CERAMIC CHEMISTRY

Published @ 2017 Trieste Publishing Pty Ltd

ISBN 9780649440917

Ceramic Chemistry by H. H. Stephenson

Edited by Trieste Publishing Pty Ltd.
Cover @ 2017

www.triestepublishing.com

H. H. STEPHENSON

CERAMIC CHEMISTRY

Trieste

CERAMIC CHEMISTRY

By

H. H. STEPHENSON.

LONDON:
DAVIS BROS., 265, Strand, W.C.

1912.

PREFACE.

Modern Ceramics may be said to date from Brogniart (1770-1847). The predominance of the French chemists in the science of pottery during the early and middle parts of last century caused the word *Ceramic* to be transplanted into English and German. Seger and his colleagues then caused potters to turn their eyes to Berlin for a generation; but there are not wanting signs that many of Seger's conclusions are being seriously questioned by the present school of ceramists. New vitality has sprung from the foundation of the American and English Ceramic Societies and from the adoption of the science as a subject for degrees in many American Universities.

That Ceramics is suitable for University study—both theoretical and practical—there can be no doubt. It is the natural means of transition from Geology to Chemistry, Mathematics, Physics, and Engineering. No other subject unites those five sciences so intimately. If this book should promote the secondary and higher study of the subject in England, the writer's aim will be accomplished. He wishes to express his indebtedness to the Transactions of the English and American Ceramic Societies.

H. H. S.

CONTENTS.

INTRODUCTION.

Ceramic chemistry is concerned chiefly with the reactions of silicates. It is complicated by the difference in conduct between body and glaze. In the latter, if properly matured, the chemical reaction between the constituents has proceeded to a finish, and the melt consists of a homogeneous mixture or solid solution of silicates and, it may be, borates and phosphates, and any eutectics that may be formed. With the body, on the other hand, it is different. The firing is only conducted to incipient vitrification, if as high as that. The chemical reactions are not allowed to proceed to a finish. The chemistry of pottery is therefore, as far as the body is concerned, one of incomplete reactions. Consequently, the nature and condition of the raw materials are of importance in the body, while in the glaze they are irrelevant as long as the same ultimate composition is preserved.