











MESOPOTAMIAN POTTERY: PARTHIAN,  
SASANIAN, AND EARLY ISLAMIC

by

Florence Ely Day

A Dissertation Submitted in Partial Fulfillment  
of the Requirements for the Degree of  
Doctor of Philosophy in the  
University of Michigan

Ann Arbor, Michigan  
June, 1940

Fine Arts

NK

3855

.M 6

D27

v.1



672969-460

IN TWO VOLUMES

I. TEXT

7 43-78 SYRIAN/MESOPOTAMIAN AMPHORA  
P. 79-88 WHITE (TIN) GLAZE

## TABLE OF CONTENTS

	Page
INTRODUCTION . . . . .	v
A. A Statement of the Problem Investigated . . . . .	v
B. Method of Work. . . . .	vii
C. Arrangement of Material . . . . .	viii
D. Terminology . . . . .	ix
CHAPTER	
I. POTTERY OF THE PARTHIAN PERIOD . . . . .	1
A. The Hellenistic Period, 300-150 B.C. . . . .	1
B. The Parthian Period, 150 B.C.-160 A.D. . . . .	20
C. "Parthian" and Han Pottery. . . . .	89
D. The Late Parthian Period, 160-256 A.D. . . . .	102
E. Transitional. . . . .	140
II. POTTERY OF THE SASANIAN PERIOD . . . . .	147
III. POTTERY OF THE EARLY ISLAMIC PERIOD. . . . .	199
A. Unglazed Pottery. . . . .	207
B. Pottery Made in Molds . . . . .	217
C. Pottery with the Blue-Green (Alkali) Glaze . . . . .	239
D. "Samarra" Molded Ware, Glazed and Lustered. . . . .	259
E. "Samarra" White Tin-Glazed Ware . . . . .	279
F. Where Were the "Samarra Wares" Made? . . . . .	305
CONCLUSIONS . . . . .	332
BIBLIOGRAPHY . . . . .	336

## ACKNOWLEDGMENTS

The writer feels the warmest appreciation for the encouragement and help of many people. Dr. Maurice S. Dimand first suggested the need of the study of the earlier periods as a background for the Early Islamic, and gave me permission to study the material from Ctesiphon, Kasr-i' Abu Nasr, and Nishapur in the Metropolitan Museum. For similar permission to study unpublished pottery I am indebted to Mr. Horace H. F. Jayne, Director of the University Museum, Philadelphia; to Mr. Donald Scott, Director of the Peabody Museum, Cambridge; to Mr. Richard Martin of the Field Museum, Chicago; Mr. Frank E. Brown of the Classical Department at Yale, for the Dura pottery in the Gallery of Fine Arts, at New Haven. In all these museums I am indebted to the other members of the staff who opened cases, answered questions, and provided every material help in my work.

Other authorities have given me invaluable aid. Dr. Ernst Herzfeld, in conversation, explained the "Parthian," and discussed problems of the Islamic pottery of Samarra. Mr. Lauriston Ward and Mr. D. W. Lockard assisted me in studying the material in the Peabody Museum. Mr. Walter Hauser of the Metropolitan Museum clarified the dating of much of the Ctesiphon pottery. Miss Dorothy Cross, of the

University Museum, Philadelphia, furnished information on the ancient Mesopotamian pottery in that collection. To Mr. Brown of Yale I owe the dating in detail of the Dura material. Dr. Debevoise, of the Oriental Institute, allowed me to study his sherd collection and in many talks gave me the benefit of his ideas on pottery of the Parthian period, a field especially his. In Ann Arbor, Professor James R. Plumer has given me valuable information from his knowledge of the earliest glazed wares of China. Dr. Robert H. McDowell gave me the dating of the unpublished Seleucia pottery, and threw much light on general problems of the Seleucid and Parthian periods. Without the help of Dr. Frederick Matson the writer would have been lost on chemical and technical points.

Finally, but not least, to my Committee I must express my appreciation of their interest and stimulation: to the Chairman, Professor J. G. Winter, Head of the Department of Fine Arts, to Dr. Clark Hopkins, Associate Professor of Latin and Greek, to Dr. W. H. Worrell, Professor of the Arabic language and literature, and to Dr. Richard Ettinghausen, Associate Professor of Islamic Art.

Secret

## INTRODUCTION

### A. A STATEMENT OF THE PROBLEM INVESTIGATED

The purpose of this paper is to study the Near Eastern origins of some of the most beautiful and important classes of Early Islamic pottery, namely, certain of the so-called "Samarra" wares. Previous writers on these wares have, with a few notable exceptions, based their work almost entirely on style, and on their personal, subjective reactions to and interpretations of style; resulting thus in quite contradictory conclusions, which are difficult to reconcile.

A second method already employed but not often enough, is to consult the records of the mediaeval Arabic writers. This is objective, and could therefore be sound and scientific. But unfortunately these historians and geographers rarely mention pottery;-- the few precious references we have are first, not as exact as we could wish, and thus still liable to individual interpretation; and, secondly, they are so scattered as to leave long periods of time undocumented.

A third method, the study of earlier ceramic history, the origins and development of the pottery which led up to

the creation of the Samarra wares, has not yet been used. This is the method followed in the present study. For pottery-making, more perhaps than other arts and crafts, tends to be geographically stationary: iconographic motives and decorative details can travel, but pottery reaches its highest development in lands which have been settled and civilized continuously for hundreds of years. Startling discoveries may appear, like the invention of luster, but such things are rare, like biological freaks. Thus Early Islamic pottery will be considered not by itself, but in the light of what went before it, and certain types will be seen to have been produced only in a land where ancient pottery-making traditions had prepared the way for them.

Therefore this paper proposes to present dated pottery, from excavated sites, studied by the writer, namely, of the pre-Islamic period from Seleucia, Dura, Kish, Kasr-i-Abu Nasr, Ctesiphon, and of the Islamic period from Ctesiphon, Nishapur and Rayy. Once an objective, chronological framework has been established, undocumented pottery may be fitted into it by comparison.

The first chapters must be expository and descriptive: to give a general view of Parthian and Sasanian pottery, as yet unpublished, and to include points important for the Islamic period. The final chapter will be one of summary and discussion, as Islamic pottery is so well known. I

## B. METHOD OF WORK

All pottery studied was seen, handled, measured, sketched, and the clay, glaze, shape and potting carefully noted. This was essential, even with pottery already published, because different persons use different terms in describing the same things. My own descriptions were made first, and later checked with the museum's catalogue information, if the piece had been catalogued. Thus these notes are at least consistent, and have the same margin of error throughout.

Standards of Pottery Description by Benjamin March, was referred to in describing clay, glaze, and crackle. However, it was found impossible to use A Dictionary of Color, by A. Maerz and M. Rae Paul. The descriptions of color of clay and glaze are the writer's, not those of the museum catalogues. As for hardness of clay, no scale was used, for most of this Near Eastern clay is soft enough to be scratched with the fingernail; and the methods recommended by Mr. March would properly find their place in a technical, rather than in an art-historical study.

Measurements were made in centimeters. In making the measurements it was interesting to find that most of the pottery was off-center, lop-sided. This would never be realized from the beautiful schematic drawings of archaeological publications, which give a disembodied concept of



the pottery, not an appreciation of its actual physical nature.

Illustrations are a sine qua non in the study of art, therefore as many as possible were used. Much of the material studied was omitted simply because illustrations were not available. Photographs were the first choice; in a few cases these have been supplemented by the writer's drawings, either measured drawings or rough sketches.

For the sake of brevity many types of pottery were omitted in this study, namely, lamps, pilgrim bottles, miniature pottery, specifically foreign types as the askos and rhyton (with the exception of the amphora type) and cosmetic pots and unguentaria which show little artistic development. Also omitted were objects made of clay which are not vessels, for instance tiles, coffins, ossuaries, stands and incense-burners.

### C. ARRANGEMENT OF MATERIAL

It seemed best in the first two chapters to arrange the pottery chronologically and then, within periods of time, to discuss the various classes of pottery. For instance, instead of tracing the history of a particular class, such as pottery with a white tin glaze, straight through all periods, I have followed simultaneously all the pottery, first during the Parthian, then during the

Sasanian periods. Mutual influences between contemporary types of pottery are often as illuminating as those coming from earlier types.

The division of pottery according to the presence or absence of glaze, or by shape, or by kind and degree of decoration, is not enough. A single factor cannot constitute or explain a style. For mere convenience of arrangement the progression in each section is often from unglazed to glazed, and from one-handled to two-handled jars; but this is purely arbitrary. A different arrangement is followed whenever it is appropriate.

#### D. TERMINOLOGY

##### 1. General:

##### Mesopotamia.

This is used for the whole basin of the Tigris and Euphrates. It is the whole geographical area that concerns us, and not the little sections, or political groups, which flourished in it at various times.

##### "Parthian pottery."

This is the common, but inexact term used for "Mesopotamian pottery of the Parthian period." It is one of the conclusions of this paper that this pottery is Mesopotamian, and is not Parthian at all.

"Sasanian pottery."

The same remark applies to so-called Sasanian pottery. We must differentiate carefully between "Mesopotamian pottery of the Sasanian period" and "Persian pottery of the Sasanian period", for pottery indigenous to one area is totally different from pottery indigenous to the other.

Early Islamic pottery.

This includes pottery of the Ummayyad period, and pottery of the early Abbasid period, including its culmination at the time of Samarra, 838-883 A.D., and pottery influenced by the Samarra style through the tenth century A.D. This is the end of the Early Islamic period, for in the eleventh century a complete stylistic change takes place in the Islamic world, not only in pottery, but in every other art as well.

2. Unglazed Pottery.<sup>1</sup>

Burnished. "

"Polished with a pebble or bone."

Slip.

"A paste of fine clay added after the making of the vessel."

<sup>1</sup>When no reference is given the definition is by the writer.

Wash.

"A paint or coloring matter without clay added after the shaping of the vessel."

Leather-hard.

"That degree of hardness attained by drying pottery when it may still be easily cut with a knife."

Paring.

"The cutting away of the leather-hard walls of a vessel to reduce the thickness beyond the point obtainable upon the wheel."<sup>2</sup>

Vitrified slip.

This is the so-called "glaze" of Classical Greek red- and black-figured pottery, Roman terra sigillata, etc. Though all writers refer to this as a glaze, it is technically different from a true glaze.<sup>3</sup>

3. Glazed Pottery.Glaze.

A vitrified silicate, used as the surface coating of glazed pottery and of faience.<sup>4</sup> Glaze is substantially

<sup>2</sup>The first five definitions are given by N. C. Debevoise, Parthian Pottery from Seleucia on the Tigris (Ann Arbor: University of Michigan Press, 1934), p. 40. To be referred to as Seleucia.

<sup>3</sup>Definition by Frederick Matson. See also N.C. Debevoise, "The History of Glaze and Its Place in the Ceramic Technique of Ancient Seleucia on the Tigris," The American Ceramic Society Bulletin, XIII (1934), p. 294, note.

<sup>4</sup>Definition by Frederick Matson.

the same as glass, but in general a glass vessel needs to have a higher melting point than glaze. Lead glaze and alkali glaze are transparent, a tin glaze is opaque. In general the term "enamel" is given to the opaque tin glaze, but it is not used in this paper. Here, where ancient glazes of uncertain composition are discussed, the terms "lead glaze", "tin glaze" and "alkali glaze" are used only where the composition has been ascertained by analysis or microscopic examination. Similarly, the French terms émail, émaux, glaçures, verniss, to each of which has been given a highly specialized meaning, should not be applied casually to archaeological material.<sup>5</sup>

#### Crackle.

"A network of fine lines caused by unequal expansion between body and glaze."<sup>6</sup> The crackle on most of the Mesopotamian pottery here studied is of the crystalline type; variations in size seem to depend largely on the size and shape of the vessel.<sup>7</sup>

<sup>5</sup>F. Massoul, "Vocabulaire des termes principaux employés dans les différentes techniques de la céramique," Les arts français (1918) nr. 24, pp. 244, 245, 246.

<sup>6</sup>Debevoise, Seleucia, p. 40. This is Debevoise's definition of crazing, but I follow March's use of crackle and crazing as synonymous, for practical purposes of description: Benjamin March, Standards of Pottery Description (Ann Arbor: University of Michigan Press, 1934), p. 39.

<sup>7</sup>March, op. cit., Pl. III.

Flaking.

"Complete separation of body and glaze caused by extreme differences of expansion between them."<sup>8</sup>

Faience.

This is a word for which so many different and contradictory definitions have been given that it has been rendered meaningless. Following Debevoise<sup>9</sup> I accept the definition of Lucas: "Egyptian faience consists . . . of a powdered quartz base coated with an alkaline glaze."<sup>10</sup> That is to say, faience is technically not at all the same thing as glazed earthenware or pottery, and therefore the term faience should never be used when glazed pottery is meant. For instance, I might say "There was no faience in Egypt till the Roman period," whereat an Egyptologist would say, "But faience was known in Egypt from 3500 B.C. on;" and each would mean a technically different thing. This is a reductio ad absurdum; but such confusion can, and should be, obviated by simply using different terms for different things. The loose use of the word in English is exemplified by Mr. Rackham (to mention but one out of many) who calls it "earthenware

<sup>8</sup> Debevoise, loc. cit.

<sup>9</sup> Debevoise, "The History of Glaze," p. 45.

<sup>10</sup> Alfred Lucas, "Glazed Ware in Egypt, India and Mesopotamia," JEA, XXII (December, 1936), Pt. 2, p. 148.

coated with a glaze either of 1) siliceous type, . . . . or, 2) stanniferous type."<sup>11</sup> To speak of a glaze as siliceous is redundant, as silica is the fundamental element in all glazes, enamels, and glass. The confusion in English as to the word faience is, of course, due to its use in French and German, where it is ordinarily used to mean "glazed pottery", as opposed to unglazed pottery or earthenware, which is "poterie" or "Tonware".<sup>12</sup>

### Luster.

This is a film of pure metal on the surface of the glaze. "The lustre is formed by painting on the glazed surface a pigment formed of metallic salts (copper, silver, and perhaps other metals were used) which, when fired at a low temperature in a special kind of Kiln, deposit a thin film of metal on the glaze."<sup>13</sup> The metallic salts, or oxides, are reduced to the metallic state in a reducing atmosphere. This atmosphere is obtained by excluding fresh air, which contains oxygen,

<sup>11</sup>Emil Hannover, Pottery and Porcelain, edited by Bernard Rackham (London, 1925), Vol. I, Appendix, additional notes by the editor, p. 548, note 2. See also Encyclopedia Britannica (14th. ed.) article "Pottery and Porcelain," pp. 346-47.

<sup>12</sup>Massoul, op. cit., p. 244. Here Massoul gives a definition which sounds technical, but which is really no help at all.

<sup>13</sup>R. L. Hobson, A Guide to the Islamic Pottery of the Near East (London, British Museum, 1932), p. 3, note 2.

and by making the interior of the oven smoky by means of green fuel. Luster is an Islamic invention; the earliest dated context in which it has yet been found is that of ninth century Samarra. The word luster (as well as glaze) has been used to describe the gleaming or shining surface of classical black wares, which is chemically an entirely different thing. The word luster corresponds to the French "reflets métalliques," not to "lustre."<sup>14</sup> In German it is "Lüster."

#### 4. Decoration.

Most of the terms used for techniques in decorating both glazed and unglazed pottery are self-explanatory, for instance, incised, stamped, carved, punched, combed, pinched, molded (i.e., made in a mold), applied relief, barbotine, painted, burnished, etc. But two forms of decoration, particularly important in pottery of the Parthian period and later, need special definition.

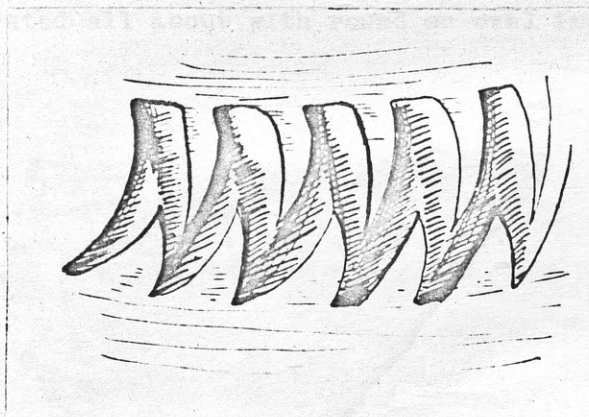
##### Rocked band.

A continuous curved zigzag, pressed into the leather-hard clay. The rectangular edge of a tool is held vertically at right angles to the surface of the pot; then it is rocked back and forth from one corner to the other, moving continuously from left to right. Thus the lines of the zigzag are always curved, and the

<sup>14</sup>Massoul, op. cit., pp. 245, 246.



angles, where the corners of the tool were swung as on a pivot, always the deepest part. The technique is very much like that of cuneiform writing, except that in cuneiform the corner of a cube is used, while in the rocked band it is the straight edge between two corners of a



The rocked band.

cube. This design has been variously described as "Wedge-shaped herringbone pattern"<sup>15</sup>; "a band of chevron pattern"<sup>16</sup>; also "décor incisé, en forme de dents de scie."<sup>17</sup> The rocked band is, of course, a

<sup>15</sup> Debevoise, "The Pottery of the Parthians," BAIC, XXIV (September, 1930), 77.

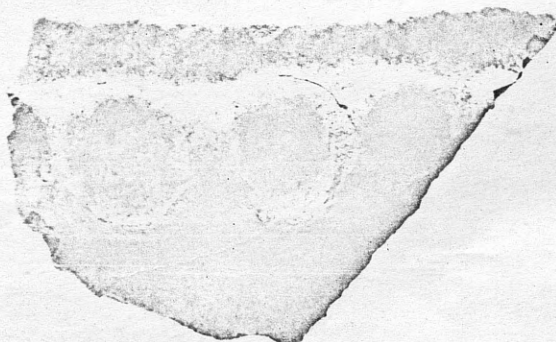
<sup>16</sup> Debevoise, "The Oriental Amphora," Berytus, II (1935), 1.

<sup>17</sup> Félix and Mme. Massoul, "La céramique de Doura," Appendix in Fouilles de Doura-Europos (1922-1923) by Franz Cumont (Paris: Geuthier, 1926), I, 466.

purely ceramic technique. Examples of it before the Hellenistic period are not known to the writer; because of its simplicity it remains the same from Hellenistic well into Islamic times.

Applied pressed band.

This is a band of clay applied to the vessel and then decorated all about with round or oval impressions,



The applied pressed band.

usually made with the thumb. Sometimes the band is quite flat, like a ribbon, sometimes it is rounded or triangular in section. The thumb may be held either vertically or horizontally. At times, instead of the ball of the thumb, the side of a round stick is used, thus producing a series of vertical semicylindrical notches. If done carelessly and rapidly, the result is a "piecrust" effect. Needless to say, this very primitive

method of decoration is found at all times in many places; for instance, in Mesopotamia in the Jemdet Nasr period, about 3500 B.C., it occurs about the shoulders of unglazed jars whose handles are decorated with representations of the Mother goddess; see Fig. 43.<sup>18</sup> The applied pressed band is continually changing, and in its Islamic form it is hard to trace the form it had under the Parthians.

<sup>18</sup>S. Langdon, Excavations at Kish (Paris, 1924), I, Pl. XIV, 2.

## CHAPTER I

### POTTERY OF THE PARTHIAN PERIOD

#### A. THE HELLENISTIC PERIOD, 300-150 B.C.

At both Dura and Seleucia, which were chosen as the basis for this study, the earliest period is Hellenistic, dating, in round numbers, from 300 to 150 B.C. The coming of the Greeks into the Near East caused an artistic revolution, presenting ideas and methods fundamentally different from the oriental tradition as a whole. This Hellenistic influence (which included and outlasted the later Roman influence) produced a new style which made itself felt not only in pagan and Early Christian times, but continued for more than a thousand years into the ninth century, the Blütezeit of Early Islamic art. But through Hellenistic conventions affected ideological, representational and decorative arts, such as sculpture, they had much less of an effect upon pottery, which is an art at once more abstract and more functional. The oriental potters used their own methods, their own wheel, their own clay, their own glazes, and though for a while they learned to copy the skyphos, or the askos, and to make elaborate moldings on feet and rims, most of this had been either transformed or

forgotten by the third century A.D. The amphora, and to some extent the oinochoe, were the only forms to become really assimilated in Mesopotamia.

Mesopotamian pottery of the Hellenistic period is historically important because it sets the stage for the development of the next few centuries. It would also, of itself, make a fascinating study, revealing the interaction of the oriental and the Greek styles. Unfortunately the pottery we know is very small in quantity, as compared to that of the Parthian period, and comes from a relatively few sites: Seleucia, Uruk-Warka, Babylon, Nippur, Nineveh, Dura. The pottery from Seleucia<sup>1</sup> is the most varied; but the finds from the last season of excavation have not yet been completely studied. Therefore what follows is to be considered only as a tentative outline, and as an introduction to the pottery of the succeeding periods.

It is believed that the blue-green alkali glaze of this period in Mesopotamia has the same general character as that of the Parthian period. The analysis of the glaze of one sherd from Level IV at Seleucia, 295-143 B.C., has already been published; this sherd had a "glaze reddish-

<sup>1</sup>Exactly the same types were found at Ctesiphon, see Oscar Reuther, Die Ausgrabungen der deutschen Ktesiphon-Expedition im Winter 1928/29 (Wittenberg, no date), pp. 9-10, Fig. 4.

brown with greenish interior."<sup>2</sup> To quote Debevoise: "Blue-green glaze of excellent quality was in common use at Seleucia, which is purely Hellenistic. The Parthian glazes were merely continuations of this art,"<sup>3</sup> Again, "The pottery from both epochs is one continuous series in technique and physical appearance."<sup>4</sup> It is perhaps reasonable to suppose that in other cities in Mesopotamia at this time the same glazes were used as at Seleucia. The usual colors are the blue-green shades, often a bright peacock blue, or a leaf green, rarely a dull olive green.<sup>5</sup> Gold and silvery whites observed are, in my opinion, due to decay and iridescence only. The pottery from Seleucia published by Debevoise is not very helpful in studying glazes, because so much of it is

<sup>2</sup>Debevoise, Seleucia, p. 31, No. IV, "The green color on the interior . . . . is difficult to explain. Possibly the vessel was originally covered with a green glaze which proved a failure, and it was then glazed a second time. The reddish brown exterior does not appear to be due to weathering." On the other hand, Mr. Watson informed me, concerning a reddish brown amphora of the third century from Dura (see Fig. 115) that its reddish brown color was probably due to a discoloration of the iron it contained, caused by an accident in firing, and that green was probably the color intended.

<sup>3</sup>Ibid., p. 29.

<sup>4</sup>Debevoise, "The History of Glaze," p. 297.

<sup>5</sup>For instance, olive green is the color of the glazed rhyton from Nippur (see Fig. 131) in the University Museum, Philadelphia, No. 9471. But the date of this piece is quite uncertain; there is only a possibility that it may belong to the Hellenistic period.

decayed.<sup>6</sup> A bowl, Type 190 (Table A, 1) has a "greenish brown" glaze. Another bowl, Type 206 (Table A, 1) has "possibly two glazes (first mat green and outer yellow now flaking badly)"<sup>7</sup>--but in another place Debevoise says: "Occasionally, through accident, spots of bright yellow resulted on an otherwise green product. This may have been caused by the presence of antimony as an impurity."<sup>8</sup> Published accounts of Hellenistic pottery from Nineveh and Warka do not mention the color of the glaze at all; at Babylon it was blue green. Aside from the blue-green alkali glaze, a brownish glaze has been found in the last season of the excavations at Seleucia, belonging to Level IV; this brownish glaze may prove, on future examination, to contain manganese. Aside from these two types, the blue-green alkali, and the possibly (?) brown manganese, no other types have as yet been reported. The absence of the Mesopotamian white tin glaze, which was known as early as 1500 B.C. from Nuzi,<sup>9</sup> and later in the Parthian, Sasanian

<sup>6</sup>When glazes are described as "gray" it means that the glaze is decayed and the color lost not that the potter intended to produce such a color. See "gray" glazes on bowls: Types 188, 198, 207, 210 and 221 (in Table A, 1) and on a pitcher, Type 254 (in Table A, 3).

<sup>7</sup>Debevoise, Seleucia, p. 82.

<sup>8</sup>Ibid., p. 34. Personally, I feel very skeptical about the bowl of Type 206 having two glazes, and prefer the second alternative.

<sup>9</sup>Richard F. S. Starr, Nuzi (Cambridge, Harvard University Press, 1937-39), I, pp. 42, 62, 412, 415, 441-2, 520, 523-525. Only the green glaze was analyzed, but the description of the opaque white glaze sounds as if it might be a tin glaze.

and Islamic periods, is curious. Perhaps the white tin glaze was a luxury product, and was temporarily abandoned, because the latest fashion was the imported Greek wares.<sup>10</sup>

Types of the Hellenistic pottery from Seleucia have been grouped together in Table A. Here can be seen the fundamental resemblances in form between glazed and unglazed bowls: Type 8 is not very far from Types 207 and 210 (Table A, 1); but Type 8 continues through to the highest level of Seleucia, and Type 207 is only of Level IV. This rather primitive sort of bowl may represent the oriental tradition; most of the others (in Table A, 1) which show profiling of both rim and foot, may be attributed to Greek influence. Doubtless related to the oinochoe are the unglazed jugs (Table A, 3). They have already the top-shaped body, tapering to a narrow base (generally flat, but sometimes profiled) which was to be developed to such extremes in the following centuries. Contemporary pottery from Babylon is largely copied from Hellenistic shapes.<sup>11</sup> At Nineveh was found a jug, described as an oinochoe, which is not dissimilar to Type 159 (Table A, 3).<sup>12</sup> Debevoise

<sup>10</sup>Clark Hopkins, "The Pottery," Dura Second Season, pp. 36-38; Megarian ware was found at the latest in the second century B.C.

<sup>11</sup>Oscar Reuter, Die Innenstadt von Babylon (Merkes) (Leipzig, 1926), pp. 36-39, Figs. 46, 47.

<sup>12</sup>R. C. Thompson and M. E. L. Mallowan, "The British Museum Excavations at Nineveh, 1931-1932," AAA, XX (1933), p. 176, Pl. LXXV, 9.



has given a general summary of the pottery:

Seleucia reached the peak of its latter-day prosperity under the Hellenistic Greeks, and its economic wealth is reflected in the careful workmanship of the Level IV pottery, the excellent glaze, and the reworking of the bases of the pots.<sup>13</sup>

A new type of blue-green glazed jar, found at Seleucia in the last season of excavation, is shown in Fig. 1. It came from the debris between Levels IV and III, and belongs very probably to the earlier level.<sup>14</sup> The body is a tall oval, the outline of which curves continuously into the short wide neck; the base is simple, its lower edge bevelled off, and slightly concave. The rim, whose diameter is greater than that of the neck, may be described as being vertically concave. At the point where the neck widens into the shoulder are set two small round pierced handles, their upper edge slightly pointed. At the lower ends of the handles are two rocked bands, made quite fine and close together, and separated by an incised line. Above the rocked bands, at the level of the top the handles, is a slight ridge in relief. This jar must be recognized as being purely oriental in type: in the shape of the body and of the rim, in the small pierced handles, and in the decoration, that is, the rocked band, there is nothing Greek.

<sup>13</sup>Debevoise, Seleucia, p. 15.

<sup>14</sup>Museum of Classical Archaeology, Ann Arbor, No. F 7254. The clay is cream-colored and soft. The glaze, originally blue-green, is now almost completely faded. H. 20-21.6, D. c 15-16, base D.7.

A parallel for the rocked band on the Seleucia jar is found on a wide, low jar of the Hellenistic period from Uruk-Warka; Fig. 2. It is unglazed, covered with a "finisähnlicher Engobe," and has a very wide flat rim, vertical lines on the sloping shoulder and the rocked band about the widest part.<sup>15</sup> Parallels for the small, pierced, pointed handles of the Seleucia jar in Fig. 1, are again found at Uruk-Warka, in the two glazed jars (their colors are not given) in Fig. 3. Further, the shape of the body and of the vertical rim are similar, though in the Warka jars the concavity of the rim-profile is more extreme.<sup>16</sup> On the basis of the Seleucia and Uruk-Warka jars (the handles in Figs. 1 and 3, the flat rim and rocked band in Fig. 2), we may attribute to the Hellenistic period the undated jar from Nippur, in Fig. 4. The glaze is a deep leaf-green, and unusually well-preserved; the low ring-foot and the flat rim are well finished; the glaze covers all the surfaces, inside and on the bottom.<sup>17</sup> Another

<sup>15</sup> Julius Jordan, Uruk-Warka, Wissenschaftliche Veröffentlichungen der deutschen Orient-Gesellschaft, LI (Leipzig, 1928), Pl. 91, 1, and p. 67. The clay is well levigated. This, and the jars in Pl. 91, b and f, are all from the Wuswas temple: "Die im Wuswas-Tempel gefundene Tonware ist begrifflicherweise zum überwiegenden Teile hellenistisch." (p. 67).

<sup>16</sup> Ibid., Pl. 91, b and f.

<sup>17</sup> University Museum, Philadelphia, no number. H.13.5, D.C. 14.4. The rim is largely restored. Most of the glaze has changed to a brownish iridescence.

undated Nippur jar with quite similar small pierced handles set awkwardly at the base of the neck, Fig. 5, might be also tentatively assigned to the Hellenistic period, if only because it is so different in shape from any known Parthian type.<sup>18</sup> The shape is singularly ungainly. The original blue-green glaze has become discolored to a brownish tint.

The jars shown in Figs. 1-5 are all non-Greek, and go back to earlier shapes from Mesopotamia. Small pierced handles are characteristic of what is now considered to be Neo-Babylonian glazed pottery, as seen in two low glazed jars from Ur, in Fig. 6,<sup>19</sup> and in a blue-green jar from Hilla, in Fig. 7.<sup>20</sup> We may note that both the second jar from Ur (at the right in Fig. 6) and the Hilla jar have a short angular ridge about the neck, just below the rim;

<sup>18</sup>Ibid., old number 242. H. 19.5, D.10.4.

<sup>19</sup>Both are in the University Museum, Philadelphia. The lower jar, at the left, is No. 31.43.626 (?), pale clay, H. 9.8, D. 9.8; the glaze is entirely faded so that it looks whitish. The taller jar, at the right in Fig. 6, is No. 31.43.631, buff clay, H.12.5, D.8.5. Glaze originally a bright blue-green glaze, now much faded. According to Miss Dorothy Cross these are "probably Neo-Babylonian in date."

<sup>20</sup>Friedrich Sarre, "Die Keramik im Euphrat- und Tigris-Gebiet," Archäologische Reise im Euphrat- und Tigris Gebiet, IV (Berlin, 1920), p. 4, Pl. CXLII, 3. Sarre published this as Parthian, but Debevoise, in Seleucia, p. 29, note 3, corrected this to "possibly Neo-Babylonian." Sarre later, in his review of Debevoise's book, accepted this suggestion; see Archiv für Orientforschung, XI (1936), Pt. 1-2, pp. 79-80.

though the Hilla jar is far more elegant in proportions, in profile, and in finishing. The small pierced handle may be derived from the pilgrim-bottle to which it seems much more appropriate. A blue-green glazed earthenware pilgrim-bottle from Ur, in Fig. 8, illustrates such handles at an early date in Mesopotamia.<sup>21</sup>

With the undated small two-handled vase from Nippur we come to quite a different type; Fig. 9.<sup>22</sup> This vase (and the other like it) is characterized by the short, rather barrel-shaped body with a well-defined shoulder, the simple foot, which may be slightly concave or a ring-foot, the narrow but widely flaring neck, the concave molding of the vertical rim, and the two low, small handles curving in at the base of the neck. This type of vase or jar is small in size, usually not more than eleven to fourteen centimeters high. The vase from Nippur in Fig. 9 has incised decoration, but others from the same site are

<sup>21</sup>University Museum, Philadelphia, No. 15237. From Grave 26 at Ur, dated about 2300 B.C. This information is from Miss Dorothy Cross. To find a glazed clay vessel at such an early date is quite remarkable. Not all authorities agree as to the chronology of Ur, and some might assign this pilgrim-bottle to a later date. Of course glaze was used on small clay objects, like beads, in the Indus valley as early as 3000 B.C.; see Lucas, Glazed Ware in Egypt, India, and Mesopotamia, p. 164. Here Lucas does not admit glazed pottery in Mesopotamia before 1000 B.C., but see above, Note 9, on the Nuzi glazed pottery of 1500 B.C.

<sup>22</sup>University Museum, Philadelphia, no number or record, The blue-green glaze is quite faded and decayed.

plain,<sup>23</sup> see Figs. 10 and 11. The shape has several points of similarity with earlier Mesopotamian pottery. The curving flare of the neck, becoming wider at the top, recalls that of the Neo-Babylonian (?) jar from Hilla, in Fig. 7, and also that of many Assyrian polychrome glazed vases, of which an example from Nippur is shown in Fig. 12.<sup>24</sup> Some other types of ancient jars whose shapes are not dissimilar from the Assyrian polychrome type have a neck which tapers in the opposite direction, that is to say, it is wide below, and is narrowest just below the wide, boldly angled rim. Fig. 13 illustrates this narrowing neck in a white-glazed faience jar from Hilla,<sup>25</sup> and Fig. 14, in a turquoise faience vase from Ur, dated about 2100 B.C.<sup>26</sup> As to the

<sup>23</sup> Both are in the University Museum, Philadelphia, and have no numbers. Fig. 10: H.14.7, D.10.4. Fig. 11, H.14.7, D.13.5.

<sup>24</sup> Ibid., No. 12355. Other Assyrian polychrome vases having the same neck, curving out to the wide rim, are in the same museum, Nos. 12.340 (H.10, D.8) and 2832 (H.13.7, D.10.6). Both have the same decorative scheme of horizontal straight and zigzag bands. For colored plates of the same type of glazed Assyrian pottery see Walter Andrae, Colored Ceramics from Assur (London, 1925), passim.

<sup>25</sup> Sarre, Archäologische Reise, IV, Pl. CXLV, and pp. 2-3. Sarre notes that these jars are prototypes for pottery of the Parthian and Sasanian periods.

<sup>26</sup> University Museum, Philadelphia, No. CBS 16241. This little vase is of the Isin-Larsa period, 2200-1900 B.C., and from its situation in a drain in the Ningal Temple is dated about 2100 B.C.; information from Miss Dorothy Cross. Mr. Donald Horton, Technical Associate of the Museum, examined the body microscopically and informed me that it is of powdered quartz.

handles of the small Nippur vase in Fig. 9, they may be part of the earlier oriental tradition. Mr. Debevoise is of the opinion that a low, small handle is typical in ancient Mesopotamian pottery, and that a high and free-standing handle is always a sign of foreign influence, even if coming from no farther than the Mediterranean.<sup>27</sup> In classical Greek pottery the amphora and the lekythos have the upper end of the handle curving down to the shoulder; but in both cases this loop handle is much higher and rounder than in the Mesopotamian vases.<sup>28</sup>

The Nippur vase of Fig. 9 is duplicated by another, of unknown provenance, in the Art Institute, Chicago, Fig. 15;<sup>29</sup> a third was in the former collection of

<sup>27</sup>In a conversation in the spring of 1938. But compare an unglazed two-handled jar from Nineveh, whose general shape and proportions make one think of the classical amphora; but it is considered to be "probably derived from a late Kassite Neo-Babylonian type"; see R. C. Thompson and M. E. L. Mallowan, "The British Museum Excavations at Nineveh, 1931-1932," Pl. LXXV, No. 12, p. 176. On the neck are applied pellets; the excavators consider this jar to be Parthian in date.

<sup>28</sup>G. M. A. Richter and M. J. Milne, Shapes and Names of Athenian Vases (New York Metropolitan Museum, 1935), all examples of the lekythos, Figs. 91-102; the amphoran, Figs. 1-35.

<sup>29</sup>Art Institute, Chicago, No. 13.361. This was published by Debevoise, "The Pottery of the Parthians," BAIC, XXIV (September, 1930), pp. 77-78, Fig. 1. This was here compared to its fellows from Nippur in the University Museum, Philadelphia. The shape was described as an amphora, with which I cannot agree.

Dr. M. Ginsberg, Berlin.<sup>30</sup> Both have the same blue-green glaze, and the same incised decoration. The body of all three is covered on two sides with vertical incised lines, which suggest classical reeding or fluting. On the shoulder are two rocked bands, one on each side. Below each handle, Fig. 15a, are two vertical incised lines; on either side of which are downward slanting lines, the whole giving somewhat the effect of a leaf with its central and subsidiary veins. Bordering this leaf-like pattern are two short rocked bands, which start at the base of the handle.

Before coming to any conclusions about the type of small two-handled vase illustrated in Figs. 9 and 15, we must discuss another shape which has exactly the same scheme of decoration: the blue-green glazed amphora, in Figs. 16 and 16a. As this was found at Nippur, it is not dated,<sup>31</sup> but for a number of reasons it may be assigned to the Hellenistic, rather than to the Parthian period. The glaze, originally a rich peacock blue-green, is now dulled by a thin golden iridescence. The amphora is tall and well proportioned, the body egg-shaped, with the smaller

<sup>30</sup>Richard Ettinghuasen, "Parthian and Sasanian Pottery," A Survey of Persian Art from Prehistoric Times to the Present, edited by Arthur Upham Pope and Phyllis Ackerman (London and New York, Oxford University Press, 1938), Pl. 183 A, pp. 648, 658. It is described as green-glazed, which is probably the same color I call blue-green.

<sup>31</sup>University Museum, Philadelphia, No. CBS 21000. Fairly fine buff clay. H.c.30, D.18, base D.9, rim D.9.7.

end below, the neck is tall and nearly straight, the foot, concave inside, is in two degrees, and the sharply defined rim is also in two degrees. The vertical handles are perfectly plain; they start on the slope of the shoulder (within the greatest diameter of the body) and continue to a point just below the rim. These handles are closer to the Rhodian amphora than to the classical amphora handle. Debevoise has described it as, "The simplest, most graceful specimen and that nearest the Greek model. . . . This vessel may well have come from the extensive Hellenistic level or levels which the excavations at Nippur disclosed."<sup>32</sup> Though the amphora as a whole has a classic combination of severity and grace, it has one non-Greek element, namely the molding of the rim in two degrees.<sup>33</sup> This stepping of the rim may have been designed to hold a cover. We may remark as well that the Nippur amphora has a far more Greek look than an unglazed amphora found at Seleucia (Type 171, Table A, 3). This Seleucia amphora is unglazed, and about one quarter the size of the Nippur one; it is unique, and does not continue beyond the Hellenistic period.

The obvious relation to the Greek amphora shape, and

<sup>32</sup> Debevoise, "The Oriental Amphora," p. 1, Pl. I, 1. See also his "The Pottery of the Parthians," p. 77, where, speaking of the Parthian amphora he mentions "Earlier examples of this type from Nippur and now in the Museum of the University of Pennsylvania."

<sup>33</sup> For the classical Greek amphora types see Richter and Milne, op. cit., Figs. 1-35.



a classic refinement of details of profile, constitute one reason for assigning the Nippur amphora to an early period, namely, the Hellenistic period. One element of the decoration, the rocked band, is also in harmony with this date, as we have seen it on vessels dated by excavation from Seleucia, Fig. 1, and Uruk-Warka, Fig. 2. To be sure, the rocked band is also a permanent feature of amphoras of the Parthian period before the third century A.D., but on the other hand I do not happen to know of an example of it before the Hellenistic period. A third reason for an early dating of this amphora is its marked difference from amphoras which are known to be of the Parthian period, from Mesopotamia, as well as those of the Roman period from Syria. In Fig. 41, a Dura jar chosen as the type piece, we still find the rim and foot in two degrees, and the rocked band on the shoulder, but how the proportions have changed! In addition to the narrowness of the foot and increased width of the shoulder, which spreads the handles away from the neck, the handles are themselves double and twisted, instead of being plain and flat, and have flanking their upper end two disks, and flanking their lower end, on the shoulder, two conical knobs. Again, the Roman Syrian amphoras, which still retain something of the simple ovoid shape of the body (Figs. 52-61) have often the Mesopotamian Parthian handle, as well as the heavy applied pressed band about the shoulder, and applied figures in relief.

If the Nippur amphora can be assigned to the Hellenistic period because of its Greek feeling as well as because of its difference from amphoras of later centuries, then the small two-handled vases, in Figs. 9 and 15, which have the same incised decoration, must be contemporary. Again, their oriental elements, the lowness of the handles, and the curving flare of the neck indicate a date close to the preceding Mesopotamian periods. This small vase-type also has descendants in the following period--for instance, at Seleucia a jar with low loop handles and a similar neck, Type 283, in Level III (Table B, 10) or, from Dura, the undated little jar in Fig. 30. Again, in Level II at Seleucia, Type 289 (Table C, 11) with its low handles and vertically concave rim, is in my opinion more closely related to the small two-handled vase than to the Hellenistic amphora, though of course both have the same incised pattern on the body.

Nippur has produced a two-handled jar, of quite anomalous character, shown in Fig. 17, which, like everything else from the same site, is undated.<sup>34</sup> Its glaze, originally a bright peacock blue, is now disintegrated to a greyish-white. With some hesitancy I suggest that Fig. 17 may belong to the Hellenistic period. First, the shape is one as yet unknown in the Parthian period; second, the tall

<sup>34</sup> University Museum, Philadelphia, No. 2908. It has been illustrated and discussed by Ettinghausen, op. cit., Fig. 220c, pp. 660-661.

narrow neck is not far from the proportions of Neo-Babylonian examples; third, the combination of disks and knobs beside the handles, so typical of the amphora of the Parthian period, is absent. Instead of this scheme, there are very low lentoid disks at the two ends of the handles. Another unique feature is the shoulder decoration: on one side ten small lentoid swellings, on the other eleven, are arranged in two horizontal rows. A somewhat similar arrangement is found on an amphora from Dura, which may be of the first or second century A.D., Fig. 37, but the Nippur jar as a whole has a much more archaic appearance. The handles are unique: they are quite round in section, and instead of springing far out on the shoulder, they spring at the base of the neck, and then curve outward.

The bull's head spout at the base of the Nippur jar in Fig. 17, of which only the horns and the two eyes remain, has other parallels. At Seleucia in Level II, 70-120 A.D., occurred two types of unglazed, pointed jars with spouts at the bottom, namely, Types 176 and 177 (Table C, 12). Debevoise describes them as simple drinking vessels,<sup>35</sup> though Ettinghausen saw in them a development of the classical rhyton. Certainly, under the early Roman Empire "people drank the liquid through the hole at the

<sup>35</sup> Debevoise, Seleucia, p. 76. A new unglazed fine jar from Seleucia No. 4336, has two bull's heads spouts at the base.

bottom"<sup>36</sup> of the rhyton, but as far as shape is concerned, the Nippur jar has no relation to the classical rhyton, which is defined as a "Drinking horn in the form of an animal's head and curved like a horn."<sup>37</sup> Another vase which is not a rhyton, but which also has the bull's head spout at the bottom is an undated blue-green glazed vase from Dura, in Fig. 18--it is made in a mold, and shaped like a female head.<sup>38</sup> As the blue-green glaze does not appear in Dura until the end of the first century B.C., that is, in the Parthian period (the earliest glazed object from Dura is dated 50-25 B.C., see Fig. 31), the vase in Fig. 18 is probably also of the Parthian period. Thus the close resemblance between the Nippur and the Dura bull's head spouts might indicate that the Nippur vase in Fig. 17 could be as late as the Parthian period, though its other characteristics suggest a pre-Parthian, or Hellenistic date. It is possible that the small bull's head spout may be an oriental idea, as distinct from the classical rhyton; compare the very Greek blue-green glazed rhyton found at

<sup>36</sup>Richter and Milne, op. cit., p. 28.

<sup>37</sup>Ibid., p. 28 and Figs. 178-180.

<sup>38</sup>Dura excavations, No. I 347, photograph No. I 73 A. This vase was not seen by the writer; perhaps it is in the Damascus Museum.

Babylon, which may perhaps be Hellenistic in date, in Fig. 18 bis.<sup>39</sup>

The three-handled jar of the Hellenistic period seems to have been found only at Uruk-Warka, and only in unglazed pottery. The body is oval, or egg-shaped, with a rounded lower end, and a fairly straight neck, and a vertical, or vertically-concave rim.<sup>40</sup> A very remarkable variant of this is a triple jar, composed of three stuck together; Fig. 19.<sup>41</sup> About the shoulder of each jar is an applied pressed band, so crudely made as to look like a pie-crust edging; and high on the shoulder, at the base of the neck are set tiny decorative pots. This curious type of jar finds no parallel until an unglazed jar from Dura, Fig. 93, which though not dated, is probably of the third century A.D. Indeed, all varieties of three-handled jars seem to be absent during the Parthian period until the very end; they reappear in the third century at Dura, both unglazed (Fig. 93) and glazed (Figs. 110-114, 116-117, 128) after which they become equally common in pottery of the Sasanian

<sup>39</sup>Oscar Reuter, Die innenstadt von Babylon (Merkes) Wissenschaftliche Veröffentlichungen der Deutschen Orient-Gesellschaft, XLVII, Abb. 120. On p. 264, No. 234, it is described as Parthian; on p. 38, as Hellenistic, and dated to the second of first century B.C. Also published by Kurt Erdmann, "Partho-Sassanian Ceramics," Burlington Magazine, LXVII (August, 1935), pp. 71-77, Pl. II, B; and Ettinghausen, op. cit., Pl. 184 D, and p. 659.

<sup>40</sup>Jordan, Uruk-Warka, Pl. 90, 1, No. 381, and p. 67.

<sup>41</sup>Ibid., Pl. 91, 1, No. 363, and p. 67.

period, again both unglazed (Fig. 165-168) and glazed (Figs. 202, 203).

In the Hellenistic period in Mesopotamia began the intermingling of Greek idea with Oriental form which lasted for so many centuries. In pottery the Greek ideas of the amphora and the oinochoe became assimilated, and appeared slightly altered in shape, and clothed in the brilliant glazes of purely oriental origin. The splendid Assyrian polychromes, and turquoise, white, or yellow monochromes were temporarily abandoned, though the monochrome white, and white with blue-green, continue the old Mesopotamian tradition through the Parthian and Sasanian periods. In pottery shapes the earlier oriental feeling for solidity of form and simplicity of profile is both strong and persistent, so much so that we must think of this material not as "Hellenistic pottery in Mesopotamia", but as "Mesopotamian pottery of the Hellenistic period."

## B. THE PARTHIAN PERIOD, 150 B.C.-160 A.D.

Seleucia and Dura provide the basis for the study of Mesopotamian pottery during the Parthian period, and for attempting to date material from other sites. But the first step, the correlation of the pottery of these two cities, presents difficulties, for their histories are quite different, and it is often impossible to trace relationships between their pottery. The accompanying table shows the

	Seleucia	Dura
200 BC		
150	143 BC-70 AD Level III	c.150-20 BC Period II
100		
50	143-40 BC early	
	40 BC-43 AD middle	20 BC-164 AD Period III
50 AD	43-70 AD late	
100	70-120 AD Level II	
150	120-226 AD Level I	
200		164-256 AD Period IV
250		

differences in date between the historical divisions of Dura and Seleucia.<sup>42</sup> Dr. McDowell has given one reason for this,

<sup>42</sup>The dates for Level III of Seleucia are not those of Debevoise, but are the corrected dates, given me by Dr. McDowell. Much of what was formerly called simply Level III must now be assigned to Late Level III, 43-70 A.D. For Dura the dates are those given by Professor Clark Hopkins in his course "Art and Archaeology of the Greek World under Roman Rule," given at the University of Michigan; this was attended by the writer in 1937.

namely, that Dura and Seleucia are not on the same trade-route; Seleucia was off the natural east-west route from Syria to Persia, which passed further north. Also the main north-south route, on the Euphrates, missed Seleucia on the Tigris.<sup>43</sup> But as well as the historical differences between the two cities, a second fact is to be considered: that the development of the pottery does not follow the historical periods. For instance, glazed pottery is found at Seleucia in the Hellenistic period (roughly 300-150 B.C.) while it does not appear at Dura till about 50-25 B.C. (Fig. 31). Therefore a possible division between early and late pottery depends on the pottery itself. At both sites there seems to have been a greater change in pottery shapes during the second half of the second century A.D. than at any earlier date in the Parthian period. It also happens that at Dura a series of glazed amphoras was found in the cemetery just west of the town, which can be dated before 160 A.D.<sup>44</sup> Therefore I have taken the date 160 A.D., in round numbers, to mark the end of early Parthian pottery. For Seleucia this means that the early period in pottery includes Levels III and II, and part of Level I. For Dura it comes closer to the historical divisions, for the

<sup>43</sup>Dr. Robert McDowell, in a conversation, spring 1938.

<sup>44</sup>According to Mr. Frank E. Brown, January, 1938. The debris on top of the cemetery probably accumulated between 160 and 180 A.D.



