Arkansas Is Outstanding in Clays Development is Necessary
Arkansas Gazette 12-16-37

In the Northern part of Arkansas, in and near Mammoth Spring, which is the home of the world's largest natural spring and is noted for its variety of plants and for its rich minerals, is a clay deposit which has been the subject of much interest and speculation among manufacturers of pottery and brick. The deposit is located about ten miles north of Mammoth Spring, and is called the "Arkansas Clay Belt." The clay is a fine, white, fine-grained material, and is said to be the finest clay deposit in the United States. It is widely used in the manufacture of pottery, brick, and other products. The deposit is located in a region of the Ozark mountains, and is known for its rich mineral deposits, including copper, lead, zinc, and silver. The clay is easily worked, and is said to be one of the finest deposits in the world. It is used in the manufacture of pottery, brick, and other products, and is highly prized for its fine quality.

Clay Development in Arkansas is Essential For Future Growth
Arkansas Capital News - Herald
In Arkansas there is a clay for every purpose, but the clay deposits have not yet been thoroughly examined.

Government records show that in 1935 Arkansas clay deposits were valued at $85,762,794, the greater portion of which went into the manufacture of brick and tile.

"Northern states whose deposits are not so extensive as ours are making several millions of dollars each year from them," he said. "About the only use to which Arkansas clays are being put now is the manufacture of bricks and tiles."

There are two or three pottery plants.

Government records show that in 1935 Arkansas clay deposits were valued at $85,762,794, most of which was brick and tile.

Other uses which could be made of Arkansas clays, he said, are as follows:

- for manufacture of pottery
- for manufacture of sand molds
- for manufacture of glass
- for manufacture of cement
- for manufacture of firebrick
- for manufacture of brick

In the development of Arkansas clays, small industries could be located in every part of the state in the manufacture of pottery, brick, and tile. The deposits are located in the eastern part of the state, and are said to be the finest in the United States. The clay is easily worked, and is said to be one of the finest deposits in the world. It is used in the manufacture of pottery, brick, and other products, and is highly prized for its fine quality.

Arkansas Is Outstanding in Clays Development is Necessary
Arkansas Gazette 12-16-37

BY CAROL S. MOORE

Arkansas Gazette, Dec. 15. - The difference in the use of clays by various industries depends upon the need of the industry. Some industries use clays for roofing, others for stone, and still others for pottery.

When you say "clay" to the average person, he thinks of the pottery. But these clays are not all the same. Some are used for making pottery, others are used for making bricks, and still others are used for making glass. There are many kinds of clay, and each has its own particular use. Some are used for making pottery, others for making bricks, and still others for making glass. There are many kinds of clay, and each has its own particular use.

Arkansas is a leader in the production of clays, and the state is well known for its rich deposits of clays. The clays are used in the manufacture of pottery, brick, and other products, and are highly prized for their quality. The clays are easily worked, and are said to be one of the finest deposits in the world.

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Texas, Mississippi and Other States Seeking Markets Throughout South

By WILLIAM JOHNSON.

What would you name, offhand, as the most useful thing in the world to man? Suppose, to avoid argument, that we compromise on a material that Arkansas has in enormous volume. It is clay. Man, himself, was fashioned from clay. You know—clay makes him, in one gay way or another. He needs it for making his pottery and for making his bricks, for strengthening his homes and his buildings. He needs it for making his land richer, and his fare more abundant. He needs it for making his pottery and for making his pigmours, for making his cloth and his shoes.

Clay is even used as a building stone. In the Washington district of the state, the London clay was located in a large cave whose interior is not much of a mystery, calling it a den. It was said to be used in the construction of the buildings. It was used in the town of Washington as a building material.

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New Type Of Brick Finding Many Uses

Hot Springs, Jan. 30.—Another Arkansas product will soon be doing a big business in the construction field, Mr. Mike Foley, manufacturer of brick, said here yesterday. Mr. Foley, who made bricks, manufactured in Malvern, will soon be on his way to state, as famous as Nebraska and South Dakota. The bricks are used in many of the buildings which engineers claim, solves the smoke and draft problem of the old-time church, school, and other buildings.

