

**BACHELOR'S THESES. UNIVERSITY
OF WISCONSIN - MADISON.
COLLEGE OF ENGINEERING.
MICROSCOPIC INVESTIGATION
OF ALLOYS**

Published @ 2017 Trieste Publishing Pty Ltd

ISBN 9780649424177

Bachelor's Theses. University of Wisconsin - Madison. College of Engineering. Microscopic Investigation of Alloys by Clarence Eugene Abbott

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.

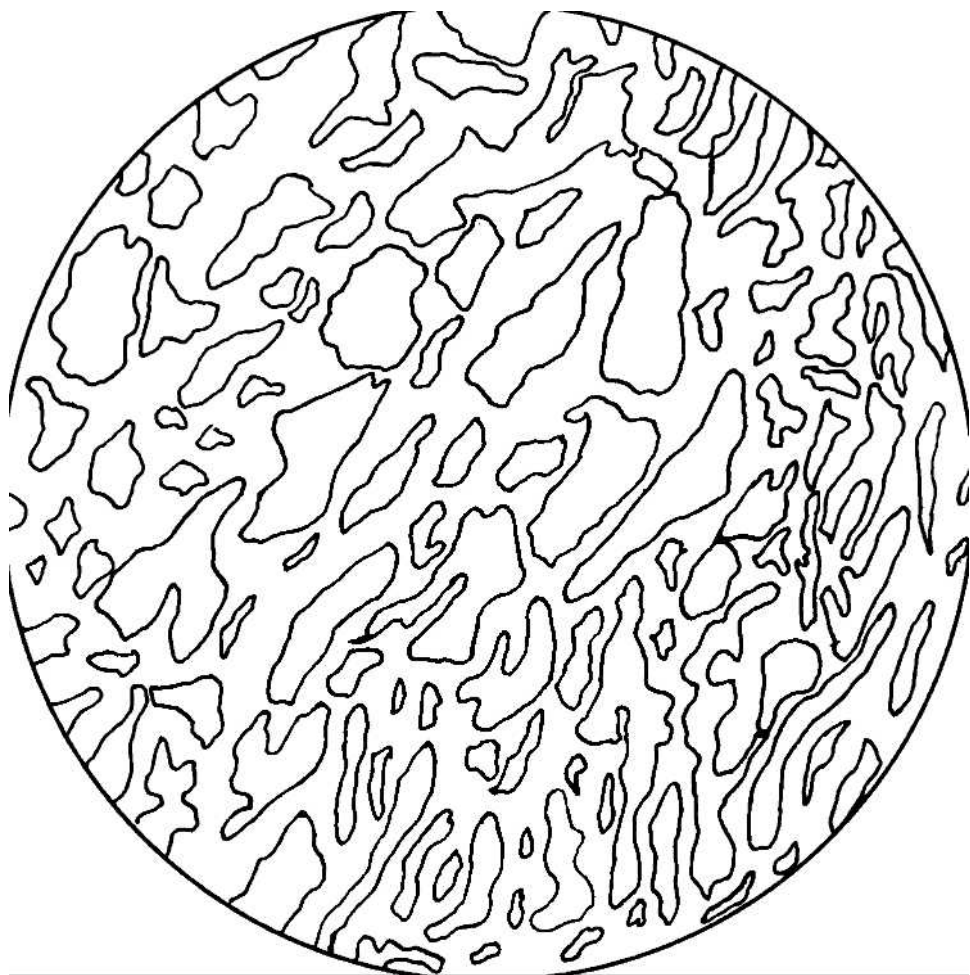
Edited by Trieste Publishing Pty Ltd.
Cover @ 2017