Roman conquest was in 164 A.D. The later period of Seleucia was ended in 224 A.D., while Dura continued about thirty years longer, till 256 A.D.

Before beginning to speak of the pottery itself, the technique of glazing must be mentioned. Until recent years opinion was the only basis for discussion of glazes, and opinion often had it that Parthian and Sasanian glazes were lead.<sup>45</sup> In 1932 Mr. Hobson, of the British Museum, stated the truth of the matter: "Lead glaze had been freely used on late Roman pottery; green and blue siliceous (sic) glazes on Parthian earthenware."<sup>46</sup> In 1934 Dr. Debevoise showed, by analyses, that the blue-green glaze from Seleucia is an alkaline silicate, containing no lead.<sup>47</sup> In 1938 the same

<sup>45</sup> For instance, H. C. Gallois, "La céramique archaïque de l'islam," Aréthuse (1928), pp. 154-155: "M. W. Andrae . . . d'accord avec Koldewey, il considère la couverte généralement bleue-verte des céramiques parthes et sassanides comme un émail plombifère." And as recently as 1937, Brooklyn Museum, The Art and Technique of Ceramics (Brooklyn, New York, 1937), pp. 17-18. Debevoise's Seleucia is not included in the Brooklyn bibliography; in fact, none of his articles are.

<sup>46</sup> R. L. Hobson, British Museum. A Guide to the Islamic Pottery of the Near East (London, 1932), p. xv. No analyses were cited, but one of the world's greatest ceramic historians would not make such a statement without reason.

<sup>47</sup> In two publications: Seleucia, pp. 29-34, and "The History of Glaze," pp. 297-299.

was shown to be true of the blue-green glazes from Dura.<sup>48</sup> From this we may assume that the alkaline glaze was used all over Mesopotamia. It is important to emphasize these facts, which should now be well known, because the noted specialist in Egyptian techniques, Mr. Lucas, stated in 1936, "These alkaline glazes cannot be used on ordinary clay wares, and when they have been used successfully, the clay has always been coated with a surface layer of highly siliceous substance (e.g., the so-called Persian, Rhodian, Syrian and Egyptian pottery of the Middle Ages)."<sup>49</sup> To this sweeping statement there are objections: Mesopotamian pottery of the Parthian and Sasanian periods present examples of an alkaline silicate glaze on clay, without the use of a slip between<sup>50</sup>; and in Islamic pottery a slip is used in only a few particular cases (as, sgraffito ware) but not generally. What may be true of Egypt is not necessarily true of other parts of the Near East.

The other two glazes from Seleucia which have been

<sup>48</sup>G. M. A. Richter, "Two Roman Glazed Amphorae," BMMA XXXIII (November, 1938), Section 1, pp. 241-242, quoting an analysis made for Yale University by A. Benedetti-Pichler. I am indebted to Mr. Frank E. Brown for sending me a copy of this analysis, in the autumn 1939.

<sup>49</sup>Alfred Lucas, "Glazed Ware in Egypt, India and Mesopotamia," p. 149; see also p. 141.

<sup>50</sup>One should say, rather, that the writer has never observed any such slip on this glazed Mesopotamian pottery, nor has Dr. Debevoise, nor Frederick Matson. Mesopotamian clay may, perhaps, naturally contain more silica than does Egyptian clay. Even as early as 1500 B.C. at Nuzi the glaze was "applied directly without a slip"; Starr, Nuzi, p. 442.

analyzed are the manganese glaze, a rich dark chocolate brown, and the white tin glaze, "apparently originally milky white."<sup>51</sup> As we shall see, the existence of these two glazes at this time is of great importance in the ceramic history of the next half dozen centuries.

One type of unglazed pottery very common at Dura, and not yet found at Seleucia is what has been described as ribbed ware, or brittle ribbed ware.<sup>52</sup> An example of this is seen in Fig. 20.<sup>53</sup> Though the thin, brittle black or red clay of this class is not found at Seleucia, yet the shape is very similar to partially glazed cooking-pots of Seleucia, namely Types 346 and 347, Level III, 143 B.C.-70 A.D. (Table B, 6) and Type 348, Level II, 70-120 A.D., (Table C, 1). This sort of ribbed ware was found at Samaria in the Hellenistic levels as well as at Palmyra; its introduction into Dura came "comparatively late in the history of the city," being found, for instance, in the Temple of the Palmyrenes, which is dated by an inscription of 50 A.D.<sup>54</sup>

Unglazed stamped pottery which is a whole field in itself, must be at least mentioned here. Much has been

<sup>51</sup>Debevoise, Seleucia, pp. 33-34.

<sup>52</sup>Clark Hopkins, "The Pottery," Dura Second Season, pp. 32-39.

<sup>53</sup>Ibid., Pl. XLVIII, 2.

<sup>54</sup>Ibid., p. 36; and see p. 32.

found at Dura, where two classes have been distinguished, that with inscriptions, and that with designs or devices.<sup>55</sup> Of the latter, typical designs are leaves or branches, the wheel or stylized flowers, swastikas, circles with a cross and dots in the spaces, leaves and flowers. These designs occur singly and in all combinations. The writer agrees with the conclusion of Mrs. Hopkins, that these designs are probably "simply ornamental," and that they are so simple that they could have developed separately.<sup>56</sup> A fragment of a large storage jar from Dura<sup>57</sup> has parts of three circular stamps, one evidently a simple rosette, the second an elaborate branching rosette, like the pattern of a snowflake; the third shows only the Greek letters ΑΙΟC. This might be the last part of a name such as 'Αγγαιος; in which case the sherd might date from the first century A.D. or later.<sup>58</sup>

<sup>55</sup> Susan M. Hopkins, "Stamped and Scratched Pottery," Dura Second Season, pp. 46-53, Pl. XLVII, 2.

<sup>56</sup> Ibid., pp. 48-49.

<sup>57</sup> Gallery of Fine Arts, New Haven, No. 1929, 350. The diameter of the rim was originally about 30 cm. The buff-tan clay is coarse, heavy, gritty, containing straws and mica.

<sup>58</sup> Another stamp had the letters Μ(?)ΑΓΓ, which represents probably "the name 'Αγγαιος, which also occurs in a list of persons on the north wall of the pronaos of the Temple of the Palmyrene Gods"; Susan M. Hopkins, op. cit., p. 52. This temple is dated to the first century A.D., see Clark Hopkins, op. cit., p. 32. On the other hand αιος is not a rare ending for personal names at Dura.

Jar stamps, which were made of clay with designs cut upon them, usually after firing, were sometimes employed to stamp decorations, not running patterns, upon leather-hard pots, but neither they nor potter's marks were in common use at Selencia during the Parthian period. Such stamps do not seem to have been introduced until late Sasanian or early Arabic times, and few are found on the surface of the complex of the Mounds.<sup>59</sup>

However, since this was written, more examples of stamped pottery have been found at Seleucia. Here, in contrast to Dura, they seem to occur more often on small or fine vessels than on large heavy storage jars. In late Level III, 43-70 A.D., occur simple whirling rosettes,<sup>60</sup> and a design made by pressing in the points of a comb; Mr. Debevoise has sherds with similar designs from Mesopotamia in his own collection. Another rounded figure, which is roughly reticulated, has an upper crest recalling that of a pomegranate.<sup>61</sup>

At Warka stamped unglazed pottery, which is similar to that of Dura and Seleucia, was found in post-Hellenistic levels.<sup>62</sup>

Certain types of small pots, particularly cosmetic pots and unguentaria, whether glazed or unglazed, are found

<sup>59</sup> Debevoise, Seleucia, p. 22.

<sup>60</sup> Museum of Classical Archaeology, Ann Arbor, Nos. 8242 and 12064.

<sup>61</sup> In the same collection, No. 8380.

<sup>62</sup> Julius Jordan, op. cit., p. 67, Tafel 92, d, f. In one of these the stamp is not on the body itself, but is on a round piece of clay applied to the jar.

very commonly at both sites: here is a correspondence. The cosmetic pots (Table B, 3, 4, and 5, Table C, 3) and certain cylindrical jars, present very little stylistic development, certain types persisting down to the end of the Parthian period, (Table D, 1); further, they have little significance for the purposes of this study, and therefore will be discussed no more.

The unglazed one-handled jug with a top-shaped body tapering to a very small foot, so typical of Seleucia, has also been found at Dura (Fig. 21). This particular example is dated in the first century B.C.; the lip was apparently originally trefoil, and the handle vertical, like those of an oinochoe.<sup>63</sup> Because of its flat base it is close to Seleucia Type 164 (Table B, 8), the body of which, however, is much more full and rounded. The top-shaped jug of Level III (Table B, 8) develops, in Level II, a proportionately very wide neck, in some cases retaining the tiny base (Types 137, 143, 182, in Table C, 7) and in other cases the whole body and base widen and shorten with the neck (Types 144, 145, 146, and 150, in Table C, 8).

Burnished pottery is one of the most fascinating of the unglazed groups. Burnishing is among the most ancient techniques known to man in the Near East, for instance, burnished jugs and jars of the Middle Bronze Age of Syria

<sup>63</sup> Gallery of Fine Arts, New Haven, No. K 497; pale tan clay, H. preserved c 25, D. 13. Dura, block G 1, 103.

and Palestine had already attained a very high degree of artistic perfection.<sup>64</sup> Also in eastern Persia, at Tepe Hissar, Near Damghan, burnished jars were found dating from 1500-1200 B.C.<sup>65</sup> This old oriental technique is known, at both Parthian sites, which is not surprising, as it continues even into the Islamic period. At Dura a round-bellied flat-bottomed jar with a short flaring neck is well known. One published by Little is described as having "dull red glaze over red clay,"<sup>66</sup> but from the illustration it can be seen clearly that the jar is burnished. A second red one is compared to Seleucia pottery, and is described: "In shape the vase resembles the bowls of brittle ware."<sup>67</sup> A third, which is greyish brown, as to both clay and slip, is dated in the first century B.C.<sup>68</sup>

A new type at Seleucia found in the last season of excavation is very fine, Fig. 22.<sup>69</sup> The clay is a fine

<sup>64</sup>Examples are in the collection of the Archaeological Museum, American University, Beirut, Syria.

<sup>65</sup>Brooklyn Museum, The Art and Technique of Ceramics (Brooklyn, 1937), illustration on page 30.

<sup>66</sup>A. M. G. Little, "Pottery," Dura, Fourth Season, pp. 224 and 228, Plate XXIV, 1. No. 1931.435.

<sup>67</sup>Clark Hopkins, "Excavations in Blocks M7 and M8," Dura Sixth Season, p. 144.

<sup>68</sup>Gallery of Fine Arts, New Haven, No. K325; H 16.6, D.8.6, Dura, Block G1, 103.

<sup>69</sup>Museum of Classical Archaeology, Ann Arbor, No. F 2725, Level III, Room 168; this room had distinct levels, and the dates are therefore definite. H. preserved 22, D.13.

buff-pink, the slip cream-colored, the burnishing vertical. This jug is dated by coins to the middle of Level III, from about 40 B.C.- 43 A.D. The shape is more elegant and finished than that of Type 163 (Table B, 8) which it resembles somewhat in having a well-molded hollow foot. In fact the shape is about as sophisticated as that of a piece of T'ang porcelain.<sup>70</sup> But this piece, which has genuine beauty, is also important for the development of the glazed Parthian amphora, for it is, to my knowledge, the earliest dated Parthian jar which has a flat disk on each side of the upper attachment of the handle. This point will be discussed below, in connection with the amphoras. Though some of the burnished ware of Seleucia may be Persian, the writer feels that this example belongs entirely to Mesopotamia.

Two other burnished types of Level III are Type 73, a lachrymatory (Fig. 23) and Type 54 a very tiny pot (Fig. 24). Both have a fine red body, red slip, and vertical burnishing.<sup>71</sup> A one-handled jug in Chicago has a beautifully gleaming burnished surface (Fig. 25); it is made of hard grey clay.<sup>72</sup> It is said to have come from Persia; it presents

<sup>70</sup>Needless to say, this refers to the shape alone; for there is no comparison, technically, between Near Eastern and Chinese pottery and porcelain.

<sup>71</sup>Type 73 is also shown in Table B, 5, and Type 54 in Table B, 4.

<sup>72</sup>Art Institute, Chicago, No. 26.1211, H 17.5, D.13.8. Dated, "Persian 300 B.C. or later."



the most striking similarity to a red burnished jug from Seleucia (Fig. 26). This single example occurred in Level II.<sup>73</sup> This similarity is a confirmation of Debevoise's analysis:

In view of the small number of sherds found, this may possibly be an imported ware. The more central and eastern regions of the Parthian empire at once suggest themselves as a source, since they have yielded pottery of a somewhat similar nature,<sup>74</sup> [and] sherds of a somewhat similar ware have already been brought back from Seistan.<sup>75</sup>

The jug of Fig. 26, (Type 345 in Table C, 10) when compared with the other jugs of Level II (Table C, 6-9) proclaims its difference from them and by its style supports the Persian attribution.

At both sites partially glazed pottery has been found; usually the interior only is glazed; often the glaze runs down a little outside the rim, but most of the exterior is bare. At Seleucia this class is fairly common. One group there consists of cooking pots with rounded bottom (no base) and handles, for instance, Types 346 and 347 (Table B, 6) and 348 (Table C, 5); obviously it would have been a waste to glaze the exterior.<sup>76</sup> Certain rather ovoid jars

<sup>73</sup>This is Type 345.

<sup>74</sup>Debevoise, Seleucia, pp. 21-22.

<sup>75</sup>Ibid., p. 114.

<sup>76</sup>Ibid., pp. 17-18: "The purpose for which a vessel was intended can be ascertained in only a few cases; the cooking pots, blackened by the smoke of many fires (346-348);" etc.

are also glazed inside and on the rim only; they might have served to store oil or wine. These are illustrated, for Level III, by Type 240 (Table B, 5) and for Level II by Types 247, 249 and 250 (Table C, 4). At Dura similar partially glazed low jars appear, but so rarely as to suggest direct influence from Seleucia. However at Dura the necks are straighter, and wider in proportion to the width of the jar. Two from Dura have been published (but no dates given); one is glazed inside only, the other outside only.<sup>77</sup> A third in this group is dated in the period before 160 A.D.; the body is rather round, the neck wide and short, the simple base concave.<sup>78</sup> This concave base is like that of Seleucia Level II, Type 240, dated before 70 A.D., whereas it is unlike the perfectly flat bases of the jars of Seleucia Level III, Types 247, 249 and 250. This may indicate a more precise dating of the Dura example. In all of these vessels the glaze is blue-green in color.

Some small one-handled and two-handled jugs whose glaze is very often blue-green are practically universal in the Parthian period. Type 270 is of the Third Level (Table B, 7) and 260, 261, 269 (Table C, 9) of the Second Level. Often the bottom is unglazed; in one early example,

<sup>77</sup>Little, *op. cit.*, p. 227 and Plate XXIV, 1. The shapes are not described in detail, nor are the jars dated.

<sup>78</sup>Gallery of Fine Arts, New Haven, No. I 693 (Not catalogued). H.16.3, D.15. The shape of this one is more like a low jar than like the ordinary cooking pot.

where the glaze stops, thick drops of it run down to the base.<sup>79</sup> At Dura several in this group were found in the cemetery west of the city, and are dated thus before 160 A.D.; though until the findings of each individual tomb are published, there will be no way of knowing their earliest appearance. One is in all respects like Type 270<sup>80</sup>; two have a body curving continuously up towards the rim, instead of having a convex molding marking the angle between sloping shoulder and straight vertical neck. Of these two, one<sup>81</sup> has a rich dark purply-chocolate-brown colored glaze, which we may assume to be a manganese glaze, by comparison with the Seleucia manganese glaze. It is notable that the Seleucia manganese glaze occurred on jugs of one particular shape only, and after 120 A.D. for the first time,<sup>82</sup> while at Dura it dates from some indefinite time before 160 A.D., but on a jug of a totally different

But cf.  
p. 4.

<sup>79</sup>Museum of Classical Archaeology, Ann Arbor, No. F 8456, from the temple in block IJ, dated about 40 B.C. This is unusually large, H. to the neck molding 15; D.12.5.

<sup>80</sup>Gallery of Fine Arts, New Haven, No. I 874, blue-green glaze reaching not down to the simple convex base; H.11.3, D.6.3. Found in Tomb 40, Loculus XVI.

<sup>81</sup>Gallery of Fine Arts, New Haven, No. 1935, 531. This is from Tomb 6, Loculus XIV; H.9.2, D.6.3. A photograph was received too late to be used in this paper.

<sup>82</sup>Debevoise, Seleucia, pp. 33-34, and Plate VII, Fig. 2, and Type 353 (Table D, 4).

shape. The third<sup>83</sup> has a well molded hollow foot similar to that of Type 260 (Table C, 9) and Type 259, of Level I (Table D, 4). Other examples have been published.<sup>84</sup>

The jugs of this class have a definitely classical inspiration, both in shape, and in the precision of the wide flat rim with its vertical edge, the flat strap handle, and the careful finish of the foot. They call to mind two Greek types, the Corinthian aryballos and the alabastron.<sup>85</sup> In the Parthian one-handed jug of this group the only development is from a rather conical to a definitely bulbous pear-shaped body, from simple concave base to a more molded hollow foot, from tall and slender, to lower and wider proportions, as with Type 259 (Table D, 4).

A totally different sort of one-handed jug has a rather cylindrical, high-shouldered body going down bluntly to a perfectly flat bottom. A single unglazed example was found in Level III at Seleucia (Type 149, Table B, 9). Because of similarity in shape a green-glazed jug in Chicago (Fig. 27) may be assigned to the same period.<sup>86</sup> Rather

<sup>83</sup>Gallery of Fine Arts, New Haven, No. I 875; from Tomb 40. The blue-green glaze leaves the base bare. H.11.5, D.8.5.

<sup>84</sup>Little, *op. cit.*, p. 228, Plate XXIV, 2. See also J. P. Peters, *Nippur* (New York, 1897), Plate V, 9.

<sup>85</sup>Richter, and Milne, *op. cit.*--the aryballos, p. 16, and Fig. 103, the alabastron, p. 17 and Figs. 107-111.

<sup>86</sup>Art Institute, Chicago, No. 25.199.

heavy, flat-bottomed jugs become much more common at a later period, but the detailed work involving in making the convex upper part of the neck, the finish of the flat rim, and the rather neat handle, suggest a date as early as the first century A.D.; and in later times the shoulder is no longer so bulging. Of this jug Debevoise has remarked, "No Greek influence here, but purely oriental predecessors from earlier days influenced the squat irregular shape of this jug."<sup>87</sup> However, the same may not be said of all flat-bottomed jugs.

In the Third Level at Seleucia is the first example of a certain class of one-handled pitchers, which by the Second Level has developed a flat bottom. This example is Type 279 (Table B, 9). The body is full, but slightly angular, the low foot hollow, the neck tall and straight, and marked off from the shoulder by a convex molding. The chief characteristic and that which is consistent throughout this class, is the double twisted handle, ending below in three rather leaf-like vertical grooves, and having a flat disk on each side of both upper and lower attachments.

A handle of this type, ending below in a decorative finial, finds its closest parallel in Roman bronzes and the green lead-glazed pottery of the eastern Roman provinces. In the Metropolitan Museum is a slender pottery pitcher

<sup>87</sup> Debevoise, "The Pottery of the Parthians," p. 78; not illustrated.

whose now iridescent glaze must have been originally dark green; a mask terminates the handle at its base<sup>88</sup>; see Fig. 63. A second vase has a green glaze outside, and an ochre-yellow glaze inside; below each handle is a grape-vine leaf; clay disks placed here imitate the rivets of the obvious metal proto-type; Fig. 64.<sup>89</sup> In the same museum these metal prototypes exist: one jug has a grape vine leaf below the handle, just like the last-mentioned green and yellow glazed vase, but the handle is fastened with two rivets, instead of one.<sup>90</sup>

It is the writer's opinion that the small disks by the handles of the Mesopotamian jugs are also imitating rivets in metal, like the small disks below the handles of the Hellenistic-Roman pottery. As we shall see, this question has some relation to the disks and knobs of Parthian amphoras.

Related to Type 279 of Seleucia is a one-handled jug

<sup>88</sup>Metropolitan Museum, No. 17.194.886, H 20.7, D 11.5; the provenance is unknown. It is assigned to the second century A.D.

<sup>89</sup>Metropolitan Museum, No. 17.190.2069; H 25.5. It was found in Ma'arra, Syria. It is assigned to the first century B.C. The main decoration is a frieze of eight female figures in relief. Published: Gisela M. A. Richter, "Hellenistic and Roman Glazed Vases," *BMMA* (March, 1916), p. 67, Fig. 9. This Hellenistic and Roman glazed pottery will be further discussed below, pp. 71-74.

<sup>90</sup>Metropolitan Museum, New York, No. 21.88.164, H.19.7. A two-handled bronze, No. 27.122.7 has satyr masks for the finials; a bronze jug No. 97.22.21 has a Silenus mask in the same place.

from Dura, shown in Fig. 28.<sup>91</sup> The well-molded ring foot and the flat rim suggest a date in the first century A.D., though the vase itself was found in a late level. The handle is broken off, but its lower finial of two leaf-like vertical grooves remains; and it is this finial which puts the jug in this class. The width of the broken stump of the handle is sufficient for it to have been a double twisted handle..

This class continues at Seleucia in Level II, 70-120 A.D., with three types, namely Types 256, 280 and 281 (Table C, 10); here the walls of the body slope down straight to the flat bottom. The jug, Seleucia No. 3983, which is the example for Type 256, shows broken places where two disks by the lower end of the handle have disappeared; these should have been restored in the drawing. The double twisted handle ends below in the usual three vertical grooves. Thus this example belongs to this class, in spite of its difference in shape. In Type 280 the handle is simple, but the disks and the handle finial are the same. In Type 281 the handle might be restored either as simple, or as the double twisted variety. We find this type again in the third century A.D. at Dura.

<sup>91</sup> Gallery of Fine Arts, New Haven, No. 1932. 1284; H.23.5, D.17. From block B 8, H 17, a late level. Though pottery may be found in a late level, it may have been made at an earlier date, and preserved. Unfortunately, in the illustration the finial at the base of the handle does not show very clearly.

The jugs of this class are interesting and significant because of the disks and the elaborate handle. But the shape, taken alone, shows no feeling for the aesthetics of pottery. The body, generally, is widest at the bottom. One feels that if the jug were picked up by the handle, the weight of the liquid contained in it would break the lower walls, and the upper part of the jug would come away, leaving the bottom lying flat where it was. Such a shape is not a true pottery shape; it belongs to metal, where the problem is entirely different.

In the last season's work at Seleucia a new type of green glazed bowl was found; a view of the exterior is shown in Fig. 29.<sup>92</sup> It was found in a grave, with a coin which dates it to the Early Third Level, 143-40 B.C. In the fact that it has a round bottom, without a foot, it is similar to other bowls of Level III (Types 1, 3, 4, 5, 6 and 211, in Table B, 1). But the everted rim is marked off by three incised lines; and on the sides were, originally, four groups of vertical incised grooves. These grooves relate the bowl to the amphora (Fig. 16) and the small two-handled vases (Figs. 9 and 15) which are probably Hellenistic in date and to similar types of the Parthian period, as follows.

<sup>92</sup>Museum of Classical Archaeology, Ann Arbor, No. 12003; H.6.2, D.17. The provenance is Grave 232, in Room 231. A fragment of different type, also new, is No. 11, 183, also of Level III; the glaze is a bright blue-green.



Fig. 30, a small two-handled jug with a blue-green glaze is from Dura, but its date is not known.<sup>93</sup> It might be assigned to the first century B.C., or at any rate to the period of Seleucia Level III, 143 B.C.-70 A.D., because it is still not very far from the little vases of the Hellenistic period (Figs. 9 and 15) though definitely cruder in shape and workmanship, and therefore possibly later. Again, the low loop handles are found on another sort of jar in Seleucia Level III, Type 283 (Table B, 10). But it is not yet quite as degenerate as a jar with loop handles in Level II, Type 289 (Table C, 11).<sup>94</sup> Of course the same sort of incised decoration on the body is found on the tall amphora in Fig. 16, but the lowness and round shape of the handles seems to indicate that the ancestor of Seleucia Types 283 and 289 must be the small vase-type of Figs. 9 and 15. Massoul has remarked on the differences between this type and the amphora-type.<sup>95</sup>

A small, two-handled vase from Dura, in Fig. 31, having a blue-green glaze, is important because it is the earliest datable glazed object to have been found in that

<sup>93</sup>Gallery of Fine Arts, New Haven, No. H.148 (1935.524); H 13.8, D.10. The rim is wide, the base concave and not glazed.

<sup>94</sup>Photographs of examples of Type 289 are shown in Debevoise, Seleucia, Plate III, 1 and 2.

<sup>95</sup>Massoul, Dura, pp. 466-467, 472, Plate CXIX, 6. The example discussed by Massoul lacks the incised lines on the body, but has the rounded band on the shoulder, the low looped handles, and the same base as in my Fig. 30.

city; its date is probably 50-25 B.C.<sup>96</sup> The clay is pale yellow, smooth and creamy in texture. The glaze does not reach to the bottom. The body is rather pear-shaped, the neck short and the rim inverted; small loop handles are set at the angle between the neck and the shoulder. The general proportions of neck to body, and the size and position of the handles are consonant with the early date, if we recall pre-Hellenistic pottery of Mesopotamia (see p. 11 and note 27). But these are the only similarities to the vases in Figs. 9 and 15. The decoration, placed at the angle which separates the body from the shoulder, consists of very small round knobs, seven on each side. More knobs are on the neck, three on one side, two on the other. These knobs are remarkable, for they differ both from the lentoid disks on the Nippur jar in Fig. 17, and from the more developed scheme of flat disks and conical knobs by the handles of amphoras of the Parthian period. The system of knobs placed on the shoulder, as in Fig. 31, finds an echo in the Dura jars of Figs. 37 and 38, which are probably later.

Before coming to the amphora-type note must be made of the three fragmentary busts from Seleucia shown in Fig. 31

<sup>96</sup>Gallery of Fine Arts, New Haven, No. F 695 (1935. 518), H. c 19, D.16.4. It was found in the embankment. Mr. Brown assigns it to this period by comparison with a dated piece, No. K 650, which has the same neck, handles and knobs.

bis. They are part of a series of six, which were made in molds. The back of the chest and the back of the head were pressed into the mold with the fingers, so that they look hollow like the bowl of a spoon. All are completely covered with the blue-green glaze, on the back and underside as well as on the front. Some are not dated, but because they are all of a type unique in shape and in function, the whole group may be assumed to be contemporary. Those which are dated come from the debris between Levels III and II, that is, they come from the years either just before or just after 70 A.D. Of the group of six,<sup>97</sup> three are complete with bust and head, three have the head alone preserved. All seem to me to be of the usual Mesopotamian clay, but fine, well-levigated, and well fired; therefore I suppose that they were made in Seleucia or the region about, and not imported from any foreign land.<sup>98</sup> On all of them the glaze has decayed in the same way. Miss Van

<sup>97</sup> Museum of Archaeology, Ann Arbor. First, the bust in Fig. 31 bis is No. 5127, width of chest 3.4. Second, the head in Fig. 31 bis (below, left) is No. 568, width 2.8, H.3. Third and fourth are two others made in the same mold as the second; No. 921, W.2.7, H.3.3, a head only, and No. 6244, bust preserved as well as the head; length of bust 4.4. Fifth, No. 10,000, similar to the last three, but details obscured by the glaze, complete bust with head. The sixth, a head only, shown in Fig. 31 bis (below, right) is No. 8059.

<sup>98</sup> Mr. Matson is in the process of examining the clay of these six busts, but his examination is as yet not complete. The conclusion that these objects were probably not imported is my own.

Ingen did not include them in her book on the Seleucia terracottas,<sup>99</sup> because they are not independent figurines, but were applied on some object. What this sort of object was it is impossible to say. Of the three complete busts only one (No. 10,000, not illustrated) has a fragment remaining of the object to which it was applied--this is flat, that is, it cannot be part of any wheelmade vessel; and it is glazed on the reverse. The chest and shoulders lie flat against this flat background, while the head and neck, bent forward at an angle (Fig. 31 bis, above), stand out in space. If we assume the plane of the background to have been vertical, we are then reminded of unglazed clay astodans, for instance some from the region near Samarkand,<sup>100</sup> but on these the applied heads are flat, not projecting in space. Again, no such clay boxes have been found at Seleucia. Rostovtzeff, in discussing clay masks or heads found in Mesopotamia says "They may have been pasted on wooden coffins just as similar masks and other ornaments were pasted on coffins of the same period in the Greek cities of South Russia and elsewhere;" and also speaks of "The well known tendency of the Parthians to use

<sup>99</sup> Wilhelmina Van Ingen, Figurines from Seleucia on the Tigris (Ann Arbor, University of Michigan Press, 1939).

<sup>100</sup> Camilla Trever, Terracottas from Afrasiab (Leningrad, State Editions Department, 1934); passim. Compare also heads applied flat on an unglazed jar from Khotan, Fig. 176.

heads as decorative material for their palaces and houses, pots and vases, textiles and jewels."<sup>101</sup> But this tendency to the decorative use of heads is no more Parthian than it is Greek, in pottery and metal, or Roman in pottery and metal. The six Seleucia glazed heads cannot have been applied on clay coffins because of their small scale; the thickness of the remaining background wall is only five millimeters (No. 10,000). The closest parallel for free-standing heads applied to an object, is the heads on the handles of a jar from Khotan, Fig. 173, which is probably several hundred years later; but again the Seleucia busts do not come from handles.

Having discussed the material, the shape and the use of the six busts, what of their style? Five represent Parthians, the sixth a Greek type. The figures which are completely preserved are clothed in the well known Parthian dress with a deep V-neck.<sup>102</sup> The first (Fig. 31 bis, above) is rendered in a rather schematic and wooden way, with a staring expression. But the next type (Fig. 31 bis, below left) is a naturalistic and sensitively modelled piece of sculpture, which in my opinion must have been made by a Greek, or by someone long trained in the traditions of

<sup>101</sup>M. I. Rostovtzeff, "Dura and the Problem of Parthian Art," Yale Classical Studies, V, pp. 183-184.

<sup>102</sup>See the terracotta of a rider in the Sarre collection, Berlin; Sarre, Die Kunst des alten Persien, Pl. 54, left.

Greek, and not oriental, art, even though the subject is a Parthian. The last in the series (Fig. 31 bis below right) is again perfectly Hellenistic: it has the exaggerated movement of the head bending to one side, the deep-sunk eyes and rather distressed expression, and the thick curly locks of hair which go back to the style of Scopas. In these three illustrations we have first, the oriental formality of design in the representation of a Parthian, next a naturalistic and therefore Greek representation of the same subject, and finally a Greek treatment of a Greek subject. Yet all of these figures form a single series because of their material, their shape, and their purpose. If we consider the presence of these busts at Seleucia to be a sign of influence from Persia or Transoxiana, we cannot forget the earlier impress of Greek art upon those very regions.<sup>103</sup>

SYRIAN / MESOPOTAMIAN (DURA) AMPHORA

The problems involved in studying the Parthian glazed amphora are very complex, applying the word amphora to the same sort of shape with tall handles, as that illustrated in Fig. 16, and its derivatives. Seleucia is again, as with other types, a class apart. Dura provides a terminus ante

<sup>103</sup>See Trever, op. cit., Pl. V, No. 72, the head of a bearded man which has a naturalistic Greek modelling; Pl. XIII, No. 193, a bearded head whose face is like that of the Greek satyr-type; Pl. I, No. 19, part of a female figure in transparent drapery, like a Greek dancer. Compare also Hellenistic stone carving of a satyr's head, found near Kermanshah, Sarre, op. cit., Pl. 53.

quem with various amphorae from tombs, and thus establishes a basis for studying the Mesopotamian amphora type. With this has often been confused an amphora-type whose shape is different, and which we propose here to call the Syrian type. The relationship of these two groups is clarified by comparison with other glazed Roman pottery of Syria and Tarsus.

At Seleucia in Level III the only shape having even a superficial resemblance to the amphora is that of Type 283 (Table B, 10), and this, as I suggested above, is really a continuation of the Hellenistic low-handled vase, as in Figs. 9 and 15, which may have some relationship with earlier Mesopotamian forms. By the period of Level II, 70-120 A.D., four shapes show varieties of the tall vertical handle, Types 172 and 173, unglazed, and Types 282 and 284, glazed; but Types 287, 288 and 289 are again examples of the old Mesopotamian low-handled vase (Table C, 11). The small number of types, and the lack of interest in decorative schemes, are in strong contrast to the situation at Dura, and throughout Mesopotamia.

~~DURA~~ AMPHORA

At Dura several amphora types were found in the tombs of the cemetery outside the walls, and they are therefore dated before 160 A.D.; but, as stated before, the evidence for the time of their first appearance, if it exists, has not yet been published. We begin with the type of Fig. 32, an amphora whose glaze was originally a brilliant peacock blue,

but is now mostly faded.<sup>104</sup> The rim still has the two degrees which we observed in the amphora of the Hellenistic period from Nippur (Fig. 16) though the neck is straighter. The handles are double. The foot is simple and concave. The sole decoration is the rocked band below the handles. The shape of the body is noteworthy, it has an exaggerated double curve, precisely like that of some Seleucia unglazed jugs, as, Types 137, 143 and 182 (Table C, 7). This body-shape is not, to my mind, influenced by metal, it seems simply the sort of development which the potters of this time wished to make away from the classical amphora. Another unusual point is that this piece was fired upside-down; as the glaze ran it collected in thick drops on the crests of the handles and on the rim.

The jar of Fig. 33 came from the same cemetery. The body has a more normal shape, the rim and handles are well made, the foot is high and hollow.<sup>105</sup>

A third example, from Tomb 55, shown in Fig. 34,<sup>106</sup> is far from the amphora, but still has the pierced handles and the vertically-concave rim of the oriental tradition. But the shape of the lower part of the body and of the foot, together with the double-rope-molding about the neck, are

<sup>104</sup>Gallery of Fine Arts, New Haven, No. 1935.507; H.30.5, D.18. From Tomb 23, Loculus XI.

<sup>105</sup>Ibid., No. K438; H.28, D.18. From Tomb 49.

<sup>106</sup>Ibid., No. K575; H.25, D.20.2. From Tomb 55.



concessions to classical influence. At the lower edge of the shoulder are two horizontal rocked bands. At the top of each handle are two disks, at its base, two conical knobs, which are practically the hall-mark of the place and of the period. The rich blue-green glaze is in a poor state of preservation.

The plain little object in Fig. 35,<sup>107</sup> seems to combine the proportions and the rim of Fig. 34 with the straighter handles of Fig. 33. We might have to call it a wide, low, two-handled jar, rather than an amphora. The glaze is blue-green; the jar is well finished.

Not far from the simplicity of Fig. 33 is a blue-green glazed amphora from Tell Billa, seen in Fig. 36.<sup>108</sup> However, the body is much more low and bulbous, the handles are double and twisted, the rim and foot are simple, not molded in degrees. It is the presence of the pairs of disks and knobs by the handles which makes possible the attribution of this amphora to the Parthian period.

A fifth example from the Dura tombs has not been seen by the writer; Figs. 37a, b.<sup>109</sup> It is marked by the good proportions of neck to body, by the molding of rim and foot in two degrees and by the shape and angle of the

<sup>107</sup>Ibid., No. I867; H.18.6, D.15. From Tomb 40.

<sup>108</sup>University Museum, Philadelphia, No. 32.20.229.

<sup>109</sup>The number is K359, and it is from Tomb 44. It is perhaps one of those which remained in Syria.

handles, qualities which it shares with the commonest, or most well known of the Parthian amphoras. But it is, to my knowledge, unique in its decoration: the scheme of disks and knobs by the handles is absent, and instead, disks are placed in two horizontal rows about the shoulder, about seven on each side. And the handles are finished off with the applied pressed band, two short sections, and one long central section extending down the handle and onto the body below the base of the handle..

The blue-green glazed jar of Fig. 38 is unusual in this series. For a glance at the shape, with one continuous curve sloping up from body into shoulder, into neck; the single handles having a lump-like knob at the top; and the disks scattered about all over the shoulder (ten on one side and twelve on the other)--all these details make one think immediately of the much later Sasanian pottery; see Fig. 192. These various points are absent in the group which we are now discussing. But this jar is also from the Dura cemetery, and must be dated, like everything else there, before 160 A.D.<sup>110</sup> However, the greatest diameter of the body is high, rather than low, and the tall handles bend at a right angle, and the foot is a ring-foot,

<sup>110</sup>Gallery of Fine Arts, New Haven, No. H.721, H.37.5, D.21.8. From Tomb 16, Loculus 3. In a letter of June 8, 1938 Mr. Brown stated that there was no possibility of this jar being a later intrusion into the tomb, that it was found among other objects in the regular way; and that Tomb 16 was buried under the débris like all the other tombs.

points which are quite in accord with this dating. The strangeness of the shape, proportions and scattering of the disks must be considered simply a freak. This jar refutes Dr. Debevoise's theory that a profusion of disks indicates a date in the Sasanian period.<sup>111</sup>

Two more jars may perhaps be of the same date, because they are Mesopotamian, and have a general similarity to this amphora group. The first, glazed in blue-green, from Susa, is shown in Fig. 39. What sets it apart from the other amphoras is its very pure metal feeling, seen in the elegant lines of the body, the sharp angle of the shoulder, the tall and narrow neck, and the shape and attachment of the single twisted handle. This jar was most probably made in Susa, as M. Koechlin explained, for on the body is a spot where it had stuck to something in the oven, and pottery spoilt in the firing is not suitable for exportation.<sup>112</sup> Nothing is said of the dating of this jar, but since Susa belongs culturally to Mesopotamia (see Chapter II ), we may compare it with the present group, and consider it to be contemporary, because of the disks at the upper ends of the

<sup>111</sup> Debevoise, "The Oriental Amphora," p. 3, note 9.

<sup>112</sup> Raymond Koechlin, "Les céramiques musulmanes de Suse au Musée du Louvre," Mémoires de la Mission Archéologique de Perse, Tome XIX (Paris, 1928), No. 62, Plate VI, and pp. 5-6, 38, and 51. This jar is 45 cm. in height, the clay is greyish-pink, and the glaze is described as "email turquoise." The base and one handle are missing; the handle is restored.

handles, and the knobs at their bases. Its refinement of proportions and form also suggest a date no later than the second century.

Dr. Ettinghausen has published a very similar, but green-glazed amphora, now in the British Museum; see Fig. 40. Though the jar has quite different proportions, it is nevertheless most obviously copied from metal.<sup>113</sup> Another, incomplete, was found in the excavations at Nineveh.<sup>114</sup>

After noticing these various eccentricities of the amphora type, we now return to what is the most widespread and the most familiar variety. This is exemplified in Fig. 41, again from the Dura cemetery<sup>115</sup>; this I shall call the Dura amphora, or the Mesopotamian amphora. The body is widest at its angle with the shoulder, narrowing rapidly towards the foot. The rim and foot are molded in two degrees. The base of the neck is marked by a double molding; about the shoulder is a rocked band. The shape and angle of the handles are particularly distinctive. A full view of this type of handle is in Fig. 42.<sup>116</sup> This handle is

<sup>113</sup>Ettinghausen, op. cit., Fig. 219b, p. 655.

<sup>114</sup>R. W. Hutchinson, "The Pottery; The Site of the Palace of Ashurnasirpal at Nineveh," AAA (1930-31), Vols. 17-18, Plate XXXVIII, 8.

<sup>115</sup>Gallery of Fine Arts, New Haven, No. 1935.36, H.32.5, D.22.2. From Tomb 40.

<sup>116</sup>Ibid., Photo I259A. This fragment of an amphora is from Tomb 27, in the cemetery, to be dated before 160 A.D.

double and twisted, at its highest point it makes a sharp angle and bands in towards the neck. On top of the angle is a peculiar and characteristic finial--two solid cones of clay are laid point to point, and joined by a little lump of clay; the circular outer ends of the cones are seen from the side. Down the central groove of the handle may be placed one or more flat disks. On this type of amphora with this type of handle, the handle is usually flanked by disks at the top, on the neck, and conical knobs below, on the shoulder.

As to the origin and nature of these disks and knobs many theories have developed. In 1926, in comparing the pottery of the earliest excavations at Dura with amphorae from Rakka in the Louvre, Massoul presented the idea that these knobs represent nail-heads, and have a magical, apotropaic significance; he cited examples of magical nail-heads in earlier periods in Elam, and concluded that their use is oriental, and non-classical.<sup>117</sup> Koechlin, in 1928, speaking of the pottery of Susa, simply repeated the ideas of Massoul.<sup>118</sup> In 1934 Debevoise stated,

<sup>117</sup>Félix Massoul, "La céramique de Dura," appendix in Les fouilles de Dura-Europos (1922-1923) by Franz Cumont (Paris, 1926), pp. 464-465.

<sup>118</sup>Raymond Koechlin, "Les céramiques musulmanes de Suse au Musée du Louvre," Mémoires de la Mission Archéologique de Perse, Tome XIX (Paris, 1928), p. 42.

The two small conical bosses, one on either side of the base of the handle, have predecessors that go far back into Sumerian times, and possibly may have been originally connected with representations of the Mother Goddess;<sup>119</sup>

and in 1935,

They seem almost a throwback to the Mother-goddess handles of the Kish "A" cemetery.<sup>120</sup>

Ettinghausen, writing after 1934, after mentioning the other theories, concludes:

Probably both disks and knobs represent skeuomorphic imitations of practical or decorative rivets on the metal jars from which the pottery vessels may have been derived.<sup>121</sup>

Fig. 43 illustrates the mother-goddess handle of Kish, dating from about 3500 B.C.<sup>122</sup> To be sure, the goddess has disks for eyes and conical knobs for breasts, but from the depths of antiquity to the Parthian period in Mesopotamia, seems rather a far cry, both in time and in civilization. It seems to the writer that what resemblance there is, is fortuitous rather than causal. Similarly, as to the magical-religious theory, what may have been true of the other arts in ancient Elam, is not necessarily true of pottery of a more advanced age. The theory of metal imitation is at once simpler and more probable.

<sup>119</sup>Debevoise, Seleucia, p. 100.

<sup>120</sup>Debevoise, "The Oriental Amphora," p. 3.

<sup>121</sup>Ettinghausen, op. cit., p. 656.

<sup>122</sup>Stephen H. Langdon, Excavations at Kish: The Herbert Weld (for the University of Oxford) and Field Museum of Natural History (Chicago) Expedition to Mesopotamia, Vol. I (Paris, 1924), Plate XIV, Fig. 2.

It may be well to summarize what we have seen of the development of disks and knobs up to this point. In most pottery assigned to the Hellenistic period, neither exist. In one piece, Fig. 17, which some authorities call Parthian, there are slight lentoid swellings, and disks at the upper end of the handles only. In Fig. 31, assigned to 50-25 B.C., small irregular knobs occur all over the shoulder. The earliest dated example of a vessel with disks is Fig. 22, dating from about 40 B.C.-43 A.D.; this jug, though decorated in a technique namely, burnishing, which was common in contemporary Persia, is perfectly Mesopotamian in manufacture and style. Then in types of the late Third Level at Seleucia, 43-70 A.D., such as Type 279, the disks at both ends of the handle are traceable to Hellenistic-Roman metal and pottery. Finally conical knobs replace the two lower disks, and disks also decorate the back of the handle. Here are clear steps, in which the influence of one medium upon another, and the mere instinct to decorate, seem to be the moving factors. And Dr. Ettinghausen has recently suggested that if the knobs and disks were tokens of old oriental magic, they would be far more likely to occur on purely oriental shapes, and not on the most classical, foreign shapes. Indeed, in a period of civilization as advanced as that under consideration, the potter doubtless cared only for the artistic and technical problems of his craft, and into his work we do not need to read symbolical and religious meanings.

For the superstitious of these centuries there were such things as the gnostic gems, and the Aramaic incantation bowls, whose chief symbols were abstract, that is, words, and not concrete art-motives.

The Dura-type of amphora was known, though not common, in Southern Mesopotamia. Two handles of this type were found at Seleucia<sup>123</sup>; one is shown in Fig. 44a. Another was found at Ctesiphon<sup>124</sup>; Fig. 44b. But why did not enough of the jars themselves remain, to be found and noticed? In Fig. 45 we have an example of the influence of the Dura type of amphora on Seleucia pottery; this two-handled jar, Seleucia Type 297, was the only vessel from that site on which the flat disks occurred, and the only one having the scheme of disks at the top and knobs at the

<sup>123</sup>Museum of Classical Archaeology, Ann Arbor, No. F 6586, H.4, thickness 1.6, No. 10991, length 4.6, width 3.2, from the surface.

<sup>124</sup>Metropolitan Museum, New York, No. 32.150.400. In the dating of this handle I disagree with Mr. Hauser, who informed me that this handle was found in an early Islamic site, and is therefore "early Islamic, or possibly Sasanian." But all the evidence from Dura points to an earlier date: this type of handle, and the amphora-type to which it belongs, exist only through the second century; by the third century they have disappeared, and very different jars and handles have replaced them. Early objects are found at times, in excavations, in later levels, for instance at Tarsus a glazed Assyrian jar, similar to those of Assur, was found in a Hellenistic-Roman level, a circumstance which does not affect the dating of either the jar or that level.



bottom of the handle.<sup>125</sup> Its date in Level II, 70-120 A.D., suggests that by this time the Dura type of amphora, with its peculiar handle decoration, was already in existence.

Many blue-green amphoras of the Dura, or Mesopotamian type, as of Fig. 41, have long been known and are probably contemporary. Fig. 46 is in Berlin<sup>126</sup>; the double rope-moulding about the neck is not common in this type, though it is known on other shapes at Dura, as, the jar in Fig. 34. Fig. 47, which is also from an unknown site, is now in Chicago<sup>127</sup>; the photograph brings out clearly the crests on the handles, the vertical incised lines on the shoulder, the two rock bands, and the conical knobs beside the bases of the handles.

<sup>125</sup> Debevoise, *Seleucia*, p. 100. Later, in "The Oriental Amphora," p. 3, Debevoise says that "Flat applied disks are not found on any pottery which is definitely Parthian," and in note 9, of Types 297 and 417 (a lamp with disks), "Since these are without parallels at Seleucia they may have worked down from the scanty Sasanian remains on the surface." But the disk-and-knob arrangement by the handle is Parthian only, and not Sasanian. Here we have a striking illustration of the difference between the pottery of Seleucia and Dura in general.

<sup>126</sup> F. Sarre, *Die Kunst des alten Persien* (Berlin, 1923), Plate 149, p. 58. It is included in the chapter on Sasanian pottery, and called later than the jar on Plate 148. What appears to be the same piece was published earlier, by F. Sarre, "Die Keramik im Euphrat-und Tigris-Gebiet," *Archäologische Reise im Euphrat-und Tigris-Gebiet*, IV, (Berlin, 1920), p. 4 and Plate CXLV, No. 5.

<sup>127</sup> Art Institute, Chicago, No. 26.1866; published by Debevoise, "The Pottery of the Parthians," p. 77, Fig. 2. The date here suggested was "perhaps as late as the first half of the third century after Christ."

EXAMPLES of DURA TYPE

Another example of the Dura amphora type, published by Mr. Debevoise, is in the Museum of Archaeology of the American University of Beirut.<sup>128</sup> Unfortunately nothing is known of its provenance. It has the familiar rim and foot, both molded in two degrees.

An example from Rakka, Fig. 48, is in the Louvre.<sup>129</sup> It differs from the others in the number and placing of the disks: instead of two disks next to the handles, there are, on each side of the neck, five disks arranged like the quincunx. Whether or not this scheme implies a later date is a question. Another example of the type, Fig. 49, from the German excavations at Assur,<sup>130</sup> lacks disks; and on the shoulder is only one rocked band. A second piece from Assur, Fig. 50, may represent a provincial variation: the proportions are lower, the neck is more curved, on the handles are applied wavy bands, on the shoulder are a few rocked bands running vertically, and set about the edge of the

<sup>128</sup> No. 286; H.32. Published by Debevoise, "The Oriental Amphora," pp. 2-3, Fig. 1. This type is here recognized as being later than the amphora from Nippur, attributed to the Hellenistic period (our Fig. 16).

<sup>129</sup> Massoul, *op. cit.*, p. 460, note 2 and p. 466, Fig. 62, Louvre No. 6278. This has a blue-green glaze and was fired right-side up. It is attributed to the Hellenistic period.

<sup>130</sup> Walter Andrae and Heinz Lenzen, "Die Partherstadt Assur," Wissenschaftliche Veröffentlichungen der Deutschen Orient-Gesellschaft, LVII (Leipzig, 1933), p. 96, No. Ass. 15487, Pl. 46, b. It was found in a sarcophagus.

shoulder are several knobs.<sup>131</sup> A similar vertical arrangement on the shoulder occurs in an amphora from Dura in the Louvre, which is ascribed to the "atelier de Rakka."<sup>132</sup>

From Olbia is a further blue-green glazed amphora of this type, it is now in Moscow.<sup>133</sup> On the shoulder it has vertical incised lines, as in our Fig. 47, which is its closest parallel, but it has only one rocked band, instead of two.