The new brick was perfected over a period of years. Mr. Foley has been a brick manufacturer for 25 years, and he has helped install brick walls of many buildings, noted the waste in fuel and efficiency that he could not in writing down the formula. He says that he has not kept it at him. Just prior to the opening of the new plant, he had a clay and brick manufacturer from Illinois and Indiana, who has since been converted to the new brick, and in very short time the new brick is being used in all the buildings in the state.

Mike Foley says that the new brick is the result of many years of research and development. The new brick is made of a mixture of clay and sand, which is then pressed into the mold. The mold is then put into a kiln where it is fired at a very high temperature. This process hardens the brick and makes it strong enough to withstand the wear and tear of daily use.

The new brick is being used in the construction of many buildings, including schools, churches, and residential homes. It is becoming increasingly popular because of its durability and cost-effectiveness.

Large orders have been placed for the new brick, and Mr. Foley expects to see a rapid increase in demand. He is optimistic about the future of the brick industry and believes that the new brick will continue to be a leader in the construction field.

Great Advance Seen in Brick Making Art

The advancements in brick making art have been truly remarkable, and the improvements in brick quality and durability have been significant. The new brick, which is being produced by Mr. Foley, is a prime example of these advancements.

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Huge Deposit Of Kaolin Reported

A huge deposit of kaolin has been discovered in the Lone Star state, which Arkansas also has. This deposit is located in the region of the old oil fields, and is surrounded by a network of aquifers. The kaolin is of high quality and is expected to be a valuable resource for the future.

The discovery of the kaolin deposit is a significant event for the local community, as it provides an opportunity for new economic development. The kaolin can be used in a variety of industries, including ceramic manufacturing, paper production, and construction.

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Arkansas has taken another step forward—a step which many consider the most important in several years. Actual work has begun recently in testing thousands of samples of Arkansas minerals and clays in the new laboratory which has been so long needed by the state Geological Survey. It is predicted that this service will prove of inestimable value to Arkansas in soliciting future commercial and industrial development.

Herefore much of the state's clay testing has been done outside Arkansas, the clays having been sent to the College of Ceramic Engineering in the state universities of Illinois and Ohio. The clays of Arkansas, like those of Georgia, Pennsylvania, South Carolina and Missouri, are among the state's greatest assets.

This mineral of so many varieties, qualities and uses is found in abundance—perhaps millions of tons—in the south central and southwestern counties of Arkansas. The best qualities in commercial quantities are found in Pulaski, Dallas, Saline, Clark, Ouachita, Hot Spring, Nevada, Hempstead and Miller counties. The clays of the eastern part of the state are best suited to brick making, with the exception of those in Crowley's Ridge, which are of the same grade as those in the southwestern part of the state.

With the exception of laboratories connected with privately owned ceramic plants and one conducted by the Mineral Survey at Oxford Mills, the only clay testing laboratories in the South, besides the new Arkansas laboratory, are Georgia School of Technology, at the Universities of North Carolina and Alabama, and at the Missouri School of Mines and Metallurgy at Rolla.

Much credit for obtaining the new laboratory, which is at the site of "The Walls," former state penitentiary, was given to the late Dr. Bower, in the southwestern part of Little Rock, due George C. Bannier, state geologist, whose department, the State Geological Survey, is sponsoring a state mineral survey as a WPA project. This has been in operation since January, 1934.

The WPA's part in the work is under the direction of K. E. Castleberry, project supervisor; R. E. Linnel, director of operations; R. E. Vandenbroek, project engineer, and Raymond W. Wiener, coordinator between the WPA and the state Geological Survey. Through the work of the mineral survey the metallic and non-metallic minerals of proved commercial value known to exist in 35 or more counties are being investigated by field workers with instructions to make a record of all deposits found. These reports will cover the thickness, quality, color, hardness and an estimated amount of each mineral catalogued. The exact location of each deposit is mapped according to formation, township and range and a sample is sent to the laboratory. The counties in which the mineral survey is being made share the expense with the other sponsors.