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

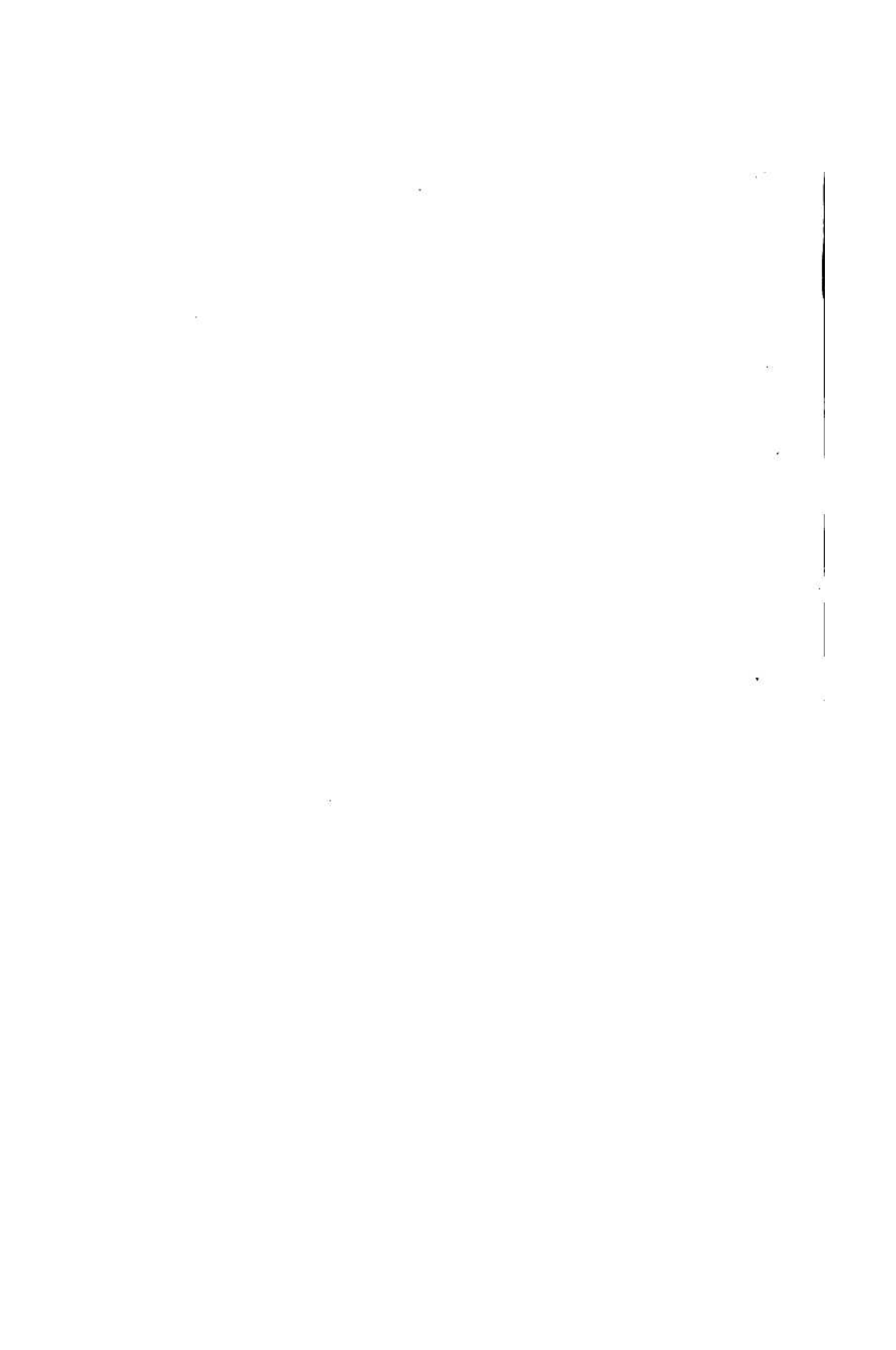
CLARENCE EUGENE ABBOTT

**BACHELOR'S THESES. UNIVERSITY
OF WISCONSIN - MADISON.
COLLEGE OF ENGINEERING.
MICROSCOPIC
INVESTIGATION OF ALLOYS**



Bachelor's Theses

University of Wisconsin--Madison.
College of Engineering



MICROSCOPIC INVESTIGATION OF ALLOYS

by

CLARENCE EUGENE ABBOTT

A Thesis Submitted for the Degree of

BACHELOR OF SCIENCE

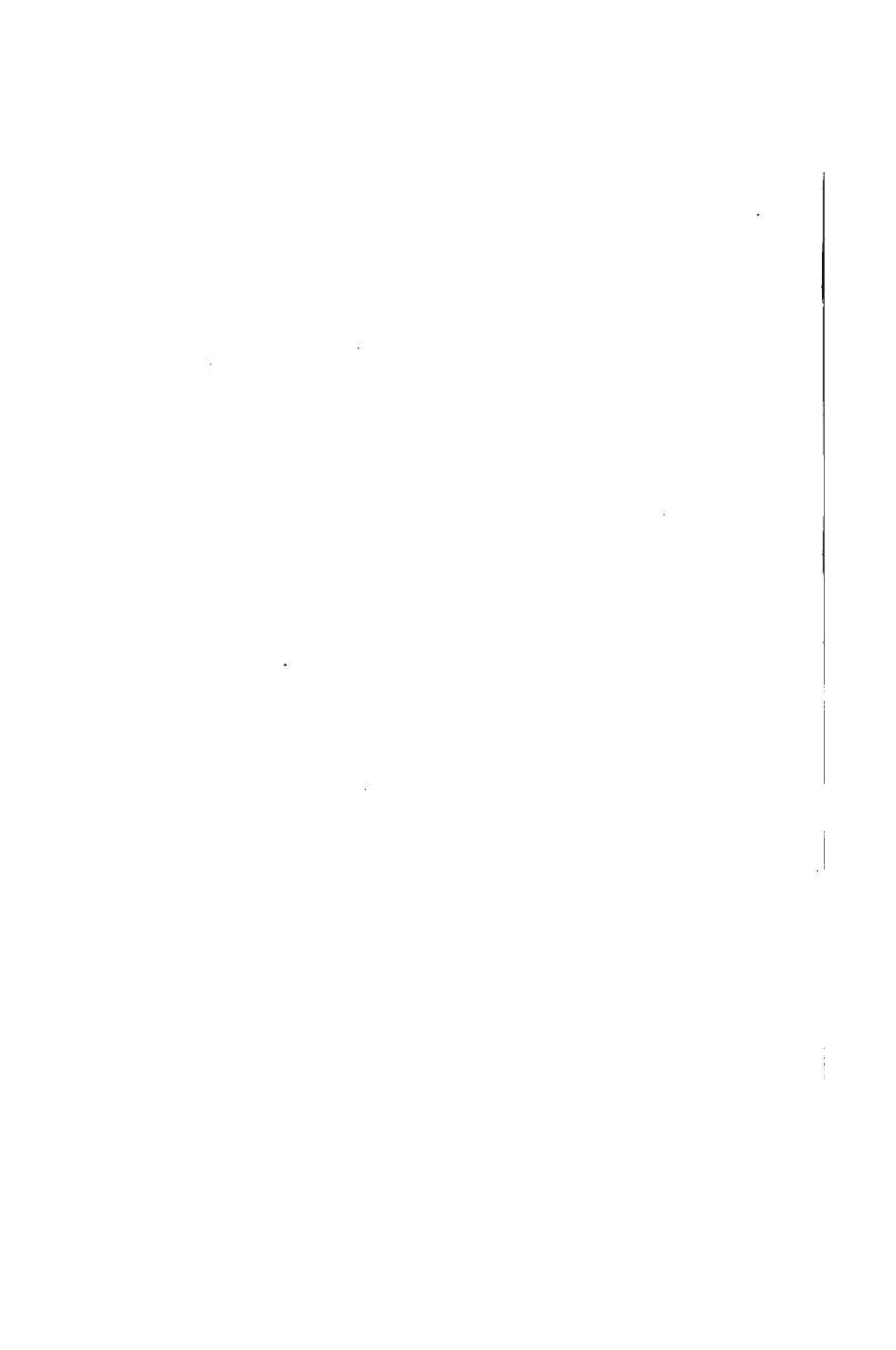
in

Me. ENGINEERING

UNIVERSITY OF WISCONSIN

1901

MICROSCOPIC INVESTIGATION OF ALLOYS.



INTRODUCTION.

The object of this thesis is to carry to some further extent the work of Messrs. Harvey and McArthur upon metallic alloys, as submitted in their thesis entitled "Microscopical Analysis of Steel and Alloys as a Commercial Test." Camera lucida drawings have been made together with micro-photographs. The lucida drawings of the specimens seem to show to a much better degree the irregular shape and approximate size of the crystalites. They also enable one to make a comparison, by means of the planimeter, of the area of the metals exposed upon a cross-section and the percent of metal in the alloy.

It is known that the area of a metal exposed in a cross-section is practically proportionate to the percent of that metal in the alloy. This is not mathematically true unless the areas are of infinite number and of equal distribution. If the areas can be found to bear a certain relation to the percent of metal in an alloy, then the volumes must also bear a relation. Binary compounds were dealt with mainly because their structure is comparatively simple and thus much easier to study.

The specimens were weighed in one hundred gramme lots. They were melted in a coke draft furnace and when