Strelkoff published a new example of this type, now in Hamburg.<sup>134</sup> Dr. Ettinghausen mentioned two amphoras from Rakka now in Mainz; they are close parallels to our Fig. 47.<sup>135</sup>

The most splendid, and also the most unusual of the Mesopotamian shape, Figs. 51a-b, was found in Syria, at Salamiyya, east of Hama, and is now at the Metropolitan

<sup>131</sup>Ibid., p. 95, No. Ass. 13480a, Pl. 46k. Found in, or with, a sarcophagus. Debevoise, "The Oriental Amphora," p. 3, note 10, speaks of the use of the rocked band vertically as being an indication of a late date.

<sup>132</sup>Massoul, op. cit., Plate CXX, Fig. 6, pp. 463 and 474.

<sup>133</sup>A. Strelkoff, "Eine parthische Amphora in Moskau," JDAI, Vol. 50 (1935), pp. 58-59, 67; and Abb. 1, Abb. 2, and Abb. 3, l. Height 31.2, diameter 19. It was fired right-side up; the glaze is now iridescent.

<sup>134</sup>Ibid., Abb. 3, 2.

<sup>135</sup>Ettinghausen, op. cit., p. 658, note 2. Dr. Ettinghausen has kindly shown me photographs of these two jars. One, No. O.12131, has a third disk at the middle of the neck, making the bottom angle of a triangle whose upper angles are the two usual disks by the handles. The other one is No. O.7892.

Museum.<sup>136</sup> The rich dark blue-green glaze is now mostly iridescent. The outline of the body is even more angular than in some other examples; the rim has the characteristic molding in two degrees; the high hollow foot is as elaborately molded inside as outside. The decoration of plaques made in molds and applied has been described by Miss Richter:

The neck is decorated with reliefs of single, unrelated figures, taken from the regular Roman repertoire--Eros playing the lyre, holding his bow and arrows (?), and wrestling with a serpent; a seated woman; a figure with a cornucopia; an eagle; a grasshopper; two bearded masks; a female head--all subjects familiar from countless representations on other Roman monuments of the early Imperial period, especially on sarcophagi; gems and lamps.<sup>137</sup>

Miss Richter goes on to mention another amphora "with such reliefs," said to be from Syria; these are "probably the products of the same workshop."<sup>138</sup> Massoul refers to some amphorae from Salamiyya in the British Museum, and describes them as being similar to Dura amphoras in shape, and decorated with figures in the Hellenistic style, and with palms and other leaves. The authorities of the British Museum date them in the second century A.D.<sup>139</sup> Another also

<sup>136</sup>Metropolitan Museum, No. 23,228, H.35.8.

<sup>137</sup>G. M. A. Richter, "Roman Glazed Pottery," Bulletin of the Metropolitan Museum of Art (April, 1924), pp. 94-95, Figure on p. 95. It is assigned to the period from the first century B.C. to the first century A.D. See also Clark Hopkins, "The Pottery," Dura Second Season, p. 34; and Debevoise, "The Oriental Amphora," etc., p. 3, Pl. I, 3.

<sup>138</sup>Ibid., p. 95. This is in a private collection in New York.

<sup>139</sup>Massoul, "La ceramique de Doura," pp. 465-466.

from Salamiyya, in the same museum, has "reliefs of an Eros, a bird, and grapes on one side, and an helmeted figure, kneeling, on the other. The piece is unpublished."<sup>140</sup> However, as the shapes of these amphoras are neither described nor illustrated, and as I have not seen them, it is impossible for me to group them with either the Mesopotamian or the Syrian type.

SYRIAN AMPHORA

Fig. 52 brings us to the consideration of the Syrian amphora type. It is a blue-green glazed amphora, formerly in the Rockefeller collection, now in the Metropolitan Museum; its given provenance is Hims, in central Syria.<sup>141</sup> What first catches one's eye, in observing it, is the decoration of the neck, and for this we again quote Miss Richter: "One . . . . is closely related to a vase we already had, an amphora purchased by the Museum in 1924;" (my Figs. 51 a, b) "For it is decorated with reliefs made from the same molds [*italics mine*] --on one side an Eros wrestling with a serpent, Eros holding a bow, and a grasshopper; on the other, a figure with a cornucopia, Eros playing the lyre, and a seated woman."<sup>142</sup> Other similarities are the double rope handles with their crests, and the

<sup>140</sup> Ettinghausen, op. cit., p. 655, note 1.

<sup>141</sup> Metropolitan Museum, No. 38.84.4.

<sup>142</sup> G. M. A. Richter, "Two Roman Glazed Amphorae," p. 241, Fig. 1. Miss Richter had previously mentioned the similarity of the reliefs of the two amphoras in her article of 1924. This amphora was fired upside down.

presence of rocked bands on the shoulder. These are matters of decoration; in shape and in some of the other decorative motives, the jars are completely different. In the amphora from Hims, the width is less in proportion to the height; the neck is shorter, and the shoulder is shorter and steeper; the body, instead of making a sharp angle, is roughly cylindrical or barrel-shaped until at a low point it begins to narrow so as to meet the foot. The rim and foot are not molded in two degrees, as was typical of the Mesopotamian type, but the rim has the vertically-concave profile already seen in Figs. 34 and 35, and the foot is simple and plain. Other differences from the Mesopotamian amphora-type are the vertical incised lines on the body as on the perhaps Hellenistic amphora of Fig. 16, and the large and prominent pressed band separating the shoulder from the body. The heads in bold relief which replace the conical knobs at the bases of the handles are not found in all examples of the Syrian type, but only in a few.

To summarize, we may distinguish the Syrian from the Mesopotamian amphora type by its proportions, the rather barrel-shaped body, the shape of rim and foot, the incised lines on the body, and the large pressed band below the shoulder. Some have the Mesopotamian double rope-handle (Fig. 42), in others the handle is plain, its crest is degenerate or absent, though the disks remain.

An amphora from Rakka, Fig. 53, has the curious female

heads beside the bases of the handles, and is in most respects similar to that of Fig. 52. But it is better made, and finished.<sup>143</sup> Also, on the neck are no applied reliefs, but five disks, arranged in the quincunx (compare Fig. 48); while on the upper part of the shoulder are short vertical bars in relief. Another from Rakka, Fig. 54, provides a third example of female heads replacing conical knobs; it has also five disks on the neck.<sup>144</sup> Fig. 54 bis shows a similar head from the shoulder of a jar from Seleucia, dated 70-120 A.D.<sup>145</sup> Strangely enough these heads, in bold relief, are not as convincing as heads or masks found in Roman metal vessels, or in the green lead-glazed pottery of Roman Syria, as in Fig. 63; instead, they seem just as incongruous as the sculptured masks stuck on the walls at Hatra; Fig. 55.

Returning to the motive of applied reliefs on the neck of the Syrian amphora-type, we come to a very well-known jar, the amphora in the Kouchakji collection, New York; Fig. 56.<sup>146</sup> It was found in Hims. The glaze, in

<sup>143</sup>Cf. Ettinghausen, op. cit., Fig. 219a, p. 655, one in the Kelekian collection.

<sup>144</sup>Massoul, op. cit., Fig. 63 at right, No. 6279.

<sup>145</sup>Museum of Classical Archaeology, Ann Arbor, No. 5502, Level II, H.3.9, W.3.

<sup>146</sup>Ettinghausen, op. cit., pp. 656-658, Plate 182B. This amphora was published in 1935: Debevoise, "The Oriental Amphora," pp. 3-4, Plate I, 4. It was also illustrated in Parnassus (January, 1931), p. 28.

perfect condition, is clear greenish-blue, almost as light as turquoise. The rim, and to a lesser degree the foot, betray classical influence in their slight molding and grooving, though they lack the two degrees which we have discussed previously.

The handle is of the Syrian, rather than the Mesopotamian type. On the neck is a figure in relief: a bearded man, wearing trousers, tunic and cape, and on his head the Syrian polos, is standing, and holds in his right hand a patera, in his left a cornucopia. The costume suggests the ordinary Palmyrene costume; see Fig. 57.<sup>147</sup> But it is the Syrian god Dusares (translated into Greek as Zeus Kyrios) who is particularly characterized by the combination of the polos, the patera, and the cornucopia; Fig. 56 bis illustrates a basalt statue of Dusares, in the museum of Suwaida.<sup>148</sup> Another contemporary god of Syria who wears

<sup>147</sup>From Rostovtzeff, Dura and the Problem of Parthian Art, Fig. 51a, p. 208, note 62. Rostovtzeff did not recognize the provenance of this relief, nor did Ingholt, who published the tomb which contained the dated exedra of Maqqai: "Five Dated Tombs from Palmyra," Berytus, II (1935), p. 63 ff., Pl. XXVI, XXVII. It was finally recognized by Henri Seyrig, "Armes et costumes iraniens de Palmyre," Syria, XVIII (1937), Pl. V, p. 16.

<sup>148</sup>It is to Professor Hopkins that I am indebted for this analysis. Fig. 56 bis is from Maurice Dunand, Le Musée de Soeida, inscriptions et monuments figures (Paris, Geuthner, 1934), No. 42, Pl. VII, p. 37. Other representations of Dusares in this museum are No. 15, Pl. IX, pp. 20-21, and No. 39, Pl. XIV, 34-36, and No. 170, Pl. XXXVI, C, pp. 83-84. No. 15 is the youthful Dusares; and Nos. 39 and 170, the bearded Dusares, with cornucopia and polos.



a polos is Serapis, and he is often represented with a cornucopia and patera as well, but less frequently than is Dusares.<sup>149</sup>

A totally different interpretation of this figure was offered by Mr. Arthur Upham Pope: he considered it to be a representation of Ardashir, the first Sasanian king.<sup>150</sup> The trousers, the tunic and the cloak, he called the Sasanian royal garb, the headdress the Sasanian globe, the patera, the Sasanian symbolic ring, and the cornucopia, a leafy branch. But some of the details cited by Mr. Pope (as for instance, ear-lappets) are actually not visible, being obscured by the thickness of the glaze; and had Mr. Pope ever seen the Palmyrene relief in Fig. 57 he would not have been able to confuse a patera with a ring or wreath. Further, the Sasanian ring or wreath is held high, not low at the side of the figure. Again, the Palmyrene costume, though derived from Persia, was in use in Syria for centuries; the presence of this costume on a vase is no proof for the

<sup>149</sup>Ettinghausen, op. cit., pp. 656-657, suggested that this figure might represent Serapis. Two busts of Serapis with the polos (or modius) were found at Hama: Harold Ingholt, Rapport préliminaire sur la première campagne des fouilles de Hama (Copenhagen, Levin and Munksgaard, 1934), Pl. IV and V, pp. 22-25. Their date is late second to middle third century A.D.

<sup>150</sup>Mr. Pope contributed the footnote No. 5 to Ettinghausen's article, op. cit., on p. 657.

Persian inspiration or manufacture of the vase.<sup>151</sup>

Another possibility in interpreting the figure is that it might be Mesopotamian, rather than Syrian, for bearded gods wearing the polos occur at Dura. These are Serapis, Hadad and Aphlad<sup>152</sup> and Zeus Kyrios.<sup>153</sup> But these gods, Hadad the ancient sky and thunder god, and Aphlad his son, Zeus Kyrios, the old Baal Shamin, and the syncretistic Serapis, are all Syrian and Semitic in origin. Other bearded gods at Dura have Iranian connections, or origins, for instance, the graffito of a bearded figure found near the Temple of the Palmyrene gods, which Hopkins suggests was a drawing of the statue in the édicule of that temple, representing "a divinized Parthian ruler."<sup>154</sup> The gods in the paintings of the Mithraeum at Dura are again bearded.<sup>155</sup> But these last gods have not the costume, the

<sup>151</sup>Persian influence in Syria is known as early as the relief of Antiochus I of Commagene, of the first century A.D.; see Clark Hopkins, "The Palmyrene Gods at Dura-Europos," JAOS, LI (1931), 2, pp. 127-128. The relief of Antiochus I of Commagene is illustrated by Sarre, Die Kunst des alten Persien, Pl. 56, 57.

<sup>152</sup>Margaret Crosby, "The Houses in Block C 3," Dura Sixth Season, pp. 119-121, Pl. XXVI, 4 and 5.

<sup>153</sup>Clark Hopkins, "Sculpture from the Temple of Zeus Kyrios, A. The Cult Bas-relief," Dura Seventh and Eighth Seasons, pp. 292-302, Pl. XXXVII.

<sup>154</sup>Hopkins, The Palmyrene Gods at Dura-Europos, pp. 132-133. This graffito is illustrated by Franz Cumont, Fouilles de Doura-Europos (1922-1923) (Paris, Geuthner, 1926), Pl. XCIX, 2, and pp. 267-268.

<sup>155</sup>See Rostovtzeff, Dura-Europos and Its Art, pp. 96-97, Pl. XVIII, 1, and Fig. 10.

pose, or the attributes of the figure on the Kouchakji amphora. . In other words, the Kouchakji figure, on the amphora found at Homs, in Syria, is iconographically Syrian, and not Mesopotamian, nor by any stretch of the imagination Iranian. This is in perfect accord with the shape, the ceramic type, of the vase itself, which is so clearly different from the amphoras of the Mesopotamian type. The date is the only uncertain point, and this will be discussed below, with the dating of the Syrian type of amphora in general.

In Fig. 58 we have another, and very fine example of the Syrian type, once in the Rockefeller collection, now in the Metropolitan Museum.<sup>156</sup> Its provenance is given as Homs. Like the Kouchakji amphora its glaze is very well preserved; the color is a bright peacock blue. In details such as the actual handling of the incised lines on the body, the applied pressed band, and the rocked bands, it looks as if it could have been made in the same workshop as the Kouchakji piece. But by the handles are the upper parts of an Eros, and at this level are two rows of knobs about the shoulder: the upper knobs are incised so as to make daisy-like rosettes, the lower, concentric circles. The handles terminate at the lower ends in small heart-

<sup>156</sup>Metropolitan Museum, New York, No. 38.84.5.

shaped leaves. This amphora was fired right side up.<sup>157</sup>  
The vertical ridges at the base of the neck are like those of Fig. 53.

In the Louvre, No. 6273 is an amphora of the Syrian type from Rakka, Fig. 59.<sup>158</sup> On one side of the neck is the bust of a man, loosely wrapped with rather classical drapery; on the other side is an animal. Details not clear in the drawing are the two rocked bands on the shoulder, the short vertical bars in relief at the base of the neck and the incised rosette-knob at the base of the handle-- these should all appear as they do in Fig. 58. The glaze is more blue than green, but badly iridescent. Strelkoff mentions one from Olbia, in the Hermitage, similar to this.<sup>159</sup>

Another example of this type is an amphora from Ma'arra in the Metropolitan Museum, Fig. 60.<sup>160</sup> The rich peacock-blue glaze is as fresh and as free from iridescence as the

<sup>157</sup>G. M. A. Richter, "Two Roman Glazed Amphorae," p. 241, Fig. 2. This jar, and that in my Fig. 2, were first seen by me in September, 1939.

<sup>158</sup>Louvre Museum, Paris, No. 6273. Massoul, *op. cit.*, p. 460, note 2; Fig. 62 at the left. This jar was fired right-side up. Massoul's scanty description is supplemented by my notes made in September, 1938. See also Bibliothèque Nationale, Les Arts de l'Iran l'ancienne Perse et Bagdad (Paris, 1938), No. 269, p. 85; here it is mentioned, but not described or illustrated.

<sup>159</sup>Strelkoff, *op. cit.*, col. 69, note 2, Hermitage No. 3676.

<sup>160</sup>Metropolitan Museum, No. 16.48; H.25.6. This was fired right-side up.

day it was made. The body is more barrel-shaped than cylindrical. We see again the same rosette-knobs as on the preceding two examples. The simple handles have an applied wavy band, as on the jar from Assur, in Fig. 50. The four amphoras of Figs. 56, 58, 59 and 60 are so close in style and treatment that I suggest that they might be products of the same workshop.

An amphora from Salamiyya, in the Metropolitan Museum, Fig. 61,<sup>161</sup> though also of the Syrian type, presents some differences. The body is cylindrical, its outline forms with the handles a single vertical line. Disks and knobs are absent at the ends of the handles, decoration is reduced to a minimum, the whole effect is simple and severe. The handle is double, though not twisted; it has the bow-knot crest, as in the Mesopotamian type; four disks are placed down the back of the handle. On the body below the handle is a sketchy form of the slanting incised pattern shown in Figs. 15a and 16a. The applied pressed band retains its importance. A blue-green glazed amphora from Rakka, now in the British Museum,<sup>162</sup> is practically a twin to our Fig. 61; the difference is that its body is less

<sup>161</sup>Metropolitan Museum, No. 24.61; H.31.5. This is mentioned, but not illustrated, by Miss Richter, "Roman Glazed Pottery," BMMA, (April, 1924), p. 94.

<sup>162</sup>R. L. Hobson, British Museum, A Guide to the Islamic Pottery of the Near East, (London, 1932), Introduction, p. xiii, Fig. 1, and text, p. 13. Assigned to "About 3rd century A.D." Height about 30.

angular in profile. A third, which closely matches these two, except for the presence of disks at the upper ends of the handles, is in Cairo, in the Musée Arabe.<sup>163</sup>

An amphora from Olbia, in the Hermitage, may perhaps be included in the Syrian group. No photograph is at hand; from Strelkoff's drawing it looks more Syrian than Mesopotamian.<sup>164</sup>

The division of these amphoras into two groups, Mesopotamian and Syrian, was based on the shape; with this the provenance happened to be, in most cases, correlated. But from the point of view of decoration such a separation is somewhat arbitrary: as has been evident from the illustrations and the descriptions of the individual pieces, there is a great stylistic similarity, and often a direct repetition of particular motives. This we must interpret as mutual influence between the two countries. Miss Richter has provided the explanation for this, in her publication of our Figs. 52 and 58, both from Hims:

Moreover, chemical analyses show that the glazes are identical, that is, that both are a transparent sodium alkaline glaze with copper oxide added for the color. The green is therefore not a lead glaze, as has frequently been asserted, but an alkaline glaze.<sup>165</sup>

<sup>163</sup>Musée Arabe, Cairo, No. 3645; it is on exhibit in Room XIV. We do not know whether this jar was found in situ in Egypt, or if it is a recent museum acquisition. The former is quite possible.

<sup>164</sup>Strelkoff, op. cit., col. 62, and Abb. 3, 9. He cites Pharmakowsky's original publication of it in 1909-1910; this is unfortunately not available to the writer.

<sup>165</sup>Richter, "Two Roman Glazed Amphorae," pp. 241-242.

Miss Richter also referred to the analysis of the Dura blue-green glaze, which is similar to the Seleucia glaze.<sup>166</sup> We may assume that the glazes of all the Syrian amphoras, which look similar, are also alkaline glazes.

In other words, we may say that the art of making the blue-green alkali glazed pottery was introduced into Syria from Mesopotamia<sup>167</sup>; (there was no blue-green alkali glaze on pottery in Egypt until the Islamic period) and that, on the other hand, many purely Roman motives, for instance, the figures on the applied plaques, were transmitted through Syria to Mesopotamia. This bears out the conclusion of Dr. Debevoise, made in 1935, "Where a Syrian culture predominates, and in Syria itself, the decorated neck developed under Roman influence, though it does not appear in Mesopotamia unless intimately connected with the coast land."<sup>168</sup>

Though this point is clear, others remain as yet unsolved. This class of glazed pottery is not known to have been made in Syria during the Hellenistic period; we recall that at Antioch Hellenistic blue and green glazed bowls

<sup>166</sup>See above, p. 23, note 48.

<sup>167</sup>Compare Miss Richter, op. cit., p. 242: "Indeed there can be no doubt that the ware was evolved somewhere in the East; for in both Egypt and Mesopotamia blue alkaline glazes have a long history, whereas in classical lands during the earlier periods they only appear sporadically under the direct influence of the Orient."

<sup>168</sup>Debevoise, "The Oriental Amphora," p. 4.

were considered to be imported wares.<sup>169</sup> Yet the shape alone of the "Syrian type" is far closer to the Hellenistic amphora of Mesopotamia, Fig. 16, than to the second century Mesopotamian amphora shape. As for the date of the beginning of this Mesopotamian amphora, pottery from Seleucia and Ctesiphon give a clue. No complete jars have been found at these two southern sites, yet handles of these jars have been found, Fig. 44a and 44 b. Again the jar of Seleucia Type 297, Fig. 45, betrays in its disks and knobs the influence of the Dura type, and it is dated from 70-120 A.D. A third piece of evidence is the glazed female head in relief, related to heads on the Syrian type, Fig. 54 b, which is also dated 70-120 A.D. In other words, though the Dura type of amphora has not yet been found further south, yet its influence was felt there by the end of the first century A.D. From this I conclude that it must have existed, as a well-defined type, during the first century A.D. But since no piece of glazed pottery has yet been found at Dura with a date before 50 B.C., see Fig. 31, we may also assume that this type of amphora did not come into existence, as a type, before the first century B.C. Perhaps a similar dating may apply to the Syrian amphoras, and the explanation of their similarity to the Hellenistic type of Fig. 16

<sup>169</sup>Information from Mr. Frederick Waage, of the Princeton Expedition to Antioch. Matson, who tested sherds of this ware, tells me that the glaze contains traces of lead, as an impurity, which precludes a Mesopotamian origin.



may lie in the presence of a Hellenistic artistic current stronger in the Mediterranean coast lands than further east, in Mesopotamia. Then to this classical shape in Syria in a second wave of influence (the first being the use of an alkaline glaze) were added Mesopotamian decorative elements, the peculiar handle (Figs. 52, 53, 54, from Rakka), disks on the neck (Figs. 53, 54 from Rakka), and the rocked band, found on all Syrian examples. But the only city in Syria (to our present knowledge) where both types were found is Salamiyya, a little west of Palmyra. Again, both types were exported to Olbia.

If the Syrian type may have begun as early as the first century B.C. or the first century A.D., and has borrowed many elements from Mesopotamian pottery up to the second century A.D., we still have no evidence, one way or the other, for its continuance.<sup>170</sup> At any rate the early dating of Strelkoff and of Dussaud<sup>171</sup> cannot be

<sup>170</sup>Amphoras represented in Palmyrene stone reliefs might afford a clue, for so much of Palmyrene sculpture is accurately dated, and reliefs of the third century are common. But we do not know whether these were of pottery, or, what is more likely, of metal. See below, a mention of the skyphos as represented in Palmyrene sculpture, Fig. 67 bis, and Note 183.

<sup>171</sup>Strelkoff, *op. cit.*, col. 70, suggest the third century B.C. as a terminus post quem and the first century A.D. as a terminus ante quem. His argument was based on style. And see also R. D. (= René Dussaud), a review of Debevoise, "Parthian Pottery from Seleucia," in Syria, XVII (1936), p. 90: ". . . on remarquera que l'amphore, généralement bleu turquoise, a deux anses anguleuses et souvent en torsade, est complètement absente de la couche de Seleucie; son grand usage est donc d'époque antérieure." This is a conclusion completely false to the facts known today.

upheld. And since we have no dated examples from excavations in Syria, I refrain from suggesting a chronology for the pieces here illustrated and discussed. We shall have to refer to Syria again in discussing the third century Mesopotamian amphoras.

LEAD GLAZES

The Syrian blue-green alkaline glazed ware becomes even more obviously related to Mesopotamia when it is contrasted with the famous green and other lead-glazed pottery of the Mediterranean shores.<sup>172</sup> The former (to itemize the differences) has (1) a sandy, creamy, yellowish or buff colored clay, (2) a glaze typically blue-green in color, (3) only two shapes, namely, the amphora, and bowls, Fig. 62,<sup>173</sup> and (4) provenance, Syria, with only Olbia and Egypt in addition--in most respects very similar to the blue-green glazed ware of Mesopotamia. On the other hand, the class with the lead glaze has (1) a fine, well-levigated

<sup>172</sup>It is very important to make a distinction between the alkali glazed wares of Mesopotamia and Syria and the lead glazed wares of the Mediterranean coasts, for up till now they have been confused with each other. Even so great an authority as Miss Richter has written of them as if they were one class; and listed lead glaze sites when speaking of the alkali jars [in B.M.M.A., XIX (April, 1924), p. 94]; and in speaking of the lead-glazed skyphoi says "Examples of the ware have been found at Dura, which are datable about 50 B.C." [in B.M.M.A., XXXIII (November, 1938), Section I, p. 242] --whereas we know that the Dura glazed pieces of this date are of the alkali glazed group.

<sup>173</sup>Metropolitan Museum, New York, No. 24.46, H.3.9, D.16. The clay is buff-tan, speckled, the glaze a very rich dark blue-green, glassy and thick. The bowl was fired upside down.

red clay (the red may be pale or dark), (2) a true green color in the glaze, as well as ochre yellow and manganese brown, (3) a vast repertory of shapes taken over from classical metal, the Greek Megarian ware and the Roman Arretine: bowls, cups, beakers, or goblets, bottles, vases, jugs, two-handled vases, the ascos, even lamps and figurines.<sup>174</sup> With (4) provenance we find Syria, Cilicia, the whole of Asia Minor, South Russia, Cyprus, Greece, Italy, France.<sup>175</sup>

Since 1883 it has been known that the glaze of this Mediterranean-Roman pottery was a lead glaze:

L'analyse de la couverte donne les résultats suivants. L'élément principal est le plomb; la couleur est due en partie à la présence d'oxyde de fer. Il n'y a aucune trace d'antimoine, mais on trouve de la silice et une petite quantité de soude.<sup>176</sup>

Zahn used this information in 1914,<sup>177</sup> Miss Richter in 1916<sup>178</sup> and others since then, for instance, Mr. Hobson in

<sup>174</sup>G. M. A. Richter, "Hellenistic and Roman glazed vases," BMMA, XI, No. 3 (March, 1916), pp. 64-68. Figs. 1-9. This is the best account of this ware in English. For articles by Zahn, and others, see my bibliography.

<sup>175</sup>Ibid.

<sup>176</sup>S. Reinach, "La poterie jaune émaillée de Smyrne," BCH, VII (1883), p. 78. The analysis was made by Mr. Church, director of the chemical laboratory of the Royal Academy of London. Compare H. A. Mazard, De la connaissance par les anciens des glaçures plombifères (Paris, Morel, 1879).

<sup>177</sup>R. Zahn, "Glasierte Tongefasse im Antiquarium," Amtliche Berichte aus den Königlichen Kunstsammlungen, XXXV, No. 10 (July, 1914), pp. 276-314.

<sup>178</sup>Richter, op. cit.

1932.<sup>179</sup> The recent excavations of the American Expedition at Tarsus, under the directorship of Miss Hetty Goldman, not only corroborate the fact that the glaze has a high lead content, but also prove this class of pottery to have been manufactured at Tarsus. To quote Miss Frances Jones, who is publishing this pottery:

Most of the stratified examples--and also the best ones--come from fills containing material of the first century B.C. and the first century A.D.--pottery types and shapes, sigillata stamps and lamps. The shapes used for the vitreous glaze also indicate this period. Some fragments come from a fill which extends into a slightly later period and contains Hadrianic coins, so the glaze can last into the second century. The floruit, however, is broadly Augustan.<sup>180</sup>

In Fig. 63 we see a jug of this Roman lead-glazed pottery, of unknown provenance; the rim and most of the handle is missing. At the base of the handle is an applied head in relief, a feature common in Roman metal of the same period. The elegant two-handled vase in Fig. 64 comes from Ma'arra, in central Syria; at the base of each handle is the imitation of a rivet (again copied from metal)

<sup>179</sup>R. L. Hobson, British Museum. Guide to the Islamic Pottery of the Near East (London, 1932), Introduction, p. xv, "Lead glaze had been freely used on late Roman pottery."

<sup>180</sup>Frances F. Jones, in a letter of February 14, 1940. The Tarsus Roman glaze was examined by Mr. Matson in February, 1940 with the following results: "The index of refraction is 1.785, that is, the glaze contains 65-68 percent of lead. The green color is due to copper." It will be noted that this examination by Mr. Matson contradicts Reinach's result in one point only, that the green is due to copper, while Reinach thought it was due to iron. Both agree on the large proportion of lead.

and a fine large grape-leaf. Near the base is a frieze of female figures, bordered at the top with the classical tongue pattern. Fig. 65 shows a very unusual shape of what I believe to be the same ware. The shape is that of Roman silver beakers of the Augustan period; at the top and bottom are borders of the same classical tongue patterns as we saw in Fig. 64; between them are very conventionalized acanthus leaves and stems, and rosettes, arranged symmetrically. But the oriental potter who made it turned the shape of the Roman silver beaker upside down, and made this vessel reversed. The fact that it was made in an oriental province, perhaps Cilicia, or Syria, also accounts for the highly symmetrical and conventional scheme of the pattern.<sup>181</sup> A similar orientalizing influence, though resulting in a flat, all-over pattern, is seen in the skyphos in Fig. 66.

This skyphos is one of the commonest shapes in the Roman lead-glazed pottery. It is not only found all over

<sup>181</sup>This unique vase in the Victor Behar collection, London, was published by Dr. Ettinghausen, *op. cit.*, Pl. 179, in color, and p. 668. He considered it to be Sasanian, because of the symmetry and formality of the pattern. But (1) No known Sasanian pottery vessel, whether glazed or unglazed, was made in a mold; (2) no known Sasanian pottery has this leaf-green glaze, with the peculiar sort of iridescence so well indicated in the color-plate; (3) the shape, as well as (4) the designs, are unknown in both Mesopotamian and Persian pottery during the Sasanian period. The color-plate suggests the possibility that the glaze is a lead glaze; but until it is examined or tested, this possibility cannot be proved. Roman silver beakers of the Augustan period are illustrated in F. Oswald and Pryce, An Introduction to the Study of Terra Sigillata (London: Longmans, Green and Company, 1920), Pl. XXII, 3, and Pl. XXVII, 3.

Syria, but even occurs in two examples of the blue-green alkali glaze from Seleucia. A fragment of one is shown in Fig. 67. Besides having the usual Mesopotamian glaze, they have also the usual Mesopotamian sandy, buff clay. As far as I know they are unique.<sup>182</sup> The long use of the skyphos in Syria is known to us by its representations in Palmyrene sculpture; of these the latest I have observed is shown in Fig. 67 bis.<sup>183</sup> Without other evidence we could not say whether these skyphoi were of metal or of glazed pottery; in this case it certainly has the appearance of metal, and a Palmyrene priest might be more liable to use a cup of silver than one of clay. Compare the grape-vine on the

<sup>182</sup>Both handles are in the Museum of Classical Archaeology, University of Michigan. That in Fig. 67 is No. F 1517; H.5.1, width of the sherd 3; diameter of the cup perhaps 12-13. The clay is soft, sandy, pale cream-buff; the glaze a glassy blue-green, with slight decay. From late Level III, 45-70 A.D. The second handle fragment is No. 20, length 5.1, width 3.5. The clay is the same, but the glaze is a deep moss-green, that is, a color which is a closer approximation to that of its prototype. Provenance and date are not recorded.

<sup>183</sup>H. Seyrig and Robert Amy, "Recherches dans la nécropole de Palmyre. I. L'Hypogée de Iarhai fils de Barikhi, petit-fils de Taimarso," Syria, XVII (1936), Pl. XLVI, the central couch of the triclinium in the west exedra. The separate drawing of the skyphos is in Fig. 7, No. 4. The west exedra is of the last quarter of the second century A.D. (pp. 258-59). Three earlier representations of skyphoi are as follows: (1) Harold Ingholt, Studier over Palmyrensk Skulptur (Copenhagen, 1928), No. PS 8, Pl. III, 1, pp. 32-33, dated 146-147 A.D. (2) Ingholt, "Palmyrene Sculpture in Beirut," Berytus, I (1934), Pl. X, 1, pp. 40-41, assigned to about 150 A.D.; (3) Ingholt, "Five Dated Tombs from Palmyra," Berytus, II (1935), Pl. XXVIII, 1, pp. 68-69, assigned to the period 100-150 A.D.

Syrian silver vase from Dura, in Fig. 197.

BLUE-GREEN GLAZE

Returning to the subject of the Mesopotamian blue-green glazed pottery, we may mention in passing various suggestions as to its influence in regions east and west. Dr. Sarre has pointed out pottery in Abyssinia with similarities to Parthian pottery,<sup>184</sup> though connections with Egypt seem more likely to the writer. Strelkoff does not agree with Sarre on this point.<sup>185</sup> In Persia, blue-green glazed pottery has been reported only from Rayy and from Makran. Of the few Rayy sherds Dr. Schmidt remarked, "Mesopotamia had given to Iran the art of glazing."<sup>185a</sup>

Pottery collected by Sir Aurel Stein from northwest India and southeast Persia contains a few scattered sherds which in my opinion were imported from Mesopotamia, having soft, sandy cream-buff clay, and a blue-green glaze which looks like the alkaline type. The sherds are so small that no shapes can be determined, that is, they might be of either the Parthian or Sasanian period. As they were not mentioned specifically by Sir Aurel Stein, I shall

<sup>184</sup>Friedrich Sarre, Die Keramik im Euphrat-und Tigris-Gebiet, p. 4, note 4. Dr. Sarre cited Robert Zahn, "Die Kleinfunde," in Altere Denkmäler Nordabessiens, by D. Krencker, (Berlin, 1913), p. 213. This work was not available to me.

<sup>185</sup>Strelkoff, op. cit., col. 63: "Ebenso schwierig ist es, abgesehen von ganz allgemeinen Hypothesen, irgendeinen Zusammenhang mit der von R. Zahn in 2. Bande der Aksum Expedition beschriebenen Keramik festzustellen." He is speaking of the blue-green glazed amphora types.

<sup>185a</sup>Erich F. Schmidt, "The Persian Expedition," UMB, V (March, 1935), p. 47.

briefly note them here.<sup>186</sup> From Tiz, one sherd with a cable pattern; the glaze has decayed to a golden iridescence. From Kz . . . . , one sherd, a base with glaze on the bottom, the shape suggests that of a Parthian bowl. From Kum D<sup>187</sup> , . . . a glazed jug-handle of Parthian shape, for instance of Seleucia Type 270 (Table B, 7) and Types 260 and 261 (Table C, 9). From Tump-i-Hazar Mardi, two sherds, rim and foot. At these four sites I noted also pottery fragments of the Islamic period. At a fifth site, on the other hand, though there were one or two sherds, probably Parthian or Sasanian, there was nothing distinctively Islamic; this site is Damba-Kōh.

A third region is Central Asia, from sites along the great silk route from the Near East to China. About the Kutsha oasis fragments of bluish-green glazed pottery are plentiful; see Fig. 68, at the right, a bowl from Su-baschi-Längär, north of Kutsha.<sup>188</sup> It is worth noting that the

<sup>186</sup> Sir Mark Aurel Stein, Archaeological Reconnaissances in North-western India and Southeastern Iran with an appendix on the Islamic pottery by R. L. Hobson. (London, Macmillan, 1937). The collection of pottery was divided between the British Museum and Harvard University--Harvard's share is now being stored in the Peabody Museum. Mr. Donald Scott most kindly granted me permission to study this collection, and to mention it here. Mr. Lauriston Ward and Mr. D. W. Lockard gave me much of their time and help when I visited the Peabody Museum in July, 1939.

<sup>187</sup> The writer has not been able to identify the two sites given as Kz and Kum D.

<sup>188</sup> A. von le Coq, "Die vierte deutsche Turfan-Expedition," Turan (1918), 7-24, Plate V, 2.



exaggerated carinated profile of this bowl seems to be without parallel in Parthian pottery further west. However, a bowl with a leaf-green glaze, with similar profile but on a flaring hollow foot, was found in a "Persian" (possibly Achaemenian?) tomb at Tell Billa, in the University of Pennsylvania excavations.<sup>189</sup> In Chotscho, which is near Turfan, about six hundred kilometers east and north of Kutsha in a beeline, the "Grünen, an parthische Glasuren erfindenden Fragmente" are much rarer than further west.<sup>190</sup> At Lou-lan, about four hundred kilometers south and slightly east of Turfan (or we might say that Lou-lan is about seven hundred kilometers east of Kutsha, in a straight line) Sir Aurel Stein found a few pieces of green glazed ware of Han type; and he found the same at Tun-huang (about five hundred and fifty kilometers east of Lou-lan, in Kansu province).<sup>191</sup> But as none of these pieces of glazed pottery have been published completely, from the ceramic point of view, we do not know whether the sherds "which recall the

<sup>189</sup>University Museum, Philadelphia, No. 32.20.118. This is on exhibition. Another bowl, also from a "Persian" tomb, No. 32.20.196. has an equally non-western, that is, non-Mesopotamian shape. Such shapes, with strongly carinated profile, are also common in Middle Bronze Age pottery, unglazed, of Syria-Palestine, about 2000-1600 B.C.; examples in the American University Museum, Beirut, Syria.

<sup>190</sup>A. von le Coq, "Ein spätantiker Krug aus Chotän," Turan, (1918), 338-339.

<sup>191</sup>R. L. Hobson, The George Eumorfopoulos Collection (London, Benn, 1925-1928), I, p. xix (introduction).

Parthian glazes" have alkali or lead glazes, nor do we know where there was an overlapping with the Chinese green lead glazes. The situation is very tantalizing, and it will remain so until definite facts can be established to do away with mere surmise.

WHITE TIN GLAZE

Still in the period 150 B.C.-160 A.D. are two more groups of pottery, which, though very small, are nevertheless very important, namely, pottery with a monochrome white tin glaze, and pottery with the two-color scheme of a white tin glaze decorated with blue-green (alkaline-silicate) spots or stripes. These both have real historical significance, to say nothing of their aesthetic appeal.

Very little monochrome white tin glazed pottery has been noted at Seleucia (see p. 24); partly, perhaps, because when a glaze looks "gray" it may be either white discolored, or blue-green faded. A few pieces which are sufficiently well preserved as to make one believe that the white is original, are, in late Level III, 43-70 A.D., Types 201 a bowl (Table B, 2), 245 a small jar (Table B, 4) and 253 a jug (Table B, 9); then in Level II, 70-120 A.D., Type 293 a two-handled jar (Table C, 13). Of course a few more examples have turned up in the last season's work. It is most interesting to find a single example of the monochrome white up the Euphrates at Dura (see Fig. 69). This bowl is happily dated to about 150 A.D., because of its situation

near the top of a cistern.<sup>192</sup> The pure white glaze is very poorly bound to the creamy yellow clay, and has almost entirely split off. The profile is very close to that of Type 220 from Seleucia (Table C, 1); this Seleucia bowl dates from 70-120 A.D., which, for the field of pottery, is a very close correspondence in dating.

The two-color scheme, namely white with blue-green decorations, has been almost entirely unobserved. At Seleucia two-color glazing has been recognized but for lamps almost exclusively. The lamps have a "gray-green glaze"; "The ends of many nozzles are tipped with a darker blue-green (399), which apparently was especially resistant to the heat of the burning wick."<sup>193</sup> Here the main glaze is not described as a white tin glaze, and the purpose of the second glaze is called not artistic, but purely utilitarian. Dr. Ettinghausen agrees with the conclusions of Debevoise; and cites one example of two-color glazing, a light blue bowl with darker blue streaks, from Susa, in the Louvre.<sup>194</sup> A second bowl with two-color glazing is one from Seleucia: "One sherd was found early in Level II,

<sup>192</sup> Gallery of Fine Arts, New Haven, No. H.341; H.6.7, D.20. Provenance, E8, 56, inside the cistern. Mr. Brown believes that its position warrants a fairly close dating. The pale yellow clay is very fine, smooth and hard.

<sup>193</sup> Debevoise, Seleucia, p. 26. See also p. 30. Type 399 is on pp. 124-125.

<sup>194</sup> Ettinghausen, op. cit., p. 649, and note 1.

a part of a shallow dish with a vertical rim around which an edging of blue-green had been run in contrast to the 'celadon green' of the body."<sup>195</sup>

In the series which follows namely, blue-green on white and which is presented as such for the first time, the writer wishes to emphasize the fact that the use of the second glaze is not for practical purposes, nor is it accidental, but rather intentionally for decoration. For this series very few illustrations were available, partly because the blue-green is often faded, and only regains its original depth when wet; and this makes photography difficult. It happens that most of the photographs are of undated pieces. For the sake of clarity this series will be numbered by letters of the alphabet.

(A). A round-bottomed bowl from Seleucia, with a blue-green band about the rim is dated from 141-c42 B.C.; it is similar to Types 4 and 5 (Table B, 1).<sup>196</sup> (B). Another bowl from the same site with blue-green band on the everted rim dates from 120-80 B.C.; it is similar to the Hellenistic Type 209 (Table A, 1) which continues on into Levels III and II.<sup>197</sup> Thus (A) and (B) are of the Early Third Level.

<sup>195</sup>Debevoise, op. cit., p. 30.

<sup>196</sup>Museum of Classical Archaeology, University of Michigan, No. F6612; H.9, D.16-17; about one-half is preserved. The white glaze is chipping off; the bowl is of good and delicate workmanship. The round bottom is of course glazed.

<sup>197</sup>Ibid., No. 8648, found in G6, III, with a coin.H.5.3, D.12.2. The glaze is still very well preserved, with a smooth glassy surface. The potting is very good. The ring foot is glazed.

Most of the rest from Level III can be assigned to the Middle or Late periods without much distinction. (C) from Seleucia is a fragment of a bowl with spots (probably three) inside on the rim; it is dated by coins exactly from 42 B.C. to 45 A.D.<sup>198</sup> It is very near to Type 221, which is Hellenistic (see Table A, 1). (D), not dated, is similar to the Third Level Type 211 (Table B, 1); a blue-green band runs about the rim both inside and outside.<sup>199</sup> (E) from Nippur, is a bowl in perfect preservation; full and side views are in Fig. 70 a-b. In the photograph it can be seen that the blue-green on the rim has run down a little into the white; it extends both inside and outside of the rim.<sup>200</sup> It may be dated by comparison with Seleucia Type 191, of Level III (Table B, 2). Two other bowls from Nippur also have the band about the rim, (F) and (G).<sup>201</sup> Three more, (H), (I), and (J), still from Nippur,<sup>202</sup> have each three spots evenly spaced

<sup>198</sup>Ibid., No. F 2295. About one-third of the bowl preserved. H.7, D.19.4. Well preserved glaze. Base slightly concave.

<sup>199</sup>Ibid., No. C 2114, was found in a trial trench. H.6.7, D.16. The round bottom is glazed.

<sup>200</sup>University Museum, Philadelphia, no catalogue number. H.4.8, D.11.3 to 11.8. The glazed base is concave.

<sup>201</sup>In the same collection: (F) is No. 12.419, H.6.2, D.20.5. Glazed base concave. (G) is No. 2877, H.6.8, D.c.18. Glazed base flat.

<sup>202</sup>In the same collection; none has a number. Dimensions: (H) is H.8.1, D.19.5; (I) is H.4.2, D.11.8, its base is concave; (J) is H.6.6, D.16.4; the glazed base is concave.

near the rim; these are in a very fair state of preservation; bowl (J) is like Seleucia Types 191 or 202 (Table B, 2).

From Dura comes one of the most unusual and remarkable objects in this series, and even in all of Parthian pottery, (K) shown in Fig. 71.<sup>203</sup> The center of the bowl is almost as flat as a plate, the rim turns up sharply, nearly vertical. The rim, the hollow ring foot, and concentric grooves in the center, are well molded. On a thick white glaze, exactly like the Seleucia white tin glaze, are many slightly irregular blue-green streaks which run down from the blue-green stripe on the rim towards the center. The clay is a pale yellow-buff, but not so fine as that of the white bowl from Dura shown in Fig. 69. This bowl was found in a location which is probably of the third century A.D., on the other hand in shape it belongs with Seleucia Types 191 and 202 (Table B, 2) and these happen to be types which, at Seleucia, continue only through Level II, i.e., to 120 A.D. Therefore we may assign this bowl to the first, or maybe early second century A.D. The fact that it was found in a later level shows that it may have been valued and intentionally kept, and handed down.

At Kish, in an undated Parthian grave, were found, among some unglazed pottery, two little white bowls, each

<sup>203</sup> Gallery of Fine Arts, New Haven, No. F220S, 1933.348. Found in B2-D10, in a late level. Ring foot is hollow and low.

decorated with three blue-green spots, (L) and (M), shown in Figs. 72 and 73 respectively.<sup>204</sup> The first is the same shape as Seleucia Type 191 (Table B, 2) but the second cannot be exactly paralleled at that site. However, it has a sufficiently similar feeling to be assigned to the same general period.

At Seleucia itself were found several more examples of white glazed pottery with blue-green decoration. (N) is published, it is the example of Type 202 (Table B, 2); the first description was "gray glaze with dark green rim around the upper edge."<sup>205</sup> But in the opinion of the writer, who examined it carefully, the glaze was originally white, and the decorative stripe blue-green. Similarly, (O), Type 215 (Table B, 2) described as "Sandy gray glaze, probably originally green,"<sup>206</sup> seems to have been originally white, with a blue-green stripe on the rim only. From a trial trench at Seleucia comes another bowl with the colored band

<sup>204</sup>Field Museum, Chicago, (L) is No. 230805, H.3.4, D.9.5; low ring foot; the glaze is in very good preservation, both the white and the definite green-blue. (M) is also in good condition, but the blue-green is a little faded; No. 230809, H.4, D.c.11. Low ring foot is glazed.

<sup>205</sup>Debevoise, Seleucia, p. 82. Of course this does not mean that all the bowls of Type 202 are white with blue-green; but only this one which was chosen as the type-piece. No information is given about the foot.

<sup>206</sup>Ibid., p. 84. The concave base is glazed.

on the rim, (P) which is like Type 191.<sup>207</sup> During a recent season was found a bowl of a new type, (Q) a deep flaring straight-sided bowl, white with the blue-green stripe on the rim; it was in the Late Third Level, dating from 45-70 A.D.<sup>208</sup> Another bowl with the same decoration, (R) is also from the Late Third Level<sup>209</sup>; it is similar to Type 191. Still of the same level and date is another bowl, (S) which had, however, probably four green-blue spots inside, near the rim<sup>210</sup>; it has the shape of Type 221, which occurs in both Levels IV and III (see Table A, 1).

Still dating from Level III are a few more pieces that are not bowls. Fig. 74 shows (T) a miniature pot, Type 327, which was described as having a "green glaze"<sup>211</sup>; to the writer it seems to have a white tin glaze with an irregular blue-green band around the neck. Fig. 75 shows (U) a

<sup>207</sup>Museum of Classical Archaeology, Ann Arbor, No. 2893, heavy reddish clay, H.9.5, D.c.20.5; the ring foot is glazed.

<sup>208</sup>Same collection, No. 11414; the glaze is well preserved. H.8.8, D.18.8. The base is flat, and glazed on the bottom.

<sup>209</sup>Same collection, No. 8595, H.7.5, D.c.18. The ring foot is glazed.

<sup>210</sup>Same collection, No. 9105, H.6.5, D.23. The concave base is glazed.

<sup>211</sup>Debevoise, op. cit., p. 108. Fig. 74 is the writer's drawing taken from Type 327, with additions to show the color. The flat bottom is glazed.



unique one-handled jug from Nippur, which has a white tin glaze all over, and blue-green on the upper parts of the neck and handle, as well as lining the whole interior; one dripping spot of blue-green is on the side of the body.<sup>212</sup> As there is no exact counterpart for this shape at Seleucia, for the dating one can only go by the details, such as the moulding of the rim, the low hollow ring foot, the fact that the bottom is glazed. These correspond with known pottery of Level III at Seleucia. Further, there exist at Seleucia white-glazed pilgrim bottles with blue-green on neck and handles. Two of these follow Types 298 and 303<sup>213</sup> and both were found in places dating from 43-70 A.D. (V) has the blue-green only on the upper part of neck and handles; (W) has both entirely covered, and the blue-green drips down a little on the body.<sup>214</sup>

A very few examples of bowls with blue-green bands on the rim occur in the highest levels of Seleucia. (X) is Type 212, of Level II (Table C, 1) described as, "gray glaze with dark green edge around rim."<sup>215</sup> (Y) is rather

<sup>212</sup>University Museum, Philadelphia, no catalogue number. H.c.22.5, D.7.5 to 8. The ring foot is glazed.

<sup>213</sup>Debevoise, op. cit., pp. 102-103, and Plate V, Fig. 1.

<sup>214</sup>Museum of Classical Archaeology, Ann Arbor. (V) is No. F 1125, H.18.8, D.15. (W) is No. 11482, H.18.5, D.16.

