

HYDROSTATICS

HYDROSTATICS

A Text-Book for the use of
First Year Students at the Universities and
for the Higher Divisions in Schools

by
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PREFACE

This book is a companion volume to my books on *Dynamics* and *Statics* published in recent years. But while they were intended primarily for the Higher Divisions in Schools, this book is primarily intended for First Year Students in the Universities; because Hydrostatics does not appear as yet to be studied much in Schools. The greater part of this book will, however, be found to be within the capacity of boys and girls who are up to scholarship standard, and it might well be read by such of them as desire to broaden the basis of their knowledge of Mechanics before coming to the University.

The book might have been called '*Elementary Hydrostatics*' to distinguish it from the more advanced book on the subject which forms Part I of *A Treatise on Hydromechanics* by the late Dr Besant and myself, for it constitutes a simpler course and does not cover the same ground; but the title '*Elementary Hydrostatics*' is too reminiscent of the days when Hydrostatics and Heat were compulsory subjects for all candidates for the Ordinary Degree at Cambridge.

Some acquaintance with the Calculus is assumed and the book covers those parts of the subject usually included in a First Year Honours course, namely, the pressure of heavy fluids, centres of pressure, floating bodies, simple applications of the metacentre and of the general pressure equations, pressure of gases, the atmosphere, hydrostatic machines and, because no book on the subject can be considered complete without it, a short chapter on Capillarity.

The Examples have been chosen for the most part from papers set in the Mathematical Tripos and in College and Inter-collegiate Examinations, their sources being indicated by the letters M. T., C. and I.

My thanks are tendered to Dr S. Verblunsky for much valuable criticism and help in reading the proofs and verifying Examples and to the staff of the University Press for their careful printing and reading. There are doubtless some residual errors, and I shall be grateful to any readers who will help me to correct them.

A. S. R.

November 1935

CONTENTS

Chapter I: INTRODUCTION

ART.	PAGE
1.11. Shearing stress	1
1.2. Pressure	4
1.21. Pressure the same in every direction	5
1.3. Transmissibility of liquid pressure	6
1.4. Compression	7
1.5. Specific gravity	8
Examples	11

Chapter II: PRESSURE OF HEAVY FLUIDS

2.2. Pressure at points in a horizontal plane	13
2.32. Surfaces of equal density	15
2.5. Thrust on plane surfaces	19
Examples	23

Chapter III: CENTRES OF PRESSURE

3.11. Independent of inclination	26
3.12. Formula for depth	27
3.2. Geometrical method	28
3.32. Triangular area	32
3.4. Circular area	34
3.5. Use of central ellipse	35
Examples	38

Chapter IV: THRUSTS ON CURVED SURFACES. FLOATING BODIES

4.1. Principle of Archimedes	43
4.2. Thrust on a curved surface	44
4.3. Floating body	48
4.33. Bodies floating under constraint	49
4.4. Potential energy of a liquid	56
4.5. Determination of specific gravity	58
Examples	60

Chapter V: STABILITY OF FLOATING BODIES

5.2. Metacentre	69
5.3. General propositions. Formula for metacentric height	72
5.4. Minimum test	80

viii		CONTENTS	
ART.			PAGE
5·5.	Vessel containing liquid		84
5·6.	Finite displacements		86
	Examples		87
Chapter VI: EQUILIBRIUM OF FLUIDS IN GIVEN FIELDS OF FORCE			
6·2.	Pressure derivative in terms of force		94
6·22.	Pressure gradient		95
6·3.	Pressure and the potential energy function		95
6·4.	Gravitating matter		98
6·5.	Liquid moving in relative equilibrium		100
6·6.	Liquid rotating uniformly		102
	Examples		109
Chapter VII: PRESSURE OF GASES. THE ATMOSPHERE			
7·1.	Torricelli's experiment. The barometer		115
7·2.	Pressure, density and temperature		116
7·3.	Mixtures of gases		119
7·4.	Vapours		120
7·5.	Specific heats		121
7·6.	Adiabatic changes		123
7·7.	Pressure in an isothermal atmosphere		125
7·8.	Atmosphere in convective equilibrium		126
	Examples		128
Chapter VIII: HYDROSTATIC MACHINES			
8·2.	The siphon		135
8·3.	The diving bell		137
8·4.	The common pump		139
8·5.	The common air-pump		141
8·51.	Smeaton's air-pump		143
8·6.	The condenser		145
	Examples		146
Chapter IX: CAPILLARITY			
9·11.	Surface tension		154
9·2.	Angle of contact		154
9·3.	Rise of liquid		155
9·4.	Relation between surface tension and pressure		156
9·5.	Capillary curve		158
9·6.	Principle of Archimedes. Effect of capillarity		162
9·7.	Liquid films		163
9·72.	The catenoid		164
9·8.	Energy of a plane film		167
	Examples		168