—67.	Resultant horizontal and vertical pressures, Equilibrium of a floating body, stability, Metacentre	45
	CHAPTER V.	
68—94.	Mechanical Properties of Air and Gases, Thermometers, Barometer, Siphon, Differential Thermometer . . .	69

CHAPTER VI.

ARTICLES		PAGE
95—121.	The Diving Bell, Pumps, Bramah's Press, Air Pumps, Condenser, Manometers, Barker's Mill, Piezometer, Hydraulic Ram, Steam Engines	94

CHAPTER VII.

122—132.	The determination of Specific Gravities, Hydrostatic Balance, Hydrometers, Stereometer	123

CHAPTER VIII.

133—157.	Mixture of Gases, Radiation, Conduction and Convection of Heat, Dew, Hygrometers, Effects of Heat and Cold on liquids, Specific Heat	134

CHAPTER IX.

158—164.	On Rotating Liquid	150

CHAPTER X.

165—170.	On the Tension of cylindrical and spherical vessels containing fluids . . .	161

CHAPTER XI.

171—177.	On Capillarity	168

CHAPTER XII.

178—183.	The Motion of Fluids	173

CHAPTER XIII.

184—200.	On Sound	179

Appendix I.	. . . . .	197
,,	II. Solutions of Problems	201
Miscellaneous Problems.	. . . . .	216
Answers to Examples and Problems	. . . .	215
Index	. . . . .	224