<sup>215</sup>Debevoise, op. cit., pp. 84-85. The rather flat base is only slightly concave; it is glazed.

like Type 195 (Table C, 2) except that the bottom is flat; it is thick and heavy for its small size.<sup>216</sup> Finally, in Level I, after 120 A.D., is (Z),<sup>217</sup> which is not dissimilar from Type 192 (Table C, 2) found in Levels II and I.

To summarize the class of white tin glaze with blue-green spots, bands and streaks as decoration. Only about thirty examples have been found by the writer,<sup>218</sup> a minute proportion of the great quantities of Parthian pottery known. The fact that most came from Seleucia is probably only because there is, altogether; more Parthian pottery from there than from any other site studied. The other places are not far from Seleucia, namely, Kish and Nippur; Dura is the farthest, and only one piece is from there. None, nor the monochrome white either, has been reported from the northern sites, as Nineveh, and Assur, during this period of time. In other words, after its early history in the Assyrian and Neo-Babylonian times, it survived, during the Parthian occupation, in the center of the Mesopotamian basin. The two-color glazing is a mere echo of the splendid polychromy of the Assyrians (Fig. 11). But this formed the link with the later development of the white

<sup>216</sup> Museum of Classical Archaeology, Ann Arbor, No. 4923, H.4.3, D.11. The flat bottom is glazed.

<sup>217</sup> Same collection, No. 3693; H.7, D.c.20. Well made ring foot, glazed.

<sup>218</sup> Actually there are a few more of the pilgrim bottles, from Seleucia, but two were considered sufficient to include in this section.

tin glaze, decorated with cobalt and turquoise blues, and with luster, of the Early Islamic "Samarra" pottery.

As to the date, most of it comes at the time of Seleucia Level III, no later than 70 A.D. Two only have been noted in the period 70-120 A.D., and only one after 120 A.D. Why this style should have died out temporarily, in the second and third centuries, it is difficult to say. At any rate, we know what happened: the taste of the people turned from the scheme of a simple play of color on severe and pure forms, to a more bold and obvious, we might say vulgar, method of relief decoration, in which knobs, medallions, heads, disks, "pie-crust" frills, rosettes, were combined in elaborate profusion with the familiar monochrome blue-green glaze.

### C. "PARTHIAN" AND HAN POTTERY

In order not to make a separation between the sections on the late Parthian and Early Sasanian periods, this brief digression will be placed here, rather than at the end of Chapter I.

Considering the well-known contacts between the Near East and China in the first two centuries B.C. and the first two centuries A.D., contacts which were political, commercial and artistic, what is the situation, specifically, in the field of pottery?

Much reference has been made by many authorities in both Near Eastern and Chinese art, to the resemblances between, and the probable causal relation between "Parthian" green-glazed pottery and Han green-glazed pottery. Practically nothing has ever been remarked on possible connections in unglazed pottery. The writer therefore wishes to place side by side unglazed jugs of the two different countries. Fig. 76 illustrates a jug with pinched lip of the "brittle ribbed ware" from Dura; although the ribbed ware is late rather than early at Dura, the shape is close to the classical Greek oinochoe.<sup>219</sup> Fig. 77 represents a Han unglazed pottery jug, dated 52 B.C. Laufer, who published

<sup>219</sup>Clark Hopkins, "The Pottery," Dura Second Season, Pl. XLVIII, 2 and pp. 34, 36, and 39. For the Greek oinochoe see Richter and Milne, op. cit., Figs. 124 and 125 especially.

it, was struck by its resemblance to the Greek oinochoe, but refused to believe it, first, because the Greek handle goes up to the rim, and secondly, because he thought it could be related to the Ming bronze jug type, as illustrated in Fig. 78.<sup>220</sup> But the Chinese, in adopting a foreign form, could easily have changed the handle a little; and the excavations in Mesopotamia show that Greek influence was a reality there. The Parthians, as intermediaries, justify Dr. Laufer's original feeling. A Ming bronze is not sufficient to explain a unique Han pottery shape; and the two jugs, side by side, seem to speak for themselves.

As to the green-glazed wares of the two cultures, some interesting theories have been proposed. Dr. Laufer's theory, for example, is briefly this: No glaze existed in China before the Han Dynasty; the famous murrhine vessels produced in the Parthian Empire and mentioned by classical authors, must be interpreted as glazed "Oriental, that is Iranian or Persian and Egyptian pottery"; and that it was this pottery that the Chinese learned to copy; for the Han Emperor Wu, 140-86 B.C., sent agents to the Near East to

<sup>220</sup> Berthold Laufer, Chinese Pottery of the Han Dynasty (Leiden, 1909), Plate XXXI, Figs. 1 and 2; text, pp. 8, and 131-132; the inscription, incised in the soft clay before baking, is discussed on p. 293. It is one of the few genuine inscriptions giving dates, on Han pottery.

obtain liu-li, which Laufer interprets: material for glazing.<sup>221</sup>

To this theory there are today several objections. First, the most obvious, Han lead glazes are green shading to greenish brown, the murrhine vessels in colors from white to red-pink; that is, there is no relation between them. Hobson's interpretation of the Chinese liu-li as glass is supported by the following: "That produced in Ta-ch'in (the eastern provinces of the Roman Empire) is in ten colors--pink, white, black, yellow, blue, green, deep purple, deep blue (or green), red, and brown."<sup>222</sup> Also, glass of practically the same colors has been brought back by Sir Aurel Stein from Kerman and Mekran: black, red, white, yellow, green, orange, dark blue, light blue, and purple.<sup>223</sup> And the French expeditions to Afghanistan found at Begram Roman glass imported from Syria; some

<sup>221</sup>Berthold Laufer, The Beginnings of Porcelain in China (Chicago, Field Museum, 1917). This is a summary of the chapter entitled "The Introduction of Ceramic Glazes into China, with special reference to the murrhine vases," pp. 120-147.

<sup>222</sup>R. L. Hobson, Chinese Pottery and Porcelain (London, 1915), I, 143-144. Hobson also quotes an illuminating incident that occurred much later, under the Northern Wei Dynasty, in the reign of T'ai Wu (424-451 A.D.): "a man of the Ta Yueh-Chih, who came to trade at the capital, said he could make liu-li by melting stones."

<sup>223</sup>Stein, Northwestern India and Southeastern Iran, Colorplate X. Of course this glass is not dated, it might belong to the Islamic period; but compare the Roman glass from Begram. At any rate the correspondence with the Chinese colors is very suggestive.

of this is on exhibition at the Musée Guimet, Paris. Begram was then under the dominion of the Kushan Dynasty, first to fourth centuries A.D.<sup>224</sup> The murrhine vessels do not have such a wide range of color as either the Chinese liu-li, or the known glass of the Near East.

Secondly, I cannot see in Pliny's description of the murrhine vessels anything but the description of vessels carved out of some sort of natural stone<sup>225</sup>; Dr. Clark Hopkins is also of that opinion. And the line of Propertius, "murraque in Parthis pocula cocta focis" or, "murrine cups baked in the kilns of the Parthians"<sup>226</sup> seems to me to be a free interpretation, in poetic license, of Pliny's theory: "It is generally thought that these vessels are formed of a moist substance, which underground becomes solidified by heat."<sup>227</sup> This seems to explain the baking in ovens; and it is exactly parallel to Pliny's conception that crystal (i.e., natural rock crystal) is solidified ice;

<sup>224</sup>Musée Guimet, Paris, Arts anciens de l'Afghanistan et de l'Indochine. Résultats des récents travaux archéologiques 1935-1937. (Paris, E. Baudelot et Cie, no date), pp. 10-11, 14-15. No illustrations.

<sup>225</sup>Laufer, The Beginnings of Porcelain, p. 127, gives the Latin text and Dr. Laufer's translation of the relevant passage from Pliny. The writer used the translation of Pliny's Natural History by John Bostock and H. T. Riley (London, 1857), Vol. VI; Chapter XXXVIII is on pp. 392-394. Professor Hopkins kindly went through this translation and corrected it.

<sup>226</sup>Laufer, op. cit., p. 122, and also p. 126.

<sup>227</sup>Bostock and Riley, op. cit., p. 393; see above, note 225.

the Greek word crystal (κρύσταλλος) coming from the adjective cold (κρύος).<sup>228</sup>

Also in favor of the opinion that the murrhine vessels are made from stone is the fact that no pottery with a glaze of "shades of purple and white with a mixture of the two, a mixture which flames, as it were by a change of color, with purple or a reddish cream,"<sup>229</sup> has yet been found in Iran. Pliny specifies that the finest quality comes from Carmania (Kerman) in southern Persia. Sir Aurel Stein's work in precisely this area has resulted in the discovery of no such pottery.<sup>230</sup> On the contrary, when I studied the material brought back by him (see p. 76, and note 186, p. 77) I noticed various pink and white stones, which, not being a mineralogist, I describe in my own words as follows. From Rishahr, near Bushire: one pink-red stone, banded in an opaque creamy-color shading to the color of carnelian. From Rayin: one dark red and white stone. From Takkul north: an orange-pink stone, which looks something like agate. From Katukan: alabaster, banded in grey, white,

<sup>228</sup> Ibid., p. 394, note 50. This is from XXXVII, 9, Pliny's first chapter on crystal.

<sup>229</sup> Ibid., p. 394; this is a passage corrected by Professor Hopkins.

<sup>230</sup> Stein, op. cit., passim. See also earlier reports by Stein: "An Archaeological Tour in Gedrosia," Memoirs of the Archaeological Survey of India, No. 43 (Calcutta, 1931); and "Archaeological Reconnaissances in Southern Persia," The Geographical Journal, LXXXIII (January-June, 1934), pp. 119-134.



coral, cream. From Chil : a stone which looks like alabaster but splits in thin sheets like mica, shading from white to coral-pink. This corresponds remarkably well with Pliny's description, just quoted, and sounds remarkably unlike any pottery found as yet. And according to Greek writers the murrhine vessels must have been of stone: Pausanias " *Υαλος μὲν γέ καὶ κρύσταλλος καὶ μορρία καὶ ὅσα ἐστὶν ἀνθρώποις ἄλλα λίθου ποιούμενα* " ("glass, crystal, and murrhine vessels and other things made by men from stone") and the author of the Periplus: " *ὄνουχίνη λίθια καὶ μορρρίνη* " ("stones of onyx and of murrhine").<sup>231</sup>

A third objection to the theory of Dr. Laufer is that today some authorities on Chinese pottery believe that glaze was discovered in that country before the Han dynasty and independently of any foreign influence. The Han wheel-made earthenware having a green (or brownish) lead glaze<sup>232</sup> is most plentiful in northern China in the region of Sian-fu

<sup>231</sup>Laufer, *op. cit.*, pp. 137-138. See also article on *μορρία*, in Liddell and Scott's Greek dictionary.

<sup>232</sup>For scientific analyses of the lead glaze on Han earthenware see: Laufer, *The Beginnings of Porcelain*, p. 93; on p. 84 it is stated that Mr. Hobson was given the opportunity to publish the results of this analysis in his *Chinese Pottery and Porcelain*, I, p. 10. A second, more recent spectrographic examination of the Han lead glaze was published by C. G. Seligman, "Early Pottery from Southern China," *Transactions of the Oriental Ceramic Society 1934-35* (London, 1936), p. 32; lead, again, showed a high percentage.

(or Si-ngan fu), which was the terminus of the silk route.<sup>233</sup>

The early proto-porcelain, hand-coiled and wheelmade, first published by Dr. Laufer, is found in a different region, further south and along the coast: Mr. Plumer excavated sherds of it on Hangchow Bay,<sup>234</sup> and saw more of it in the antique markets of Nanking, Soochow, Shanghai, Hangchow, and Foochow.<sup>235</sup> In the Boston Museum is a proto-porcelain jar bought in Nanking, containing a hoard of 21 coins all dated 175 B.C., in the reign of the Emperor Wen; this is coiled by hand.<sup>236</sup> The primitive technique suggests an origin for this type much earlier than Han. The thick transparent greenish-yellow glaze of the proto-porcelain ware was found to contain absolutely no lead, and

<sup>233</sup>Laufer, op. cit., pp. 79, 81.

<sup>234</sup>James Marshall Plumer, "Early Pottery Fragments from Hangchow Bay," Journal of the North China Branch of the Royal Asiatic Society, LXVI, (1935), pp. 115-116, four plates and map.

<sup>235</sup>Elizabeth McGill and Joan Niles, The Beginnings of Porcelain in China. A New Theory Placing Proto-porcelain Prior to the Christian Era. A paper read at the Michigan Academy, Ann Arbor, Michigan, Spring, 1937 (typewritten copy), p. 3.

<sup>236</sup>Laufer, op. cit., pp. 82-83. In spite of the primitive technique, and the coins, Dr. Laufer considered this to be of the third century A.D. Of course there is a danger in dating objects by coins found associated with them. Whether one would be more likely to put old coins in a new jar, or new coins in an old jar, becomes a problem in human psychology.

is called an alkali-lime-iron-alumina silicate.<sup>237</sup>

Another much earlier Chinese jar, with red clay and a greenish glaze, dates from the period of the Warring States, 481-221 B.C.; this unique piece is in Kansas City.<sup>238</sup>

Pottery having a different scheme of decoration, namely, designs related to those on Late Chou bronzes, but having the same glaze as the proto-porcelain ware, has been found recently much further south in China, in the Hongkong archipelago, especially on Lamma Island, and on the neighboring mainland.<sup>239</sup> Dr. Seligman concludes that this pottery was invented by the southern aborigines before their conquest by the Northern Han Dynasty in 111 B.C.--"we may see in the leadless glaze of proto-porcelain and of the Hongkong fragments a different (i.e., different from the Han lead glazes) and perhaps older technique, which may be of Far Eastern origin."<sup>240</sup> And finally, to quote Mr. Plumer: "Pre-Han resonant ash-glazed pottery and early proto-porcelain

<sup>237</sup>Laufer, op. cit., analysis by H. W. Nichols, p. 90. The proto-porcelain jars, which Dr. Laufer was the first to study, are illustrated here in Plates I, and III-X. These jars, in the Field Museum, Chicago, were seen by the writer in November, 1937.

<sup>238</sup>This jar is in the William Rockhill Nelson Gallery of Art; its height is 19.7 cm. It was exhibited at London in 1935-36, see Faber and Faber, The Chinese Exhibition (London, 1936), No. 454, Plate 103.

<sup>239</sup>Seligman, op. cit., pp. 26-34; the analysis of the glaze is on p. 32.

<sup>240</sup>Ibid., pp. 33-34.

are followed by the green lead-glazed Han pottery from Sian."<sup>241</sup>

Thus, by these few types of pre-Han, and therefore also pre-Parthian, pottery and proto-porcelain in China, it is established beyond doubt that the Chinese were not indebted to the Near East for a knowledge of glazing, but had invented it themselves; and it must be admitted that the early Chinese proto-porcelain is technically more advanced than any ceramic method that the Near East ever invented.

But if nothing remains of the theory of murrhine ware, or of Persian glazed pottery, as an influence on the origin of glaze in China, there still remains open the question of the Han lead-glazed pottery: was it introduced from the west by means of the Parthians as intermediaries? Could the Chinese have produced a green-brown lead glaze when trying to imitate the blue-green alkali glaze of Mesopotamia? Certainly there is no sign in the Han period that they tried to imitate the other Mesopotamian glazes, white tin and manganese brown. Dr. Debevoise in considering this problem, stated that a lead glaze probably would not be derived from an alkaline, and concluded, "Connection does exist between

<sup>241</sup>J. M. Plumer, Early Chinese Pottery, An Exhibition at Ann Arbor, July 5th to August 13th, 1938 (Ann Arbor, Edwards Brothers, 1938), p. 3; see also p. 4: "It would seem that enough evidence has been gathered to show that Dr. Berthold Laufer's theories as to late Han or post-Han beginnings (i.e., of porcelain) are now outmoded."

the Parthian and the Han pottery, but for the present other evidence than the composition of the glaze must be used to prove the point."<sup>242</sup>

In my opinion the dissimilarities between the Mesopotamian and the Han glazes are so strong that we need no longer try to think of the first as a prototype for the second. Twenty-five years ago, in 1914, Hamilton Bell suggested that the clue might lie in the eastern Mediterranean Roman pottery: "the glazes of green or olive brown suggest with extraordinary force those of the Chinese pieces."<sup>243</sup> (See Figs. 63-67.) With this I agree entirely, and add to it that both have a red clay, and a lead glaze. These three parallels of clay, nature of glaze, and color of glaze, may not seem alone sufficient, for Han shapes are in general so different from western shapes; in fact they are derived from traditional Chinese bronze shapes.<sup>244</sup> Nevertheless, the Tarsus lead-glazed pottery is technically the closest to the Han lead-glazed pottery, and I suggest that it may have afforded the prototype for that particular Han glaze.

<sup>242</sup>N. C. Debevoise, "The History of Glaze," pp. 299-300.

<sup>243</sup>Hamilton Bell, "T'ang Pottery and Its Late Classical Affinities," BM, XXVI (November, 1914), p. 15. See also H. C. Galloise, "Mutual Influences between Chinese and Near Eastern Ceramics in the T'ang period and Before," AR (1932), p. 643 ff. Curiously enough, though Chinese specialists have often referred to Bell's idea, it seems to have passed unnoticed by writers on Parthian pottery.

<sup>244</sup>R. L. Hobson, The Eumorfopoulos Collection (London, 1925), I, introduction, pp. xvii and xix.

Fortunately a parallel in shape does exist. As recently as 1938, Arne published a series of cups with ring handles which provide, if not the actual link, at least an indication of what that link was. Arne considered "dass die drei erst erwähnten Tassen in Nord-Iran verfertigt worden sind, aber chinesischen Einfluss aufweisen."<sup>245</sup> With this I disagree, for the original of the type is neither Persian nor Chinese, but the classical two-handled cup, found in both metal and pottery, illustrated in Fig. 67; the type is not even Roman, but goes back to the fifth century Greek skyphos.<sup>246</sup> We saw above, with Fig. 66, how the shape had been copied in Mesopotamian pottery with the blue-green alkaline glaze. One handle, instead of two, appears on a more globular silver cup, Fig. 79, attributed to the Sasanian period, and found in the Perm government.<sup>247</sup> This handle, though in a strange position, retains its original two spurs. The Chinese bronze cup of Fig. 80, published by Arne,<sup>248</sup> has a shape somewhat closer to the

<sup>245</sup>T. J. Arne, "En sino-iransk Kopp," Satryck ur Fornvännen, II (1938), p. 113. (In Swedish, German summary on p. 113).

<sup>246</sup>Richter and Milne, op. cit., skyphos, Figs. 170-177, pp. 26-27. These types, with horizontal handles, go back to the end of the sixth century B.C. For the skyphos with vertical ring handles, having one spur at the top, and dating to the period 425-355 B.C., see Christine Alexander, "A Boeotian Cup and a Hellenistic Bronze," BMAA, XXXII, No. 4 (April, 1937), pp. 90-91, Fig. 2.

<sup>247</sup>J. I. Smirnov, Argenterie orientale (St. Petersburg, 1909) in Russian, Pl. LXIV, No. 109.

<sup>248</sup>Arne, op. cit., Fig. 9.

classical, but again the handle is single, it has been moved down slightly from the rim, and has lost the lower spur. This Chinese bronze may be of the T'ang or Sung dynasty. In the Metropolitan Museum<sup>249</sup> is a white-glazed T'ang bowl, or vase, with two ring-handles from which the spurs have been cut off; see Fig. 81. The Chinese have here taken the handles of one Classical shape, the skyphos, and applied them to quite a different Classical shape, the krater. Arne also published three Islamic examples of the cup-type, but with only one handle: one is of the ninth century, the other two of about the thirteenth century.<sup>250</sup>

The connection, as regards the two Chinese examples, is from the Hellenistic to the T'ang period; this is nearly a thousand years, in round numbers. But though actual examples of the Han period seem at present unknown, Mesopotamian pottery of the first century A.D., and Sasanian metal, show how the motive travelled across Asia. Perhaps some western originals were preserved in those days in China, or Chinese copies may have persisted continuously. Other examples of the survival in the T'ang period of designs and

<sup>249</sup>Metropolitan Museum, New York, No. 26.292.46.

<sup>250</sup>Arne, op. cit., Figs. 7, 8 and 9.

pottery shapes which are purely Hellenistic in style, are well known.<sup>251</sup>

To summarize: The Han green lead glaze, very different in nature from earlier Chinese glazes; may well have been introduced from the west. Its prototype cannot be sought in the alkaline Mesopotamian glaze of what has been mis-- named Parthian pottery, but it was most probably the Roman lead glaze, such as was made at Tarsus in Cilicia. As well as similarity in clay and glaze, we have similarity in shape, surviving in Chinese pottery of a later period.

With all these facts and influences in mind, it is not strange to find in the Han lead-glazed pottery an iconographical detail found in other contemporary arts of Asia, namely, the "Parthian shot": on a horse in the flying gallop, the rider turns and shoots his arrow behind him; Fig. 82.<sup>252</sup> Rostovtzeff has shown that this motive occurs in rock-carvings in Siberia, in Han unglazed stamped bricks, and in Near Eastern textiles.<sup>253</sup>

<sup>251</sup>For instance, Greek shapes such as the rhyton, amphora, and oinochoë; designs as "Hellenistic figures of a piping boy and dancing girl in relief among floral scrolls"; Hobson, Chinese Pottery and Porcelain, I, introduction, p. xxi; Plate 13, Fig. 2. See the remark above, in Note 243.

<sup>252</sup>Another Han lead-glazed jar of the same shape with a representation of the "Parthian shot" is on exhibition in the Field Museum, Chicago, No. 115634. A hill-jar, in the same museum again has the same figure; No. 119258. It is worth noting that when this Parthian motive occurs it is simply one in a frieze consisting of purely Chinese creatures, dragons, demons, tigers, which are drawn with peculiarly Chinese fire and imagination.

<sup>253</sup>Rostovtzeff, "Dura and the Problem of Parthian Art," Yale Classical Studies, V (1935), pp. 269-271.



#### D. THE LATE PARTHIAN PERIOD, 160-256 A.D.

The general stylistic change which is noticeable in the second half of the second century A.D., and in the first half of the third century A.D., is a simplification and coarsening of form together with an increasing elaboration of decorative detail. This is observable in both unglazed and glazed pottery, and in all shapes of each, whether pots, jugs, or jars. The tendency toward both these qualities was known in the preceding century; now both become extreme. Thus this period not only marks the final stage of pottery under the Parthians; it reveals also the very gradual transition to the style developed under the Sasanians. In the field of pottery we find then that the Sasanians, the new conquerors of Mesopotamia, were not originators, but simply followed along in the traditions which they found in the land.

What was the cause of this change? It may be that Roman taste favored the increase of reliefs (heads, and figures of Silenus and Herakles, and rosettes) applied to the glazed pottery; for we remember that Dura was taken by the Romans in 164 A.D., and that under Caracalla, in 210 A.D., it became a Roman colony. But the change in shape, which was more fundamental and enduring than that in decoration, seems to me to consist, not in new Roman influence, but

rather in a relaxing of all Hellenistic-classical influence, and a re-emergence of the older oriental feeling for form, which had been temporarily (that is, for a few centuries) suppressed. Strelkoff, speaking of the amphora-type, has expressed this perfectly:

Es lässt sich im allgemeinen behaupten, dass, je weiter wir uns von den antiken Vorbilern entfernen, wir auf desto größere, aber originellere und urwüchsigere, man möchte sagen monumentalere Formen stossen, welche aber bei weitem nicht die Feinheit und Eleganz der früheren Exemplare besitzen.<sup>254</sup>

Urwüchsig is exactly the word for the shapes we have now to consider, the shapes which in turn become the basis for pottery under the Sasanians.

Seleucia remains, as before, apart from the development of the rest of Mesopotamia; the characteristics just pointed out are very little in evidence there. Debevoise isolated relatively few new types for the period of 120-226 A.D.; and many of these are so similar to older types that another student might not have felt the need so to isolate them. For instance, a one-handled jug, Type 259, of Level I (120-226 A.D.--see Table D, 4) presents no real change from Types 260 and 261 of the previous period, Level II (70-120 A.D.--see Table C, 9). On the other hand, flat-bottomed jugs of Level I (Table D, 5) have lost the elaborate handle with its triple-leaf finial, of Level II (Table C, 10), though this continues at Dura. Also,

<sup>254</sup>Strelkoff, op. cit., col. 64.

wide-mouthed jugs or pitchers (Table D, 3) have no longer the sophisticated curves, diminishing rapidly to a tiny foot, of those next preceding them (Types 137, 182, 143, in Table C,7). In general there are now fewer evidences of the elaborate Classical moulding of foot and rim, for instance, early Parthian jugs, Types 163 and 164 (143 B.C.-70 A.D., Table B,8), compared with the late jug rims of Types 147 and 154 (Table D,3). Again, there is a greater quantity of perfectly flat bases, and less of the concave or definitely molded hollow base, or ring foot.

But decoration at Seleucia is still confined to the rocked band (Types 141, Table D, 3 and 142, Table D, 5, and 180, Table D, 6) or slight ridges about the neck (Types 138, in Table D, 3 and 153, 259, 353 in Table D, 4 and 142, in Table D, 5) or incised lines and grooves (Types 147 in Table D, 3, and 258 in Table D, 4, and 142, 160, 274 in Table D, 5). The only other pattern is that of Type 285 (Table D, 6); there are three bands of short incised lines, vertical and slanting.<sup>255</sup> This jar, with its vertically-concave rim, its small pierced handles and incised decoration, is the last descendant of the jar type seen at Seleucia, in the Hellenistic period (Fig. 1) and at Dura before 160 A.D. (Fig. 34).

<sup>255</sup>For an illustration of this jar see Debevoise, Parthian Pottery from Seleucia, Plate A, No. 1, on p. 24; also text, p. 23.

Also in the latest level at Seleucia is found the fairly small glazed two-handled jar of Type 289 (Table D, 6, and Table C, 11).<sup>256</sup> This I consider to be a degeneration of the small two-handled jar which is probably of the Hellenistic period, Fig. 9, and not of the amphora-type.<sup>257</sup> The stage half way between the examples of the Hellenistic and the late Parthian periods was seen in Fig. 30.

Leaving Seleucia, we turn to the rest of Mesopotamia, and Dura becomes the chief source of material. Certain buildings whose dates are known, the Praetorium, the Temple of Jupiter Dolichenos after 210 A.D., for instance, as well as ordinary houses and shops of the highest level, seem to date the pottery found in them. The source of a great quantity of pottery was the embankment of 256 A.D., thrown up as a defence against the siege by the Sasanians; in it must have been buried things actually in use at that date.<sup>258</sup>

The brittle ribbed ware introduced from Roman Syria

<sup>256</sup> Illustrated in Debevoise, *Ibid.*, Plate III, 1. (photograph) and Plate A, 2 (a drawing which does not indicate correctly the rooked band on the shoulder) and text, p. 23. This example is in the Museum of Classical Archaeology, Ann Arbor, No. 4045; it is not glazed. Debevoise says that this type is common at Nippur.

<sup>257</sup> Debevoise, "The Oriental Amphora," p. 4: "In general the Mesopotamian descendants of the Greek amphora either degenerate into a small jug furnished with two loop handles and the regular incised pattern," etc.

<sup>258</sup> These notes are from my notes of Professor Hopkins' lectures.

already discussed (above, pp. 24, 89 and Figs. 20 and 76) continues also to the end of Dura's history, and needs no further illustration. A small one-handled jug was found under a paving, probably before 210 A.D.<sup>259</sup> Another fragmentary jug was found in the third century level; and a third, in the temple of Jupiter Dolichenos.<sup>260</sup>

For the remainder of this chapter the pottery is arranged by general shape, this being more important than the presence of glaze, the number of handles, or the nature of the decoration.

The first type, or shape, is what may be called a pot, or a low wide-mouthed jar. Glazed examples are known from Assur, dated by coins of Vologases III, 147-191 A.D.; Fig. 83.<sup>261</sup> The rim, vertically-concave, is one with which we are already familiar. The vertical ridges, in strong relief, on the shoulder, are new, as is also the scattered placement of one or two disks. A third jar from Assur, Fig. 84, has a narrower neck and mouth; it is not dated, but because of its general similarity may perhaps be assigned to this period.<sup>262</sup>

<sup>259</sup>Gallery of Fine Arts, New Haven, No. I 805. The clay is a dark red, the body is roughly pear-shaped; the handle is a flat strap-handle. H.14.6, D.12.

<sup>260</sup>Gallery of Fine Arts, New Haven, From the Third Century A.D., No. K189. Height not preserved, D.17. From the temple of Jupiter Dolichenos, No. I.766, H.14.2, D.7.

<sup>261</sup>Andrae and Leuzen, Assur, pp. 97-98, Plate 49, d and c.

<sup>262</sup>Ibid., p. 96, Plate 46, d. It is from a clay coffin, No. 18007.

From Dura comes an unglazed high pot, or low jar; on the body are seven circular depressions, made evidently by simply pushing the soft clay in with the finger, Fig. 85;<sup>263</sup> looked at from above, the jar appears to be seven-sided. This technique makes one think of glass, where is it really appropriate to the material. The jar comes from a late shop, which may be after 200 A.D. Also from a late shop comes the pot with two small loop handles by the rim, of Fig. 86.<sup>264</sup> The decoration, on the shoulder, is incised: three sets of combed lines alternate with two single wavy lines. Below the angle at the middle of the body, the lower half has been pared down with a knife.

In Fig. 87 the body is more compressed vertically, that is, the height is less in proportion to the diameter; the neck is higher; the handles are larger and stronger looking.<sup>265</sup> Its provenance gives it a third century date. The only attempt at decoration is the slight ridge about the neck.

Fig. 88 is a fragment from an unglazed jar whose

<sup>263</sup> Gallery of Fine Arts, New Haven, No. K323. Clay reddish buff, potting good. H 11.3, D.c.12.6.

<sup>264</sup> Ibid., No. E475. Clay red-tan, with a greenish-white wash. H.18.8, D.19.6.

<sup>265</sup> Ibid., No. E 141. Clay greenish-buff, sandy, speckled; with a cream-colored slip. H. 21, D.26.

profile is practically that of Fig. 87.<sup>266</sup> But instead of its simplicity, it has decoration in three different techniques: an applied band, like a rope or a snake, curling down the handle onto the shoulder; short incised lines on this rope or snake and on the round molding about the neck; and small stamped circles all over the shoulder.

Another low wide-mouthed jar, whose shape must have been half-way between that of Fig. 86 and that of Fig. 87, appears in Fig. 89. The decoration is the applied pressed band, about the neck, on the handles on the shoulder. Here the depressions of the pressed band are not thumb or finger marks, but are notches made by the side of a stick; the effect is that of "piecrust decoration."<sup>267</sup> The jar had originally four handles, not evenly spaced. At the base of each handle the applied pressed band makes a three-pronged figure; between the handles are curved "anchor-like"<sup>268</sup> designs. This curved anchor-like design is worth noting, for it recurs later in pottery of the Sasanian period. The present piece

<sup>266</sup> *Ibid.*, No. K104. Clay reddish-tan; H. not preserved; diameter of rim approximately 16.

<sup>267</sup> "Piecrust ornament" is the term used by Little when he published it. A. McN. G. Little, "Pottery," *Dura, Fourth Season 1930-1931*, p. 261; not illustrated. This piece is at the Gallery of Fine Arts, New Haven, No. 1931.539. Neither Little, nor the Museum, has preserved the provenance, and therefore the dating, of this piece. The clay is reddish-tan, with a greenish-white slip.

<sup>268</sup> *Ibid.*, Little notes the occurrence of this design on an unglazed fragment from Tabus, illustrated by Sarre and Herzfeld, *Archäologische Reise*, IV, Pl. CXLII No. 26.

is not dated, but the clay, the shape and the potting cause me to assign it to the third century A.D.

The same sort of shape is glazed as well as unglazed; Fig. 90. The glaze here is the usual blue-green.<sup>269</sup> The peculiarities of the piece are the twisted rope handles placed horizontally at the angle of the body, and a decorative feature borrowed from the amphora-type, namely, the conical knobs. These knobs were ten in number, one on each side of the handle at its base, and three at the top of each handle, giving the appearance of a crest. Actually the knobs on the handles are broken off; in the photograph the broken places show as white spots. A third peculiarity is the vertical pressed band, running from the neck to the angle of the shoulder, where it meets the horizontal pressed band. We have already met the pressed band placed vertically, in a Dura amphora of the period before 160 A.D., Figs. 37a, 37b, but this is the first occurrence of the band going in two directions on the same object. The mixture of such different elements would make one consider this piece to be late, even if it were not known to have come from the highest level, of the third century, at Dura.

Next comes what we may call the bottle-shape. It has a body which is oval (rather than egg-shaped) almost equally

<sup>269</sup> Gallery of Fine Arts, New Haven, No. I 178. Clay soft, friable, buff-colored. The blue-green glaze is much decayed. H.2.12.8, D.15.



narrow at the foot and at the neck; a relatively short and usually narrow neck; rather small handles set against the neck, and base and rim of varying shapes, but always simple. Fig. 91, which is dated after 210 A.D. because it was found in the Praetorium, exemplifies this rather bottle-like variety. The neck and rim which are continuous, producing a cone which opens upward, differentiates it from the others.<sup>270</sup> It is unglazed; the potting is fresh and rough, the surfaces not smoothed off. Fig. 92 has a different neck, it is globular, contracting to a small opening, something like a modern brandy-glass. It was found in the court of a late house, that is, it is of the third century A.D.<sup>271</sup>

The vessel shown in Fig. 93 is not dated.<sup>272</sup> It calls to mind instantly the set of jars of the Hellenistic period from Warka (Fig. 19)--each one would have three handles, and on the shoulders are attached similar little cups, or vases. But here the elaboration of decoration--rocked band, wavy incised lines, and piecrust edge--as well

<sup>270</sup> Ibid., No. E709. Clay pale buff-colored. H.28, D.18.7. Another just like it, except that the rim is broken, is No. E1269, from the third century level. The clay is reddish-buff. H. preserved 19.7, D. 13.8.

<sup>271</sup> Ibid., No. E.880. Clay light greenish-buff; H.13.3, D. 9. Another example is No. E20; pale-buff clay, H.16, D.11.5.

<sup>272</sup> Ibid., the number is missing, hence provenance and date are unknown. Clay quite white; H.25.5, D.17.6. The little cups on the shoulder are H.c.3, D.c.3.7.

as the shape of the body, the potting, and the unfinished surface (pared down but not smoothed), all suggest to my mind a third-century date. The last qualities are also those of Fig. 91, whose date is exact, after 210 A.D. Another person than myself might wish to class the jar of Fig. 93 with the amphoras, and not with the type at present under discussion. But the simple curved shape of the handles; the lack of the usual disks and knobs, as well as the fact that the greatest diameter is in the middle of the body, instead of at shoulder-level, all differentiate it from the amphora types, both earlier and contemporary. We might best consider it a cross between the amphora-type and the bottle-type; and this abandoning of earlier established types, and their mingling to produce new half-breed types, is again an indication, or a characteristic, of a late period.

With Fig. 94 we return to the relatively pure bottle-type.<sup>273</sup> But the rim has a vertically-concave profile; and the object is covered with a blue-green glaze. We feel perhaps a concession to the influence of the glazed amphora-type in the presence of a single disk on each side, high on the shoulder. Fig. 95, of the third century<sup>274</sup> is more

<sup>273</sup>Ibid., No. E522. Clay pale yellow-buff; the blue-green glaze is much decayed. H.31.5, D.21.5.

<sup>274</sup>Ibid., No. H.44. Clay pale yellow-buff, glaze leaf-green, rather than blue-green. H. preserved 30.5, D.21.8.

influenced by the amphora-decoration: there is a disk in the center of the neck, as well as in the center of the shoulder; there are flat disks at the base and near the top of the handle; and the handle originally had a crest (now broken off). A third, found in the embankment of 256 A.D., has similar treatment of the handles, but instead of the disks, has taken over a different element from the amphora, namely, the two conical knobs at the base of the handle on the shoulder.<sup>275</sup>

Among the varieties of pitchers at this time, some are glazed, and some unglazed; some follow earlier shapes, some take on new forms or patterns. Fig. 96,<sup>276</sup> which has a clear leaf-green (instead of the more usual blue-green) is, because of its shape and its hollow ring foot, closer to Seleucia pitchers of the period before 120 A.D. Types 263 and 264 of Level II, (Table C, 9) than to any contemporary Seleucia pitchers (Table D, 3, 4 and 5, all Types). But since it was found in the embankment of 256 A.D., we are probably justified in considering it to be of the third century.

Fig. 97 a and b, having a rich "peacock" blue-green

<sup>275</sup>Ibid., No. F2215. Clay buff-tan, glaze a rich blue-green, in a very decayed condition. H.29.5, D.19.

<sup>276</sup>Ibid., No. F450. Clay pale buff, the leaf-green glaze is all filmed over with iridescence. H.29.5, D.15.5.

glaze, stands alone among pitchers.<sup>277</sup> It is tall, well-proportioned, almost elegant in its lines. At the front, on the shoulder, are two applied faces, or we might say masks (because they are in such low relief) of female heads. Above them, on the neck, is the face and neck of a bearded male. Between the two female heads, and slightly below them, are two conical knobs; just below the man's head, is a flat disk. These six different features are enclosed between two pressed bands, applied vertically, and following the curve of the pitcher so that they are close together at the neck and wider apart at the shoulder. We have already seen the pressed band applied in two long vertical strips, in Fig. 37 a and b, an amphora dated before 160 A.D. The back of the pitcher is also decorated (Fig. 97b). The handle, which is simple, round, and rather thick, has, for a crest, a high rounded knob. High on the handle is a bearded face, the same as that on the front of the pitcher, but without the neck; this is repeated on the shoulder at the base of the handle. A flat disk is placed on either side of the lower mask. None of these twelve features has any function appropriate for the use of the pitcher, they are merely added as decoration. The

<sup>277</sup>Ibid., No. F236. Clay pale buff, glaze a rich peacock blue, much decayed to a silvery-gold. Rim absent. H. (through the top of the handle) 34.2, D. 22.3. A female head, and a bearded male head, very similar to those of this pitcher, have already been published: Hopkins, "The Pottery," Dura, Second Season, Plate XI, 3, 4.

two disks by the handle, to be sure, are reminiscences of the rivets which must have been their prototypes, in metal, but the knobs and the disk on the front are bits of clay applied in complete forgetfulness of any meaning.

The pitcher in Fig. 98 belongs to a type already existing in Mesopotamia, derived from Roman metal: the type having a heavy, flat-bottomed body, a double or triple twisted handle ending below in three leaf-like vertical grooves, and two disks at both upper and lower attachments of the handle (see above, pp. 35-36, Fig. 28; Seleucia Type 279 in Table B, 9, Types 256, 280, 281 in Table C, 10). This Dura pitcher is dated after 210 A.D., as it was found in the temple of Jupiter Dolichenos.<sup>278</sup> Though the handle is double, the lower finial is triple. Another example is dated probably of the second century A.D.; a third, of the third century.<sup>279</sup> A fragment of the triple leaf finial coming from a pitcher of this type, with blue-green glaze, was found at Ctesiphon, Fig. 99; it

<sup>278</sup>Ibid., No. 831B. Clay fine, well-levigated, pale creamy-yellow, glaze blue-green. H. preserved 22.5, base D.17.9. Compare Little, "Pottery," Dura, Fourth Season, Plate XXIV, 1.

<sup>279</sup>Ibid., the second century pitcher is No. E1133, H.22, D.22. That of the third century is No. H.547, H.22.5, D.22. Both have creamy yellow clay, and a blue-green glaze; both were fired right-side up.

also cannot be dated later than the Dura examples, that is, between 200 and 250 A.D.<sup>280</sup>

It is not only this type of pitcher, with twisted handle and finial, which has a flat bottom, but in fact most pitchers of this date have it, instead of the profiled ring foot due to classical influence in the past. They are found all over Mesopotamia, at Hilla,<sup>281</sup> Nineveh,<sup>282</sup> and at Warka.<sup>283</sup> These three examples are not dated, but, because they are different from both earlier and later types, may be assigned to this period. Another from Seleucia, Fig. 100, was found on the surface, and therefore has no date.<sup>284</sup> But, though it has no earlier parallel, two new glazed types of Level I (Types 258 in Table D, 4 and 252 in Table D, 5) are so similar in shape, and in the grooves about the neck, that it may be assigned to the

<sup>280</sup>Metropolitan Museum, New York, No. 32.150.349. In the dating I disagree with Mr. Hauser, who felt that it ought to be of the Sasanian period, as it was found in a Sasanian mound, Umm az-Za'atar. But this shape and this handle do not occur in any known dated Sasanian pottery.

<sup>281</sup>Sarre, Archäologische Reise, IV, Plate CXLII, 1 b, and text, p. 4.

<sup>282</sup>R. W. Hamilton, "The Temple of Ishtar at Nineveh," AAA, XIX (1932), Plate LII, 10.

<sup>283</sup>Loftus, Travels and Researches in Chaldaea and Susiana (New York, 1857), p. 212, figure at the bottom.

<sup>284</sup>Debevoise, Seleucia, p. 62, Type 101: "This type of vessel with nearly straight sides and a broad flat base seems to be characteristic of the material of Level I."

same period. The same applies to an unglazed pitcher painted with red bands, Fig. 101, from Kasr-i-Abu Nasr, near Shiraz.<sup>285</sup> If there is no evidence for the importation of this piece from Mesopotamia, we must consider it as an example of the influence of the Mesopotamian pottery style. Returning to Dura, we find quite a different shape of pitcher, also of the third century, Fig. 102.<sup>286</sup> The curve of the profile makes it look so heavy that the small handle seems insufficient for lifting it. The well-finished rim is in contrast to the perfectly undistinguished base. A glazed pitcher from Rayy, of unknown date, Fig. 103 again has the flat base, though the proportions of body and neck are much taller and more slender than in any of the other examples here noted.<sup>287</sup>

A new type of pitcher appears in the third century at Dura. The examples known are unglazed; they are marked by clumsiness of shape combined with carved out decoration

<sup>285</sup> Joseph M. Upton, "The Persian Expedition 1933-1934, The Season's Finds," BMMA, (December, 1934), Fig. 17, and text page 20: "These pieces" (unglazed fine painted pottery) are probably Parthian or Seleucid (330B.C.-A.D. 226), and it seems quite likely that the small jar of buff clay in figure 17, very precisely turned and with traces of bands of red paint around the belly and on the shoulder, is of the same period."

<sup>286</sup> Gallery of Fine Arts, New Haven, No. G 160; clay not visible, blue-green glaze. Curiously enough the bottom and interior are unglazed; H.27.5, D.22.9. Another flat-bottomed pitcher is published by Little, with no date: op. cit., Plate XXIV, 1, p. 228. This is glazed only on the exterior.

<sup>287</sup> Ettinghausen, op. cit., Fig. 223, p. 663, H.27.

which produces a refreshingly clear light and shadow pattern. Fig. 104 was found in the embankment of 256 A.D.<sup>288</sup> The lower half of the body was roughly pared off; the handle and rim clumsily made. The base is a very low ring foot, which does not appear in the photograph. But the three bands of vertical grooves, which cover the whole area, are carved out boldly and directly with a curved knife, which makes one think of an apple-corer; the tool must have been tubular and hollow. The surface, which is quite smooth, may have been rubbed down with the fingers. A second, fragmentary pitcher, with the same vertical grooves, separated however, by a plain undecorated horizontal band, differs in having the surface burnished.<sup>289</sup> The burnishing was done vertically, evidently after the carving was finished, for even the concave surfaces of the grooves are burnished. The pitcher with the most charming decoration, Fig. 105, was not seen by the writer; it is from a late shop; "the jug is certainly of the second quarter of the third century."<sup>290</sup> The vertical grooves are confined to the neck and to the bottom of the body, in a manner which

<sup>288</sup> Gallery of Fine Arts, New Haven, No. G1726. Clay buff-tan, with smooth surface. H.19.3, D.15.

<sup>289</sup> *Ibid.*, No. I802. Pale buff clay with a creamy slip. Diameter about 14; the top and the bottom of the pitcher are missing; the base of one handle remains to show that it is a pitcher.

<sup>290</sup> From a letter of Mr. F. E. Brown. The pitcher is probably in Baghdad; its expedition number is F1671.



suggests the use of gadrooning or fluting on these areas in Classical wares. The wide central area is filled with slanting sprays of leaves, perhaps olive-sprays--perhaps the freshest and most unpretentious decoration known at this period. A fourth example, also not seen by the writer, is again from a late shop, of the third century, A.D.<sup>291</sup>

A couple of unique types from Dura illustrate the abandoning of Classical influence in the third century. The first is a tiny vessel, which might be called a deep bowl or a low wide-mouthed jar, set on three wide feet. The face of each foot consists of an applied plaque representing Atargatis; Fig. 106.<sup>292</sup> It is covered with a light leaf-green glaze; as it was found in the embankment it must be of the third century. This representation of Atargatis is known, first in a clay mold in the Sarre Collection, Berlin, Fig. 107, and secondly in a clay plaque found at Dura.<sup>293</sup>

The second unique shape is a fragment only, with a blue-green glaze, but because of its decoration must belong to

<sup>291</sup>Information from Mr. Brown; No. F1605.

<sup>292</sup>Gallery of Fine Arts, New Haven, No. G1509. Clay buff, glaze leaf-green; fired right-side up. H. preserved 6.8, D.9.4. The lower ends of the feet are slightly broken, and most of the neck, or rim, is missing.

<sup>293</sup>The mold is illustrated by Sarre, Die Kunst des alten Persiens, Plate 65; also in Archäologische Reise, IV, Pl.CXLII, No. 4. The Dura plaque was published by P. V. C. Baur, in Dura, Fourth Season, Plate VIII no. 3, and text p. 242.

the third century; Fig. 108. The shape must have been more like that of a cooking pot than anything else. How many handles there were we do not know. We have seen already the pressed bands, applied both horizontally and vertically, in Figs. 89 and 90; the combination of masks, flat disks and conical knobs, distributed without any functional significance, in Figs. 97 a and b. The handle that remains is so small as to be practically useless, for the pot when whole was quite large.<sup>294</sup> The shape of the face, and what appears to be a headdress like the "Phrygian cap" have a parallel at Nineveh, in unglazed pottery.<sup>295</sup>

The remaining type to be discussed is the third century development of the amphora-type. However, I feel that the term amphora is no longer strictly applicable, first, because the shape has so changed from the earlier amphoras, and secondly, because there are now just as often three handles as two, and to speak of a three-handled amphora falls unpleasantly upon the ear. However, to avoid confusion in comparing them with the earlier amphoras, I feel compelled to continue to use the term.

These third century amphoras, then, are very different from the last dated group we saw, the Mesopotamian amphoras

<sup>294</sup> Gallery of Fine Arts, New Haven, no number, and therefore no record. Height of the fragment 20, diameter of the rim about 25. Clay yellow-buff, glaze blue-green.

<sup>295</sup> Hamilton, op. cit., Plate LXVIII, Nos. 21 and 22, text page 93.

of the period before 160 A.D., as in Fig. 41. The body has now the shape and proportions of an egg, instead of being very wide at the shoulder and very narrow at the foot; and the body and shoulder form one continuous curve, without any angle, up to the base of the neck. The shoulder is steeper, because the neck is now very much wider and higher in proportion to the body. The rim may be in two degrees, but these are not sharply marked off as they were before, and often it has the vertically concave molding. The foot is a ring foot, but straight-sided, without any exterior profiling. The handles, two or three as the case may be, are strong, thick, heavy (thus in keeping with the thick and heavy neck), and whether plain or twisted are always single, not double. The crest on the handle is no longer the carefully composed and finished crest of the Mesopotamian type (Fig. 42) but is a low knob with two notches indented in it. Occasionally one or two disks remain on the back of the handle. But the disks and knobs at the upper and lower ends of the handles have totally disappeared. The placing of the disks and knobs, which was focussed about the two handles, is now focussed at the center of the space between the handles, on the shoulder. Other decorative changes are equally striking: there is not a single example of the rocked band on an amphora, nor of any incision at all, like the vertical lines which suggested fluting. And every amphora has an applied pressed band about the shoulder,

though, as I have said above, the body and shoulder are one continuous shape, without break.

Some of these elements are simply developments from, or degenerations of, the Mesopotamian amphora-type, but the presence of the pressed band is surely an influence from the Syrian amphora type, as in Fig. 53. Another Syrian feature is the use of applied heads and figure-plaques--this is of course Roman, as well as Syrian. But on the Mesopotamian third century amphoras, they appear usually on the shoulder, and only very rarely on the neck; and those on the neck are small and occupy very little space. This is in contrast to the reliefs on the necks of the Syrian amphoras, Figs. 52, 56, 59. The fact of these influences again arouses speculation as to the dating of the Syrian amphoras--(should we assume that they were earlier, or might some be contemporary?) but in the absence of dated pottery from Syria we refrain from uttering such speculations.