The State Highway Department, which owns the old penitentiary plant, has cooperated with the Geological Survey in acquiring the laboratory and it gave the brick from the walls which surround the old buildings for the construction of the new laboratory. The work of removing the brick and of building the new structure was accomplished by WPA labor.

The new building is just outside the west wall, in fact, a part of the wall, left intact, has been used as the back side of the building.

The laboratory consists of two connected buildings divided into five departments in one of which analyses are made of minerals other than clays, and of samples of waters sent from all counties in the survey which is being conducted. In the ceramic building the offices are housed in the office, the storerooms for thousands of samples sent in by the mines. Among the main buildings are the modulator, the sintering machine, the slaking machine, the molding machines, the greenware, and the kilns, the molds for forming the test bars and the equipment for grinding, crushing and screening the clays. Added interest is given the kiln when it is known that its construction is of fire brick made from Arkansas clay given by an Arkansas industry, the Aye Brick Company. The furnace is of the down-draft type, fired by gas and using compressed air.

Each sample to be tested is divided into two parts, one of which is retained in its natural state, together with the information which came with it from the field worker. A number is attached to this unused portion. The other half is prepared for testing and another half is prepared for testing and given a duplicate number. After the bars into which the second half have been molded have been submitted to the required number of tests they are placed with the original material and the data of laboratory findings are placed with the field notes covering this particular specimen. Thus a complete index is made.

The process by which clays are tested is comparatively simple and is of interest even to those who have little or no knowledge of ceramics. Samples taken for testing are selected according to the prescribed standard, which is 100 pounds. After they have been seasoned in the dryer to eliminate all moisture, they are crushed, screened and pulverized to a consistency which will form a plastic substance when mixed with water and applied to a tile. A temperature of 2,500 degrees F. is used in the firing and the test bars remain in the kilns for about 30 hours. A total of 18 test bars are made on 148 bars, all from the same sample of clay. These bars are of two sizes, 72 being six inches long, and 20 being of two inches in length. The plant is capable of testing five samples daily, with the largest structures made of Arkansas clays.

Reports from the field indicate that a large percentage of the clay products examined by the mineral survey is easily accessible for removing from the earth and conveniently reached by railroads and highways. Water supply is ample in all locations; gas and oil for fuel are within easy range. There are several towns immediately within the clay bearing sections, any one of which might prove a logical point for a clay products plant. Larger cities are within a radius of 50 miles of the clay beds.

Arkansas's potential markets for clay products are the entire West and Southwest, as little of no clay is found in Texas and the states of the prairie regions.

As the chemical content of the water available is of vital importance and a leading factor in the choice of location for certain types of industrial plants, the water analyses made at the laboratory are of a commercial viewpoint only. Tests are made for alkalinity, iron, aluminum, calcium, magnesium, manganese, total solids, nitrate, zinc, lead and several other qualities.

Keith Harrison and H. E. Carroll, chemists, are in charge of the water testing department of the laboratory. Mineral tests are conducted by T. W. Goetz, chief chemist, and H. E. Grace, ceramic engineer. The Keota Walker and Arlington Wagoner are the mineralologists.

Other uses to which clay is put in the state's manufacturing industry are as gaseous producing agents and filler for paper, for making linooleum and linoleum, in kerosene and other products and as a filler for paint. Clay enters into the manufacture of plaster and plaster products, chemicals, artificial abrasives, and for retorts and condensers. Distinctly American are the "rubber clays"—those semi-soft products including sound recording and sound transmitting apparatus; rubber heels on footwear may contain as high as 46 per cent or more clay by weight.

A type of clay known as "bentonite" is used extensively in the oil fields, where it is called "drilling mud." This fluid which is used to flush away the cuttings and bring them to the surface, is pumped through the inner tube. Bentonite is used in foundries as a core wash and is used at dams to stop seepage and to plug leaks. The spraying material used by agriculturalists contains bentonite; it is added to concrete mixture to increase the flow and workability. It is said that Indians used this clay as soap. The full extent of bentonite deposits in Arkansas has not as yet been determined.

