

THE DEVELOPMENT OF CERAMIC WORK AT THE UNIVERSITY OF NORTH DAKOTA¹

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ABSTRACT

The development of the Ceramics Department of the University of North Dakota; correlation of research in chemical and experimental laboratories and cultural value of the work; inexhaustible supplies of the state being utilized.

The ceramic work at the University of North Dakota had its conception in the research work of the School of Mines on the high grade clays of the State.

There are many different types of clays in North Dakota undeveloped, yet suited to the manufacture of a great variety of ceramic products from common brick to those higher grades of pottery which are the most exacting in their chemical and physical requirements.

As North Dakota is relatively a young State there has not been time to thoroughly investigate and develop many of its resources. This is particularly true of its great deposits of lignite and its varied and valuable clays, some of the finest of which are found in close proximity to extensive deposits of lignite capable of supplying abundant and cheap fuel, so important in the development and economies of a ceramic industry.

The preliminary investigations of the School of Mines made so evident the high quality of many of these clays that it seemed desirable to provide facilities for their more detailed technical and practical study. As a result the Ceramic Department of the School of Mines was established.

Although its primary purpose was to afford better research facilities in ceramics, it soon became evident that this, both for technical and economic reasons could be coupled advantageously with instructional work, utilizing thereby the equipment, the technical

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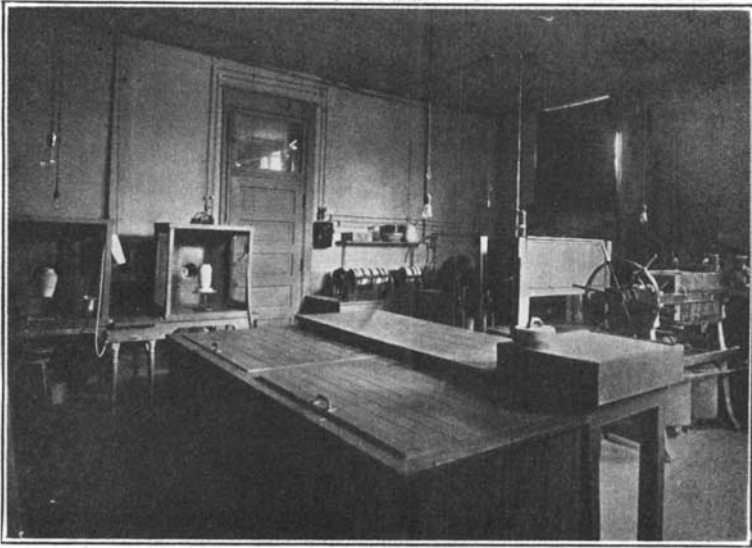


FIG. 1.—Slip room, Ceramic Department, School of Mines,
University of North Dakota.



FIG. 2.—Art pottery made at the School of Mines,
University of North Dakota.

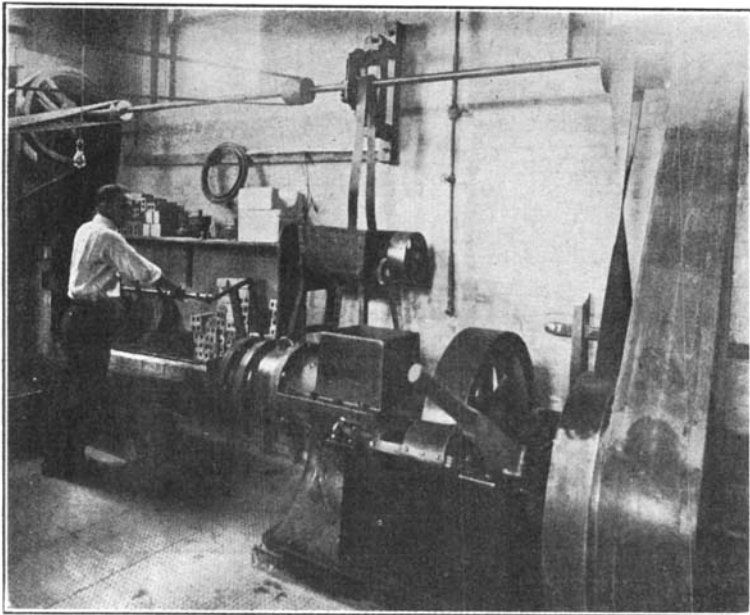


FIG. 3.—Brick machinery, Ceramic Department, School of Mines,
University of North Dakota.

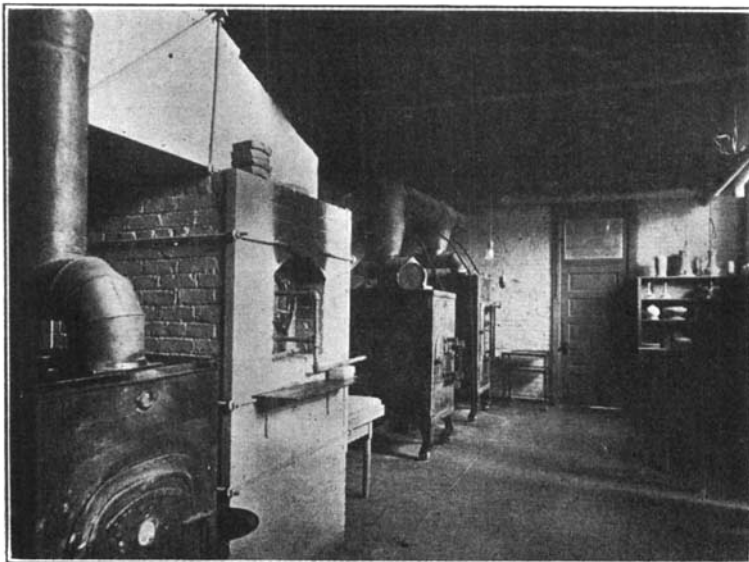


FIG. 4.—Kiln room, Ceramic Department, School of Mines,
University of North Dakota.