The amphoras from Dura selected for discussion here fall into two groups: those with short shoulders and simple decoration (Figs. 109-117) and those with long and more steeply sloping shoulders, having more complex decoration (Figs. 118-123). This arrangement, which is stylistic, does not imply a chronological sequence.

Fig. 109, a two-handled amphora with a clear leaf-green glaze, illustrates the general qualities listed

above.<sup>296</sup> Its particular features are the strong simple handles, the rim roughly made in two degrees, the grooves about the neck, and the presence of a single disk in the center of the shoulder, one on each side. It was found in the embankment of 256 A.D. Fig. 110 having three handles lacks the grooves about the neck, as do all that follow, and has three handles, of the same type. Here there is a disk on the neck as well as on the shoulder, spaced in the center, between the handles. The blue-green glaze is badly preserved.<sup>297</sup> Fig. 111, which has the same number and arrangement of disks, has very thick round twisted handles, three in number; the pressed band is very small. The glaze is a brilliant peacock blue; it was evidently applied in two coats, and the jar fired upside down, for the second, darker coat runs in long streaks from the foot towards the shoulder.<sup>298</sup> This also came from the embankment.

Fig. 112, a three-handled jar with a medium leaf-green glaze, has a vertically-concave rim, simple handles with a disk on the back; and on the shoulder, instead of a disk between the handles, a very roughly made face or head, so

<sup>296</sup>Gallery of Fine Arts, New Haven, No. F873. Clay pale buff, H.27.9, D.19.3.

<sup>297</sup>Ibid., No. H558. Buff clay, H.26.7, D.18.5. Another with three handles, and two disks between each pair of handles, is No. I260, buff clay, blue-green glaze. H.26, D.24.5.

<sup>298</sup>Ibid., No. F1436. Pale yellow-buff clay. H.27, D.18.

covered with the glaze that its sex cannot be determined.<sup>299</sup>  
 It is worth noting that not only does the body profile curve continuously into the shoulder, but that the shoulder also curves continuously into the neck--a characteristic often thought to be Sasanian. This jar serves for the dating of a very similar jar in Berlin, Fig. 113; instead of a disk on the back of the handle, it has a disk on the neck, above the applied mask.<sup>300</sup>

A pleasant variation is seen in Fig. 114 a, b, a three-handled jar with a light, clear apple-green glaze, mottled irregularly in a darker tone. The applied pressed band is not horizontal, but goes in loops like a festoon hanging from the bases of the three handles. The handles are twisted. Instead of disks, there appears on the neck a simple four-part rosette, the spaces being filled in with dots, and on the shoulder an almond-shaped figure with a rough knobby surface, which makes one think of a pinecone; or it may not be intended to represent anything.<sup>301</sup>

Fig. 115, a two-handled amphora,<sup>302</sup> illustrates a

<sup>299</sup>Ibid., No. F 237. Pale yellow-buff clay. H.27.2, D.18.2.

<sup>300</sup>Sarre, Die Kunst des alten Persien, Plate 148; on p. 58. Sarre, comparing it with Plate 149 (my Fig. 46) says: ". . . ist bei dem jüngeren die Umrisslinie schon gelöster und freier."

<sup>301</sup>Gallery of Fine Arts, New Haven, No. E347. Very pale buff clay. H. preserved 29.5, D.18.6. The rim and two handles are missing.

<sup>302</sup>Ibid., No. F2214. Clay not visible. H.28-29, D.20.

feature already encountered in this period, namely, the use of the applied band going both horizontally and vertically--see Figs. 89, 90, and 108. Here the vertical pressed band on the neck is accented with a disk on each side of it. There is a disk on the back of each handle. This jar is an example of poor potting and firing: the green color of the glaze shows in a few places on neck and shoulder, which have been mostly discolored, in the firing, to a dark reddish-brown, while the lower part of the body is a dull olive-green, mottled with brown. Mr. Matson informs me that such color effects in a green glaze are due probably to the presence of iron in the glaze, and to an accident in the kiln. Fig. 116, not seen by the writer, affords another example of the applied pressed band used both vertically and horizontally.<sup>303</sup> Two low conical knobs are centered on the shoulder between the handles.

A curious unglazed amphora-fragment, which was probably meant to be glazed, is seen in Fig. 117.<sup>304</sup> The applied pressed band is evidently indented not by the fingers, but by the side of a stick. The space between the handles (which are three in number) is divided into three parts, by two rows of three flat disks, with a conical knob at top and bottom. The ordinary division of the space between

<sup>303</sup>Information from Mr. Brown; expedition number F1499.

<sup>304</sup>Ibid., No. H759.

the handles is into two parts, produced by a central figure.

Whether the green-glazed fragment shown in Fig. 118 was part of a pitcher, or a two-handled amphora, or a three-handled amphora, it is impossible to say. At any rate it came from the temple of Jupiter Dolichenos, and is thus dated after 210 A.D.<sup>305</sup> There are several points to be noted here. First, the handle is not single, but double, and is thus an exception to amphora-handles of this date; this fact, together with the size and the three-part division of its crest, recall the earlier Mesopotamian amphora handle (as in Fig. 42). Secondly, we see here the long and steeply-sloping shoulder, which is in this case decorated with a pine-cone in bold relief, and a whirling rosette, hanging, as it were, at the bottom of a short vertical section of the applied pressed band. Flat disks alternate with these motives; and above the pine-cone was a conical knob. Similar whirling rosettes occur in unglazed pottery of the same period; Fig. 119.<sup>306</sup> Thirdly there is always found with the long steep shoulder a ridge in slight relief which marks the angle of neck and shoulder. Earlier

<sup>305</sup> Gallery of Fine Arts, New Haven, No. I740. Buff clay, H. preserved 18. The green glaze has a golden iridescence which is just like that of the Islamic blue-green glaze of Rakka pottery, 12-13th centuries A.D.

<sup>306</sup> Ibid., No. K608, an unglazed sherd of buff-red clay, from the upper level; size 11.5 x 8. The stamps are 5, and 5.5 in width. Another whirling rosette came on a blue-green glazed sherd from the embankment, No. G624, size 5 x 4.5.



amphoras, both Mesopotamian and Syrian, often had a ridge at the base of the neck (Figs. 41, 51, 52, 54) but in the third century amphoras this ridge does not occur in the short-shouldered variety.

The next two figures illustrate plaques and heads from the steep, long shoulders of amphoras.<sup>307</sup> Fig. 120 shows a figure which may be Herakles, with a club in his right hand and something (the lion's -skin) draped over his left arm; and also a bearded male head.<sup>308</sup> What looks like a bunch of hair on the man's forehead is not that, but a thick drop of the glaze, which shows that the jar from which it came was fired up-side down. This bearded male head might have been made from the same mold as that on the pitcher, Figs. 97 a and b, for the appearance and the dimensions are identical. Besides the Herakles figure here, we know of another classical relief, which probably

<sup>307</sup>Even if we did not have amphoras preserved with such reliefs on the shoulders, we know from the shape of the sherd, first, that it came from a shoulder, and not from a neck; and second, that the angle of the shoulder was steeply-sloping.

<sup>308</sup>Gallery of Fine Arts, New Haven. Herakles: No. H.60, from the embankment; blue-green glaze, buff clay, H.10.5, width 8.5. The bearded male head: H551, from a late level; leaf-green glaze, buff clay. The sherd H.5.5, W.5; the male head H.5, W.3.

also came from the shoulder of this variety of amphora, namely, Silenus riding on a donkey.<sup>309</sup>

Not only classical figures, but eastern ones occur at this time. Fig. 121 shows a fragment from the shoulder of an amphora having a leaf-green glaze, which was found in the embankment. The hair arranged in three masses, and the deep V-neck of the costume show that a Parthian is represented.<sup>310</sup> Similar Parthian types occur on a two-handled amphora from Dura which, from its style, I suppose to be also of the third century, though unfortunately it was not illustrated. The description is as follows:

The line of the shoulder is marked by a pressed ribbon pattern. Directly above this is a row of eight rosettes in relief and above them six medallion heads with the hair arranged on each side in the usual late Parthian manner. On the neck there are two medallion busts on a smaller scale showing the figures to the waist. . . . The two handles are each made of two twisted strips joined by three button-like disks.<sup>311</sup>

<sup>309</sup> Hopkins, "The Pottery," Dura Second Season, 1928-1929, the Silenus Plate XI 1 and 2, text p. 34. Professor Hopkins also illustrated an amphora (of the third-century-high-shouldered type) to show how this relief was placed; Plate L, 1. The Silenus on a donkey was also illustrated by Kurt Erdmann, "Partho-Sassanian Ceramics," BM, LXVII (August, 1935), Pl. II, A.

<sup>310</sup> Gallery of Fine Arts, New Haven, No. G1123. Clay buff-tan, the sherd H.7.5, W.5.5, plaque H.5.8, W.3. A somewhat similar glazed plaque was published by Little, "Pottery," Dura Fourth Season 1930-1931, pp. 224-225, Fig. 17. Little concluded: "It may, therefore, be interpreted as either Parthian or Sasanian, as either goddess or king." But No. G1123, my Fig. 121 is only an ordinary Parthian man.

<sup>311</sup> Margaret Crosby, "The Houses in Block C," Dura Sixth Season 1932-1933, p. 109. This amphora is quite large, H.43.5, D.30. No date was given for it.

A blue-green glazed jar (Fig. 122) from the embankment belongs, because of its shape, to the amphora group, though the handles, instead of rising to the neck, are low loops with both ends attached to the shoulder.<sup>312</sup> Perhaps the neck, now lost, was not as high as the usual amphora neck. Each handle has a conical knob for a crest, and two flat disks down the back. The shoulder on one side has a large applied head between a disk and a cone; on the other side the same mask is between two flat disks. The head is so thickly covered with glaze that it is impossible to say whether it is male or female.

Another jar, having a rich blue-green glaze,<sup>313</sup> shows disks on the neck as well as other decoration on the shoulder; Fig. 123. On the neck are two disks, one above the other, in the center. In the center of the shoulder is an oval plaque with a head (or possibly a small bust, the thick glaze prevents it from being distinguished); next to it on each side is a flat disk; outside the disks are two conical knobs. If there had been three handles, instead of two, there would not have been room for so much decoration in the spaces between them. The illustration shows very well the long, sloping shoulder, and the ridge about the neck, of this type of

<sup>312</sup>Gallery of Fine Arts, New Haven, No. F696. Clay invisible, H. preserved 27.5-28, D.22.4.

<sup>313</sup>Ibid., no number (Museum No. 1935.504). H.35, D.22. Since the expedition number is missing, the provenance of the jar is not known.

amphora. In this case there is another ridge about the upper part of the neck, at the level of the handles.

In 226 A.D. Ardashir, the first of the Sasanians, after coming into Mesopotamia at the South, subdued and entered Seleucia and Ctesiphon. Then he travelled north, failed to take Hatra, and left the country.<sup>314</sup> Fifteen years later, still under Ardashir, the Sasanians again appeared raiding in Mesopotamia: "About the middle of April, A.D. 239, the 'Persian descended' upon Dura."<sup>315</sup> Possibly the fresco at Dura representing a combat between five pairs of Sasanians and Romans in the open desert, might refer to a skirmish outside the city walls at this time.<sup>316</sup> In other words, during the thirty-odd years

<sup>314</sup>N. C. Debevoise, A Political History of Parthia (Chicago, 1938), pp. 268-269; Arthur Christensen, L'Iran sous les Sassanides, (Copenhagen, Levin and Munksgaard, 1936) Ardashir, pp. 82-83, and 213. For the dating of the Sasanian kings, I have followed in general Nöldeke, Geschichte der Perser und Araber zur Zeit der Sasaniden (Leyden, Brill, 1879).

<sup>315</sup>C. B. Welles, "Graffiti, The House of Nebuchelus," Dura Fourth Season 1930-1931, Graffito No. 233, pp. 110-114, Fig. 4; this translation is on p. 112.

<sup>316</sup>Against this suggestion is the fact that the Sasanians are in every case the victors. But although Sasanians may be represented, there is nothing specifically Sasanian in the style of the painting. Perhaps the artist simply wished to record the Sasanian methods of fighting. This fresco was published by Little, "The Sasanian Fresco," Dura Fourth Season 1930-1931, pp. 182-199, Pls. XVII-XVIII. In Dura Europos and Its Art (Oxford University Press, 1938), pp. 29-30, Rostovtzeff suggested that this fresco "probably represents the battle of Edessa and may have been drawn by someone who saw the battle. The existence of such a picture at Dura suggests that Dura was captured after the battle of Edessa." He therefore implies that the fall of Dura may not have occurred till about 260 A.D.

between the first appearance of the invading Sasanians and the fall and destruction of Dura, the people living in the city had plenty of opportunity to see how their enemies looked and dressed, and how they acted.<sup>317</sup>

It is therefore not surprising to find that a potter living in Dura, using the same methods of potting and glazing that his fathers had used before him for generations, should have added to a jar, as a decorative detail, a little plaque representing a much-talked-about contemporary personage, Shapur I, the second Sasanian King (Fig. 124 a-c). This jar, with its applied plaque, was made before the Sasanian conquest, as we know, because it was found in the embankment within the city. All probabilities support this fact. First, no potter would sit calmly making portraits of the enemy as they appeared over the walls. Secondly, there is no satisfactory evidence that the Sasanians occupied and lived in the city for any time.<sup>318</sup> Further, even

<sup>317</sup>The fact that two coins of Shapur I (241-272) were found in the temple of Atargatis, is no help here, for according to Prof. Bellinger they were merely dropped by the attackers, when they destroyed this temple. A. R. Bellinger, "New Material for the History of Dura," Dura Third Season 1929-1930, p. 164. Published: Bellinger, "The Coins," Dura Fourth Season 1930-1931, pp. 280-282.

<sup>318</sup>If the Sasanians had lived in Dura after taking it they would surely have left more than two little copper coins (see Note 317). Compare also Bellinger, "New Material for the History of Dura," Dura Fourth Season 1930-1931, p. 284: "Did the conquerors leave a garrison at Dura? Abstract probability and the very existence of the fresco [i.e., the Sasanian fresco] are in favor of it; the gold and silver jewels and the quantity of coins lying about are against it." But the fresco might have been made before the fall of Dura.

if there had been Persian potters among the Sasanian soldiers, they could not have made such a jar, for the Persians of both the Parthian and Sasanian periods were not accustomed to make glazed pottery, and only learned the art after long contact with Mesopotamia. As for the potters living in Dura, we quote the words of Rostovtzeff: "We know the fate of a captured city. The soldiers and civilians who were unable to escape were massacred or sold into slavery."<sup>319</sup> It was evidently no more against the conscience of a potter living in a Roman colony to make a figure of the Sasanian enemy (Fig. 123) than it was to make one of a Parthian (Fig. 121), also the enemy of Rome.

The jar having the plaque of Shapur I has all the characteristics of the group we are at present discussing. In Fig. 124a, the whole fragment appears.<sup>320</sup> About the lower edge of the shoulder is the applied pressed band, which, as we have seen, occurs at Dura only in the third century A.D.; at the base of the neck is the horizontal ridge, like a collar. Fig. 124 b shows a drawing of the profile; the shoulder is steeper than that of the jar of Fig. 123; it is closer to the shoulder-angle of the jar in

<sup>319</sup>Rostovtzeff, op. cit., p. 30.

<sup>320</sup>Gallery of Fine Arts, New Haven, No. F2224, buff clay, glaze iridescent. Sherd H.12.5, width 10. The plaque H.6.5, W.4.5. The whole plaque is in a relief of 1 to 1.6 from the shoulder of the jar. The fragment was found in the embankment, in Block L8, which is the block of dwelling houses just next to the Main City Gate, to the north of it.

Fig. 118, or Fig. 122. The plaque itself has the same sort of irregular shape that we saw in the plaque of the Parthian; Fig. 121.

I have referred to the plaque as being a representation of Shapur I. This identification is due not to the evidence of details in costume, headdress, beard and hair, for all such details, if they were ever modelled, are now obscured by the thick glaze, but, rather, to the broad general forms and to the pose. The figure, shown to about the level of the hips, faces to the left; the right hand (of the figure) is raised, and holds what can only be the Sasanian ring, whose long ribbons hang down below the bent elbow. The left arm is slightly bent back at the elbow, the left hand, missing, may have been at the left hip. The head, having no signs of features or beard, is bent slightly forward; on it is a tall rounded headdress, from which two broad ribbons float backwards and upwards; the thick mass of hair consists of small curls (the only detail visible). The whole position, the slight inclination of the head, the angle of the left arm, the ribbons flying upward from the headdress, all suggest instantly the many known representations of Shapur I, and particularly the relief showing him and the conquered Valerian, at Naksh-i-Rustam, near Persepolis,

Fig. 125.<sup>321</sup> But the ring with its ribbon-streamers recalls the various investiture scenes of the Sasanians.<sup>322</sup> It is also quite clear that Ardashir, the first Sasanian king, is not represented: Ardashir's hair is long and squarely cut off, not a round mass of curls; and the ribbons of his headdress hang down in a continuous curve, and do not fly upward in a fluttering motion. This difference is seen in the rock-carvings,<sup>323</sup> and in the coins as well.<sup>324</sup> Further, such broad ribbons are not known in Mesopotamia, or on western Parthian coins, until the Sasanian period. For these reasons this particular sherd may be dated between 241, the accession of Shapur I, and 256, the fall of Dura.

Other figures occur on plaques on the third century

<sup>321</sup>Sarre, Die Kunst des alten Persien, Plate 74; also Sarre and Herzfeld, Iranische Felsreliefs, Plate VII. This king is shown in a similar pose, but facing in the opposite direction, in the rock carving at Shapur, which also represents his triumph over Valerian. See Sarre, op. cit., Plate 75, and Sarre and Herzfeld, op. cit., Plate XI.

<sup>322</sup>Investiture scenes with Sasanian ring. Sarre, op. cit., Ardashir at Naksh-i-Rustam, Plate 70, Shapur I at Naksh-i-Rajab. Plate 71, Bahram I at Shapur, Plate 78. On some Parthian coins there appears before the king a Tyche, "offering an object which may be either the royal diadem or a wreath of victory;" Warwick Wroth, Catalogue of the Coins of Parthia, (London: British Museum, 1903), p. lxx.

<sup>323</sup>Ardashir at Naksh-i-Rustam, see preceding note; also Sarre and Herzfeld, op. cit., Plate V; while Plate XII shows the investiture of Ardashir at Naksh-i-Rajab.

<sup>324</sup>Furdoonje D. Paruck, Sassanian Coins (Bombay, The Times Press, 1924). Ardashir, T. I (drawings) and Plates I, 4-22, II, and III, nos. 46-63. Shapur I: T. II (drawings) and Plates IV, and V, Nos. 90-97.



long-shouldered amphoras at Dura, besides Classical, Parthian and Sasanian representations. Fig. 126, a fragment from the shoulder of a blue-green glazed jar,<sup>325</sup> shows a plaque with a human figure, quite indistinct, riding on an unmistakable camel. Camels are often represented at Dura, for instance, on an unglazed round Roman lamp, and in a graffito,<sup>326</sup> and camel-trains are mentioned in Safaitic inscriptions.<sup>327</sup> The camel-god Arsū also comes to mind,<sup>328</sup> but the glaze is so thick as to obscure any details, and thus prevents such an identification. The profile of the amphora is similar to the other profiles of this group; the

<sup>325</sup> Gallery of Fine Arts, New Haven, No. H445. Buff clay, blue-green glaze now iridescent. Height of the sherd, 10.5. Diameter of the jar, at level of the applied pressed band, about 20. This fragment came from the Necropolis, outside of the city. The drawing incorrectly makes the applied pressed band look like a simple wavy band.

<sup>326</sup> The Roman lamp showing a man leading a camel: Clark Hopkins, "Minor Finds," Dura Fifth Season (1931-1932), p. 294, Pl. XXI, 1. The graffito showing a caravan of camels: M. Rostovtzeff, "Graffiti," Dura Fourth Season (1930-1931), Pl. XXIII, 2. Prof. Hopkins has shown me a photograph of a small mold from Dura, representing a man riding on a camel, Photo. No. H 12A.

<sup>327</sup> C. C. Torrey, "The Safaitic Inscriptions," Dura Second Season (1928-1929), Inscriptions S.4, Fig. 27, and S.5, Fig. 28, p. 176.

<sup>328</sup> For the Palmyrene relief representing Arsū on a camel and 'Azizū on a horse see Ingholt, Studier over Palmyrensk Skulptur, No. PS 22, pp. 44-45, Plate VII, 2. Arsū here wears a costume like that of a Roman officer. The relief from Dura representing Arsū on a camel is illustrated by Rostovtzeff, Dura-Europos and Its Art, Pl. XII; see pp. 65-66.

molding or ridge is present about the neck, and the applied pressed band about the shoulder. The latter has, actually, the appearance of the pressed band in Fig. 124 a; the drawing in Fig. 126 is inaccurate.

A two-handled amphora from Rakka, in the Louvre, Fig. 127, belongs with this group in every respect, and therefore must be dated to the third century. The plaque on the shoulder, between two conical knobs, represents some sort of human figure; Massoul, who published it, did not describe it, and it is too indistinct to be identified from the illustration. Massoul remarked upon the fact that it was fired upside-down, and is thus related to three-handled amphoras from Dura.<sup>329</sup> This method he described as follows: "Cette façon de cuire les pièces est une des plus anciennes qui soit connue, et il est probable qu'elle est la survivance d'une tradition fort lointaine--"<sup>330</sup> the sole advantage of this method being its cheapness, for a great quantity of pots, piled up together, require only a single firing. I may remark in passing that I attempted

<sup>329</sup>Félix Massoul, "La céramique de Doura," appendix in Fouilles de Doura-Europos (1922-1923), by Frantz Cumont (Paris, Geuthner, 1926), Fig. 63, No. 6280, p. 460, note 2. The three-handled amphoras from Dura with which this jar is compared are shown in Pl. CXVIII, 1 and 2; pp. 459-463, 471. Unfortunately Massoul assigned them to the Hellenistic period, because of the twisted handles; the later seasons of excavation at Dura have assured without question the date in the third century A.D.

<sup>330</sup>Ibid., p. 459.

to see if there were any correlation between method of firing and size, shape, provenance and date of the pottery, but could find no such correlation. At Dura pottery was fired both right side up and upside down at all dates; both methods similarly appear throughout Mesopotamia and Syria. Evidently the potter varied his methods at his own convenience. The method of firing cannot then be taken as a criterion for either date or country of origin.

With Fig. 128 we return to Dura.<sup>331</sup> This three-handled amphora of the third century is an example of poor glazing. The glassy, translucent olive-green glaze contains some unfused green particles. Over this first coating were splashed accidentally spots of a dark reddish color, like a burnt sienna, which then ran in streaks from the base towards the neck and rim during the firing--(a phenomenon very similar to that presented by the amphora of Fig. 115). The decoration of this jar is on both the neck and the shoulder. In each of the three spaces between the handles there are, on the neck, a small bust-medallion with disks above and below it, and on the shoulder a curious figure with a stem (recalling the pine-cone with stem of Fig. 118) between two conical knobs. The heavy twisted handles have a rudimentary (or degenerate) crest, and two

<sup>331</sup>Gallery of Fine Arts, New Haven, No. E1475(?). Clay buff-tan; the glaze in excellent preservation. H.34, D.19.7. This jar was fired up-side down.

disks on the back. In the bust-medallions on the neck no details are visible.

Before leaving the third-century amphora having a long, steeply-sloping shoulder with complex decoration, I wish to stress the importance of this class as a group. That is, it is the amphora itself which is important, and not its figural decoration. The plaques with representations of Parthian, Classical, Sasanian and local or possibly Syrian (i.e., the camel-rider) figures, were made separately in molds, and applied to the amphora after it had been made. The potter or potters living in Dura who made one, must have made them all. We cannot say that one amphora is Parthian, one Classical, one Syrian, one Sasanian. They all belong to the same ceramic type, they are all of the same date, they are all of local manufacture in Dura. We can only say that, as in the arts of painting and sculpture, the craftsman living in this Mesopotamian town had a varied iconographical repertory to draw upon. But it is the pottery type which determines our understanding of the origin and relationship of the group. If undated and unknown pottery should turn up, having the same clay, the same glaze, the same shape and profile as these, it should be assigned to Mesopotamia, and to the first half of the third century A.D., regardless of whether a figure on it might represent a Greek god or a Chinese dragon.

The last hundred years of the life of Dura, from 160 to

260 A.D., in round numbers, give us a picture of what was happening throughout Mesopotamia. From the point of view of the potter's methods there seems to be a degeneration. Shapes are made more clumsily than in the preceding period, sometimes a pot does not stand straight; often there are accidents in the kiln which produce discolored glazes. The white tin glaze has not been found, save for a rare example from Seleucia. As for the model in the potter's mind, he had ceased to care for the western models brought in about five hundred years earlier during the Hellenistic period, and, as well, paid no more attention to the Classical refinements of profiled rim and foot. One Greek shape, however, the amphora, and to a lesser extent the oinochoe, had by now become second nature to the potter--they are now a part of the oriental tradition. The only other Classical survivals were in the applied plaques, either heads or medallions, used particularly in the decoration of the amphora.

The pottery shapes, and the methods of making and firing the pottery had somewhat degenerated. But this degeneration and coarsening is not due to the exhaustion of oversophistication, the sign of an effete culture. The change is in reality a return to the primitive autochthonous tradition. The forms, which are simple, solid and strong, are a re-expression of the qualities felt in ancient Babylonian and Assyrian

pottery. And though early in the third century A.D. the tradition of Mesopotamian pottery was at a rather low ebb, it still had life, and contained the possibility of future development.

## E. TRANSITIONAL

The vessel shown in Fig. 129 a and b, which has been aptly described as a "jar-rhyton," is placed in the present chapter, rather than in the chapter on pottery of the Sasanian period because, from the point of view of ceramic technique and history, it is closer to the early third century pottery of Dura than to any known pottery of the Sasanian period. Further, it is this relation to Dura which has led me to include it, though in general rhytons have been omitted from this study (see Introduction).

The jar-rhyton shown here (in the Kelekian collection, London) is made of clay which is "finely levigated, yellowish in color."<sup>332</sup> The color and quality of the clay suggest a confirmation of what we suppose to be the Mesopotamian provenance of this piece, though this cannot be determined without an examination of the clay. The glaze has been described in different terms: "Deep turquoise blue glaze, silver and gold iridescence" (Kelekian); "türkisblau glasiert" (Sarre); and, "the glaze is green and inclined

<sup>332</sup>Erdmann, *op. cit.*, p. 71. This piece has been published four times, as follows: Dikran K. Kelekian, The Kelekian Collection of Persian and Analogous Potteries, 1885-1910 (Paris, Clarke, 1910), Plate I; Sarre, Die Kunst des alten Persien, Plate 147, pp. 58-59, Erdmann, *op. cit.*, pp. 71-77, 2 plates; Ettinghausen, *op. cit.*, Pl. 185B, pp. 658, 672-73. The height of this jar has been given variously, by Kelekian as 28 cm., Sarre as 24, Erdmann as 27.

to flake off" (Erdmann).<sup>333</sup> Apparently we have here the usual blue-green alkali glaze of Mesopotamia. The jar-rhyton has been broken: "The neck has probably been restored to its original shape; at all events the old bases of the handles confirm that there must have been two. The restoration of the lower portion is less satisfactory."<sup>334</sup> No photograph has been published of the other side of the jar, or vase, so that it is hard to know exactly how it was made. But Erdmann states that the hair of the female head goes around to the other side of the vessel, like that of the rhyton in the British Museum; Fig. 130.<sup>335</sup> From this we may deduce the following: that this vase was made in three parts; that the upper part, to which the plaque is applied, was wheelmade; that the middle part, the head in high relief with the hair showing at the back of the vase, was made in a mold (probably in two sections, front and back); and that there was probably a third lower part, wheelmade, perhaps in the form of a rhyton, with animal face and ears.

Sarre, Erdmann and Ettinghausen have recognized in the figure on the plaque applied to the upper part of the jar-

<sup>333</sup>See note 332.

<sup>334</sup>Erdmann, loc. cit.

<sup>335</sup>The rhyton in the British Museum is No. 37452; provenance not known; H.36 cm. See Erdmann, op. cit., p. 72, Pl. II, E, F, G.



rhyton, the figure of a Sasanian king as seen in the rock carvings, most probably Shapur I.<sup>336</sup> The pose, with the very long leg nearly reaching the ground, and the torso and head facing front, are like those of Shapur I at Naksh-i-Rajab; while the winged cupid above the horse's head is like that in the relief of Shapur I with the conquered Valerian at Shapur.<sup>337</sup> This at once recalls the amphora from Dura with the applied plaque on its shoulder representing Shapur I (Fig. 124, a-c). The existence of the Dura fragment enables us to say with some confidence that the Kelekian jar-rhyton is probably also Mesopotamian, and that it might have been made, if not in Dura, in some other Mesopotamian town before it was actually conquered by the invading Sasanians. Actually, the ribbons seem to be a cross between the Parthian and Sasanian types, while the horse seems to be freer in drawing than Sasanian horses. If the figure does represent Shapur I, the jar-rhyton would then be dated before 271 A.D. If, on the other hand, it should be considered closer in style to some other rock-carving, it would still fall within the third century A.D., for all the Sasanian rock-carvings, with the single exception of Teq-i-Bustan, are dated before the end of the

<sup>336</sup> See note 332.

<sup>337</sup> Shapur I at Naksh-i-Rajab, see Sarre, Die Kunst des alten Persien, Pl. 73; Shapur I with Valerian at Shapur, Ibid., Pl. 75; also Erdmann, op. cit., Pl. I.

third century; and there is no similarity between the figure on the jar-rhyton and the mounted figures of Taq-i-Bustan.

The fact that the figure of a mounted Sasanian king is on a plaque which is applied to the jar-rhyton, is very important. For we have observed this technique in the third-century amphoras of Dura, and this technique disappears in Mesopotamia after the third century. It does not appear in the fourth-century pottery excavated at Kish, nor in the later pottery of Susa, and Ctesiphon; nor in the pottery of the Sasanian period from Kasr-i-Abu Nasr, near Shiraz, which is stylistically dependent on Mesopotamia. During the period of the Sasanian rule over Mesopotamia, relief patterns are found in glazed pottery: rather geometrical designs in earbotine, and, rarely, a figure modelled freely by hand (like the birds from Kish and Susa) or else an abstract motive, applied to a jar or bowl. But the difference in technique and in style is correlated with a difference in date. The figure medallion is not characteristic of glazed pottery in Mesopotamia from the fourth century onwards.

The central part of the jar-rhyton, the female head in relief, is also related to Mesopotamian pottery of the Parthian period, for instance, a head on a glazed coffin from Nippur, as Ettinghausen pointed out.<sup>338</sup> It is interesting to note that on a glazed, undated rhyton from Nippur, fig. 131, the face, and the bands which go around to the

<sup>338</sup> Ettinghausen, op. cit., p. 653, Pl. 180, A.

back, are applied; this being a technical difference from both the Kelekian jar-rhyton, and the British Museum rhyton. It is possible that the Nippur rhyton may be as early as the Hellenistic period; if so, the difference in technique might have some meaning. Another example of a third-century head made in a mold as a vessel, is a small unglazed pilgrimbottle from Dura, Fig. 132a.<sup>339</sup> But in this case the small mold was used twice, so that the same face appears on both the front and the back of the pilgrimbottle, while in the two rhytons the effect is that of a head in the round.

If the third, and lowest part of the jar-rhyton should

<sup>339</sup> Gallery of Fine Arts, New Haven, No. F874, buff clay speckled with mica. Height preserved 9.5, width 7.4, thickness 6.5. Published by Clark Hopkins, "Excavations in Blocks M7 and M8," Dura Sixth Season, 1932-1933, p. 175, Pl. XXVII, 1. Hopkins stated that it came from M8 K2, but according to Brown it came from M8 W4, which is in the embankment, of 256 A.D. In my opinion this jar is a pilgrimbottle, rather than an aryballos, because of its relation to the pilgrimbottle with rosettes, also made in a mold, published by Little, "Report on Finds. Pottery," Dura Fourth Season 1930-1931, p. 226, Pl. XXIV, 3. This is now in the Gallery of Fine Arts, New Haven, No. 1931.540; its date is the third century A.D. Little classed it under Decorated red ware. Actually the clay is buff, speckled with mica, exactly like that of the pilgrimbottle with the female head; discolorations of grey and red are simply due to uneven firing. These two little flasks are not true pilgrimbottles, but variations of the type, for the pierced handles are on the neck instead of on the shoulder, and they stand on a high hollow foot. True pilgrimbottles with similar rosette patterns were found at Babylon: Reuter, Die Innenstadt von Babylon, p. 38, Fig. 48; and at Nineveh: Hutchinson and Thompson, "The Excavations on the Temple of Nabu at Nineveh," Archaeologia, LXXIX (1929), Pl. LIV, Nos. 183 and 189, and Thompson, Mallowan and Harden, "The British Museum Excavations at Nineveh 1931-1932," AAA, XX (1933), Pl. LXXVI, No. 13.

be restored so as to appear like the lower end.

of the British Museum rhyton (Fig. 130), this would be a third connection with pre-Sasanian pottery in Mesopotamia. At Babylon was found a rhyton ending in a bull's head,<sup>340</sup> a style which seems to have been due to classical influence. In contrast to the western animal's head rhyton, the Persian rhyton seems to have ended in the whole forequarters of an animal, if examples in Achaemenian metal are to be considered typical.<sup>341</sup>

The Kelekian jar-rhyton belongs, chronologically, in the middle, or in the later part of the third century A.D., because the mounted figure on the applied plaque surely represents an early Sasanian king. But both technically and stylistically it is pre-Sasanian, and Mesopotamian. The three elements of the applied plaque, the head made in two sections in molds, and the classical rhyton, find their latest appearance here, after a long history during the Hellenistic and Parthian periods, and they cease to exist under the Sasanian occupation of the land.<sup>342</sup>

<sup>340</sup>Erdmann, *op. cit.*, Plate II, B.

<sup>341</sup>Sarre, *Die Kunst des alten Persien*, Plates 47, 48, Achaemenian silver rhytons in the British Museum and in the Hermitage, Leningrad, respectively. The griffons which appear so often in various Sasanian arts seem to express the same fondness for representing the forequarters of an animal, though these are finished off with a bird's tail. See *ibid.*, Plates 94, 95, 120, 121.

<sup>342</sup>A single exception is known to me in the unglazed rhyton from Kish, which is probably of the fourth century. See Fig. 134, No. 28.

It is important to remember here the Dura fragment with the figure of Shapur I, (Fig. 124) which was found in circumstances that prove it to have been made before the Sasanian capture of Dura. These two objects together express most vividly the significance of the Mesopotamian pottery tradition, and emphasize the fact that when the Sasanians entered the country, they had nothing to contribute to it, but could only learn from it. In pottery, not to mention any other art, the Sasanians acted the old role of "the conqueror conquered."

## CHAPTER II

### POTTERY OF THE SASANIAN PERIOD

As recently as 1930 Herzfeld could remark "Sasanidische Töpferei kann man immer noch als unbekannt bezeichnen."<sup>1</sup> And in 1932 Hobson repeated the idea: "Much uncertainty exists with regard to Sassanian pottery. It has not yet been effectively segregated from the Parthian, late Roman, and early Islamic wares."<sup>2</sup> Fortunately archaeological work in Mesopotamia since 1930 has altered the situation, and we can now say with some certainty what pottery is of the Parthian period, and not later, and what is of the Sasanian period, and not early Islamic.<sup>3</sup>

<sup>1</sup>Herzfeld, "Ein sasanidischer Elefant," Archaeologische Mitteilungen aus Iran, III, Heft 1, (October 1930), p. 26. Quoted by Ettinghausen, op. cit., p. 664, Note 3.

<sup>2</sup>Hobson, Guide, Introduction, p. xiii, Note 1. These two remarks are in reality a criticism of Pèzard's theories, in La céramique archaïque de l'islam et ses origines (Paris, 1920). Pèzard considered to be Sasanian and Persian many types of pottery, including lustered pottery, which we now know, from the German publications of Samarra, to be early Islamic.

<sup>3</sup>Ettinghausen, in his article "Parthian and Sasanian Pottery," (which was written some years ago, though its publication was delayed until the appearance of Pope's Survey of Persian Art, in 1939) wrote of these recent excavations as follows: ". . . most of the material from these sources is so poor, both artistically and technically, that it cannot be regarded as instructive, and is consequently of little value for exact dating." (page 664).

Kish and Ctesiphon are the two excavated sites in Mesopotamia which provide the greatest quantity of material, and consequently were chosen as the basis for the present study. At Susa, which is both geographically and culturally Mesopotamian,<sup>4</sup> the excavations were carried out in such a way that there exists no exact archaeological evidence for dating; in the Susa publications attributions of date are made chiefly on the basis of style. A few pieces of pottery which are Sasanian in date come from Seleucia, but these are largely from the surface. Examples were also found at Assur, and at Nineveh, for the most part undated. Pottery from the Sasanian levels at Babylon has not been published.<sup>5</sup>

The pottery which we are about to consider, is important not only for Mesopotamia, but also because it comprises the chief body of known Sasanian pottery from any country. Very little pottery of this period has yet been recovered from Persia proper. The University of Pennsylvania excavations have reported none from Rayy, though it is to be hoped that some will appear in the final publications. At Damghan "We found no pottery vessels, but the sherds indicate that the ware of this period in this part of the empire

<sup>4</sup>This idea is due to Upton; see following pages, and note 12.

<sup>5</sup>Robert Koldewy, The Excavations at Babylon, translated by Agnes S. Johns (London, 1914), p. 254: "The masses of pottery and glass fragments of the Sassanide and Arab levels of Amran still await examination by specialists." See also p. 270, for Sasanian and Arab coins.

was plain red."<sup>6</sup> Figs. 151 and 152 illustrate the sort of unglazed pottery found near Damghan. No glazed pottery has been reported from Kuh-i-Khwaja in Sistan.<sup>7</sup> Again, no Sasanian pottery was found at Shapur by the French excavators.<sup>8</sup> Kasr-i-Abu Nasr, near Shiraz, excavated by the Metropolitan Museum, has provided more Sasanian pottery both glazed and unglazed than any other site in Persia. From this two facts emerge: first, that the Sasanian Persians have left very little pottery of any sort; second, that the only glazed pottery so far known comes from the regions nearest to Mesopotamia. The reason for the former may lie in the remark of a Greek writer: "Καὶ γὰρ Κτησίας 'παρὰ Πέρσας' φησὶ 'ὃν ἂν βασιλεὺς ἀτιμάσῃ κεραμείοις χρήται'; And Ktesias says, 'Among the Persians he whom the King wishes to insult uses pottery vessels.'<sup>9</sup>

<sup>6</sup>Erich F. Schmidt, "The Tepe Hissar Excavations of 1931," The Museum Journal (University of Pennsylvania), XXIII (1933), p. 458. Also see below, p. 161, note 41.

<sup>7</sup>Joseph M. Upton, "The Persian Expedition 1933-1934: The Season's Finds," BMMA, (December, 1934), Section II, pp. 14-22; Kuh-i-Khwaja, p. 17. No pottery is mentioned from this site in Herzfeld's Archaeological History of Iran, nor in Sir Aurel Stein, Innermost Asia (Oxford, 1928) in the chapter on this site.

<sup>8</sup>Georges Salles and R. Ghirshman, "Châpour: rapport préliminaire de la première campagne de fouilles," RAA, X, No. 3 (1936), pp. 117 ff.; and R. Ghirshman, "Les fouilles de Châpour (Iran), deuxième campagne 1936/37," RAA, XII, No. 1, (1938), pp. 12-19. In both of these reports Islamic pottery is described.

<sup>9</sup>Ktesias ap. Athenaeus, p. 464 a. Quoted and translated by G. M. A. Richter, The Craft of Athenian Pottery, (New Haven, Yale University Press, 1924), p. 161.



This Persian distaste for pottery in general is borne out by the existence of the very beautiful Sasanian gold, silver and bronze vessels.<sup>10</sup>

The second fact, the existence of Sasanian glazed pottery only in the province of Fars, is, as far as we know, due to Persian dependence on the culture of Mesopotamia. Ardashir had made his capital in Fars; Shapur moved it to Mesopotamia. "Par la nécessité de l'évolution historique, la Mésopotamie était devenue le centre de l'empire oriental. Le rôle politique de Babylone avait passé à Séleucie-Ctesiphon, comme il devait passer plus tard à Bagdad . . . . La ville de Ctesiphon était située hors du territoire iranien proprement dit, dans le pays araméen."<sup>11</sup> Upton, of the Metropolitan Museum, was the first to point out the significance of this political move in regard to pottery:

It is inevitable that the culture brought by these new rulers from the mountains of Fars should have been greatly modified by the more developed culture of 'Irāk, and it is not surprising that many of the finds in Seleucia, Ctesiphon, and Susa (which belongs geographically to the plains of 'Irāk) are practically identical. One is therefore strongly tempted to wonder whether the mountain ranges between the Persian highlands and the plains of 'Irāk were not a dividing line between cultures, and whether the Sāsānian ruins at Susa should not be assigned to 'Irāk in spite of the fact that historically they belong to Persia. Only more material from excavations on the Iranian plateau can show whether our theory is a fact.<sup>12</sup>

<sup>10</sup>See also Ettinghausen, *op. cit.*, p. 665, on the Persian preference for metal.

<sup>11</sup>Arthur Christensen, *L'Iran sous les sassanides* (Copenhagen, Levin, and Munksgaard, 1936), pp. 89-90.

<sup>12</sup>Upton, *op. cit.*, pp. 17-18. Fig. 24 illustrates four glazed objects from Kasr-i-Abu Nasr, two lamps, a vase, and a jug.

It seems probable that this theory will remain true, for in general the Sasanian decorative arts consist of a mixture of Hellenistic, ancient Mesopotamian, and Iranian elements. By this I mean that though much, or most, of the ideological content in Sasanian art is Iranian, the actual form owes a tremendous debt to the Hellenistic and ancient Mesopotamian civilizations.<sup>13</sup>

According to Dr. Richard Martin of the Field Museum, the pottery from Kish is to be dated to the reign of Shapur II, 309-379 A.D. This is a revision of the dating published by Harden, who placed it as late as the sixth

<sup>13</sup>In this connection I omit architecture, as I am neither an architect, nor a student of the history of architecture. But see Herzfeld's remarks on the Hellenistic nature of the Taq-i-Kisra, at Ctesiphon, in his Archaeological History of Iran, pp. 93-95; and more recently Sauvaget, "Remarques sur l'art sassanide," REI (Année 1938) Cahiers II-III, pp. 113-131. In this article, which may prove a bitter pill to Iranophiles, Sauvaget stresses the Hellenistic basis of all the arts of the Near East in the early centuries A.D., Syrian Christian, Byzantine, Coptic, Nabataean, Parthian, Sasanian, and Umayyad, and questions the Persian origin of many motives which occur in Sasanian art.

century.<sup>14</sup> The pottery comes from a group of buildings which have been named SP, 1-8 respectively<sup>15</sup>; it is a mere possibility that finds in some could be later than in others. At Ctesiphon the problem of dating is more complex. Since it was the capitol, it was occupied continuously during the Sasanian period, and new buildings were made by various kings. Actually, it was the central town of a group of seven, which included Veh-Ardashir, the new name for Seleucia.<sup>16</sup> The only standing monument, the Taq-i-Kisra, should provide a date for pottery found in its ruins, but here opinions differ: Herzfeld and Salles assign it to the reign of Shapur I (241-272 A.D.) while the German excavators Wachtsmuth and Reuter believe it to have been

<sup>14</sup>D. B. Harden and S. Langdon, "Excavations at Kish and Barghuthiat 1933: I, Sassanian and Parthian Remains in Central Mesopotamia," by S. Langdon, pp. 113-123, "II, Pottery," by D. B. Harden, pp. 124-136, Iraq I (1934), p. 124: "It seems most probable that this pottery belongs to the fifth and sixth centuries A.D. The latest coin found with the pots is one of Justinian I (A.D. 527-565)." A single late coin can often drift down into an earlier level, through drains or beside walls. Another odd remark was made here by Langdon (p. 118, and note 1): "Archaeologists have mistaken Sassanian pottery and mural decoration for Arab. See, for example, R. Koechlin, 'Les céramiques musulmanes de Suse' where the pottery illustrated on plates I-XXIII described as Musulman can be almost entirely paralleled by pottery found in the Sassanian palace, villa and other buildings at Kish." But Koechlin's plates I-XXIII comprise all the plates in this publication, including many varieties of the "Samarra" wares of the ninth century A.D.; can Langdon possibly have considered these to be Sasanian? I myself saw none of these types among the pottery excavated from the Sasanian buildings at Kish.

<sup>15</sup>Ibid., map on p. 113, and text, pp. 113-115.

<sup>16</sup>Christensen, op. cit., pp. 378-384.

built by Khusrau I Amushirwan (531-579), or Khusrau II Parwez (590-628).<sup>17</sup> The excavations took place in several different sites, the modern names of which are Tall Dhahab, Umm az-Za'atir, al-Ma'aridh, as well as the bath west of Taq-i-Kisra. The site of Selmān Pak is Early Islamic. In the accounts so far published the dating of these buildings seems to depend partly on their stucco decoration, which is established by comparison with stucco from Kish and Damghan, and with the rock-carvings; most of it seems to be as late as Taq-i-Bustan near Kermanshah, about 600 A.D.<sup>18</sup> As for the pottery, no exact dating, as for instance, by coins, has yet been published.

For these reasons, instead of describing the pottery from Kish and from Ctesiphon as separate groups, they are here discussed together. When similarities exist, the

<sup>17</sup>For Herzfeld's opinion see Note 13. Georges Salles, in Bibliothèque Nationale. Les arts de l'Iran, l'ancienne Perse et Bagdad (Paris, 1938), Catalogue of the exhibition prepared by Henri Corbin, Rémy Cottevieuille-Giraudet, Jean David-Weill, Eustache de Lorey and George Salles, with a preface by Paul Pelliot; p. 23. For Wachtsmuth and Reuter's conclusions see: Oscar Reuter, Die Ausgrabungen der deutschen Ktesiphon-Expedition im Winter 1928/1929 (Wittenberg 1930(?) pp. 31-32; and also, in English, "The German excavations at Ctesiphon," Antiquity III (December, 1929), p. 447. These opinions were summarized by Upton, "The Expedition to Ctesiphon, 1931-1932," BMMA, XXVII (August, 1932), p. 192.

<sup>18</sup>Upton, op. cit., pp. 196-197. The date of Taq-i-Bustan, which was questioned by Erdmann, "Das Datum des Tāk-i-Bustān," Ars Islamica IV (1937), pp. 79-97, has been settled by Herzfeld: "Khusrau Parwēz und der Tāq-i-Vastān," AMI, IX, 2, (June 1938), pp. 91-158.

latter may be dated by the former; where Ctesiphon types differ, this may be due to a chronological difference, and some of the Ctesiphon pottery may be as late as the end of the sixth or early seventh century.

Drawings of pottery-shapes from Kish have already been published, and are shown here in Figs. 133, a and b. Unglazed pottery vessels are numbered from 1 to 30; glazed, in Fig. 133b, from 1 to 8. The most striking thing about most of the unglazed types is their close relationship to the immediately preceding wares of the country. The round-bottomed bowl, Fig. 133a, 1, goes back to the Seleucia Types 2 and 200, of Level II (Table C, 1), which had originated even in the first century B.C. (Table B, 1). The straight-sided bowls with flat or nearly flat base, Fig. 133a, 2, 3 and 4, seems newer, because so many of the earlier bowl-types were affected by classical shape, and precision in rim and foot molding; but one such simple bowl, Seleucia Type 8, is constant through the Hellenistic and Parthian periods (Tables A-D). Two others begin in Level III: 14, and 197 (Table B, 1) and continue through Level II, while Type 10, the most similar to the Sasanian bowls, began in Level II, 70-120 A.D. (Table C, 1). A variety of Sasanian bowl, which, in its rough and primitive form is very close to Seleucia Types 8 and 10, is the magic inscription bowl, for instance, one from Ctesiphon, shown

in Fig. 134. It needed to have no physical beauty as its purpose was merely ideological.<sup>19</sup> Some other bowls from Kish differ from Parthian types because of the treatment of the rim, which is folded down or thickened, and made angular. A bowl from Ctesiphon, in the Metropolitan Museum,<sup>20</sup> has such a rim rather wide, with pie-crust edging, Fig. 135. To show the spread of this type to Persia, a bowl from Kasr-i-Abu Nasr is included, Fig. 136. The profiled rim is slightly inverted; just below it is an applied pie-crust band, and on the body are combed bands, straight and wavy.<sup>21</sup> These, and the unglazed bowls from Kish, are again closely related to another from Kish, shown in Fig. 137, which has the usual blue-green glaze inside, and running down outside to the slight molding just below the rim.<sup>22</sup> This glaze has decayed in a peculiar way: at the line of the crackle the glaze has disappeared, leaving polygonal

<sup>19</sup>Metropolitan Museum, New York, No. 32.150.89, from the West Mound, the bath belonging to Taq-i-Kisra. H.8.5, Diam. c.18.7; the base is flat. Two were found at Kish; Field Museum, Chicago, No. 236191, H.7.2, D.24, and No. 157035, H.3-4, D.12.2. Two from Nineveh were dated in the fifth to sixth century A.D.: Thompson and Mallowan, "The British Museum excavations at Nineveh 1931-1932," AAA, XX (1933), p. 176, Pl. LXXVI, 17 and 18.

