THE LAWS OF THERMODYNAMICS

Published @ 2017 Trieste Publishing Pty Ltd

ISBN 9780649374151

The Laws of Thermodynamics by W. H. Macaulay

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

W. H. MACAULAY

THE LAWS OF THERMODYNAMICS



Cambridge Engineering Tracts

GENERAL EDITOR
B. HOPKINSON, M.A.

No. 2

The Laws of Thermodynamics

CAMBRIDGE UNIVERSITY PRESS #enden: FETTER LANE, E.C.

C. F. CLAY, MANAGER



Coinbergh: 100, PRINCES STREET

Malia: A. ASHER AND CO. Linging: F. A. BROCKHAUS

Sets Forth: G. P. PUTNAM'S SONS

Bombag and Calcutta: MACMILLAN AND CO., Lvo.

THE LAWS OF THERMODYNAMICS

by

W. H. MACAULAY, M.A.

Fellow of King's College, Cambridge

Cambridge: at the University Press 1913 OC311

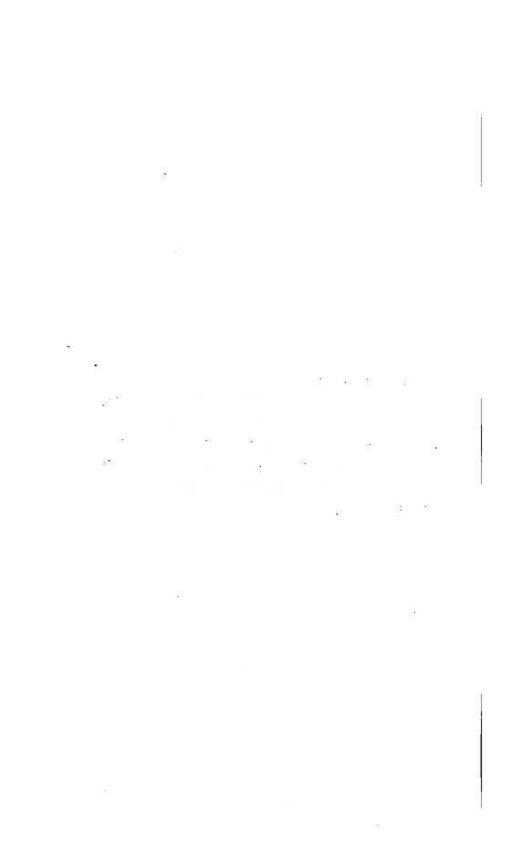
Cambridge:

PRINTED BY JOHN CLAY, M.A.

AT THE UNIVERSITY PRESS

PREFACE

THE aim of this tract is to provide a connected and accurate account of the fundamental principles of thermodynamics, combined with a sketch of methods of applying the theory in special cases, to supplement technical books on the subject. It may be well to warn a beginner not to attempt to read it straight through, but rather to use it as a help, in conjunction with other information.



CONTENTS

	CHAPTER I.	Fu	CTIO	NB O	F TW	o v	RIA	BLES.		
SECT.										PAGE
1.	Introductory .					27.		58		1
2.	Diagrams .							100		1
3,	Line integrals .		ii.				4	1		1
4.	Perfect differentia	lis	92	858	93			\$ 3	130	2
5.	Mdx+Ndy when	not	a per	fect .	liffer			9 5		6
	Снартвв II. Т	не в	IRAT	LAW	OF	THE	LMOT	LANY	M tcs.	
6.	Measurement of h	est	3	95	26	36	274	10	*	8
7.	Temperature .			•	•		8.	*		9
8.	The first law of t	herm	odyna	vinios	Liber:	380	:09	8 0	100	10
9.	The energy equat	ion	340	2.9	600	*	12	200		12
10.	Combustion of fue	el		ii.		*		- 5		13
11.	Internal combusti	OR BI	igine					-		14
12.	Continuous revers	ible 1	ргооес	1888	88		13	88	36	15
13.	Adiabatic processe	88	2. 100		86	3-6	134	*:1	345	18
14.	Fluid working sub	ostan	œ	•	ĸ	(*)	13	•00	*	19
	CHAPTER III.	Par	TICUI	LAR	TYPE	8 OF	SUE	STAN	CE.	
15.	A vapour and its	liqui	id	28	¥25	92	234		98	21
16.				20	•		330	147		23
17.	F. Aen			12		·	0			23
18.	Throttled vapour		Ş.			ě.				25
19.	Perfect gas .	*1	•	· ·	33		33	(3∔ 55	*	27
(CHAPTER IV. TE	IE BE	CONT	LAV	y or	THE	RM0	DYNA	MICS	20
20.	Introductory .	40)		79	0 - W	200	in in the second	97.00	**	33
21.	Example of appar	atus	for t	ansfe	rring	hea	t.	8.40	**	34
22.			*				100	8.97	40	35
23.	00001 0000 000 000 000 000 000 000 000					.00	0	•		38
24.	Thermodynamic se		of ten	pera	ture	8	30	1000	30	39
25.							92		23	40
26.	Historical note									42