The report on Arkansas clays by the United States Bureau of Mines shows that, beginning in 1894, the value of products was $212,666. Since 1933 the industry has continued steadily for the next 36 years until the value amounted to approximately $1,000,000.

In the manufacturing plants of the state the various types of clay are represented in the fine pottery of Kaolin, in the brick of the different grades and uses and in tile and in the largest structures made of Arkansas materials.

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Arkansas Has White Clays For Alumina

Gazette 5-13-40

White clays from which TVA engineers have developed a new source of aluminum, one of the world’s most important industrial and defense minerals, are found in abundance in Arkansas, engineers acquainted with the prospective development, said yesterday. They said aluminum clays are the ordinary clays found in all sections of the state.

Keelin, a pure aluminum clay, is used to make pottery. The new process was perfected after four years of secret experiments by TVA chemists. The TVA said the discovery may take equal rank in importance with the development of synthetic rubber.

Bauxite, Exhauster Sources.
The exclusive source of aluminum has been bauxite, the principal domestic source of which comes from Arkansas mines. Much of the ore is imported from Dutch and British Guiana.

Aluminum Company of America is the only producer in the country, although many of its basic patents have expired. The company controls extensive sources of bauxite.

The TVA announced as soon as patents are obtained on the new chemical process, the formula would be released to private industry. It is possible, they pointed out, a competitive condition may arise in the aluminum fabrication industry as a result.

Greenfield, more expensive.
A geologist said the process would be more expensive than the one used at present in reducing bauxite to aluminum. He said the bauxite was easier to break into compound parts than other aluminum clays.

The Reynolds Metal Company of Richmond, Va., is negotiating with state officials for the possible location of an aluminum and paper mill in the state. Some officials said the new process, when it is made available to the public, might improve the company’s market.

Barium Refinery To Open Soon.
May 5, 1940

Special to the Gazette.

Malvern, May 5.—Seventy-nine cars of lumber and 17 cases of brick were shipped from Malvern last week, a daily average of 14 cars of lumber and 11 cars of brick.

The first lumber mill, A. B. Cook Lumber Company, and the first brick plant, Malvern Brick and Tile, and the Barium Mill Plant at Malvern, were all running full force in all operations. These concerns are employing 876 men at the plants and more than 325 in the woods.

Malvern is doing more business than it had for many years. With a larger supply of raw material behind it, good progress is being made if the demand and the price situation continue to grow.

The Stockton handle factory here is running full time, employing 20 men at the plant and furnishing a steady demand for lumber for the men who supply the pulpwood and ash timber.

The Van Provost Company is employing 32 men on full-time schedule, with a large force cutting and hauling gum timber.

The International Shoe Company mill employs 250 persons in three shifts.

Orders Piling Up At Barium Plant.

The first unit of the new $200,000 barium refinery is nearing completion and will begin operation soon, employing about 40 men. Running three shifts to catch up with orders already on hand. More ground is being prepared for the expansion of the plant as rapidly as possible. Two large buildings have been removed in the past three weeks and another will be torn down next week.

Malvern Brick Company Expands Field
Gazette 5-13-40

Shipment of a large consignment of face brick to Davenport, Ia., the past week marked the extension of the Malvern Brick Company’s sales territory into another state, George B. McDonald, sales manager, reported yesterday.

Area was added to a sales field which already included Louisiana, Texas, Oklahoma, Kansas, Missouri, Mississippi, Tennessee and New Mexico.

The expanding field reflects the names of approval which builders have placed on the company’s products, Mr. McDonald said.

“The brick and hollow building tile manufactured at the Malvern Brick Company have been accepted throughout the territory where they have been used as superior clay products for permanent construction,” he asserted.

Mr. McDonald was named sales manager of the Malvern Brick Company in November, 1935. He had been connected with the company since 1928. He had been in the wholesale and retail sales business and had been a sales representative in Louisiana before his promotion to sales manager. His headquarters now are the company’s sales offices at 411 West Second street, here.

Mr. McDonald anticipates the increased use of brick in home construction.

“I believe that if prospective home builders would eliminate the cost of brick and frame construction, they would find the cost of brick less than that of the cost of frame construction,” he declared.