<sup>20</sup>Metropolitan Museum, New York, No. 32.150.86.

<sup>21</sup>Upton, "The Persian Expedition 1933-1934," Fig. 20, p. 16.

<sup>22</sup>Field Museum, Chicago, No. 231334; from SP4. Buff clay rough and sandy. H.27.6, rim D.43.3. Another example is No. 231335, H.22.4, rim D.59.5.

patches between borders of bare clay. A similar condition was observed on a fragmentary bowl from Ctesiphon; unfortunately the first people to describe this sort of decay considered it to be an effect intended by the potter, a Sasanian invention imitating mosaic.<sup>23</sup>

At Kish were found fragments of unglazed decorated vessels, which I imagine to have been cooking pots, because of their large diameters, vertical rim-profiles, and wide, everted rims. Fig. 138 has a rim with a scalloped edge, and on the side of the pot by the handle, disks, conical knobs, and small stamped circles.<sup>24</sup> Fig. 139 has on its wide horizontal rim two deep holes, possibly for pegs to hold or close the cover, which would then swing open horizontally.<sup>25</sup> On the side of the pot are two oval

<sup>23</sup>E. Wachtsmuth and E. Kühnel, Die Ausgrabungen der zweiten Ktesiphon-Expedition 1931/32 (Berlin 1933) with an English summary by M. S. Dimand: p. 29 "Ein technisches Novum . . . auf hellgrüner Glasur ist durch batikartig abgebundene blaugrüne Flecken die Wirkung einer chaotischen Mosaikmusterung hervorgebracht (Abb. 43)." Kurt Erdmann had previously described it: "Ausstellungen. Berlin Kaiser-Friedrich-Museum. Ergebnisse und Funde der deutschen Ausgrabungen in Ktesiphon," Zeitschrift für bildende Kunst, Vol. 64, Heft 2, (May 1930), p. 15. The idea was repeated by J. Heinrich Schmidt, "L'expédition de Ctesiphon en 1931-1932," Syria, XV (1934), p. 20, Pl. V, A, B. Ettinghausen, op. cit., p. 667, Note 1, refuted this theory: "This type of glazing . . . may have been merely an accidental variation."

<sup>24</sup>Field Museum, Chicago, No. 236164, from SP4. Buff-cream clay. H. preserved, 12.5, Diameter of the rim 29.

<sup>25</sup>Ibid., No. 236171, from SP4. Coarse, rough hard pinkish-tan clay. H. preserved 07, D. of rim 32-38. Because of the large size of the arc of the rim, and the small section of it preserved, it was impossible to measure the diameter exactly.

applied pieces of clay, a meaningless pattern; and conical knobs, stamped circles, and short incised lines. The workmanship of the whole is rough and careless. Fig. 140 illustrates the familiar applied pressed band; here the thumb impressions are large and deep.<sup>26</sup> None of these techniques, or combinations of them, are new--we have only to recall third century pottery from Dura, Figs. 88-89, to observe the similarity in style, as well as in crudeness.

Unglazed jugs from Kish, Ctesiphon, Seleucia, and Susa present a homogeneous character. The two jugs with pointed bases, Fig. 141, from Kish,<sup>27</sup> and 142, from Ctesiphon,<sup>28</sup> and see Fig. 133a, 11 and 12, represent a reversion to an ancient oriental type: I have failed to find it at the sites here studied during the Hellenistic and Parthian periods, but it is very common at all times in pre-Hellenistic Mesopotamia.<sup>29</sup> The pitcher from Ctesiphon in Fig. 143<sup>30</sup> is very close to two from Kish, Nos. 19 and 20

<sup>26</sup>Ibid., No. 231799, from SP2. Pinkish-buff clay with paler surface. H. preserved c.4, D. of rim 41.

<sup>27</sup>Ibid., No. 230110. H.20.5, D.8.5. See also Fig. 133, 11. Another from Kish, No. 157392, is more narrow and without the shoulder angle; H.197, D.c.6.5. See drawing in Fig. 133, 12.

<sup>28</sup>Metropolitan Museum, New York, No. 32.150.181, from Tall Dhahab; buff-red clay (no measurements).

<sup>29</sup>Prof. Hopkins kindly called my attention to this fact.

<sup>30</sup>Ibid., No. 32.150.87, from Ma'aridh II. Greenish-white clay, slightly concave base. H.20, D.12.



in Fig. 133 a. This wide-necked type of pitcher is not exactly paralleled in the preceding period, but presents no great changes. The unglazed jug with a pinched lip from Kish in Fig. 144 (see also Nos. 15 and 16 in Fig. 133a) has its greatest diameter near the base: its outline forms a slow continuous curve from base to rim.<sup>31</sup> This sort of jug, lacking a shoulder angle, and with its weight near the base, was already known at Seleucia: in Level I, Types 160 and 274 (Table D, 5) and in Level II, Types 165, 167 and 168 (Table C, 8). Some Dura jugs, Figs. 98 and 102, are analogous, though wider in proportion. Another very similar jug of the Sasanian period from Seleucia is seen in Fig. 149, the second from the left.<sup>32</sup>

Other elongated jugs, having an equally simple profile, but a high shoulder, seem to be also Sasanian. Fig. 145 is from Ctesiphon<sup>33</sup>; of this type at Ctesiphon Kühnel has

<sup>31</sup>Field Museum, Chicago, No. 230106, from SP3. Pale buff-tan clay, pottery redder, from firing. H.20.5, D.9.

<sup>32</sup>Information from Dr. MacDowell. The five jars and jugs shown in Fig. 149 were found with some Sasanian coins, and some Aramaic and Syriac magic bowls, and a glass bottle. They contained bronze cylinders in which were remains of papyrus, probably magical. See also Debevoise, "The Oriental Amphora," p. 3, note 9, speaking of Seleucia: "Sasanian coins were found in a vaulted tomb in Level II although both Level I and II were Parthian."

<sup>33</sup>Metropolitan Museum, New York, No. 32.150.167, from al-Ma'aridh II. Buff to reddish clay; H.c.22.5, D.c.9.7. Published by Wachtsmuth and Kühnel, *Ctesiphon*, p. 28, Abb. 46; and J. H. Schmidt, "Ctesiphon," *Syria* (1934), pp. 19-20, Pl. V, c. Another very similar jug is No. 32.150.166.

remarked; "Der Ausschluss an die vorhergehende parthische Epoche ist unverkennbar, aber eher im Sinne eine Verarmung als einer Bereicherung der Typen."<sup>34</sup> One that is practically a duplicate of this was found at Kish.<sup>35</sup> From Susa comes a jug which I consider to be Sassanian because of its proportions, though the neck with its torus molding, curving up to the trefoil lip, is more than usually graceful. Of it Koechlin has said, "la forme demeure toute grecque; c'est une sorte d'oenochoé," and speaks of "une si antique pureté de profils."<sup>36</sup> Debevoise considers the single boss or knob on the handle, such as appears on this Susa jug, to be a characteristic of Sasanian pottery.<sup>37</sup> Certainly this single, simple handle-knob is absent on jugs of the earlier Parthian periods, but we can trace its beginnings in third century Dura pottery: in the glazed pitcher, Fig. 97, b, the fragmentary glazed pot in Fig. 108, and the unusual amphora of the long-shouldered type in Fig. 122. We shall see it again in a burnished jug from Kish, Fig. 159. The next unglazed jug from Susa, Fig. 147, was considered by Koechlin

<sup>34</sup>Kühnel, loc. cit.

<sup>35</sup>Field Museum, Chicago, No. 229001, no provenance. H.20.3. Clay buff to pale yellow.

<sup>36</sup>R. Koechlin, "Les céramiques musulmanes de Suse au Musée du Louvre," Mémoires de la Mission archéologique de Perse, Tome XIX (Paris, 1928), p. 16, No. 7, Plate I, 7.

<sup>37</sup>Debevoise, op. cit., p. 3: "In the Sasanian period a single such boss usually forms a thumb rest on the upper part of the handle."

to be Islamic,<sup>38</sup> but is now placed here because of its similarity in shape and proportions to the Ctesiphon and Seleucia jugs (as, the jug at the right in Fig. 149). Its decoration is the rocked band, which is in this case quite small, and is used in double and single long and short rows, both vertically and slanting. The rocked band used slanting we saw in glazed pottery assigned to the Hellenistic period (Figs. 15a, 16a); in a probably Parthian amphora it was set vertically (Fig. 50); that is, such a use of it is not without precedent. But this smallness of scale, and profusion on the surface of the jug, are new. Fig. 148, from Ctesiphon<sup>39</sup> is simply another example of the high-shouldered jug-type; it has an unusually well-molded rim. Fig. 150, also from Ctesiphon<sup>40</sup> goes back to the top-shaped jug, which was the commonest form of jug throughout all the periods at Seleucia, as a glance at the

<sup>38</sup>Koechlin, op. cit., p. 16, No. 8, Plate I, 8.

<sup>39</sup>Metropolitan Museum, New York, No. 32.150.94, from Ma'aridh II, buff clay. H.c.23, D.c.11. "This jug contained ten copper amulet cases which in their turn probably contained exorcisms or blessings written on papyrus. See also Nos. 32.150.95-104"; description in the Museum catalogue. Published by Wachtsmuth and Kühnel, op. cit., Fig. 45, p. 28, and by J. H. Schmidt, op. cit., Pl. V, C, D, and p. 19.

<sup>40</sup>Ibid., No. 32.150.179, from the bath west of Taq-i-Kisra; H.c.12.5, D.8. A further unglazed jug from Ctesiphon I failed to observe at the Metropolitan Museum: see Upton, "Ctesiphon . . . 1931-1932," p. 194: "Another piece interesting for its form, which is characteristic of Sasanian metal work, is an unglazed ewer 9 7/16 inches high."

four tables will show. What is new about it is the neck, which seems large and heavy in relation to the size of the body, and narrows towards the top. It is to be noted that the top-shaped jug, or the jug which is widest through the shoulder, is rare at Kish, as a single very elongated example has been observed; No. 14, in Fig. 133a.

By way of comparison two unglazed pottery vessels from Nareshan near Damghan, a cup, Fig. 151, and a jug, Fig. 152, have been inserted. To my mind they represent an entirely different tradition, and suggest the idea that eastern Persia pursued its making of pottery quite untouched by influence from Mesopotamia. No glazed pottery was found with them.<sup>41</sup>

A simple unglazed jar or jug from Nineveh was decorated with incised combed bands; its date is the fifth century A.D.<sup>42</sup> The jug from Kish in Fig. 153 (its profile drawing is No. 10 in Fig. 133a) is remarkable for both its shape

<sup>41</sup>Erich F. Schmidt, Excavations at Tepe Hissar, Damghan with an additional chapter on the Sasanian building at Tepe Hissar by Fiske Kimball (Philadelphia, 1937) pp. 16-17, the pitcher Fig. 14, is of plain yellowish brown clay; the cup, Fig. 15 is "plain with grayish white and red-brown shades. Sherds of similar type occurred in the environs of the Sasanian ruins at Tepe Hissar." But even the palace at Tepe Hissar, which contained the stucco, is not yet dated--see Fiske Kimball, p. 350: Herzfeld considers it to be of the third century, Wachtsmuth, to be of the sixth. This is exactly parallel with the situation at Ctesiphon.

<sup>42</sup>Hutchinson, in Archaeologia (1929), p. 138, Pl. LIV, 186. The jar was dated because it contained a hoard of Sasanian silver coins of the fifth century.

and its decoration.<sup>43</sup> The giraffe-like neck and small button-foot fail to complete adequately the large oval body. The decoration seems to be an all-over rouletting, a technique which suggests something of a Classical survival. Fig. 154 is a jug or pitcher from Kish<sup>44</sup> which is not included in the drawings in Fig. 133a, though it is not dissimilar from No. 18, or 19. But the body is covered with seventeen vertical rows of the rocked band, quite close together. This decoration we had just observed in the Susa jug, Fig. 147, but in the Kish jug it has not nearly so delicate and fern-like an effect.

The fragment from Ctesiphon shown in Fig. 155 is from the neck of an unglazed vessel, whether with or without handles we cannot tell.<sup>45</sup> The chief thing to remark is the heavy torus molding which goes about the neck, and that the profile is like that of the Kish jug (Fig. 159) as well as that of several handsome glazed jars without handles, as we shall see. But in this case, since the

<sup>43</sup>Field Museum, Chicago, No. 230203, from SP4. Creamy-buff clay. H. preserved 25.5, D.12.9. The button-foot shown in the drawing No. 10, in Fig. 133 is a restoration, the foot being completely broken off. Perhaps it should have been restored like the simple pointed bases of Nos. 11 and 12 in Fig. 133. Also illustrated by Ettinghausen, op. cit., Fig. 227, p. 666.

<sup>44</sup>Ibid., No. 231306, from SP5. Creamy-buff clay, H.13.6, D.7.9.

<sup>45</sup>Metropolitan Museum, New York, No. 32.150.399. No special provenance. Clay coarse, pale yellowish. No measurements.

vessel was to be unglazed, the potter allowed himself the extra decoration consisting of a band applied slanting across the torus molding, and decorated with short incised lines, and stamped circles. The shape of the fragment from Kish in Fig. 156 cannot be restored.<sup>46</sup> Several jugs from Kish have a similar sloping shoulder and narrow neck (Nos. 12, 13, 16 in Fig. 133a) but not the angular ridge about the neck. Several horizontal bands of short incised lines decorate the neck, the molding and the lower part of the body.

Another sort of incised decoration was found on unglazed pottery from Kish, Fig. 157: wavy lines and punched dots, together with exceedingly crude animals and birds.<sup>47</sup> The latter are so badly drawn that rarity is their only merit: were animals ever incised on unglazed pottery during the Hellenistic and Parthian periods? For the pattern of punched dots between wavy lines we have a parallel from Persia in Fig. 158.<sup>48</sup> The shape of this pot is rather reminiscent of the unglazed pot from Dura, of the third

<sup>46</sup>Field Museum, Chicago, No. 236180, from SP3. Buff-tan clay. H. preserved 10, minimum D. of neck, 2.9.

<sup>47</sup>Langdon and Harden, *op. cit.*, Pl. XVII, 6. Dr. Ettinghausen has kindly shown me a photograph of an undated jar with a crudely incised quadruped, from the Holmes Expedition. This jar is unglazed, and three-handled, and in shape is similar to my Fig. 166.

<sup>48</sup>Upton, "The Persian Expedition 1933-1934," Fig. 15 and p. 16.

century, Fig. 86; but its decoration is in such a simple technique that may well be simply spontaneous, and not due to a direct relationship to Mesopotamia.

Another technique in unglazed pottery is represented at Kish, namely, burnishing. We saw already in the Parthian period, with Figs. 23-26, that burnished red ware at Seleucia might have been a Persian importation. The same may well be true in the case of the bright brick-red jug with horizontal burnishing in Fig. 159.<sup>49</sup> The trefoil mouth, the torus molding about the neck, and the simple knob on the handle, recall those of the Susa jug in Fig. 146. But the angle of the sloping shoulder necessitates a much wider body; perhaps the lower half should be restored so as to be something like that of the Seleucia jug in Fig. 26. Probably an even closer parallel can be found in Sasanian metal; see Fig. 201. The persistence of the technique of burnishing in Persia can be seen in Figs. 160-162; of these the first two, which look very primitive, may be early; the third, in Fig. 162 which combines a more sophisticated shape with a degeneration in the burnishing, (i.e., the burnishing is only in vertical lines, instead of all over the surface)

<sup>49</sup> Field Museum, Chicago, No. 236162, from IH. Bright brick-red clay, coarse and gritty. Minimum D. of neck 6, H. preserved about 13 (?).

is of the seventh century, the end of the Sasanian period.<sup>50</sup>

The burnished jug from Kish being the last of the unglazed jugs of the Sasanian period, we now come to the unglazed two-handled jars. In considering the third-century pottery of Dura the question arose as to the propriety of using the term amphora, or amphora-type in speaking of jars with three handles. In the fourth century A.D. the term amphora becomes almost entirely out of place. I have found jars with two handles only at Kish, and only unglazed; there is no longer a trace of the richly developed glazed amphora of the Parthian period, with its twisted handles, its disks and knobs, its rocked band and applied band, and figure medallions. An echo of the earlier amphora is seen in Fig. 133a, No. 25; it still has a well-defined shoulder, and the handle is accented by being bent at an angle. But the width of the body, the flat base, and the widening, heavy neck, proclaim its distance from the classical original. In Fig. 133 b, No. 26, (a photograph is in Fig. 163) the shoulder-angle has disappeared, and there is practically no neck, for the outline makes a continuous curve from the everted rim down to the base. In other words,

<sup>50</sup> Fig. 160 is in the Field Museum, Chicago, No. 26.1270. It is said to have come from Garus in Persia. Herzfeld identified it as being Sasanian together with two other pots or low jars in the same museum, Nos. 26.1173, and 26.1199, which are both of hard red clay. Fig. 161 is from Upton, *op. cit.*, Fig. 18, and pp. 19-20. Fig. 162, *ibid.*, Fig. 22, and p. 16.



when a potter at this time made a jar with two handles, he was to all intents and purposes simply adding a second handle to the jug or pitcher shape he was accustomed to make (Fig. 133a, Nos. 13-23) and the classical idea of the amphora was entirely absent from his mind.

In contrast to the relative rarity of jars with two handles at this period in Mesopotamian history, the three-handled jar has by this time become quite popular. Previously we had observed one unglazed example of the latter from Uruk-Warka, of the Hellenistic period (Fig. 19), and many in the glazed amphoras of Dura of the Parthian period, but not until the third century A.D. For this reason I suppose that the large three-handled jar of the Parthian period from Ctesiphon, Fig. 164,<sup>51</sup> may also be not before the third century A.D. The number of the handles, and the presence of the applied pressed band marking the line where the shoulder ought to be, connect it with Dura, though the body with its long and narrow proportions and rounded base make it distinct from any type of amphora. It is probably a storage jar or water-cooler. This Ctesiphon jar was not placed in the Parthian chapter, but reserved for its present place, because it leads right into the series of three-handled jars of the Sasanian period.

These jars are typically without a foot, having

<sup>51</sup>Metropolitan Museum, New York, No. 32.150.81. From Ctesiphon. H. c.55.

instead a rounded lower end; and the shape of the body is oval, that is, of equal width at both ends, or else egg-shaped, with the smaller end usually below. One from Kish of the fourth century A.D., Fig. 165,<sup>52</sup> represents the type at its simplest; and compare No. 27 in Fig. 133a. The neck and rim are perfectly straight, without any molding; the decoration is only a wavy combed band. But a second, also from Kish, with a large oval body, surprises us by the freshness and naturalism of its incised decoration: just below the handles is a broad band with a rinceau pattern, bearing alternately bunches of grapes and clusters of pomegranates; Fig. 166.<sup>53</sup> Such a design reminds one of the popularity of grape vines and fruit in pagan and Christian Syria in the centuries just before Islam. Compare also the grapevine pattern on the Syrian silver vase from Dura, Fig. 197, and on the stone-carving of a skyphos from Palmyra, Fig. 67 bis.

Another technique used on these large three-handled jars is that of stamping. In Fig. 167 is one from Takrit;<sup>54</sup> though the neck and handles are missing, the beautiful egg-shaped body is well preserved. Of it Dr. Dimand has written:

<sup>52</sup>Field Museum, Chicago, No. 231889. No especial provenance. Very pale buff clay. H.33.6, D.c.23.

<sup>53</sup>Langdon and Harden, op. cit., Pl.XVII, a. See also Note 49, for the jar of the same shape with crudely incised beasts.

<sup>54</sup>Metropolitan Museum, New York, No. 30.112.44, buff clay, H.c42.5; diameter of the circular stamp 2.5.

The circular stamps of its decoration, arranged in two rows, consist of a bird attacking another, a motive well known from Sasanian seals. . . . The simplicity of the drawing of the birds indicates a relatively early date in the Sasanian era, possibly the third or fourth century.<sup>55</sup>

A number of fragments with stamped decoration were found in the excavations at Ctesiphon, but having only simple geometrical designs, as, concentric circles, rayed circles, or circles with crosses and dots.<sup>56</sup> Many stamps with animal figures were found in the region east of the city of Samarra.<sup>57</sup>

Only one other complete stamped three-handled jar is known of the Sasanian period, that in the British Museum, shown in Fig. 168.<sup>58</sup> About the lower half of the body, in two rows, appears the figure of a deer or more correctly, an elk, browsing, framed by borders of the Greek fret. The crescent moon over the elk doubtless goes back to that of

<sup>55</sup>M. S. Dimand, "A Recent Gift of Near Eastern Art," *BMAA*, XXVI (January, 1931), p. 7. This jar is not illustrated here.

<sup>56</sup>Metropolitan Museum, New York. In the 32.150. numbers: concentric circles, 270; concentric circles with dots, 276, 275, 401, 397; concentric circles with cross and dots, 272; circle with dots in center and rays outside, 278.

<sup>57</sup>F. Sarre, *Die Keramik von Samarra (Die Ausgrabungen von Samarra, II)* (Berlin, 1925), pp. 8-12, Nos. 26-40, Figs. 23-33.

<sup>58</sup>Dimand, *loc. cit.* This jar was first published by Sarre, *op. cit.*, p. 10, Fig. 22, a drawing. See also Ettinghausen, *op. cit.*, Pl. 186A, pp. 670-71. The clay is light grey with a whitish slip. Of course there may be other complete three-handled jars from the Holmes Expedition to Kish; if so, they are still unpublished.

the Mesopotamian goddess, Artemis-Nannaia.<sup>59</sup> This elk has been compared by Ettinghausen to a stucco panel from Damghan (Fig. 169), in which a deer, in a similar pose, is drinking. Actually, however, the ancestor for both is to be found in an Assyrian work of art, an ivory carving of a deer from Arslan Tash, which is much finer and more sensitively handled than either of its later descendants; Fig. 170. It is worth noting that in the two Mesopotamian examples (pottery and ivory) the stag is nibbling at small plants,<sup>60</sup> while in that from Eastern Persia (the stucco) there is a variant: the stag is drinking. But what most strikingly differentiates the pottery stamp from both the earlier ivory, and the contemporary or later stucco, is the fact that the animal represented on the jar, Fig. 168, is an elk: it has antlers which are straight below, and with prongs only on the upper side, while the deer in Figs. 169 and 170 have antlers branching in both directions. Elk with antlers of this type had been found before in Mesopotamia, carved on a bone plaque from Dura, but this bone plaque is a derivation from the South Russian

<sup>59</sup>This connection was pointed out to me by Professor Hopkins.

<sup>60</sup>My attention was called to the Arslan Tash ivory by the article by J. Heinrich Schmidt, "Figürliche sasanidische Stuckdekorationen aus Ktesiphon," *Ars Islamica*, IV (1937), Fig. 13, p. 183. But I differ from Schmidt, who thought that this stag was drinking: ". . . geht die ornamentale Darstellung einer Quelle auf einer Stuckplatte aus Damghan mit einem trinkenden Hirsch auf ein assyrisches Vorbild zurück (Fig. 13)."

and Caspian animal style.<sup>61</sup> The elk on the pottery stamp, however, has his head bent, so that the antlers rise up in the air, while the elk on the Dura bone carving have their heads stretched out, so that their antlers lie flat along their backs. But if the elk, as a species of animal, is related to South Russia, its position, nibbling shrubs, and its composition in a square or oblong panel, goes back to the deer of the Assyrian ivory of Alp Arslan. Thus the deer on the Damghan stucco also follows the ancient Mesopotamian, and not the South Russian or Caspian style. Here we have a definite instance of the influence of Mesopotamia, on the Sasanian stucco style in Persia; and this is but one of many examples where a motive used in Sasanian art is similarly non-Persian in origin.

Leaving the really artistic and pleasing techniques of incised free-hand drawing, and of stamped designs, we are obliged to mention another used in unglazed pottery of this time: impressing with the fingertips and the edge of the hand. An example of this is seen in Fig. 171, which was purchased in the vicinity of Ctesiphon.<sup>62</sup> A not dissimilar technique is known in unglazed pottery from the

<sup>61</sup>The bone plaque with elk from Dura was published by Clark Hopkins, "The Plaque with Design of Elks," Dura Seventh and Eighth Seasons (1933-34, 1934-35), pp. 376-381, Pl. XXXIX, 1, and Fig. 85. See also Rostovtzeff, "Dura and the Problem of Parthian Art," p. 222, Fig. 33.

<sup>62</sup>Metropolitan Museum, New York, No. 32.150.269. Not excavated, but purchased. Pinkish-buff clay, coarse, with straw.

caravanserai at Assur, which is considered to be post-Parthian, "sehr wahrscheinlich in die sasanidischer Zeit."<sup>63</sup> Even closer is the finger-pressed ornamentation on some stucco from the same caravanserai.<sup>64</sup> A tall unglazed jar from Susa, Fig. 172, whose shape recalls that of the tall unglazed wine-amphoras with stamped handles of the Rhodian type, has the same crude pattern on the body.<sup>65</sup> Finger impressing also occurs on another unglazed three-handled jar from Kish for whose shape see the jar in Fig. 166, though its neck is much shorter.<sup>66</sup>

It is interesting to compare the unglazed three-handled jars of Mesopotamia, west of Persia, with the type of unglazed three-handled jar found beyond Persia to the east, in East Turkestan. Fig. 173 illustrates a famous jar purchased in Kashgar, and said to have come from the Borazan region, just outside Khotan.<sup>67</sup> It is wheel-made,

<sup>63</sup>Andrae and Leuzen, Die Partherstadt Assur, pp. 102-104, Pl. 56, h. Debevoise agreed as to the Sasanian date of this pottery: "The Oriental Amphora," Berytus, II (1935), p. 3, note 12.

<sup>64</sup>Ibid., Pl. 56, i and k.

<sup>65</sup>Koechlin, Les céramiques musulmanes de Suse au Musée du Louvre, Pl. II, 18, and pp. 17-18.

<sup>66</sup>This jar, being from the Holmes Expedition, is not dated, but it seems to me to be perfectly consistent stylistically with the other Kish pottery. I am indebted to Dr. Ettinghausen for showing me a photograph of it.

<sup>67</sup>A. von le Coq, "Ein spätantiker Krug aus Chotän," Turan (1918), pp. 336-343; Figs. 1-5. Its height is 45 cm., the width of the rim 20.5. See also Ettinghausen, op. cit., Pl. 186 B, p. 672.

of thick, red-brown clay. On the handles, used as knobs, are female heads with the long pierced ears characteristic of Buddhist art; below them are stamped circles. On the shoulder the spaces between the three handles are filled with a highly conventionalized palmette and scroll design in relief. The main design on the body consists of seven round medallions, made separately in molds, and applied. This technique, of figure medallions made in molds, and applied, we have already observed in Mesopotamia, in the third-century amphoras of Dura; and it was noted that this technique does not occur in Mesopotamia after the third century, that is, in the Sasanian period. As yet this technique has not been reported on any pottery found on the soil of Persia proper. The shape of the jar is different from that of contemporary Mesopotamian pottery: the ovoid body has a flat base; the neck is curving out at its upper and lower ends; the handles start not at the rim, but half-way down the neck. This shape finds its closest parallel in a two-handled jar, generally supposed to be of the Parthian period, also from Khotan, see Fig. 176.<sup>68</sup> In other words, the shape may be a local development in East Turkestan.

In its decoration the Khotan jar expresses various influences. The palmettes and scrolls on the shoulder and on the body between the round medallions may be ascribed to

<sup>68</sup>Josef Strzygowski, Altai-Iran und Völkerwanderung (Leipzig, J. C. Hinrich, 1917), p. 267, Fig. 215.

the influence of either ancient Mesopotamia, or, more likely, the classical world. Of the seven round medallions four represent a goddess holding a hemispherical cup, one a gorgon mask, and two a bald, bearded man holding a rhyton; this is the classical type, ending in an animal's head, not the Persian type, ending in the forequarters of an animal. For the bearded man with the rhyton two parallels are known in Sasanian silver. The first, shown in Fig. 174, is a bust placed horizontally on top of the Greek skyphos handle of the cup previously illustrated in Fig. 79. Le Coq has compared this figure to the blue-eyed, red-haired Indo-Scythian monks with tonsures, such as appear in the wall paintings of Turfan, and at the same time referred to it as a Silenus.<sup>69</sup> The second parallel is the figure, purely Indian in drawing and in feeling, on a silver plate found in the Punjab, Fig. 175.<sup>70</sup> On the pottery jar the ease of the man's position, seated in three-quarter's view, is quite unlike the rigid frontality or strict profile of seated

<sup>69</sup>Le Coq, op. cit., p. 342. Phyllis Ackerman noticed the similarity between the pottery jar medallion and the silver cup handle in "Exposition d'art Iranien à Leningrad," Syria, XVII (1936), p. 49.

<sup>70</sup>Smirnoff, Argenterie orientale, Pl. XVII, no. 41. Ettinghausen, op. cit., pp. 672-73, discussed this parallel, and said, "The figural medallions on an unglazed jar . . . . are unmistakably Sasanian in character."



figures in the Sasanian art of Persia,<sup>71</sup> and marks an absence of Persian influence. There is, however, one motive found everywhere in Sasanian art, the jewelled border which frames the round medallions. This motive recurs on another jar from Khotan, see Fig. 177. Thus we may say that the Khotan jar of Fig. 173 is as far from Persia, stylistically, as it is from Mesopotamia; and that though it reflects some elements of classical art, its outstanding characteristics are those of Central Asia, and of India.

The glaze of the Sasanian period in Mesopotamia is of the same nature as that in the preceding periods. Debevoise has published the results of the analyses of two sherds from Kish: the glaze is an alkali-silicate (to be exact, a silicate of sodium and calcium) and is colored green by small quantities of iron. Copper, lead and manganese were absent.<sup>72</sup> The color for which Debevoise used the word green ("light green," and, "a much darker green color, very much like the Arabic glaze") is evidently the same which I have described throughout this paper blue-green. Among my notes on the Kish pottery, I find no glazes described

<sup>71</sup>No three-quarters' view is shown in the rock-sculptures, even though the effect of it was sometimes attempted by making the shoulders in front view, and the head in profile. On the silver plates the same method occurs.

<sup>72</sup>Debevoise, "The History of Glaze and Its Place in the Ceramic Technique of Ancient Seleucia on the Tigris," The American Ceramic Society Bulletin, XIII (1934), p. 299, col. 2.

as green, but many as blue-green. Aside from the blue-green color which I observed at both Kish and Ctesiphon, I find also in my notes several instances of "Brown (?) glaze."<sup>73</sup> Since these objects have not been analyzed, I can only refer to the dark brown manganese glaze of the Parthian period, and of the later Islamic period, and suggest that this pigment may also have continued during the intermediate Sasanian period. The well-known bowl from Susa, Fig. 183, has a purplish-brown glaze, which indicates the use of manganese. A third kind of glaze, the opaque white glaze, is known in fragments from Ctesiphon. These have not yet been analyzed, or published, but it seems to me safe to assume that this is the traditional white tin glaze of Mesopotamia, examples of which of the Assyrian, Parthian and Early Islamic periods have been tested.

In the Sasanian period a method of potting is used which recalls cooking pot ware under the Parthians, namely, ribbing. Ribbing may be sometimes the result of careless

<sup>73</sup> Examples of "Brown(?) glaze": two from Kish in the Field Museum, Chicago, No. 231883, fragment of neck and shoulder of a jar, slightly iridescent; the color is about that of cocoa made with milk. No. 231800, also a fragment of the neck and shoulder of a jar with horizontal loop handles. Both are glazed inside, with glaze only partly covering the outside. From Ctesiphon, Metropolitan Museum, New York, No. 32.150.348, from Tall Dhahab, fragment of neck of a jar; a pale brown color, tinged with pearl-pink and pale green. These colors may be due to partial decay; in section the glaze is definitely brownish. Is it possibly glazes of this type that Schmidt referred to when he described a "glacure rose" at Ctesiphon? J. H. Schmidt, Syria, XV (1934), p. 20.

handling and lack of finish, but at this time it is used so often that the potter may have intended it as a decorative effect. Also leading to this interpretation is the fact that it seems to be used almost entirely for glazed pottery, as if the potter meant the glaze to be thin on the ridges and thicker in the hollows, which enhances the coloristic effect of the glaze. Ribbed vessels may be undecorated with applied relief or incised designs, in which case there is a counterplay between the dark and light glaze over the rough surface, and the other patterns, which often go in a different direction from the horizontal ridges. Ribbing occurs so frequently on glazed pottery of the Sasanian period that we may take it as a criterion to distinguish it from pottery of the Parthian period. On the other hand, it goes down into the Islamic period as late as the ninth century A.D., on blue-green alkali glazed ware, so that in this case the presence of ribbing alone cannot be taken as an indication of date.

A small bowl from Ctesiphon, in Fig. 178, is one of the commonest types of glazed bowls of this period,<sup>74</sup> Its shape with a perfectly flat base, is the same as that shown in Fig. 133 b, 1, from Kish.<sup>75</sup> The ribbing of the Ctesiphon

<sup>74</sup> Metropolitan Museum, New York, No. 32.150.157. H.c.4, D.c.11.5. Another, fragmentary, is No. 32.150.352.

<sup>75</sup> Of approximately this profile are the following from Kish, in the Field Museum, Chicago: No. 231313, 231326 and 231324. The first has a flat base, the last two, very low ring feet.

bowl does not appear very clearly in the photograph. The lumps on the rim are not knobs, but simply thick drops of glaze, showing that the bowl was fired upside down, a very common method at this time. Another type of bowl, quite similar to Fig. 178, but generally larger in size, is shown in Fig. 133 b, 2; we see again the drops of glaze on the rim. Sometimes this type of bowl at Kish has a base not flat, but concave; again, the rim may be wider, more everted, and having a groove for holding on a lid.<sup>76</sup> A variation of this type from Ctesiphon has a slightly everted rim, and a molding below it.<sup>77</sup> From Kish<sup>78</sup> there is a unique bowl, Fig. 179, the lower half of which has the same flat or slightly concave base, and angle of the sides, as the type in Fig. 133 b, 2; but the rim is vertical, and is marked off by a ridge. This molding of the rim seems to be a survival of the classical influence as seen in various Parthian bowl-shapes, as for instance, Seleucia Type 191, of Levels III and II (Table B, 2) and Type 192, in Levels II and I (Table C, 2). This bowl from Kish has an unusual

<sup>76</sup>Field Museum, Chicago; the concave base in Nos. 231330 and 231327a; the grooved wide rim in the former, and also No. 231329. No. 231329 is only half glazed on the outside; where the glaze stops, thick drops run down towards the base; i.e., it was fired right side up.

<sup>77</sup>Metropolitan Museum, New York, No. 32.150.340, from Tall Dhahab, buff clay. Base D.5, rim D.c.18. Fragmentary, about one-third preserved.

<sup>78</sup>Field Museum, Chicago, No. 230812. Buff clay, base slightly concave. H.6-7.2 (lop-sided), rim D.15.5-16.

decoration: below the angle are seven long pointed ovals, marked faintly with horizontal comb-bands. These long oval figures are convex, because while the potter was marking the combing, the fingers of the other hand were inside the bowl, pushing the walls out.

Another shape of blue-green glazed bowl from Kish appears in Fig. 133 b, 3. The horizontal line on this drawing indicates the angle between the lower part of the body, and the rim.<sup>79</sup> Two other shapes from Kish, also glazed, are shown in Fig. 133 b, 4 and 5. Two bowls which I saw, which may or may not have been the originals for these drawings, or are at least similar to them, are not completely glazed, that is, the foot is bare, the glaze stopping irregularly part way down the side.<sup>80</sup>

A blue-green glazed bowl in Fig. 180, published by Pézard<sup>81</sup> may be assigned tentatively to the Sasanian period, because of its ribbing and the drops on the rim, which show that it was fired upside down. The slight incised patterns are also typical at this time. On the other hand, we have as yet no exact parallel for the shape from any excavated

<sup>79</sup>In the Field Museum, Chicago are three glazed bowls having the same profile in general, but with a very low ring foot instead of a flat base. These are Nos. 231319, 231325, and 236174.

<sup>80</sup>Ibid., No. 231323 and 231307.

<sup>81</sup>Maurice Pézard, La céramique archaïque de l'islam (Paris, Leroux, 1920), p. 28, Pl. IV, 2.

site, and some authorities for that reason, might wish to consider it Islamic.

A fragment of a rim having blue-green glaze, from Kish is shown in Fig. 181. It is so small that one cannot determine whether it is from a bowl, or from a wide-mouthed pot, probably the latter, for its profile is very like that of the unglazed pot fragment in Fig. 139.<sup>82</sup> But it is placed here with the bowls because of its ornament. To the left of three rows of the rocked band (hardly visible through the heavy glaze) is an anchor-shaped figure in relief, made separately and applied. The central prong is pinched; on either side of it is a flat disk. This anchor-motive is not a new one in the Sasanian period; it was already seen in third century unglazed pottery from Dura, Fig. 89. Substantially the same anchor-like figure is found by the rim of a blue-green glazed bowl fragment from Seleucia, Fig. 182.<sup>83</sup> The bowl must have been hemispherical in shape, though how the base was made we do not know. On the rim is a thick drop of glaze, indicating upside-down firing. The anchor-pattern has a flat disk at the end of each of the three prongs. The bowl from Susa, of which a fragment

<sup>82</sup>Field Museum, Chicago, No. 236165, from SP4. Buff-yellow clay. H. preserved 6.5, width 7.

<sup>83</sup>Museum of Classical Archaeology. U. of Michigan, No. 11129. Pale yellow clay. W.8.5, rim D.33. This sherd came from Level III, but as there was a drain in this room, the sherd might easily have fallen in from the surface through the drain.

appears in Fig. 183,<sup>84</sup> must have been also hemispherical, like the bowl from Kish in Fig. 182. Here is the same anchor-shape, but in this case the side prongs are much larger and in higher relief than the central one. On each side of the anchor-motive is a bird, made separately and applied; the head is by the rim, the wings are spread. The glaze is described as an "email violet à l'extérieur, et gris à l'intérieur avec coulées vertes et violettes;" also, "d'un brun violacé." The bowl was fired upside-down. The spread-eagle is also found on an unglazed fragment from Kish, in Fig. 184. Here the eyes, and indications of the feathers are shown by incising.<sup>85</sup> The attribution of Figs. 183 and 184 to the Sasanian period rests on the date of the two from Kish and Seleucia in Figs. 181 and 182.

<sup>84</sup>Koechlin, Les céramiques musulmanes de Suse au Musée du Louvre, No. 69, Pl. VII, and pp. 44 and 52. Here it was described as being the fragment of the upper part of a jar; from the photograph it seems to be a bowl-rim. Also published by Koechlin, "Les céramiques musulmanes de Suse au Musée du Louvre," Syria, IX (1928), pp. 40-58, Pl. XXII, No. 3.

<sup>85</sup>Cleveland Museum of Art, No. 35.243. Size, about 11.5. Pale, buff sandy clay. This fragment, and a bowl with central knob, No. 35.242 (cf. here the bowl in Fig. 133a, 7) were given to the Cleveland Museum by the American Institute for Persian Art and Archaeology, from the Holmes Expedition to Kish in 1932. For this expedition see Harden and Langdon, op. cit., p. 115. Finds made by this expedition have been distributed among the following: University Museum, in Philadelphia, Pennsylvania Museum of Art, Princeton, Yale, Brooklyn, University of Chicago, Art Institute of Chicago, Cleveland, Toledo, Boston Museum of Fine Arts, Fogg Art Museum, Textile Museum, Buffalo, Lyman Allyn Museum, and Field Museum (letter from Dr. Richard A. Martin, March 25, 1938).

From Kish comes a very large and handsome bowl on a high foot, Fig. 185<sup>86</sup>; if it were taller and narrower, it would suggest on the one hand, the Greek krater, and on the other, the early Christian type of chalice known in Syrian silver. The ribbing is clearly seen in the photograph. The decoration is noteworthy: a broad zone about the rim is bounded above and below by rows of small diamond-shaped bosses; between these is what may be described as either a wave band in relief, or six arcs in relief with their ends touching. Within and between these arcs (if that is the correct term) are twelve very irregular and lumpy bosses, which were modeled freely by hand, and applied, for they are all of different sizes and shapes. The diamond-shaped bosses about the rim are very different from the round flat disks and the conical knobs which were so typical of Mesopotamian pottery during the Parthian period, though we may assume that they are their natural successors. These rather diamond-shaped bosses are pinched, producing a vertical ridge above; the lower end is smoothed down into the side of the bowl with the finger, so that in profile it is concave. Exactly the same procedure was used in the central prong of the anchor-shape from Kish, in Fig. 181.

A bowl of exactly the same type was found at Seleucia,

<sup>86</sup>Field Museum, Chicago, No. 231333, from SP4. Pale yellowish sandy clay. H. 23-24.5, rim D.41. See Debevoise, "The Oriental Amphora," *Berytus, II* (1935), p. 3, note 7; also Ettinghausen, *op. cit.*, Pl. 187 A, p. 668.



in débris, Fig. 186. This was recognized by Debevoise as being of the Sasanian period, because of its similarity to the Kish bowl.<sup>87</sup> To judge by the drawing, the bosses on the Seleucia bowl are again more diamond-shaped than round. Instead of the curved bands, or arcs, in relief, there are short, apparently incised, lines forming a zigzag. The difference in size between the two bowls is curious: the Kish bowl is nearly half a metre wide, the Seleucia bowl only seventeen centimeters.

A totally different and unique type of bowl was excavated at Ctesiphon; Fig. 187. The base is perfectly flat; the sides, slightly convex, are vertical in direction; the rim, which projects slightly to the exterior, is again flat.<sup>88</sup> The decoration consists of roughly formed, rather oval or tear-shaped knobs arranged in unevenly staggered rows; there are six in the upper row, seven in the lower. The blue-green glaze covers the entire surface, inside and out. The severity of line and the angularity of the rim profile suggest the influence of metal. A close parallel exists in a bronze incense-burner, probably pre-Islamic; the shapes of the bowl, and of the tear-shaped bosses, are

<sup>87</sup> Debevoise, loc. cit.; also, Seleucia, Type 224, on p. 86. H.7.5, rim D.17.

<sup>88</sup> Metropolitan Museum, New York, No. 32.150.215. Buff clay. H.6.8-6.9, rim D.16.

identical; and similar bosses appear on the bronze jug in  
Fig. 187 <sup>89</sup> bis.

Certain glazed jars of the Sasanian period, with or without handles, have long been recognized as being closely related to Sasanian metal. However, the blue-green glazed jar from Kish in Fig. 188 seems to belong to the pottery tradition--if the potter had been consciously copying metal, he would have avoided the ribbing. <sup>90</sup> The neck is missing; perhaps it continued like that of the Kish jar in Fig. 192. The base is restored; it was probably originally a beveled-off foot, like that in the drawing in Fig. 133 b, 7. The heavy torus molding about the neck is typical of this period (as we saw in Figs. 146 and 159) as is also the continuous curve of the profile, without any angle at the shoulder. Fragments of blue-green glazed jars from Ctesiphon have incised decoration. Fig. 189 has short incised <sup>91</sup> lines arranged in chevron-patterns, pointing upwards. This jar was not ribbed. In Fig. 190 we see a more elaborate and more naturalistic pattern: it looks like

<sup>89</sup> The incense burner is in Berlin, see E. Kühnel, "Islamisches Räuchergerät," Berichte der Preuss. Kunstsammlungen, XLI (1919-20), pp. 241-250, Abb. 94. The bronze jug in Fig. 187 bis. is from M. Wiasmitina, L'art des pays de l'Islam (Kiev 1930), Pl. XI, No. 389, and p. 71.

<sup>90</sup> Field Museum, Chicago, No. 231337. No provenance. Clay not visible. H. preserved, including the restored base, 36; max. D. 24.5.

<sup>91</sup> Metropolitan Museum, Chicago, No. 32.150.339. Buff clay. No dimensions; no special provenance.

long, oval leaves growing to right and left of a central stem, and pointing diagonally upwards; on each leaf are short incised lines.<sup>92</sup> This parallels the naturalism of the grapevine and fruit on the unglazed Kish jar in Fig. 166. Here the pattern is somewhat obscured by the ribbing of the jar.

Another example of incising used in connection with the blue-green glaze in Mesopotamian pottery at this time, is the deservedly well-known jar from Susa, in the Louvre.<sup>93</sup> The clay is yellowish, the glaze a brilliant peacock-blue. The base, which makes an abrupt ending to the body, is flat; the effect is one already observed in the unglazed pottery. What was originally the shape of the neck, or whether it had a torus molding, we do not know. The incised design, of two birds confronting a plant or small bush, is very freely and boldly drawn. The whole has the traditional oriental conventionality, perfect bilateral symmetry, in composition. Both Pézard and Koechlin described the plant as being the Persian sacred hom; why not the Babylonian-Assyrian sacred tree? When a motive is equally ancient in Mesopotamian art there is no need to consider it

<sup>92</sup> Ibid., No. 32.150.355, buff clay. No dimensions; no special provenance.

<sup>93</sup> Published by Pézard, La céramique archaïque de l'Islam, Plate IX in color, and p. 35; Koechlin, op. cit., Plate IX, No. 70, pp. 44-45; Ettinghausen, op. cit., Pl. 196, p. 673. The height is 27 cm.

exclusively Iranian. Both these authorities have compared this composition of birds facing a tree to designs in Sasanian silks. In rock-carvings, stucco, seals, and metal, birds are much more apt to occur singly, in round medallions.<sup>94</sup>

Tall blue-green glazed jars have applied as well as incised decoration. In Fig. 192 is a ribbed jar with applied disks from Kish<sup>95</sup>; unfortunately it is only fragmentary. It may have been this jar which caused Debevoise to make the statement: "Flat applied disks seem also typically Sasanian; on glass ware they appear first in the fourth century A.D. and they are not found on any pottery which is definitely Parthian."<sup>96</sup> However, we have already noted outstanding exceptions to this rule, in the two glazed two-handled jars from Dura, both dated before 160 A.D.; the first, Fig. 37, has two rows of disks on the shoulder; the second, Fig. 38, has disks all over the upper part of the body, which slopes up in a continuous line without demarcation of shoulder or neck. Again, in the dated third century pottery of Dura we have noticed the dispersion of the flat disks from their earlier position beside the handles, to various positions all over the shoulder and

<sup>94</sup>An exception to this generality is seen on a "Spät- oder nachsasanidische Bronzekanne," illustrated by Sarre, Die Kunst des alten Persien, Pl. 135, pp. 54-and 73.

<sup>95</sup>Field Museum, Chicago, No. 231332, from SP2. Clay pale yellow. H. preserved c. 43, rim D.13.

<sup>96</sup>Debevoise, loc. cit.

neck (Figs. 108-128). So in the glazed jar from Kish in Fig. 192 it is not only the disks which we are to consider as elements in the Sasanian style, but more fundamental points: the all-over ribbing; the tall, slender, and quite elegant proportions; the wide, vertical rim; the molding about the neck. This molding is different from the torus molding already mentioned; it is rather sharp, and angular. That this molding is not unique in pottery of this period is shown by its presence on an unglazed tall jar excavated by the Metropolitan Museum at Qasr-i-Abu Nasr, near Shiraz, in Fig. 193.<sup>97</sup>

One of the handsomest ever found of the tall blue-green glazed jars is that excavated at Ctesiphon, Fig. 194.<sup>98</sup>

Upton has described it: "The form is graceful and dignified and recalls that found in several fine examples of Sasanian silverware."<sup>99</sup> An illustration of the sort of Sasanian

<sup>97</sup>Upton, The Persian Expedition 1933-1934, Fig. 21 on p. 15, and p. 21: "We are particularly pleased to have found this jar, in spite of its fragmentary condition, since it is a Persian variation of the common blue-glazed Parthian and Sāsānian jars of 'Irāk.' It is of pinkish clay covered with a thin fawn-colored clay wash, but it has the same slightly bulbous body as the glazed jars and the same tall neck with characteristic rim."

<sup>98</sup>Metropolitan Museum, New York, No. 32.150.88, from Umm az-Za'tir. Blue-green glaze quite faded and iridescent. H.34, max. D.c.16.8.