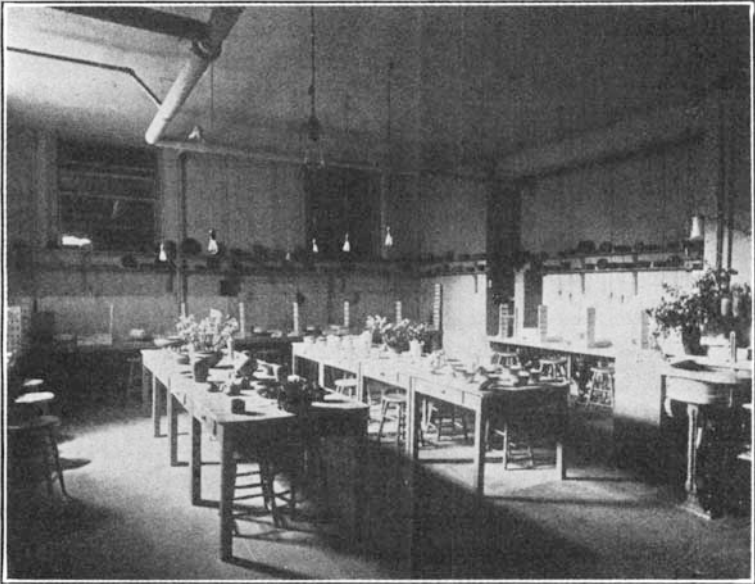


FIG. 5.—Pottery laboratory, Ceramic Department, School of Mines, University of North Dakota.

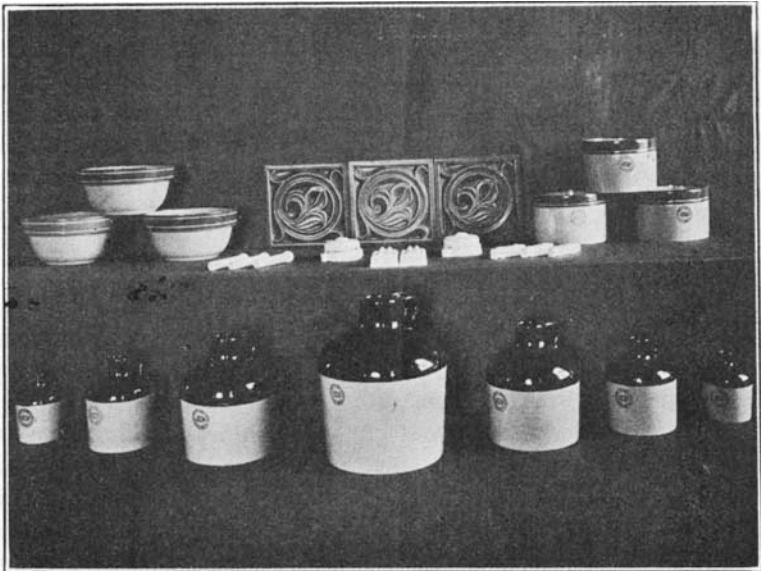


FIG. 6.—Stoneware, tile, etc., made at the School of Mines, University of North Dakota.

force and later, the contributions of advanced students in securing a larger volume of research work, while at the same time affording an opportunity for instruction and training to young people interested in the great field of ceramic technology.

From time to time the courses of instruction originally outlined have been extended and other courses added although they have not as yet been developed into a curriculum leading to a ceramic degree. On the other hand students in mining and industrial engineering are given an opportunity to take some of these technical courses as ceramic electives. Other courses are open as electives to students in the College of Liberal Arts and in Teachers' College.

As the pottery industry is one of the best illustrations of the combination of industry, science and art, its study is therefore very worthy of a place in a university curriculum. For this reason we have emphasized somewhat the pottery phase of the industry and have aimed to keep constantly before the students its scientific and cultural value as well as its practical value. We have also felt that if we could prove, in our research work with our higher grade clays, their fitness for the more exacting and more beautiful types of products we could, with comparative ease, work downward in our research into those types of clays fitted for the more common products. This plan has proved very successful. Our students have taken a deep interest in the work because they are dealing with actual problems concerning our undeveloped resources, and because they are lead to see the direct application of science to this study and the really artistic and beautiful products which may be created by the application of technical methods combined with careful design and manipulation.

The result has been a much larger demand for the work than we have been able to accommodate. We have reached an enrollment in these various courses of over sixty, with a waiting list of nearly as many more.

We have endeavored to put our work on a scientific, technical and practical basis from the start using the methods of investigation and operation which would be employed in the most up-to-date industrial plants. Our chemical and experimental labora-

tories have, therefore, been well equipped for clay testing, and the clay-working laboratories have been provided with standard types of machinery for actual production by the same methods as employed in the various lines of ceramic industries. We have endeavored to make our clay-working laboratories what might be called small working plants and in so doing we have developed on the one side a small brick and tile unit for the practical working of clays adapted to construction material and on the other side a pottery unit. In this way all of the essential operations can be carried on in either line of work by standard methods and by standard equipment.

The character of the work has steadily improved until the products, especially in our classes in practical pottery, are of excellent quality and of such a character as to prove beyond a doubt that there are many deposits of exceptional clays in North Dakota well fitted for the production of high grade stoneware, earthenware, art pottery, etc. In addition to our instructional work we are accumulating a large amount of technical and practical data on our undeveloped clays.

When we consider the quality and the proximity of some of these deposits to inexhaustible supplies of fuel there seems to be no reason why in the near future North Dakota should not be ranked among the important states in the ceramic industry.

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