Over a period of a few years the added cost of upkeep of the frame construction would more than pay the added cost of brick construction.”
IN THE SKILLFUL HANDS OF THE POTTER, Arkansas clay is transformed into a work of art. Here, the wet clay on the potter's wheel begins to assume graceful form.

WHEN THE POTTER IS DONE WITH THE PIECE, there is yet needed an all-over smoothing with a wet sponge. That is what the "finisher" here is doing.

A FINAL DELICATE SCRAPER AND THE POTTER'S JOB IS COMPLETED as the vase assumes its graceful form. Note its perfect symmetrical proportions in which the potter's art takes pride.

GRACEFUL BEAUTY FROM UGLY CLAY IS THE FINAL RESULT, as this closeup shows. Arkansas' pottery products are sold all over the world — at least, they were until the European war disrupted things.
CEMAMOS IS AN IMPORTANT ARKANSAS INDUSTRY, though comparatively few people know that the state's clay is turned into beautiful works of art at large pottery plants at Camden and Benton. Here a potter finishes the finishing touches on a classical urn; the pottery works at the window represents the ceramics industry in one of the lighter modes.

TOURISTS ARE GREAT POTTERY BUYERS, and display rooms along the highways mean sales. This one is on a highway near Little Rock.

Clay Deposit May Be Used For Fire Brick

A newly discovered deposit of commercial clay in Pike and Howard counties may be used by the Acme Brick Company of Malvern for the manufacture of fire brick, State Geologist George C. Branner said yesterday. A survey of the deposit will be made by agents of the state Mineral Survey, he said.

The company imports clay from Missouri for making fire brick, using domestic clay only in the manufacture of facing and construction brick. The clay will be tested to determine if it can withstand the usage to which fire brick is subjected.
Arkansas Pottery

By Dr. Frank S. Dicke

Gazette 23-5-40

Arkansas is justly famous for its pottery, and Camark Ware has gained worldwide fame, because of its originality and beauty of design, but it is by no means the first to attract attention. Hundreds of years before, Indian women in our state had made pots which were the envy of visiting squaws.

When Father Marquette came down the Mississippi as far as the mouth of the Arkansas and stopped at the Quapaw village in 1673, he wrote that they made corn in well made jars. Another missionary, Father St. Croix, who was at the Arkansas Post in 1699, also mentioned the "large earthen pots and kettles."

Archaeologists agree with the early French travelers that Arkansas Indian pottery is unsurpassed in the Southern and Eastern United States. In some respects it is even superior to modern wares with which it is ofttimes confused.

The oldest of these Indian graves is by Prof. S. C. Delinger for the University of Arkansas Museum of Archaeology. Before the Federal Judge Harry J. Lemeny of Hope, exhibit a high quality of workmanship.

All of the Indian pottery was handmade, for the wheel was unknown in America prior to the arrival of the whites. Nevertheless, the potters manufactured symmetrical vessels, and decorated them so skillfully that modern duplication would be difficult.

In making pottery, the Indian woman would pass a thigh-high neighboring creek and dig up chunks of it. This clay was then thoroughly dried, then pounded underfoot, that it was a land and free it from all grit. The clay itself was not mixed with any other clay to prevent chipping during the process of baking if some binder was not added. This temper would consist of sand from the Mississippi and Arkansas rivers powdered mussel shells were used. In some cases, broken pottery or even volcanic ash from the mountains sufficed. Some clay, however, about one-third of the binder was mixed with two-thirds clay and sand to form a sticky paste. After this had been kneaded, it was rolled into strips or ropes.

The potter formed the base of her vessel by coiling the clay ropes in spiral fashion within a basket or an old bowl. When the vessel had been completed it had added other strips, placing one on top of another until the vessel was well ranged. Each strip was carefully pressed to the one below it. When the pot had been dried, the Indian added a wash of finer clay, sometimes colored red, and then smoothed it down with a fine padded pebble. Occasionally, she would accidentally leave marks of her fingers in the inside of the vessel, and when the piece had been fired they became permanent. These have been studied by archaeologists as carefully as detectives examine fingerprints of a criminal.