<sup>99</sup>Upton, The Expedition to Ctesiphon, 1931-1932, Fig. 11, p. 194. Also mentioned or illustrated by the following: J. Heinrich Schmidt, "L'expédition de Ctesiphon en 1931-1932," Syria, XV (1934), pp. 19-20, Pl. V, E; J. H. Schmidt, "Figurliche sasandidische Stuckdekoration aus Ktesiphon," Ars Islamica, IV (1937), p. 176, Fig. 7; M. S. Dimand, "Parthian and Sasanian Art," BMMA, XXVIII (April, 1933), p. 81, note 11.

silver jar here referred to is shown in Fig. 195<sup>100</sup>; this jar may be assigned to the reign of Khusran II Parwēz, 590-628 A.D., because the grape-vine leaf so carefully represented on it with minor veins arranged in concentric curves, is precisely the leaf of Taq-i-Bustan.<sup>101</sup> A better parallel for the rim of the Ctesiphon pottery jar appears on the silver jar in Fig. 196.<sup>102</sup> This sort of vertically-concave profile recalls the rim of the Seleucia blue-green glazed jar of the Hellenistic period, Fig. 1; it appeared as well at contemporary Uruk-Warka, Fig. 4. Does this mean that the Sasanian pottery and metal go back to an earlier, native Mesopotamian pottery tradition, or does it mean that the Mesopotamian pottery of the third century B.C. was also related to metal shapes? The latter is perhaps the more likely. As for the origin of the Sasanian metal type,

<sup>100</sup>The Sasanian silver jar with naked boys gathering grapes, found in Mazanderan, was published by O. M. Dalton, The Treasure of the Oxus (London, British Museum, 1905), Pl. XXVI, No. 189, and pp. 125-126. See also the larger illustrations of it: Smirnoff, Argenterie Orientale, Pl. LIII, No. 86. The motive of boys gathering grapes into baskets from the vine is common in late Roman art.

<sup>101</sup>At Taq-i-Bustan, on the rear wall of the grotto of Khusrau II, is a band of vertical grape-leaves connected by curved stems; this band goes between the capitals of the colonnettes, just behind the king's head. Sarre, Die Kunst des alten Persien, gives a general view of the grape-leaf in Pl. 85, a detail in Pl. 92.

<sup>102</sup>J. Orbeli and C. Trever, Orfèvrerie sasanide, objets en or, argent et bronze (Moscow, Leningrad, Academia, 1935), Pl. 45.

which is often considered to be an example of Persian Sasanian art par excellence, I suggest that it may have evolved out of an earlier, non-Persian silver tradition, such as is represented by the Syrian silver jar or vase found at Dura, probably of the third century A.D., shown in Fig. 197.<sup>103</sup> The upper of the moldings has acanthus leaves and grapes, the lower, grapevines with satyr and bacchic marks among the foliage. The Syrian character of this vase is further clarified by comparison with the grapevine decorating the skyphos represented on the Palmyrene sculpture of 175-200 A.D.; Fig. 67 bis. As for the shape, in my opinion the Ctesiphon pottery jar in Fig. 194 is just as close to the Dura silver as it is to the Sasanian silver, because of the general outline of the body and in particular the roundness of the heavy torus molding. Or it may be only that the simpler Dura molding looks easier to translate into the pottery medium. The difference in date would account for the greater elongation, taller neck, and wide, vertically concave rim of the Ctesiphon glazed jar. Though the Dura silver was not discovered till recently, Dalton, as long ago as 1905 realized the dependence of Persian on Mesopotamian

<sup>103</sup>p. V. C. Baur, "The Silver Vase," Dura Fourth Season 1930-1931, pp. 229-231, Pl. XII 1, 2; the handle in Pl. XI, 3. After discussing parallels in the pagan and Christian Near East, and ancient Mesopotamia, Baur concludes (p. 231): ". . . . our silver vase is late--that is, it belongs to the beginning of the third century A.D."; "The place of manufacture in the Orient cannot be determined, but it must have been somewhere in Syria."

and Syrian metal: "As Ctesiphon was the first capital of the new Persian monarchy, it is probable that silver vessels, like other objects of luxury, came, at any rate at the beginning of the period, from Mesopotamia, more especially as the neighboring province of Syria was famous for its silversmith's work, and the two countries influenced each other in this as in other branches of art."<sup>104</sup> This Syrian and Roman (or Hellenistic) influence is seen not only in the art of metal, but also in the rockcarvings, in architecture and in textile weaving. In the rock carvings: "dès le règne de Chapour I apparait au contraire une fort belle facture où l'on peut bien voir la collaboration de la main d'oeuvre romaine"<sup>105</sup>; again, in the architecture and its stucco decoration, and sculpture of the building of Shapur I at Shapur: "Tout ceci confirme les renseignements historiques d'après lesquels étaient fixés à Chapour les prisonniers romains."<sup>106</sup> In the art of textiles: "On sait que de colonies d'artisans araméens furent transportées de Syrie en Perse pour y perfectionner les méthodes de tissage, fait que certains historiens placent au IV<sup>e</sup> siècle, et d'autres dès le III<sup>e</sup> siècle, après la prise d'Antioche

<sup>104</sup>Dalton, op. cit., p. 68.

<sup>105</sup>Bibliothèque Nationale. Les Arts de l'Iran, l'ancienne Perse et Baghdad (Paris, 1938), p. 24.

<sup>106</sup>Ghirshman, "L'inscription du monument de Chapour I à Chapour," RAA, X (1936), pp. 127-128. See also Salles and Ghirshman, in RAA, X (1936), pp. 117-122, and Pls. XLI-XLIII. A niche from this site, showing a mixture of classical elements, is in Bibliothèque Nationale. Les arts de l'Iran, Pl. I.



par Chapour I.<sup>107</sup> Again, after the later capture of Antioch by Khusran I in 540 A.D., this king imported bodily the inhabitants of the Syrian city, together with marble revetments and columns, glass mosaics and sculpture, and settled them in a new town at Ctesiphon called Veh-Antiokh-Khusran.<sup>108</sup>

The blue-green glazed jugs, or one-handled jars of Mesopotamia have in general the same sort of shapes, and stylistic character, as the tall jars without handles. The drawings of two examples from Kish have been published. That in Fig. 133 b, 8, has its greatest diameter near the base, and the typically unbroken contour, as well as the ribbing. The jug in Fig. 133 b, 7, on the other hand, has its greatest diameter above the middle. Both have a low, flat, bevelled base. Fig. 198 shows the appearance of a similar, though fragmentary jug from Kish.<sup>109</sup> The walls of the rim are very thick, and it is grooved inside to hold a lid; opposite the handle is a narrow groove for paving. Neither groove is visible from the exterior. The body is ribbed; the deep peacock-blue glaze is almost entirely decayed. Another fragmentary glazed jug from

<sup>107</sup>Bibliothèque Nationale. Les arts de L'Iran, p. 64.

<sup>108</sup>Christensen, op. cit., pp. 381-382. Christensen gives the bibliography for this event, and a quotation from Mas'udi.

<sup>109</sup>Field Museum, Chicago, No. 231331, no location. Yellowish-buff clay. H. preserved 22, D. preserved, 20.5.

Ctesiphon<sup>110</sup> is rather bottle-shaped; the body is proportionately large and rounded, the neck narrow and straight; about its base is a rather angular molding, comparable to that of the jars in Figs. 192 and 193. But the general shape recalls that of the burnished jug, in Fig. 159, from Kish.

On the glazed jugs, as on the other types of pottery at this time, is found applied relief decoration, and incised decoration. Both occur together on a well-known blue-green glazed fragmentary jug from Susa, in Fig. 200.<sup>111</sup> The shape of it is perfectly in accord with the shapes we know to be Sasanian: it has the long slow, curve of profile, the tall proportions and the torus molding about the neck. The surface is covered with the usual ribbing. A difference appears in the wide flat base, a peculiarity which we noticed also in the incised glazed jar from Susa, in Fig. 191. The obvious inspiration of this Susa jug is the sort of Sasanian bronze shown in Fig. 201,<sup>112</sup> but the potter failed

<sup>110</sup>Metropolitan Museum, New York, No. 32.150.357. Buff clay, the blue-green glaze much faded. Another Sasanian blue-green-glazed jug, from Umm, az-Za'atir, No. 32.150.109 is in shape more like some of the usual small jugs of the Parthian period, and the glaze does not extend quite down to the base.

<sup>111</sup>Koechlin, Les céramiques musulmanes de Suse au Musée de Louvre, Pl. IX, No. 66, and p. 52. The height is 22 cm., the glaze is described as "émail bleu-azur irisé."

<sup>112</sup>Sarre, Die Kunst des alten Persien, Pl. 127, at the right; and p. 54: "Besonders charakteristisch sind die mit spätantiken Formen sich berührenden hohen Henkelkannen mit abgeplattetem Körper und vorspringendem schmalem Ausguss."

miserably by cutting off the lower end of the bronze, breaking the slow, graceful movement of the profile, and substituting in his clay vessel an ugly flat base. On the body there are three large motives, composed of applied bands closely bordered by small applied disks or knobs. This is the motive which was already described as the anchor-motive. To summarize, its earliest observed appearance was in the unglazed pot probably of the third century from Dura, Fig. 89; then at Kish, in a glazed bowl of the fourth century, Fig. 181; at Seleucia, an undated bowl probably of the Sasanian period, Fig. 182, and on a glazed bowl from Susa, Fig. 183. What is consistent in this motive wherever it occurs is the arc forming the two outer prongs, and the short bar between them, which is the central prong. The whole arc may be greater or less than semicircular; in the present case, Fig. 200, it is quite parabolic. Since this motive is shown in every case with the central, vertical prong I cannot consider it to have any relation to an arch, nor to a simple semicircle or other arc, but must consider it as a distinct "anchor-like" motive.<sup>113</sup> Nor do I know of any example of excavated and dated Sasanian pottery where either arches or intersecting arcs are used as

<sup>113</sup>Two jars in the Art Institute, Chicago, one very similar to this Susa jug with applied ornament, were published by Ettinghausen, *op. cit.*, Pl. 191 A and C, and pp. 677-78. The authorities of the Art Institute now consider them to be fakes, and refused me permission to publish them again. With this opinion I am quite in accord.

decoration, though both become relatively common in Early Islamic pottery.<sup>114</sup>

Three-handled jars of Mesopotamia of the Sasanian period are glazed, as well as unglazed, but there is a remarkable difference between the two varieties. The unglazed ones have no foot; the body is oval, or egg-shaped, with little or no demarcation between shoulder and neck; and the neck is straight. The glazed ones have a definite, but low ring foot or base; the body is top-shaped rather than egg-shaped, that is, the width of the shoulder is very much more than the width of the foot; the neck is marked off from the shoulder, and it is very wide below narrowing as it approaches the rim. A large ribbed jar from Susa illustrates all these points, Fig. 202. In addition this particular three-handled jar has flat disks on top of the handles, and the old applied pressed band, but placed much nearer the base than the shoulder. That is, here have persisted two elements from the period of the Parthians, but we have only to compare the Susa jar with a typical third century Dura three-handled amphora, as in Fig. 111, to realize the lapse of time: the size of the body has increased in proportion to the neck, the handles have diminished, and the pressed band girdles the knees, as it were,

<sup>114</sup>Semicircular combed bands appear on the unglazed three-handled jar from Susa, but it has no date, and it could as well belong to the Early Islamic as to the Sasanian period.

of the jar, instead of the shoulder. The Susa jar has another feature: on the shoulder, and extending a short distance up the neck is an incised design, to quote Koechlin: "une sorte de médaillon surmonté d'une branchette dressée et flanqué de V."<sup>115</sup> This design is scarcely visible in the reproduction. At Kish were found fragments of glazed three-handled jars of essentially the same type, that is, the shapes of the neck, and handles are the same.<sup>116</sup>

A final category remains to be considered, pottery with the opaque white glaze. The white glaze of this period has not been analyzed, but since in the Parthian period, as well as in the Early Islamic period it is a tin glaze, I venture to assume that it was in all likelihood a tin glaze at this time as well. During the Parthian period, the use of this glaze was quite rare; in the Sasanian period it is even rarer. In fact, among all the Sasanian pottery studied here, I have been able to find only two examples which are certainly dated and which are so well preserved that there is no question of the color; both come from Ctesiphon. This is not surprising, for we saw that in the

<sup>115</sup>Koechlin, *op. cit.*, p. 42; see also pp. 38 and 51, and Plate VI, No. 63. This jar was probably made in Susa, as it has bits of another jar stuck to its side, and pots thus injured in the firing would not have been exported. Its height is 53 cm.

<sup>116</sup>Field Museum, Chicago, No. 236173, a neck, from SP7, and No. 231328, a-b, no especial provenance, rim and handle.

Parthian period the greatest quantity, both of monochrome white, and white with blue-green streaks or spots, came from Seleucia, less from Nippur and Kish and two from Dura, where they had been very likely imported. Again, the very scarcity of this type indicates that it must have been a luxury ware, and as Ctesiphon was the capital, we would expect to find it there. It is curious that none was found in the Sasanian buildings at Kish.

The first example from Ctesiphon, Fig. 203, is a small fragment of the rim of what must have been a large jar.<sup>117</sup> The diameter of its rim is about twelve or thirteen centimeters; that of the tall ribbed jar from Kish, in Fig. 192, thirteen, and of the Ctesiphon jar in Fig. 194, eleven centimeters. In the white glazed jar the molding of the rim is more elaborate, and the neck seems to have been more nearly vertical, than in these two blue-green glazed jars. But if we imagine the white jar to have been of somewhat the same size and shape as the others, it must have been very handsome. Since the shape is related to both the Kish and the Ctesiphon jars, its date may be as late as the sixth or early seventh century. It is to be noted that the clay of this white glazed jar is smoother, finer, and relatively harder, than most of the clays noticed at this time in

<sup>117</sup> Metropolitan Museum, New York, No. 32.150.344, from Tall Dhahab. Smooth, fine, pale yellow clay; the glaze is pure white. Width of the rim preserved, about 7, diameter c.12-13.

Mesopotamia, that is, it must have been the ordinary clay, but especially well levigated and fired.

A dish whose shape is unique, as compared to the other bowls of this period, is the second example of the opaque white, presumably tin, glaze; Fig. 204. About one-half is preserved.<sup>118</sup> The clay is fine, of a pale creamy-yellow color, and relatively hard, but not quite so well levigated as that of the white-glazed jar rim. The glaze covers the interior and the sides, but the bottom has only a few thin washes or streaks on it. The dish, or shallow bowl is very wide and low; the bottom is practically flat; the sides form a sharp angle with the bottom, and go up straight, sloping out a little. There is no moulding or profiling anywhere. The only other parallel for a bowl or dish of the Sasanian period with a flat bottom, lacking any sort of base or foot, is the blue-green glazed bowl which is also from Ctesiphon, in Fig. 187. But this shape also occurs in Early Islamic pottery of the eighth to ninth centuries. Since this shape is not represented at Kish, on the one hand, and is related to later Islamic pottery, on the other hand, we may conclude that it is probably late, perhaps late sixth to seventh century. Thus we have indubitable proof that the white tin glaze, known at Nuzi as early as 1500 B.C., and continuous through the Neo-Babylonian, and Parthian periods,

<sup>118</sup>Metropolitan Museum, New York, No. 32.150.108, from al-Ma'aridh I.

kept on through the Sasanian period in Mesopotamia, forming an unbroken series to Islamic times. In none of these pre-Islamic periods was it ever reported from Persian soil.

During the Sasanian period in Mesopotamia, from the third to the seventh centuries we have traced in the pottery qualities which go back to the pottery of the preceding centuries, as well as others which seem to be new at this time. The former appear particularly in shapes, as of unglazed small jugs and jars, and in heavy storage jars. But though rather elongated shapes whose profile follows a continuous curve had appeared in the Parthian period, they now become much more common. Another sort of tall jar, usually glazed, owes its height and grace not to an earlier pottery style, but to metal shapes, the Sasanian silver jars, which certainly stem from earlier Classical traditions in Syria. The Sasanian metal jugs, recalling the Greek oinochoe, are again repeated in glazed pottery, though their peculiar long beak-like spout was doubtless difficult to reproduce in the soft Mesopotamian clay. The unique blue-green bowl from Ctesiphon also has metal severity of line.

Many decorative elements or methods are old: the rocked band, the applied pressed band, disks, bosses, incising, stamping, and combing. But in several cases their application is new, for instance, the use of the rocked band as an all-over pattern. Again, earlier patterns in these various techniques were previously abstract, while now we



find naturalistic representations of birds and animals in stamping, and very freshly-drawn fruits and vines in incising. Birds, freely modelled by hand, were used as applied decoration. But human figures, made in molds and applied, so common in the preceding centuries, had by this time disappeared in Mesopotamia, an indication of the waning of classical influence. Another technique, the making of vessels in molds, also seems to have died out during this period. The feature of horizontal ribbing on much glazed pottery, which may be called either a method of potting or a method of decoration, is new. Burnishing is, as during the Parthian period, a clear sign of Persian influence.

The standard blue-green glaze is the commonest, though a glaze which may possibly be a manganese glaze has been observed. The ancient Mesopotamian white tin glaze was unfortunately rare at this time, and except for a splash of blue-green on a lamp which may be of this period, it occurs as a monochrome. In the Parthian period the blue-green spots and streaks on the white glaze presaged one of the so-called "Samarra" color-schemes; it is curious that such an attractive effect should have been even temporarily abandoned.

### CHAPTER III

#### POTTERY OF THE EARLY ISLAMIC PERIOD

Just as Hellenistic civilization had caused a tremendous change in the Near East nearly a thousand years before, so the spread of Islam, beginning early in the seventh century A.D., had caused another extraordinary cultural and artistic change. But a difference between the two re-creations of this part of the world lies in this, that the Greeks brought new artistic forms and conventions, while what Islam brought was a new spirit. In Islamic art we find again the whole ancient repertory of artistic forms and motives, both oriental and Greek. But the re-creation made by Islam was precisely that, a re-awakening, an inspiring with new life and vigor, and a new spiritual intensity. Thus we may find, early in the eighth century, confronted animals, traceable to Sumerian art, facing a Greek or Christian chalice, embowered in the Hellenistic-Syrian grape vine with birds hopping in its branches (Fig. 205)<sup>1</sup> but the whole seeming new because of its strongly decorative and abstract qualities, the expression of a new aesthetic attitude.

<sup>1</sup>M. S. Dimand, "Studies in Islamic Ornament, I, Some Aspects of Omayyad and Early Abbāsid Ornament," Ars Islamica, IV (1937), Fig. 59, pp. 324-337.

I have suggested, and it has been stated many times before, that the Arabs, the originators of Islam, brought with them no new artistic forms, but simply developed the pre-existing arts of the lands they came to and inhabited. The proposition is hardly sufficient to explain what happened. Without Islam there would have been simply more Hellenistic-Christian art in Syria, more Coptic art in Egypt, more Sasanian art in Persia. The new art which grew up was not created by these various peoples independently, but was fostered in the international civilization developed by the newcomers. First, it must be remembered that the Arabs were not barbarians; if they had been, they would never have been able to appreciate the arts of other countries with which they had been familiar since the days of the Nabateans, and the Kingdoms of Ghassan and Hira. Muhammad himself enjoyed imported luxuries, and had his house full of them.<sup>2</sup> Pre-Islamic poetry reveals a strong sense of rhythm and pattern, abstract qualities which were to become such vital characteristics of the Islamic visual arts. The new international civilization was made possible by two purely Arab contributions: the single religion, and the single language, religion and language being two of the most important cultural factors in any society. These two, Islam and Arabic, stretched from the borders of China on

<sup>2</sup>Père Lammens, Etudes sur le siècle des Omayyades (Beyrouth: Imprimerie Catholique, 1930), pp. 362-366.

one hand to Spain on the other, an area vaster than that attained by any Persian, Greek or Roman empire. The effect of the religion on art was the creation of the mosque-form: it had to have space to hold many people, water for their ablutions, a niche to point in the direction of Mecca (thus determining a new system of orientation) and a pulpit for the preacher. The effect of the language on art was, of course, the introduction of the Arabic alphabet, which in its early monumental Kufic form became one of the most beautiful ever known to the world, and a fundamental element in all Islamic design. It was spread by the new coinage, established before the end of the seventh century in the reign of the Umayyad 'Abd al-Malik, as well as by the Kur'an. Kufic inscriptions appear as friezes in mosques, on wood carving, textiles, metal, glass and pottery.

Arabic  
written  
develop

In the first three hundred years of Islam there was a tremendous development in all the arts, which reached its culmination in the third century Hijra, or the ninth century A.D. Pottery shared in this florescence; in some respects its achievement was higher than any attained later. All over the Islamic world new types of glazed pottery appeared. Two large classes developed completely independently of Mesopotamia. One, painted in brown, white, terra-cotta red and yellow under a lead glaze, is found in Khurasan, at Nishapur, and in Transoxiana, as at Samarkand, and as far south as northwestern India and Makran; only

one piece has been found on Mesopotamian soil, at Susa. The second class, also having a lead glaze, comprises wares made under the influence of imported T'ang pottery, as was proved by the excavations at Samarra.<sup>3</sup> The closest to the Chinese is a type splashed with green, ochre and brown, either on a plain surface, or over incised patterns (the sgraffito ware). A more typically Islamic adaptation is the use of the Chinese color scheme, but with a definite yellow (perhaps antimony) substituted for the Chinese ochre-buff, and with painted designs, for instance, green figures outlined by brown on a yellow ground, instead of merely splashed and running colors. A charming variation has patterns painted in glazes on the bare clay. The class due to T'ang influence had a wider distribution than the Nishapur-Samarkand class, since it was made in Mesopotamia, Syria and Egypt as well. These two classes are not further discussed in this paper, there being no problem as to their origin, which is definitely non-Mesopotamian.

A third class of Early Islamic pottery is also originally non-Mesopotamian, namely, molded ware with a green lead glaze: its only possible prototype is the molded green-glazed pottery made at Tarsus in Roman times. Of course the use of a lead glaze in China is probably also derived from the same Mediterranean ware. But the Early Islamic molded ware is

<sup>3</sup>F. Sarre, Die Keramik von Samarra, p. 71, Nos. 250-252, Figs. 150-152, Pl. XXXIV.

often lustered all over, and must therefore be included in conjunction with the other type of luster, which is painted on the Mesopotamian white tin glaze.

As for Early Islamic pottery in Mesopotamia, it is all a continuation of the wares of pre-Islamic times, with the two exceptions of the types due to Chinese and to Mediterranean influence. Unglazed pottery, as always, included everything from coarse storage jars and cooking pots to more delicate finely made wares. The blue-green alkali glaze is common, as it always had been. The old Mesopotamian white tin glaze reaches new heights in its history, and is used on the very finest wares. It occurs as a monochrome; with streaks or spots of blue-green, which is a continuation of the style known during the Parthian period; or with designs and inscriptions painted in a deep blue which is generally considered to be cobalt. If it is indeed cobalt, this is its first appearance in the history of pottery. Often cobalt and the blue-green appear together on white. Very rarely the tin glaze is colored, producing monochrome turquoise and cobalt glazes. A second Islamic innovation used with the white tin glaze is the painting of designs over the glaze with luster in different colors: greenish gold, copper gold and dark brown, either singly or in polychrome combinations, and an extraordinary ruby red. This presents a stylistic difference from the monochrome all-over gold luster on the lead-glazed molded ware.

Early Islamic pottery shapes represent about the same mixture of tradition and innovation as Early Islamic glazes. Some shapes, particularly in unglazed and blue-green alkali glazed wares, are nothing but the continuation of the three-handled jars and amphoras known in the Sasanian and Parthian periods. Certain bowl-shapes are replicas of the T'ang bowl with outward-curving rim; this is one of the standard shapes for bowls having the white tin glaze. In the unglazed molded ware many odd shapes occur: cups, pilgrimbottles, spherical bottles, and jugs or vases. The small jugs or vases have a shape which is peculiarly Islamic: a very wide low body, often with a flat base, a strongly accented shoulder, and a neck which is both very wide and very tall, being often taller than the height of the body.

The surface decoration of Early Islamic pottery is exceedingly rich. Many of the techniques of relief, whether barbotine or molded, and of incising, are old, but never before had their use been so lavish. The outstanding characteristic is a desire for space filling, and complexity of detail, which is very effective in the play of light and shadow caused by the three-dimensional technique. In contrast to this variety of surface treatment, which is highly stylized, the painted, two-dimensional designs of other wares are flowing and free; this is to be seen especially in the cobalt on white and in the luster on white. Here the designs give the effect of a watercolor painting--

palmettes, fruits and flowers, animals, and human beings. This use of naturalistic motives forms a marked contrast to pottery of earlier periods. On the Assyrian polychromes the designs are abstract, triangles, zigzags and horizontal bands (Fig. 12); at the time of the Romans and Parthians, human and animal figures are not drawn or painted, but made separately in relief and applied (Fig. 51-55, 106, 120-130). The closest parallels are, as one might expect, of the Sasanian period, with the incised vines and animals from Kish, (Fig. 166) and the incised birds from Susa (Fig. 191), for this incising is really drawing, only done with a point in the clay instead of with a brush or pen on the glaze. It is a curious fact that while pottery of the Sasanian period was so little influenced by the naturalistic elements so popular in the other arts of the time (textiles, metal, stonecarving, stucco) the pottery of the Early Islamic period is strongly influenced by these other arts, both contemporary and pre-Islamic. In other words, the potters of the Islamic period were the first to realize fully the decorative possibilities of their craft, and the first to be in touch with workers in the other arts. This fact throws a light on the vitality and the unity of Islamic civilization in general.

The various types of pottery to be discussed here have been grouped for the most part according to the nature of the clay and the glaze, and arranged in a roughly chronological



order. The first three hundred years of Islam fall into two periods: from the Hijra, 622 A.D., to the end of the Umayyad califate in 750 A.D.; then the Abbasid califate, from 750 to 900 A.D., in round numbers. Some of the pottery can be dated by the results of excavations to the Umayyad period, or to the eighth or ninth centuries.

Other types known in the ninth century are assumed to have existed also in the seventh and eighth centuries, since they are developments of pre-Islamic wares. Therefore, in the present state of our knowledge, the arrangement here is to be regarded as only tentative, and not final.

## A. UNGLAZED POTTERY.

Coarse cooking pots of the Early Islamic period seem a throwback to distant prototypes. At Samarra a cooking pot of red clay, Fig. 206,<sup>4</sup> has the rocked band familiar from the early centuries of this era, while the ledge handles make one think of pottery of the Bronze Age. Similar pots were found at Tarsus, situated in Cilicia, but Syrian in culture.<sup>5</sup> The pot at the left in Fig. 207 has the same round shape and rocked band near the rim, as those of the Samarra example, while in addition it is heavily grooved, which recalls the "brittle ribbed ware" from Dura of the Parthian period.

Burnishing seems to have been absent in Mesopotamia at this time; to find it we must turn both to the west and to the east. At Tarsus it occurs on another type of cooking pot, seen at the right in Fig. 207. It is made of heavy, thick grey-black clay, and has an angular profile imitating a metal shape, while of course the burnishing on the exterior also suggests a metal surface. In Persia burnished pottery was found by the American excavations at Rayy.

<sup>4</sup>Ibid., p. 21, No. 82, Fig. 65.

<sup>5</sup>All the pottery of the Tarsus expedition has remained in Turkey, with the exception of a few sherds for a study collection. Some is stored in the Expedition house at Tarsus, some is on exhibition at the Adana Museum. The Tarsus Islamic material (pottery, glass, lamps, stucco and Arabic inscriptions) is to be published by the writer.

Fig. 208 illustrates a Rayy jug, probably of the seventh to eighth centuries, of smooth pinkish-buff clay.<sup>6</sup> It presents a great contrast to the burnished jug-shapes of the Sasanian period, for instance, one from Kish in Fig. 159, where the profile made a continuous curve from the body up to the rim. In the Rayy jug the Islamic character is evident in the full rounded shoulder, which forms a sharp angle to the vertical neck. Again, the flat base seems to be typical of Early Islamic pottery. There is still a slight ridge about the base of the neck, reminiscent of the heavy Sasanian molding. The slightly polished surface of the jug in Fig. 208 is better illustrated in Fig. 209 by a red clay burnished bottle, said to have come from Rayy, in the Art Institute, Chicago.<sup>7</sup>

In Mesopotamia unglazed jars, either for water or for storage of various grains, and smaller jugs and vases, are decorated in a number of already familiar techniques: combed bands, and impressions with the teeth of a comb, punching, grooving, stamping with small circles, either plain or having a central dot, stamping with animal and and inscription medallions and barbotine in ornamental bands and bosses. The applied pressed band has survived,

<sup>6</sup>University Museum, Philadelphia, No. CT-39, from Chal Tarkhan; H.26.3, D.15.6. Another burnished jug, much more Sasanian in style, is No. RH 6003.

<sup>7</sup>Art Institute, Chicago, No. 27.398, H.22.8, D.14.9.

though it is very different from its earlier form. But the style of the period consists in the use of several different techniques on the same pot, often accenting different parts of a single design.

Pottery decorated only with circular stamps having geometrical or animal designs and potters' signatures in relief seems to have been found chiefly in the region about Takrit,<sup>8</sup> and at Samarra,<sup>9</sup> as well as at Ahwaz;<sup>10</sup> though some of the latter may be considerably later in date.

At Ctesiphon and at Hira is found a second system: many of the simplest combed and dotted techniques were used not merely in straight or wavy bands, as had been common in pottery of the Parthian period, but in zigzags, in checker and lozenge patterns, in parallel or crossing arcs, that is, forming definite designs. A third particular combination of techniques is that of grooves together with small stamped circles. In Fig. 210, a fragment of the shoulder of a small jug from Ctesiphon,<sup>11</sup> this combination is used with two other motives, combed bands, and small depressions punched with the end of a stick. The combed

<sup>8</sup>Sarre and Herzfeld, Archäologische Reise IV, Pl. CXLVI.

<sup>9</sup>Sarre, Samarra, pp. 8-12, Nos. 15-40, Figs. 13-33, and Pl. III.

<sup>10</sup>Koechlin, Les céramiques musulmanes de Suse au Musée du Louvre, pp. 22-23, Pl. IV, Nos. 32C, 33, 34, and 37.

<sup>11</sup>Metropolitan Museum, New York, No. 32.150.396; fine white clay; H.5.5, W.7. "Dated eighth to ninth century."

bands and punched dots describe a circle, within which the small stamped circles, arranged in groups so as to look like rosettes, alternate with the grooves set radially..

In Fig. 211, also from the shoulder of a small jug from Ctesiphon,<sup>12</sup> we find only the first two, that is, the combination of grooves, set vertically, and small stamped circles set between the points of the grooves. The same system appears in pottery from Hira, which is dated in the second half of the eighth century; see Fig. 224, D.<sup>13</sup>

Designs exactly like this were also found on unglazed jugs at Tarsus, whose date is late eighth, or ninth century. It will be remembered that grooves, used alone, decorated pottery of the third century from Dura (Figs. 104, 105); and that small stamped circles, but without grooves, occurred on pottery of the Sasanian period from Kish (Figs. 138, 139) and from Ctesiphon (Fig. 155).

A fourth type of decoration consists of applied pinched pellets, usually in connection with combed bands. The pinched pellets seem to have evolved out of the earlier flat disks and conical knobs; they seem to be definitely Islamic in date. In a fragment from Samarra, Fig. 212,<sup>14</sup>

<sup>12</sup>Ibid., No. 32.150.448, from Selman Pak, fine whitish clay, size 6.5 x 6. Dated eighth to ninth centuries.

<sup>13</sup>D. Talbot Rice, "The Oxford Excavations at Hira," *Ars Islamica* I (1934), Figs. 18 and 21, pp. 66-69.

<sup>14</sup>Sarre, *Samarra*, p. 16, No. 59, and Pl. IV, 9: "Randstück vom geraden Halse eines dünnwandigen Gefäßes mit eingeritztem Rautenmuster und aufgesetzten Nuppen."

and one from Ctesiphon, Fig. 213,<sup>15</sup> the combed bands form a lattice pattern, with the pellets in the spaces. This system is also typical of Tarsus pottery of the eighth to ninth centuries. The sherd from Ctesiphon can be either Sasanian or Early Islamic from the context in which it was found; the latter date is more probable if the dates of Samarra and Tarsus be considered. The small unglazed jugs in Fig. 214 from Susa,<sup>16</sup> and 215, from Nishapur,<sup>17</sup> and others from Hira of the eighth century,<sup>18</sup> illustrate the shape of jug on which occurred the incised and applied decoration we have been describing. The very low round body, the disproportionately wide and tall neck, the tall straight handle, form a shape which is purely Islamic. The earliest dated examples, from Hira, are Mesopotamian, though the shape was carried east and west over the whole Islamic world.

What constitutes a fifth type of decoration is barbotine combined with incised hatching. The incised hatching is used on the barbotine figures as well as to fill in

<sup>15</sup>Metropolitan Museum, New York, No. 32.150.437; cream-colored clay. From the neck of a jar, whose diameter is c.22. Late Sasanian or early Islamic.

<sup>16</sup>Koechlin, Suse . . . . Louvre, No. 12, Pl. II, p. 16.

<sup>17</sup>Hauser, Upton and Wilkinson, "The Iranian Expedition 1936, The Excavations at Nishapur," BMMA, XXXII (October, 1937), Section II, Fig. 15, p. 16.

<sup>18</sup>Rice, op. cit., Figs. 20 and 21.

spaces in the background. The two elements of this system may be used alone, or the applied pressed band, and small stamped circles, may be used as well on the same pot. This system is used on large water jars as well as on smaller jugs. The earliest dated examples are late eighth century sherds from Hira, from small jugs; see Fig. 224, sherds marked B.<sup>19</sup> Fig. 216 illustrates this sort of decoration as it appears on a large waterjar; this example is from Ctesiphon, and is probably of the eighth to ninth centuries.<sup>20</sup> The simple oval or nearly eggshaped body is not far removed from that of the unglazed water jars of the Sasanian period in Mesopotamia (Figs. 166-168), but the straightness, the width and the height of the neck are new, as well as the fact that the neck itself is decorated. The concentration of the main ornament in a wide band on the upper part of the body recalls the similar arrangement on the jar with incised grapevines from Kish in Fig. 166. But here the decorative area is bordered above and below by double rows of the applied pressed band, which appears in its Islamic form, that is, the applied band is angular in section, not flat like a ribbon, and the impressions are made not with the finger, but with the side of a stick.

<sup>19</sup>Ibid., Fig. 18, and pp. 65-66. Rice failed to make a distinction between barbotine wares and wares made in a mold, but the difference can be seen very clearly, even in the photograph.

<sup>20</sup>Metropolitan Museum, New York, No. 32.150.51, found near Ctesiphon.

The patterns in this are semicircles in barbotine, containing open rosettes in barbotine (or, in other words, made of applied pellets). Incised hatching covers the rosettes, and fills the spaces between. Similar hatching, as well as rosette-like bosses, appear on the shoulder and neck; and on the neck are vertical loops also. On the four handles were large and elaborate knobs. An example of this type of knob, which occurs also on handles of the small jugs, is seen in detail in Fig. 217, from Ctesiphon<sup>21</sup>; its sharp profiling suggests wood turning. Another sort of knob, flatter and stamped with a rosette in relief, is equally typical of the period; Fig. 218.<sup>22</sup>

The large unglazed waterjar from Baghdad in Fig. 219<sup>23</sup> may be assigned to the Early Islamic period because of its relation to the Ctesiphon jar of Fig. 216, to a jar from Hira, and to wood carving from Takrit. The type of decoration is the same as that of the Ctesiphon jar, but more complex. In the wide main zone on the body the decoration is of stylized animals confronting stylized trees, all in

<sup>21</sup>Metropolitan Museum, New York, No. 32.150.413, whitish clay; knob H.7.7, D.3. From its context this knob may be either Sasanian or Islamic in date.

<sup>22</sup>*Ibid.*, No. 32.150.424, from Selman Pak, Islamic. Fine whitish clay. Handle H.8.

<sup>23</sup>Sarre and Herzfeld, Archäologische Reise, IV, Pl. CXLIII, right, and p. 14. The other side was shown in Meisterwerke Muhammedanischer Kunst, (Munich, 1910), II, Pl. 90. I disagree with the previous dating of the eleventh to twelfth centuries.



barbotine with plentiful incised hatching and small stamped circles as well. This main zone has a lower border of two applied pressed bands, as in Fig. 216, but here there is between them a third pressed band, which is wavy, having two rosette-bosses in each wave. A similar arrangement of a wavy pressed band between two straight ones occurred on a large storage jar from Hira, not illustrated here. This Hira jar was definitely dated by its location and by coins to the end of the eighth century.<sup>24</sup> Even in the Parthian period the pressed band had been known to go in scallops; see a glazed amphora of the third century from Dura in Fig. 114; and compare the applied decoration on the glazed bowl of the fourth century from Kish, which may be described as either a wave band, or a series of arcs with their ends touching; Fig. 185. We shall again see the same scheme of wavy applied bands with rosettes in the blue-green glazed ware, Fig. 249. On the Baghdad water jar, directly above the main zone of decoration is a Kufic inscription, which says merely: "Blessing and [?] to the owner," ( *بركة و [?]* ). The style of the letters is certainly as early as the ninth century, or even the end of the eighth; compare the Kufic letters in the wood carving in Fig. 238. Above the inscription is a frieze of the old Assyrian stepped battlement, but in the form it assumed during the Sasanian

<sup>24</sup>Rice, op. cit., Fig. 19, and pp. 51-52.

period, with acute angles instead of right angles; further, it is divided into triangular compartments instead of being continuous. A similar treatment of the Assyrian battlement is seen in the late eighth century wood carving from Takrit, in Fig. 235, though there the sections are alternately right side up and reversed. Further elaboration of the jar is seen in the multiplication of the handles, and their decoration. Incised hatching decorates shoulder and neck.

That this style of barbotine together with incised hatching reached Persia as well is seen in the unglazed jug from Sava, in New York; Fig. 220.<sup>25</sup> The design of stylized animals confronting a stylized tree is not confined within a zone, but occupies a large area of the body. The similarity in style to the water jar of Fig. 219 lies not only in the subject represented, but in the treatment: incised hatching covers the applied animals and trees, and also fills in the background spaces with a sort of fern or leaf pattern. Though this jug may not be as early as its Mesopotamian prototypes, it is very likely no later than the tenth century.

Another very rare type of unglazed pottery has been

<sup>25</sup>Metropolitan Museum, New York, No. 30.112.48. Published by M. S. Dimand, "A Recent Gift of Near Eastern Art," *BMMA*, XXVI (January, 1931), p. 7, and Fig. 2. See also Ettinghausen, *op. cit.*, pp. 678-679, and Pl. 194 A. Two other examples of jars with rather similar shape of body and neck were also published by Ettinghausen: an unglazed bottle in the Pope collection, Pl. 194B, and pp. 678-679, and a glazed one in the T. L. Jacks collection, Pl. 193 A, p. 678. Both are said to have come from Persia.

found in Persia, although it evidently derives from Mesopotamian art. Fig. 221 shows an unglazed fragmentary jar from the American excavations at Ray, in which the designs are painted red, white and dark brown, in matt pigments.<sup>26</sup> Vertical bands have alternately the "pearl-band" on a large scale, or a sort of acanthus or leaf scroll forming a rinceau. These large designs are separated by very narrow pearl-bands; another pearl-band of intermediate size borders the base of the jar. Though pearl-bands are widespread in Early Islamic art (being taken over in all probability from Sasanian art), the acanthus-like scroll pattern finds its closest analogy in the painted wooden beams of Samarra, that is, of the ninth century.<sup>27</sup> The color scheme is also consonant with this analogy.

<sup>26</sup>University Museum, Philadelphia, No. R Ch 647. Islamic. H. preserved 19, D.c. 18.

<sup>27</sup>Herzfeld, Der Wandschmuck der Bauten von Samarra (Berlin, D. Reimer, E. Vohsen, 1923), Colorplate LXIX, Ornament 193b, and 199b. See also designs in Pl. LXVII and LXVIII.

## B. POTTERY MADE IN MOLDS

Pottery made in molds constitutes a class, whether it happens to be glazed or unglazed, for here style is dependent upon technique. The present group, which is probably of the seventh to eighth centuries, has usually a creamy-buff or white clay, which is fine and smooth, but may be a little sandy. Thus it is physically different from the "Samarra" molded wares with green glaze, and with or without luster, which have the creamy-yellow to buff-red "Samarra clay," and are of the ninth century. Therefore the earlier group will be considered here, and the later group with the other "Samarra wares." We shall notice also certain stylistic differences between the two groups.

Fig. 222 represents a small cup, and a small square saucer, which most writers have agreed in calling Umayyad. They were found at Susa, and are in the Louvre Museum.<sup>28</sup> The main part of the cup is divided into three sections which contain respectively branches of pomegranates, grapevines, and another plant which some consider oak, and others,

<sup>28</sup> Pézard, La céramique archaïque de l'Islam, Pl. LI, Nos. 5 and 6, and p. 221. The cup is 5.7 high, and 9.3 in diameter. See also Gaston Migeon, Manuel d'art musulman (2nd. ed: Paris, 1927), II, Fig. 330, and pp. 180-181; Koechlin, Suse . . . . Louvre (1928), Nos. 29 and 30, Plate IV, and pp. 20-21; Bibliothèque Nationale. Les arts de L'Iran (1938), No. 280, pp. 87-88, not illustrated. Here the date is given as eighth to ninth century.

almond branches. The flat saucer is divided into four sections, one having pomegranates, one grapevines with the grapes stylized into a trefoil shape, and two, grapevines with more realistic bunches of grapes. All the plants have both three-pointed and five-pointed leaves, regardless. The sections are marked off by moldings which are miniatures of the Hellenistic-Roman laurel wreath. The details of the leaves and fruits of the plants are seen, on close examination, to be conventionalized; but the general effect of the cup and saucer is one of great freedom and naturalism, an effect due chiefly to the unsymmetrical branching of the stems. This simple delight in the beauties of the external world, this naturalism, the use of grapes and pomegranates, all point to a Hellenistic, and more specifically, to a Syrian, source of inspiration. Grape vines and acanthus scrolls are found in the temples of Baalbek and Palmyra,<sup>29</sup> the mosaics of Antioch,<sup>30</sup> in metal work, as seen in the stone sculpture of Palmyra (Fig. 67 bis) and the silver vase from Dura (Fig. 197). In the Ummayyad art of Syria stylized pomegranates occur on the fine wooden consoles in the Aksa

<sup>29</sup>Conteneau has summarized the decorative styles of Baalbek and Palmyra, L'art de l'Asie occidentale, p. 16: "Décoration, moulures, sont empruntés à la Grèce, mais la floraison en pierre qui couvre les surfaces libres est le produit de l'art Syrien."

<sup>30</sup>Richard Stillwell, editor, Antioch on-the-Orontes, III (Princeton University Press, 1938), No. 55, Pl. 41, a vine-border with animals and birds; No. 88, Pl. 69, a vine-border, with boys gathering grapes; No. 91, Pl. 74, heartshaped leaves with fruits in the center of the leaf.

Mosque, at Jerusalem.<sup>31</sup> On the Susa cup the Arabic inscription, in the Umayyad style of Kufi, is incomplete, and is apparently illegible.<sup>32</sup>

At Tarsus the American Expedition, under the Directorship of Miss Hetty Goldman, found Umayyad pottery, made in molds with a green lead glaze, some of which had precisely similar pomegranate branches. One shape appeared to be a melnshaped vessel, another, a quite spherical bottle with a narrow neck. Another shape was a pilgrim flask whose flat sides are decorated with the Mshatta pattern, that is, a zigzag filled in with rosettes.<sup>33</sup> This type of pottery is dated by its context, and was most probably made at Tarsus, because unglazed fragments of the same ware were found, as well. In this relief ware with a green lead glaze<sup>34</sup> we seem to have a direct descendant of the Tarsus green and ocher-tan lead-glazed pottery of the Augustan period. What happened to this glaze between the first and the seventh centuries A.D. is a complete mystery, for it is

<sup>31</sup>K. A. C. Creswell, in the Illustrated London News, 190 (January 16, 1937), pp. 94-95.

<sup>32</sup>Koechlin, op. cit., p. 20, Max von Berchem, one of the greatest of Arabic epigraphers, was unable to read it.

<sup>33</sup>Sarre used the term "das Mschatta-Motiv," in describing the pattern of a small molded, green-glazed bowl, of fine, creamy, pinkish clay, from Samarra; Sarre, Samarra, No. 125, Pl. IX, 14, p. 31. As the Tarsus pottery is probably contemporary, it may have been made by a man who had been to Mshatta; or the design may have been more wide-spread.

<sup>34</sup>Mr. Fred Matson applied the test for lead to all of the green glazed sherds brought back from Tarsus, and found that they all had a lead content.

unknown at Tarsus between those dates. Had it perhaps been made also in Syria in the Roman period, and there survived? This is also unknown, for no kiln-sites of this ware have been found in Syria either. Further, no pottery has as yet been adequately published from any of the many Umayyad sites in Syria and Palestine; possibly because some were never completed, and never inhabited; and most of these sites were studied by architects, and purely from the architectural point of view.<sup>35</sup> Even one of the most recently studied sites, the western Kasr al-Hair, excavated by Schlumberger<sup>36</sup> seemed to be barren of pottery.<sup>37</sup> Pottery was found at the Umayyad site of Khirbet el-Mefjer, north of Jericho, built in the reign of the calif Hisham (724-743 A.D.); but this pottery was found in re-used rooms, and is later than the Umayyad period. It was described as resembling the pottery from Isbeita, which was attributed to the twelfth century, but which is actually early Abbasid; for this see

<sup>35</sup>See K. A. Creswell, Early Muslim Architecture, I, Umayyads, A.D. 622-750, (Oxford, Clarendon Press, 1932), passim.

<sup>36</sup>Daniel Schlumberger, "Les fouilles de Qasr el-Heir el-Gharbi (1936-1938) Rapport préliminaire," Syria, XX (1939), pp. 195-238.

<sup>37</sup>In March, 1939, when I saw the stucco from this new Kasr al-Hair at the National Museum, Damascus, I made a point of asking the Director, the Amir Ja'far al-Hasani, whether any pottery had been recovered there, and he told me, none whatever.

Fig. 226.<sup>38</sup> Pottery from another Umayyad site in Palestine, Khirbet Minya, on the Sea of Galilee, has been referred to anomalously as "Koptisch-arabisch" ware of the eighth to tenth centuries; but it was not described.<sup>39</sup> No pottery of the Umayyad period was reported by the British Museum Expedition at al-Mina, the seaport of Antioch.<sup>40</sup> The Islamic pottery found by the Princeton Expedition at Antioch has not yet been published.

In the light of our present knowledge, or shall we say, lack of knowledge, we may recall that, apart from the question of glazing, the technique of making pottery in molds seems to have been continuous in Syria during the Early Christian period, and to have been absent in

<sup>38</sup>D. C. Baramki, "Excavations at Khirbet el Mejjer," QDAP, V (1935-1936), p. 137; here the pottery is said to resemble the pottery from Isbeita. See also the second report, D. C. Baramki, "Excavations at Khirbet el Mejjer: II," QDAP, VI (1937), p. 167. The dating in the reign of the calif Hisham was ascertained in the third season of work by an Arabic inscription: D. C. Baramki, "Excavations at Khirbet el Mejjer. III," QDAP, VIII (1938), pp. 51-53.

<sup>39</sup>A. M. Schneider, "Die Grabung der Görregesellschaft auf Chirbet Minje am See Genezareth," Oriens Christianus, XXIII (1936), pp. 102-103. For the dating under the Calif al-Walid, (705-715 A.D.) see Anon., "Excavations in Palestine and Trans-Jordan, 1936-7," QDAP, VII (1938), pp. 49-51. Later publications by the German excavators were not available: O. Puttrich-Reignard, "Die dritte Grabung auf Chirbet el Minje bei Tabgha am See Genezareth in Palastina (Frühjahr 1937)" Das Heilige Land, LXXXI (1937), pp. 117-22. Also: O. Puttrich-Reignard and A. M. Schneider, "Ein frühislamischer Bau am See Genesareth," (Palastina-Hefte des Deutschen Veréins vom Heiligen Lande, Heft 15), Kéln 1937.

<sup>40</sup>Arthur Lane, "Mediaeval Finds at Al Mina in North Syria," Archaeologia, LXXXVII (1938), pp. 19-78.



Mesopotamia between the Parthian and Early Islamic periods.

In Syria the use of molds survived in the making of lamps, of which stages of different dates, Late Roman, Christian, Islamic, are known.<sup>41</sup> In the Museum of the American University of Beirut are two unglazed molded lamps of precisely the same type, shape and size, presumably made by the same potter, of which one has in Greek letters a debased form of the inscription:  $\phi\omega\varsigma$   $\chi\rho\iota\sigma\tau\omicron\upsilon$   $\alpha\nu\alpha\sigma\tau\alpha\iota\varsigma$ ; and the other, in Umayyad Kufic, the Moslem formula

الله  $\text{بسم}$ , "In the name of God."<sup>42</sup> Another lamp, from the Yale University Excavations at Jerash, has variations of both these inscriptions, the Greek on top, the Arabic on the bottom.<sup>43</sup> These bi-lingual lamps give a very vivid picture of how the transition was made from Early Christian to Islamic art, and how certain pottery methods survived.