The piece was next put into the shade to dry. After about 24 hours the vessel was ready to be baked. The Indians had no covered kilns or ovens as we do. Instead, they built a large fire, allowed it to burn down, and then placed the pots in the embers. If necessary, additional fires were built around the pots. This was done, though, on the coloring the potter wanted. If she desired a cinnamon, reddish yellow, she increased the heat, but if a deep brown or black was preferred she smudged the fire, generally by adding buffalo dung. After being baked for about two days the pots were removed from the fire, allowed to cool, and then were greased with bear fat. This gave them a bright finish. Some of those that were left to dry up still bear a high polish, which is occasionally mistaken for a glass. Glass vases, however, were unknown in the Arkansas until the European arrivals.

The pottery was used in many ways. For example, for storage, as well as for cooking and storage vessels, but there was also a special class of ceremonial ware. According to early French accounts, traveler's may come into fashion want to do their day's work with from raiders and robbers, just as the town protected peaceable peasants.

Inkwell Times of the Mississippian Age.

New Brick Made By Bassett Firm.

Special to the Gazette 4-27-41

Bassett is April 16 another, brick., Fire is being shown in the raw product of the Bassett Brick Co., that of a sand and cement brick order only delivery.

In addition to this, the firm has also manufacturing rock tile, designed to take of the place of short-silled stone.

A unique feature of the concern is that the masonry for the equipment is constructed, med up with rock tile and roof of the plant is being manufactured on the plant site.

The new industry is housed in a building south of Maysville, with the corporate offices in Maysville.

For the Testing of the Clays

O. J. Arkansas 6-45

Clay is an important and raw material, but the industries that use it don't purchase it haphazardly. Every type of industry that uses clay know possesses certain definite characteristics that are indispensable. Each stage in ceramics processing depends on the nature of the clay, and because clays vary a great deal a ceramist needs to know beforehand exactly how his material will react. One clay may be stronger than another, shrink more or less, become hard at a different temperature and turn a different color.

Ceramics is today regarded not merely as a craft but as a technolgy. To advance studies of Arkansas clays the Nokose Pottery Company has established a research laboratory which will be operated at a profit.

This clay is equipped to test the solubility, firing and fusing temperatures, strength, shrinkage and other characteristics of various clay products.

A single laboratory, operated by the University of Illinois maintains a clay testing laboratory under a ceramic engineer.

Simplest way to Determine Clay Value Explained.

By W. W. Crump, ceramic engineer.

Feb. 19 A major use of industry spends millions of dollars annually for special muds—sintered heavy clays

This is a simple test to show the valuable type. The test involves the use of an American Institute of Mine testing meeting. Take a lump of clay, said, and suspend it in the sun, allowing it to harden. The clay turns a brilliant blue color; it bends, breaks, and weights 80 to 40 tons. If the clay stays its original color, it's good for safely drawing down automobiles as a wet road.

Geologist Reports on Sample. Washington 3-4-41

A report of all samples at 12 counties, submitted to Dr. George C. Brunner, state geologist of the state, by the Mineral Survey ceramic engineer, shows that they are valuable for the following uses, some of which are:

- Face brick 50 common brick 50 common brick for use, hollow tile four, roofing tile, stone" 11, earthware for whitewares seven, porcelain one, pottery, decorative tiles, wall, drain, clay, one, refractory one.

18th century vase of the type made by the Caddo Indians of northeastern Arkansas and eastern Texas. The vase is from the author's collection.
Arkansas Clay Goes to War

(Continued from Page 1.)

with "sip." This young girl, who says, "I like this work, it's fun," must work fast, because if either the mug or the handle become too dry the sticking process fails. The finished product is of graceful shape and light weight, and it can take a lot of hard usage. When asked how Niloak was able to convert to war work, when most of the clay plants of the state had been closed, Mr. Winburn replied, "I should say that in our case it was flexibility; it was having an organization able to produce what is most needed from what is available ** ** in being able to meet almost daily changes in raw materials, personnel and products. ** ** To me, it seems evident of the value of adequate technical training and experience as the basis for industrial development and operation. All these factors have been combined with a determination to serve where training best fits; it is our idea of democracy at work in this generation of Americans.

The problem was how to accomplish the conversion with no possibility of expansion. Niloak company is technically prepared to handle any order, but is lacking in workers and space and the necessary equipment for expanding production to meet wartime orders. An organization necessary for producing war orders on a large scale must include skilled kiln men, glazers, ovens men, expert clay men and those familiar with other raw materials. Problems which at first seemed insurmountable have been solved. To be technically prepared means to have the necessary scientific knowledge and understanding of clay through ceramic technology. It was in being able to determine the properties of the different Arkansas clays, combined with the scientific knowledge of property lending them for government requirements, that made possible this plant's war production program.

Modern warfare has learned and profited from the warfare of ancient times. Historians of those times show that often a downfall of a great civilization came through the collapse of its civilian life. Agriculture and the numerous small civilian occupations on which depended the life of the home were blantly sacrificed.

Perhaps less exciting than military war needs, but of no less importance today, are the products for agricultural war needs. The Food for Victory program must be bolstered by the production plants behind the scenes. Here Niloak is doing all possible to increase the available supply of items already in production. Supplies for dairymen, farmers, poultry raisers, fruit growers, truck gardeners, which have been made of metal are no longer available and Niloak has been instructed to rush the changes necessary to provide them in clay—the "good substitute for metal."

A partial list of these substitutes include chicken feeders and hens, fences, milk vessels and cans, cream cans, bird feeders, butter crocks, large containers for processing and preserving meat, kraft and all vegetables as directed by the Department of Agriculture. There are supplies for the nurseryman, and for breeders of small stock, such as hens, now being grown for the meat as well as the egg. Dozens of items of household equipment for the farm home formerly of metal are now being turned out in attractive, petter, durable and sanitary, and not only for the home, but for schools, hospitals and institutions. The fact that these products are approved for use in land military establishments should give assurance of their quality for use anywhere.

A somewhat startling change made necessary by metal shortage is the use of porcelain "tanks" for shipping quicksilver. As this mineral is very heavy, it has always been the custom to ship it in steel tanks, about the size of a pint milk bottle, each holding 75 pounds. The porcelain flask, made to hold five pounds each, are about five inches high and look like little jugs without handles. They are designed to hold the quicksilver while in transportation between the refinery and the ordinance works. The material is reinforced porcelain made from Arkansas clays, and the container is used only once.

Niloak is distributing equally its fast diminishing supply of civilian ware to help ease some of the shortages growing daily more acute on the home front. With the 15 per cent of equipment from manufacture of home needs, which it was not possible to convert, the work of replacement in such essentials as food jars, covered pans and dishes, coffee makers, canisters and other home necessities continues. "While we have no time to give to art pottery now," says Mr. Winburn, "it seems that war conditions have accelerated the demand for certain articles of gift pottery; the boy in service remembers Mom's birthday; his buddy is in the hospital. The demand is heavy for flower holders and flower pots to send as cheer to patients in hospitals and shut-ins at home; to carry a message of sympathy to the bereaved and to brighten the dark hours of the lonely. If these remainders were considered necessary to stabilize morale in peacetime, how much more necessary during the dark hours of war. ** **

By using non-essential materials an effort will be made to continue manufacture of this giftware, using equipment which is not convertible for war demands."

The ability of this plant to convert to war production should encourage others engaged in industrial pursuits to get into war production effort; indications point to expanding usefulness for the remainder of the war years and in the post-war era.

To have done these things, and to hope to do the jobs of 1943 and 1944, Niloak must rely upon its youth and highly trained management and a nucleus of experienced employees who study their individual jobs and who believe in the place their company is filling in war production today.

WILL CUB CANINE APPETITES?

Jefferson City, Mo., Oct. 9—Have you noted the deawth of "funny legislation" among laws enacted by America's 1943 legislators? In Missouri, where the legislature only a couple of years ago debated a bill making it illegal for women to wear open-toed shoes, the closest thing to humor this year was a measure to make dog owners responsible for every bite their pets might take after regular eating hours.