In Persia the situation as to making pottery in molds

<sup>41</sup>Mr. J. H. Iliffe has discussed the problem of the chronology of late Roman and Byzantine lamps in "A Tomb of el Bassa of c. A.D. 396," QDAP, III (1933), pp. 81-91. Lamps of these periods, and some of the Islamic period, have been published in every volume of the QDAP.

<sup>42</sup>The lamps in the Museum of the American University of Beirut were seen by me before 1936, while I was working in that museum. Most of the collection, which is quite large and representative, is unpublished.

<sup>43</sup>This lamp, in the Gallery of Fine Arts, New Haven, is not published. By the courtesy of Professor Carl H. Kraeling I was enabled to make notes of it, while I was studying the Dura pottery in the same museum.

seems to be very similar to that in Mesopotamia: none has been reported of the Sasanian period, nor at any previous time. Yet by the Early Islamic period we have for Mesopotamia the cup from Susa, in Fig. 222, and for Persia, a small "tazza," from Nishapur, in Fig. 237. Of this class Mr. Upton has said, "Unglazed pottery made in a mold is common in Mohammedan sites in Iran, but nowhere have examples appeared equal in quality to those from Nishapur, where we found in addition to the actual fragments molds and a kiln."<sup>44</sup> Therefore it seems to me that unglazed molded pottery in both Mesopotamia and Persia may be due to Syrian influence; and that green-lead-glazed molded pottery can have as its only prototype the Tarsus Roman green lead-glazed ware.

A large green-glazed pilgrimbottle which because of its style may be attributed to the Ummayyad period is in the collection of Dr. Ettinghausen; Fig. 223.<sup>45</sup> The green glaze has every appearance of being a lead glaze. The sides are flat, as in the Tarsus pilgrim bottle, but the shape is annular, and the central hole was originally filled in with an openwork screen. The annular body has, like the Tarsus piece, a zigzag filled with rosettes; this is bordered

<sup>44</sup>J. M. Upton, "The Persian Expedition 1934-1935, Excavations at Nishapur," BMMA, XXXI (September, 1936), p. 180.

<sup>45</sup>Ettinghausen, op. cit., pp. 675-676, Pl. 193 B.

with two dotted bands. Ettinghausen suggested that this type of pottery may be the forerunner of the "Samarra" green and yellow glazed relief wares, which is in all probability the case. Mr. Pope inserted into Dr. Ettinghausen's article the remark that this flask is supposed to have been found in Persia, and suggests that it must be Eastern Iranian in origin.<sup>46</sup> If it was indeed found in Persia, it might have been an importation from the west; if, on the other hand, it had been made in Persia, it would then be a remarkably early example of the spread of the Umayyad-Syrian style to that country.

Leaving the molded pottery of the Umayyad period, a very small group, we now come to that of the early Abbasid period. This group is more plentiful, and is known from more countries. In Mesopotamia it has been reported from five sites, Hira, Ctesiphon, Assur, Samarra, Susa; in Syria, five again, Antioch, al-Mina, Tarsus, Isbeita and Khirbet Mefjer; in Persia from Rayy and Nishapur, and one or two sites in Makran. Other Persian sites for molded pottery were mentioned by Mr. Upton, but not listed by name.<sup>47</sup> This early Abbasid pottery is arranged by shapes: jugs or jars with handles, cups or bowls, pilgrim bottle, and bottle-shape, and a sort of chalice of "tazza."

<sup>46</sup>Ibid., p. 676.

<sup>47</sup>Page 223 above, and note 44.

The first type, which is illustrated in Figs. 224-228, is the most widespread. The shape (Fig. 228) is very close to the one-handled unglazed jugs in Figs. 214-and 215; one might say that in proportions it is about halfway between them. The body is low and wide; the tall neck is slightly flaring; the handles are three; the base flat and very low. This jar or vase is made in three sections: the upper and lower parts of the body, and the neck, which are then joined, and the handles added. The clay is smooth and fine, a creamy-buff, or white; the walls are thin, sometimes only a millimeter thick. The designs are finely drawn, usually geometrical, sometimes floral; there are often Kufic inscriptions, sometimes giving the potter's name, sometimes merely decorative. The earliest dated examples, unfortunately only small fragments, come from Hira, near Kufa; these are definitely dated in the second half of the eighth century.<sup>48</sup> Mr. Rice, who published them, did not distinguish them from the barbotine wares; but when I saw the Hira pottery in the Ashmolean Museum, Oxford, in April, 1939, I found that there were indeed fragments of molded ware in the collection. These sherds are marked A in Fig. 224. The designs are for the most part geometrical, minute circles, ovals, and bars arranged in bands and in lattice patterns. Three (near the bottom in Fig. 224) have

<sup>48</sup>Rice, op. cit., pp. 65-66, and Fig. 18.

small rosettes with grooved petals, which are known in mayyad wood carving and stucco.<sup>49</sup> One (at the bottom left corner in Fig. 224) has palmettes radiating from a center; an arrangement exactly like the central design in Triangle I of the Mshatta facade; see Fig. 205. This scheme of radiating palmettes goes back to Sasanian stucco. Similar palmettes on molded ware were found at Ctesiphon.<sup>50</sup> At Samarra the designs of this ware are again geometrical; the lattice pattern is very common.<sup>51</sup> A fragment from Susa<sup>52</sup> is evidently from the rim of a jug, Fig. 225; we see again tiny ovals and rings as space fillers in larger designs, which are here overlapping arcs forming curved triangles, and intersecting arcs, forming quatrefoils. At Assur in the so-called Sasanian

<sup>49</sup>Wood carvings in the Aksa Mosque, Jerusalem, Ill. London News, 190 (January 16, 1937), pp. 94-95. Stucco panels from Khirbet el-Mefjer; Baramki, "Khirbet el-Mefjer, II," Plate LIX, 2.

<sup>50</sup>Metropolitan Museum, New York, No. 32.150.376, fine creamy white clay. This sherd is dated eighth to ninth century.

<sup>51</sup>Sarre, Samarra, Nos. 48-51, 53, 55; pp. 12-15, Figs. 40-45, Pl. IV, 7 and 11. Small conical beakers were found here as well as the jars, in this ware.

<sup>52</sup>Koechlin, Susa . . . . Louvre, No. 28, p. 20, Plate V. Koechlin considered it to be the rim of a bowl and compared it to a mold for a bowl bought in Kairo, which is probably of the thirteenth century; see Sarre, Samarra, Fig. 67, p. 22.

caravanserai<sup>53</sup> were found fragments of molded pottery of uncertain shape which for stylistic reasons probably belongs to the end of the eighth century: between radiating leafy sprays, perhaps olive or laurel branches, are triangular spaces containing isolated trefoil leaves. This small trefoil leaf is precisely the leaf found on the Takrit wood carvings of the late eighth century; see Figs. 235 and 239.

The pottery just discussed from the Mesopotamian sites is duplicated in Syria. Until the Syrian pottery is completely published Hira keeps its priority in date. If the pottery from Khirbet Minya should prove to be of this type, and if it should be as early as the Umayyad period, then our present understanding would have to be revised.<sup>54</sup> Sherds from Isbeita are illustrated in Fig. 226. They were published as being of the twelfth century,<sup>55</sup> but comparison with the Hira examples certainly establishes their eighth

<sup>53</sup> Andrae and Lenzen, Die Partherstadt Assur, Pl. 56, c, No. Ass. 23068c, p. 104. These fragments are described as "Stempelkeramik." An Early Islamic lamp was also found in the Caravanserai, Pl. 56 p, No. Ass. 23042, p. 104; called "unglasierte Lampe, ornamentiert." This lamp is the molded type which had developed out of the late Roman and Early Christian types.

<sup>54</sup> See above, note 39.

<sup>55</sup> Colin Baly, "S'baïta," Palestine Exploration Fund Quarterly Statement (October, 1935), pp. 173 and 180-181, and Pl. VI, 2. Mr. Baly further compared this molded ware with a jug from Rayy, shown in the Illustrated London News 186 (June 22, 1935), p. 1123; but this jug is not molded at all, being decorated with barbotine and incised patterns, as in Figs. 216-220 in this paper.

to ninth century date. Some Kufic inscriptions, tentatively assigned to the ninth century, were also found in the mosque and in some of the church buildings at Isbeita.<sup>56</sup> The pottery from Khirbet el-Mefjer was referred to by Mr. Baramki as being like the Isbeita pottery, and of the twelfth century; as I remarked before, this suggests the possibility that it, too, may be molded ware, and of the early Abbasid period.<sup>57</sup> Examples of the early unglazed molded ware from Antioch are as yet unpublished. Mr. Lane has published potsherds of this ware from al-Mina (see Fig. 227) as well as a complete three-handled jar;<sup>58</sup> he assigned them to the period of the ninth to tenth centuries, rather than eighth to ninth. No more need be said of the presence of this ware at Tarsus (see Fig. 228) save that it was occasionally glazed in monochrome green or yellow, or with isolated spots of both green and yellow glazes, sprinkled over the molded designs with no relation to them.

In all of the Early Abbasid molded pottery so far described, from both Mesopotamia and Syria, there is a

<sup>56</sup>Ibid., pp. 173-177. I may add that Mr. H. Dunscombe Colt, the Director of the expedition to Isbeita, confirmed my impression of the eighth century dating of this molded pottery when I showed him some photographs of the similar Tarsus ware, at Ann Arbor, in January, 1940.

<sup>57</sup>See note 38.

<sup>58</sup>Lane, op. cit., pp. 38-42, Pls. XIX, 2 and XX, 2, and Fig. 3, F. Lane referred to the Hira pottery on p. 40.

particular element which is not found on the molded ware of the Umayyad period, namely, the tiny rings and ovals which often completely fill the background among the larger patterns; this can be seen clearly in Fig. 225. In the Umayyad cup in Fig. 222 the figures themselves are fairly small, and form an all-over pattern, while the background is empty. In the pilgrimbottle in Fig. 223 the designs are so close together that little of the background appears. Thus the Umayyad examples are stylistically as well as technically related to the Roman lead-glazed molded pottery, as in Figs. 65 and 66. The tiny rings appearing as space-fillers on Early Abbasid molded pottery are due to a new influence from another medium, namely, metal; see Fig. 229. This bronze jug<sup>59</sup> is of a purely Islamic shape, one quite unknown in the Sasanian period; compare the pottery jugs and jar in Figs. 214, 215, and 226. The Kufic inscription on the angular molding at the base of the neck is of the style of the ninth century: "Blessing from God and good fortune and joy to Husain ibn 'Alī." ( بركة من الله وبيمنه و ) (سرور للحسين بن علي). Of course the use of tiny stamped rings to accent the background, so as to differentiate it from the main designs, goes back to certain types of metal of the Sasanian period; for instance, on the skyphos-handled

<sup>59</sup>Smirnov, Argenterie orientale, No. 128, Pl. LXXII, the inscription in Pl. LXXVIII; pp. 7, 15. It was found at Lysiewa, in Perm. Smirnov did not discuss nor translate the inscription.



cup in Fig. 79. In metal the tiny rings are stamped, or incised; in making pottery they are stamped into the mold, and come out in relief on the finished pot. Fortunately the very large bird-knobs and the ugly feet of the bronze jug in Fig. 229 were not translated into pottery; in that medium they would have been an aesthetic monstrosity.

With the unglazed molded jug from Susa, in Fig. 230, we come to another variety of Early Abbasid Mesopotamian pottery. It was previously published as Sasanian, on the basis of the designs, which consist of split palmettes and birds, and which were compared to similar designs found in Sasanian stucco.<sup>60</sup> Decoration alone is not a sufficient criterion for dating pottery, particularly in the orient, where designs persist for so many centuries. First then, we must consider the technique, which is that of molding. We have seen already that this technique was absent, according to what evidence we have, during the Sasanian period, in both Mesopotamia and Persia. And the method used in making this vase is precisely the method used in the Early Abbasid pottery shown in Figs. 224-228, that is, it was made in three sections, the upper and lower parts of the body, and the neck; though most of the neck and the

<sup>60</sup>Pézard, La céramique archaïque de l'Islam, Pl. X, 2, and p. 206; Koechlin, Suse . . . Louvre, No. 26, Pl. V, p. 19; Ettinghausen, op. cit., p. 670, and Fig. 232; Bibliothèque Nationale, Les arts de l'Iran, No. 271, p. 85, not illustrated. This vase is very small, its height being only ten centimeters.

handle are unfortunately missing. Secondly, the shape itself is purely Islamic, being completely different from any known Sasanian pottery shape, whether made in Persia or in Mesopotamia; it is fundamentally the same low-bodied wide-necked type we have already noticed in Figs. 214, 215, 228 and 229. Finally, to come to the decoration: the split-palmettes and the birds undoubtedly go back to Sasanian originals, but they appear here in the form and in the manner of the Early Islamic period, specifically, of the second half of the eighth century. For this period there are now known some remarkable stone capitals, for instance, that shown in Fig. 231, which come from Syria and from Rakka, and which have been so admirably published by Dr. Dimand.<sup>61</sup> In my opinion these carved capitals present the closest analogy for the split palmettes on the little Susa vase.

Another very charming piece of molded pottery of the Early Islamic period was found in the American excavations at Rayy; see Fig. 232.<sup>62</sup> This object was left unfinished as is seen by the rough and untrimmed edge. It was therefore probably not meant to be a hemispherical bowl, but was probably either the upper or the lower half of the sort of

<sup>61</sup>Dimand, "Studies in Islamic Ornament, I", pp. 293, and 317-323, Fig. 40. See also Figs. 41-44, and 15-25.

<sup>62</sup>University Museum, Philadelphia, No. R.C. 8083 (1936), period, Islamic I. D.c.16.5, H.7.3. Its clay is a pale greenish white color.

Mesopotamian or Syrian jug we have just been considering, unless it was the side of a convex pilgrim bottle. The designs are very intricate: at the lower edge is an arcade, having three colonettes between each arch; and within each arch are symmetrically branching leafy sprays, or, a sort of stylized tree. Above, starting out of the spandrels of the arcade arches, are very rigid leafy branches alternating with the stylized tree of the arcade, but here contained in trefoil lobed arches. The arcade, with its simple semi-circular arches, seems very close to architectural originals: compare the arcades with two colonettes of the Taq-i-Kisra facade, which shows strong Classical influence<sup>63</sup>; also the arcade of Classical shell-headed niches, and two colonettes, on an isolated capital with a figure of the goddess Anahit at Taq-i-Bustan.<sup>64</sup> Arcades are the most common feature of Umayyad architecture in Syria. On the other hand the lobed

<sup>63</sup>See Sarre, Die Kunst des alten Persien, Pls. 68-69.

<sup>64</sup>Ibid., Pl. 93. Another example of the Classical arcade in the east is seen in ibid., Pl. 118, a metal bowl found in Russia (?); the single column arcade forms the outer border. Within is a band in which vine-scrolls growing out of amphoras alternate with hunting scenes in round medallions; in the center is a mounted huntsman. This plate has been described as "Sasanian-hellenistic"; in my opinion every element in it is quite Hellenistic and surely pre-Sasanian. On a silver plate which is very Sasanian in style, representing a beleaguered castle (ibid., Pl. 105) the lowest storey is decorated with half-columns set very close together, while at the top of the tower is a round-arched blind arcade, above a row of shell-headed niches. A better illustration of this castle is in Orbeli and Trever, op. cit., Pl. 20.

arch, above, seems to be decorative, and related to Islamic, rather than to classical works of art. We find a seven-lobed arch (Fig. 233) on a panel of the famous teakwood mimbar in the Great Mosque at Kairawan, which was sent there from Baghdad in 248 H., or 862 A.D.<sup>65</sup>; Dr. Dimand rightly attributes its making to the end of the eighth century.<sup>66</sup>

A five-lobed arch appears on another teakwood panel from Takrit, also of the late eighth century; Fig. 235.<sup>67</sup> An unpublished wooden door from Mesopotamia in the Benaki Museum, Athens,<sup>68</sup> which is probably contemporary with the Kairawan mimbar, has both types of arches: a long arcade of semicircular arches separated by two colonettes, and a decorative arch of eleven lobes. Here the lobes at the sides are round, while the lobe at the top is pointed, exactly as in the Kairawan panel in Fig. 233. In other words, of the elements occurring on the molded fragment from Rayy, the stylized branching tree is related to Umayyad Syrian art, the round-arched arcade to classical

<sup>65</sup> Georges Marçais, Les faïences à reflets métalliques de la grande Mosquée de Kairouan (Paris: Geuthner, 1928), pp. 8-10. The Arabic text recording this event will be quoted in connection with the luster tiles which were sent from Bagdad at the same time.

<sup>66</sup> Dimand, op. cit., Fig. 7, pp. 300-301. By a misprint, Fig. 7 is described in the text as Fig. 8.

<sup>67</sup> Ibid., Fig. 5, p. 299.

<sup>68</sup> The Benaki Museum was visited by the writer in April, 1939.

architecture, and the polylobed decorative arch to Mesopotamian wood carving of the late eighth century, or Early Abbasid period.

Arcading, or pseudo-arcading, also occurs on the side of an unglazed molded pilgrimbottle in Kansas City, of unknown provenance; Fig. 234.<sup>69</sup> Both the columns and the horseshoe arches have serrated edges, suggesting a derivation from the classical laurel-wreath. Within the upper part of the arches are petalled rosettes; below, are horseshoe shaped arcs containing incised whirling rosettes. In the center is a large petalled rosette having a pearl-border. Outside the arcade is a lattice pattern, the bars of which have serrated edges; in the interstices are tiny star rosettes. Tiny rings and dots fill most of the background in all the designs. Horseshoe arches are characteristic of Umayyad architecture in Syria, notably the Great Mosque of Walid (705-715 A.D.) in Damascus. Rosettes and pearl-borders were found in the Umayyad glazed pilgrimbottles of Fig. 223; rosettes with grooved petals, as in Fig. 224, have been already discussed; other rosettes recall those of the barbotine and incised water jar in Fig. 219. The lattice pattern is common on the molded three-handled jugs of the late eighth century; see Figs. 224,

<sup>69</sup>William Rockhill Nelson Gallery of Art, Kansas City; No. 35-37/14. Diameter 24 cm. Published by Ettinghausen, op. cit., Pl. 195 A, pp. 675-676.

226, 227. In other words, though Persia has been suggested as the provenance of this pilgrimbottle fragment, it is related stylistically to Mesopotamia and to Syria.

Fig. 236 shows the upper half of a bottle made in a mold, which has a green glaze; the lower half is a modern restoration.<sup>70</sup> Arcades appear in two rows, separated by pearl-borders; from the illustration it is difficult to see whether the arches are semicircular or horseshoe in shape, and whether the colonettes between them are two or three in number. The arches are decorated with what may be called chevrons, being a stylization of the classical laurel wreath; rosettes occupy the spandrels. What fills the arches seems to be leafy branches; according to Dr. Ettinghausen, there is a different motive within each arch. This bottle is said to have come from Persia; this is quite possible, considering the evidence of Rayy (Fig. 232) and Nishapur (Fig. 237).

The Metropolitan Museum expedition at Nishapur found, among other pieces of molded pottery, the small unglazed "tazza" in Fig. 237. To quote Mr. Upton, "The design of the grayish buff 'tazza' is excellent, and the patterns chosen to fill the different areas were composed with the

<sup>70</sup> Ettinghausen, *op. cit.*, Pl. 192B, pp. 675-676. Dr. Ettinghausen stated that one arch contained "a male figure seated on a base that resembles the stem and petals of a flower." This figure is not visible in the available illustration.

greatest skill. Particularly interesting are the heart-shaped motives, which are strongly reminiscent of the finest Sasanian ornament."<sup>71</sup> It may be added that the curious shape of the "tazza," round below and having a square rim, is a shape known in Sasanian metal.<sup>72</sup> At each of the four corners is a vertical chevron band, a pattern which seems to me to have evolved out of the classical laurel wreath. One side is covered with a pattern of depressed lozenges. A similar scheme of all-over lozenges, but in strong relief, is found on a Sasanian metal bowl.<sup>73</sup> But carved out lozenges are even more typical of the Early Islamic period, for instance in wood carving. The wooden panel in Fig. 238, which has this depressed, or carved out lozenge pattern for the background,<sup>74</sup> is seen to be of the same school as the Mesopotamian wood

<sup>71</sup>Upton, "The Persian Expedition 1934-1935 . . . . Nishapur," Fig. 1, p. 180. In this report, which is the first one on Nishapur, the glazed pottery here described is dated tenth to eleventh century. In the next report, after many coins had been cleaned and studied, the date of this type of pottery was found to be eighth to early ninth century. I assume that the dating of the unglazed molded ware was also affected by this revision; certainly its style seems early. See Häuser, Upton and Wilkinson, "The Iranian Expedition, 1936: The Excavations at Nishapur," BMAA, XXXII (October, 1937), Section II, pp. 14-15.

<sup>72</sup>Orbeli and Trever, Orfevriere sasanide, Pl. 55. This cup happens to have the skyphos-handle.

<sup>73</sup>Smirnov, Argenterie orientale, No. 278, Pl. CXI.

<sup>74</sup>Zaky, M. Hassan, Al-Fann al-Islāmi fi Miḡr (L'art musulman en Egypte), (Cairo: Publications du Musée Arabe du Caire, 1935), I, Pl. 29, below, and pp. 92-93.

carvings in Figs. 233 and 235 because of the small trefoil leaf, which is practically a signature of this school.<sup>75</sup>

Finally, there remain to be mentioned some fragments of molded ware, probably of about the ninth century, which were found by Sir Aurel Stein near the coast of Southern Persia, in Makran.<sup>76</sup> Some were found at Tiz; others at Kal'at-i-Jamshid, and at Kumb, both near Giti (about thirty miles north of Tiz).<sup>77</sup> These sherds are so similar to the wares of Mesopotamia that I suppose them to have been imported. Their distribution about Tiz as a center supports this assumption, for Tiz was one of the ports on the trade route from Mesopotamia to India and the Far East. This point will be discussed further in connection with blue-green glazed ware found in the same regions.

<sup>75</sup>In fact, this chip carving on wood seems to be so typically Islamic, that when it occurs also on pottery, we may consider the latter to be also Islamic. This would apply to a green-glazed "chip-carved" jug in the collection of Kirkor Minassian; Ettinghausen, *op. cit.*, pp. 666 and 673, Fig. 228.

<sup>76</sup>Now in the Peabody Museum, Harvard University. I wish again to express my thanks to the Director, Mr. Donald Scott for permission to use this material, and to Mr. Lauriston Ward and Mr. D. W. Lockard for their help to me in going through it.

<sup>77</sup>Some of these sherds were described and illustrated by Sir Aurel Stein, Archaeological Reconnaissances in North-western India and Southeastern Iran, with an appendix on the Islamic pottery by R. L. Hobson (London, Macmillan, 1937); sherds from Tiz in Pl. V, below, of which probably only Tiz III. surf. 134 + 136 is early, while the molds look more like thirteenth century ware. A fragmentary jar from Kal'at-i-Jamshid is shown in Pl. V, above, Jam. VIII. 257. Hobson (p. 245) did not discuss the dating of these sherds.



To summarize, we may say that both the art of making pottery in molds and the use of the green lead glaze were probably introduced into Mesopotamia, and from thence into Persia, from Roman, Christian, and Umayyad Syria. The style of the molded ware, both unglazed and glazed, is in harmony with this origin, for it is influenced by Hellenistic designs, Early Islamic Syrian and Mesopotamian wood and stonecarving. Another influence is from Islamic metal, some of whose designs had been developed out of Sasanian art. This Early Islamic molded ware is one of the most highly decorative and appealing of the period. It has a further historical importance in that it leads up to the ninth century molded ware with all-over luster, one of the most famous of the "Samarra wares."

## C. POTTERY WITH THE BLUE-GREEN (ALKALI) GLAZE

With the pottery shown in Figs. 239-255 we return to the familiar blue-green alkali glaze of the pre-Islamic period in Mesopotamia. The term "blue-green" is general, and refers to the type; I use it because all the examples of this ware which I have seen appear to me to be of that color range. The two jars in Figs. 239 and 240 are described as being "green"<sup>78</sup>; that in Fig. 241, as being "turquoise blue"<sup>79</sup>; and the sherds in Figs. 242-246 are described as "blue."<sup>80</sup> As for the chemical composition of this glaze, examples from Baghdad and Samarra (Figs. 239, 240, and 248) are described as follows: "Die bleireiche grüne Glasur enthält alkalische Bestandteile, manchmal auch Zinkoxyd."<sup>81</sup> Sherds of the same ware from Tarsus which have been examined<sup>82</sup> contain however, only a small quantity of lead, about ten percent. Such a small quantity is not sufficient to necessitate the term "lead

<sup>78</sup>Sarre, Samarra, pp. 28-29.

<sup>79</sup>Koechlin, Susa . . . . Louvre, p. 52.

<sup>80</sup>In the Metropolitan Museum records.

<sup>81</sup>Sarre, op. cit., p. 28.

<sup>82</sup>Mr. Matson examined these sherds in the spring of 1940; using both the test for lead and the index of refraction. Ten percent of lead is a proportion very different from the sixty-five to sixty-eight percent used in the Tarsus Roman green lead glaze.

glaze" for this blue-green glaze. I retain the term "alkali" simply because this glaze is so obviously the continuation of the glaze of the preceding centuries in Mesopotamia. Since we know that a lead glaze had been used on Islamic pottery of the Umayyad period (Fig. 223), it is natural to find some lead added to the alkali glazes; an advantage of lead is that it makes a glaze more glossy. If lead in greater or less quantity should prove to be consistently present in the Early Islamic blue-green glaze, as it is consistently absent in the Parthian and Sasanian blue-green glaze, this might be a criterion in determining the date of sherds of this ware.

The clay of the ribbed blue-green glazed group at this time is the same buff or pale cream-colored, rather soft and sandy clay which we have observed in the pottery of Mesopotamia in the Parthian and Sasanian periods. Thus it differs only in fineness, smoothness and hardness from the pale yellow clay which, as we shall see, has been termed the "Samarra clay." In color it differs from the clay of the unglazed wares, whether plain, incised, or molded, which is usually so pale as to be almost white.

The earliest dated example of pottery with the blue-green glaze is a large storage-jar excavated at Hira, dating from the second half of the eighth century; a coin found in the same place had the date of 163 H. (779-780 A.D.)<sup>83</sup>

<sup>83</sup>Rice, op. cit., Pl. 54 and 70, and Fig. 23.

The shape of this jar is similar to that of the jars in Figs. 239-241, and it has the same three small loop handles at the base of the neck, but it is not ribbed. On the shoulder are some patterns in relief, notably a band of six-petalled rosettes, with the petals grooved, such as occurred on the molded ware in Fig. 224, and which go back to Umayyad art. Below this, on the body, is a wide band with incised and hatched triangles.

The shapes of the blue-green glazed ware, as well as the ribbing, and the decoration, proclaim its ancestors to be the jars of the Sasanian period. The jars from Baghdad (Fig. 239) from Samarra (Fig. 240),<sup>84</sup> and from Susa (Fig. 241)<sup>85</sup> all go back to the type of the jar from Susa in Fig. 202--there is the same full, high round shoulder, the same nearly egg-shape, the same relatively narrow foot. On one, Fig. 240, the low-placed pressed band is retained; on the other two a wavy incised line replaces it at this

<sup>84</sup>The jar bought in Baghdad was first published by Sarre and Herzfeld, *Archäologische Reise*, IV, p. 6, Pl. CXLIII, at left; again, by Sarre, *Samarra*, No. 110, pp. 28-29, Pl. VI, 1. Height 70 cm. The jar bought in Samarra: Sarre, *ibid.*, No. 111, pp. 28-29, Pl. VI, 2; its height is 77 cm.

<sup>85</sup>Koechlin, *op. cit.*, No. 67, Pl. VIII, pp. 41-44. Height 52 cm.

point.<sup>86</sup> The chief difference is that in the Islamic jars the neck is exceedingly short, and the handles, instead of being vertical, are merely horizontal loops at the base of the neck, their function being to hold cord for fastening the lid. Some Chinese jars of the T'ang dynasty happen to have a very similar shape,<sup>87</sup> but in view of the clear relation of this type to Mesopotamian pottery of the previous centuries, I feel that we do not have to seek Chinese influence in this instance.

The decorative scheme of these three large jars is evidently derived from the anchor-motive of the Parthian and Sasanian periods in Mesopotamia. In Fig. 200, a jug of the Sasanian period from Susa, we see the closest parallel. But in the Islamic examples the central vertical prong of the anchor is missing and all that remains is the outer arc. This outer arc, which may be a semicircle, or an arc greater than a semicircle, is composed of two applied strips of clay, containing between them a row of

<sup>86</sup>The applied pressed band and the incised wavy line mark the seam where the upper and lower halves of the body were joined. The fact that these jars were made in two parts has nothing to do with the making of molded vessels in two halves. It was necessitated only by the large size of these jars, all of them being over half a meter in height. The separate parts were turned on the wheel, as usual.

<sup>87</sup>T'ang jars, of stoneware, of this shape, but without the loop handles, were imported to Samarra, and were found in the excavation; Sarre, Samarra, Nos. 211-213, Figs. 131-132, pp. 58-59.

pellets. On the two jars in Berlin (Figs. 239, 240) there are additional wavy applied bands. The space within the large arc is filled in Fig. 239 with three spiral scrolls ending in a pointed three-lobed leaf; in Fig. 240, with an obscure design which may have been meant to be a stylized tree, having octopus-like drooping branches; in Fig. 241, with one large spiral, having a vertical wavy band down the middle, while the background is filled in with round applied medallions, each of which is decorated with two dotted concentric circles with a dot in the center. The profusion of these all-over patterns is characteristic of Islamic art in general, and pottery in particular; compare the barbotine jar in Fig. 216.

Sarre dated the two jars in Berlin to the ninth century, because one was bought from a man in Samarra, and because fragments of the same ware were excavated on the site; see Fig. 248.<sup>88</sup> Koechlin objected, saying that the few fragments excavated at Samarra were not sufficient evidence, and that the leafy rinceaux on the jar in Fig. 239 are of "un caractère nettement sassanide"; and considered the Susa jar to be Sasanian in date.<sup>89</sup> In my opinion the three jars must all be

<sup>88</sup>Sarre, op. cit., No. 112, Pl. V, 5, pp. 28-29: "Bruchstücke eines hell grünblau glasierten Gefäßes mit undeutlicher Muster

<sup>89</sup>Koechlin, op. cit., pp. 43-44. His analogy for the pottery designs was designs on Sasanian silks. Ettinghausen follows Koechlin in attributing the Susa jar to the Sasanian period, but considers the Samarra and Baghdad jars to be of the eighth to ninth centuries (op. cit., p. 674, Pl. 190, A-B).

of one date; and together with the evidence of the excavations, the shape of the neck and loop handles, and the character of the decoration, which is more developed than that of the Sasanian period, confirm the date in the ninth century. But the very close general resemblance between these and the earlier jars illustrates the remarkable persistence and slowness of evolution of some oriental pottery traditions.

Similar ware was excavated at Ctesiphon, but unfortunately these sherds could not be dated. On these sherds some of the barbotine designs of the Susa, Samarra, and Baghdad jars are repeated. Fig. 242 shows a branching leafy vine, Fig. 243 the three-lobed pointed leaf on a spiral stem, which also occurred on the jar from Baghdad in Fig. 239; Fig. 244, stems or arcs with a row of applied pellets.<sup>90</sup> The next sherd from Ctesiphon, Fig. 245, has dotted concentric circles and the row of pellets between two plain bands; the same design as that on the Susa jar in Fig. 241. Fig. 246, also from Ctesiphon, has dotted concentric circles but with much larger dots.<sup>91</sup>

<sup>90</sup> Metropolitan Museum, New York. Fig. 242 is No. 32.150.264; Fig. 243, No. 32.150.267; Fig. 244, No. 32.150.261. All three have a smooth pale yellowish clay, and a thick, rich, green-blue glaze, shading from aquamarine to peacock blue.

<sup>91</sup> Metropolitan Museum, New York. Fig. 245 is No. 32.150.263; Fig. 246 is No. 32.150.268. Like the last three from the same site, they have a soft pale yellow-buff clay, and a rich green-blue glaze.

The exportation of this ware to Tarsus, in the west, has already been mentioned. At Shapur, in Fars, the French excavators found a blue-green (?) glazed ribbed jar very much like that from Baghdad, except that its width is slightly greater in proportion to its height, and that the decoration within the large arc consisted of a single large spiral scroll with leaf and pellets, instead of the three spiral scrolls of the Baghdad jar. Curiously enough it was re-used in the thirteenth century, for it was buried containing about fifteen objects of that date: glass, bronze, and thirteenth century luster ware.<sup>92</sup>

The work of Sir Aurel Stein in southeastern Persia has revealed its presence at a number of sites there; it was found in the greatest quantity at Siraf (modern Tahiri) on the coast of Fars, and at Jiruft (modern Shahr-i-Daqianus) on the Halil Rud, in Kerman. Fig. 247 shows types of sherds from Siraf, and one from the nearby Kashkuk.<sup>93</sup> Among the various designs we notice duplicates of those already described, as well as incising (Tah. 15, 111, 123) and carving out (Tah. 140, 149, and 76) and particularly, applied petalled rosettes (Tah. 72). Stein also illustrated fragments of this ware from Jiruft (Shahr-i-Daqianus).<sup>94</sup> From

<sup>92</sup>R. Ghirshman, "Les fouilles de Châpour (Iran) Deuxième Campagne 1936/37, RAA, XII (March, 1938), p. 13, and Pl. IX, No. 1.

<sup>93</sup>Sir Mark Aurel Stein, op. cit., Pl. XXVII.

<sup>94</sup>Ibid., similar fragments from Jiruft (Shahr-i-Daqianus) are shown in Plate XXI, Nos. 468, 475, 472, 479.



the sherds collected by Sir Aurel Stein which are in the Peabody Museum, Harvard University, I was able to list a total of twelve sites in Southern Persia to which this ware was also imported. In Fars, along the seacoast, it was found at Daiyir, Siraf, Kashkuk, Asir, Tump-i-Podu and Boroqla; in Kerman, well inland, at Darra-Shor Hisar, Buluk, Jiruft, and Tump-i-Kharg; in Makran inland from Tiz, at Kumb, and at Geh. The importance of these findings is that they confirm the Islamic date for this ware, which was established by the work at Samarra, but unsupported by Susa and Ctesiphon. At most of these sites, some of which are historically unimportant or unknown,<sup>95</sup> this ware was found with known Islamic types; at four sites, Kashkuk, Jiruft, Tump-i-Kharg and Geh, with different varieties of the ninth century "Samarra wares." A second point is that the Mesopotamian origin of this ware is supported. This blue-green glazed ribbed ware has not been reported, as far as I know, from western, northern and eastern Persia, for instance, Rayy and Nishapur. Its presence here along the seacoast as well as inland seems to me to be a by-product of two trade routes: the sea route to India and China, on which Siraf and Tiz were noted ports in the ninth century,

<sup>95</sup>Most of them are simply not mentioned by Guy Le Strange, The Lands of the Eastern Caliphate (Cambridge: University Press, 1905) in his chapters on these provinces, and are not located on his maps. Sir Aurel Stein's work had added a great deal to the knowledge of medieval geography.

and the overland route through Kerman and Makran to Muslim towns in India.<sup>96</sup> The date and the distribution of the blue-green glazed ribbed ware suggest its relation to Mesopotamia. Stein's description of the clay, ("In all this glazed ware the body is a thick creamy clay"<sup>97</sup>) could apply as well to the pottery of that country. My observations at the Peabody Museum are in agreement with this description; in fact in some examples the clay was nearly as fine and nearly as yellow as the so-called "Samarra clay."

A well-known eight-handled jar in the Museum für Völkerkunde, Munich, belongs in this group because of its blue-green glaze; Fig. 249. It was previously published as Sasanian,<sup>98</sup> because of its wavy applied pressed band with barbotine rosettes in the loops, which was compared

<sup>96</sup>Stein has summarized the historical facts concerning the most important and most thoroughly studied sites: Jiruft (Shahr-i-Daqianus), pp. 152 ff., (it is worth noting that here were obtained thirty-two Early Abbasid coins, dating from 750-850 A.D.); Siraf, pp. 202 ff. For Tiz, and the Indian trade, see Le Strange, *op. cit.*, pp. 329-330. One of the most entertaining accounts of the trade from Mesopotamia and down the Persian Gulf is that of the Merchant Sulaiman, who wrote in the year 851 A.D.: JT Reinaud, Relation des voyages faits par les Arabes et les Persans dans l'Inde et à la Chine dans le IX<sup>e</sup> siècle de l'ère chrétienne (Paris, Imprimerie Royale, 1845), 2 vols., Arabic text and French translation.

<sup>97</sup>Stein, *op. cit.*, p. 211, in describing the blue-green glazed ribbed ware at Siraf.

<sup>98</sup>Sarre, Archäologische Reise, IV, p. 5, Pl. CXLV, 6; also, Sarre, "Wechselbeziehungen zwischen ostasiatischer und vorderasiatischer Keramik," Ostasiatische Zeitschrift VIII (1919-1920), pp. 337-344, Abb. 1. Ettinghausen, *op. cit.*, p. 674, Pl. 189, A, agreed with this Sasanian dating.

with a rather similar wave-band with flowers on a Chinese brown-glazed stoneware jar, of pre-T'ang date: Fig. 250.<sup>99</sup> But in 1920, when Sarre published it, there was no series of dated Sasanian pottery for comparison. Today we realize that it has not the characteristics of the Sasanian period, as seen in the jar from Kish in Fig. 202. The base is too wide, the neck too low, the handles too many. These features are, however, Islamic. As for the decoration, applied rosettes in an applied wave-band occurred in the unglazed barbotine ware; see Fig. 219. As was mentioned when Fig. 219 was discussed, the wavy applied band in Mesopotamia can be traced back to the late Parthian period, in a few examples in which no sign of Chinese influence occurs. In fact, because of the arrangement of the decoration in a zone about the upper part of the body, as well as the details of the decoration, we may say that this jar is simply one of the unglazed barbotine group which happened to be glazed. To Sarre's question, "Es fragt sich nun, ob hier die Osten der

<sup>99</sup>R. L. Hobson, The George Eumorfopoulos collection; Catalogue of the Chinese, Korean and Persian Pottery and Porcelain, (London: E. Benn, 1925-1928), I, No. 159. It had appeared previously (and this was the publication used by Sarre) in Hobson, "The Eumorfopoulos Collection, IV, Han to T'ang," BM, XXXIV (January-June, 1919), p. 232, Fig. A. Its height is eight inches. The jar was illustrated also in the two articles by Sarre; see Note 98. Hobson stated that the tiled roof goes back to Han granary urns; and compared the rosettes to some pottery "of early but uncertain date" found by Sir Aurel Stein in Chinese Turkestan. When the tiled roof pattern occurs in Sasanian metal, as in the skyphos-handled cup in Fig. 79, we may consider this to be a sign of Chinese influence.

gebende oder der empfangende Teil gewesen ist,"<sup>100</sup> I would reply that Chinese influence need not be assumed in order to explain a decorative scheme which had had a long history in Mesopotamia; and that the influence might be in the opposite direction, if indeed, the Chinese potters had not quite independently arrived at their similar scheme of decoration. That the wavy applied pressed band continued much longer in the Islamic period is shown by a blue-green glazed three-handled jar in the Metropolitan Museum, Fig. 251, which Dr. Dimand assigns to the tenth to twelfth centuries.<sup>101</sup>

In the blue-green glazed ribbed ware with barbotine decoration other shapes are known besides the large storage jars, for instance, the two small vases in Figs. 252 and 253. The very narrow-necked vase from Susa, Fig. 252, is actually unglazed, but the ribbing suggests that it was meant to have been glazed. Koechlin published it as of the Sasanian period, because he considered it to be "pittoresque" and felt that Sasanian pottery in general was "pittoresque," while Islamic pottery, in the other hand, had the quality

<sup>100</sup> Sarre, Archäologische Reise, IV, p. 5. Sarre thought that Chinese influence here might be likely, because of the well-known influence of Tang pottery on Early Islamic pottery.

<sup>101</sup> Metropolitan Museum, New York, No. 15.43.284.

of "élégance."<sup>102</sup> Actually, it seems to me to be Islamic in every respect. The low round shape of the body is similar to that of the jugs in Fig. 214 and 228. The shape of the neck, which is narrow, but bulbous, and contracts towards the rim, is quite unknown in the Sasanian period, and the excavations at Tarsus have proved this type of neck to be of the Early Islamic period, of the eighth to ninth centuries.<sup>103</sup> As for the decoration, the combination of barbotine with incised hatching in the background has been noted already, as it appears in Figs. 216 and 219. The six-part well-modelled rosettes, of which the petals are depressed in the center, are of a type which is, as far as I know, absent in pottery of the Sasanian period. Precisely similar rosettes in relief appear on eighth century molded ware from Hira (Fig. 224, A, at the bottom), on the shoulder of the blue-green glazed jar also from Hira of the same date<sup>104</sup> on the side of the unglazed pilgrimbottle in Kansas City (Fig. 234).

The blue-green glazed two-handled vase in Fig. 253 had

<sup>102</sup> Koechlin, Suse . . . . Louvre, No. 27, Pl. V, pp. 19-20, and 28. This vase was also shown in the exhibition in Paris, in 1938, but was not included in the catalogue, Bibliothèque Nationale, l'art de l'Iran. It has fine white clay, stained by burial. Its height is 13 cm.

<sup>103</sup> Actually the neck of the Tarsus unglazed ware is closer to that of the two-handled vase in Fig. 253 than to this Susa vase.

<sup>104</sup> See Note 83.

a somewhat similar scheme of decoration. The shape of the body and particularly the shape of the neck cause me to assign it to the Early Islamic period, though it also was published as Sasanian.<sup>105</sup> At first glance it reminds one of the little glazed two-handled vases of the Parthian period, such as that in Fig. 30, or Debevoise's Seleucia Type 289 (Table C, 11) because of the shape and position of the handles. But similar small blue-green glazed jars found at Samarra, of the ninth century, also have the upper end of the handles attached halfway up the neck,<sup>106</sup> and the same is true of similar pieces from Tarsus. The combination of applied and incised decoration, and its relation to the unglazed barbotine wares, has already been discussed; it is also similar to the scheme of pellets with combed bands, in Figs. 212, 213, because of the lattice pattern it composes.

Bowls also have the blue-green glaze, though the two shown here, Figs. 254-255, lack the ribbing that occurs so often with this glaze. Both of these bowls have a fundamentally similar shape, that is, the lower part of the

<sup>105</sup>Ettinghausen, *op. cit.*, p. 670, Pl. 191 B. Ettinghausen put it in his first stylistic class: "The first consists of those for which no archaeologically certified equivalents are known, so that, though further advanced than the recognized Parthian types, they might still be Parthian." No dimensions given.

<sup>106</sup>Sarre, *Samarra*, Nos. 93-95, Figs. 68-69, Pl. II, 4, p. 25.

bowl slopes out, then there is a sharp angle, and the upper part of the bowl is roughly vertical. This shape is of a type not found in pottery of the Sasanian period, as we know it today: compare Figs. 133-137, 178-187. These bowls, which are probably of the Early Islamic period, have a certain heaviness and awkwardness, which may be due simply to the fact that they are a rather common ware (as compared to the fine white-glazed ware). On the other hand, this quality may be the primitiveness of a new and undeveloped period. This is in marked contrast to the effect of two well designed and well finished bowls of the Sasanian period, in Figs. 185-and 187, which are definitely at the end of a style, and seem to reveal a long period of growth behind them. The bowl from Susa,<sup>107</sup> in Fig. 254 has incised wavy lines, short bars, and horizontal grooves on the vertical part of the body, and a scanty pie-crust edging about the rim. In the second bowl, of unknown provenance, but most likely from Mesopotamia, Fig. 255, the decoration is also exceedingly simple:<sup>108</sup> combed bands in overlapping arcs, which describe pointed oval figures; where

<sup>107</sup>Koechlin, Susa . . . . Louvre, No. 42, Pl. VII, pp. 45-48. H. 21, D. 29 cm. Koechlin listed it as Islamic; and describes the glaze as "bleu azur."

<sup>108</sup>Pézar, La céramique archaïque de l'islam, Pl. IV, 1, and p. 28. Pézar considered that it had an Achaemenian quality. It height is 13, diameter 16.2 cm. See also Ettinghausen, op. cit., pp. 669-670, Pl. 187, B; he described the designs of this bowl as arcades with "impost blocks" and "keystones," an interpretation which I cannot follow.

the arcs touch, and in the triangular spaces between, there are applied pellets or disks. This scheme of decoration seems to be related to the combed bands with pinched pellets of Figs. 212-213; the system of arcs, either overlapping or intersecting, is common in the molded ware; Figs. 225, 227.

Pottery with a blue-green glaze is of course also undecorated, as well as having barbotine and incised designs. This undecorated variety may have a smooth surface, though it is more often ribbed. The pottery of this class is usually small in size; the commonest shapes are two-handled vases and small pots. The potting is often very poor, and the shapes not refined, though the clay used is often nearly as fine as the yellow "Samarra clay." Such pottery was found at Samarra<sup>109</sup> and at Tarsus.

It was mentioned before that the blue-green glazed class had not been reported from excavated sites in northern and eastern Persia. At Rayy in the excavations of the University Museum, Philadelphia, and the Museum of Fine Arts, Boston, directed by Dr. Erich F. Schmidt, was recovered pottery of a type whose shapes recall those of contemporary Mesopotamian wares, but which differs in clay, glaze and decoration. Dr. Schmidt has mentioned "the native Rayy products," which include (besides imitations of Chinese

<sup>109</sup>Sarre, Samarra, Nos. 90-99, Figs. 68-73, Pl. II, 4, pp. 25-27. Compare Note 106.



wares) "Green glazed jars"<sup>110</sup>; again, "Dark green monochrome bowls, jars, lamps and pitchers seem to occur during Early and Middle Islamic times; but they appear to be particularly frequent during the first centuries of Islam."<sup>111</sup> This ware has a glaze which varies in color from a medium to dark leaf-green, and to an olive green, without any trace of the bluish tone of the Mesopotamian alkali glaze. Further, the Rayy glaze appears to me to be a lead glaze, though of course it has not been analyzed, and this is merely my opinion. The clay is not at all like the Mesopotamian soft sandy buff to yellow clay; it varies from a greenish or greyish buff to a brick red, and it is smooth, and often hard.<sup>112</sup> An example of this ware is seen in Fig. 256, whose shape recalls that of the amphora type, though the flat base and the disproportionately wide neck are Islamic features.<sup>113</sup> It is decorated with deep grooves on the neck and on the shoulder, incised lines, straight

<sup>110</sup>Erich F. Schmidt, "The Persian Expedition," UMB, (March, 1935), p. 49. The date of the Early Islamic Period at Rayy is Abbasid, not Umayyad, during the eighth and ninth centuries, according to Schmidt, pp. 47-48.

<sup>111</sup>Ibid., "Rayy Research 1935, Part I," UMB, (March, 1936), p. 83.

<sup>112</sup>In unglazed wares from Rayy the clay is often pale, not red: see the buff burnished jug in Fig. 208, and the greenish-white clay of the molded piece in Fig. 232.

<sup>113</sup>University Museum, Philadelphia, No. RH 5743.  
H. 33. D.23.6.

and wavy, and round stamped figures. A second, Fig. 257<sup>114</sup> goes back to the three-handled type of the Parthian and Sasanian periods in Mesopotamia; besides the three vertical handles, there are three decorative loop handles at the base of the neck; compare Figs. 239-241. The neck is grooved; a wavy incised line goes about the shoulder. Other shapes are jars with high shoulders and very short necks, similar to the Mesopotamian storage jar-shapes, (Figs. 239-241) but on a smaller scale.<sup>115</sup> One such jar, with three tiny loop handles, and circular stamps on the shoulder, has applied pressed bands about the body, one wavy one between two straight ones,<sup>116</sup> a system which, as we have already observed, is typical of Mesopotamia: in the unglazed barbotine pottery from Hira, and Baghdad (Fig. 219), and the blue-green glazed ware, (Fig. 249).

Pottery exists in various collections which evidently belongs with this Rayy green-glazed group. Fig. 258 has the same wide straight neck with horizontal grooves, the same particular angular molding of the rim, and the same wave-bands, both incised and applied. Further, the color

<sup>114</sup>Ibid., No. RH 6284, incomplete: H 27.1, D. 17.5.

<sup>115</sup>Ibid., No. RH 4381 a jar without handles or decoration; No. RH 5742, with three tiny loop handles; No. RH 4990, also three loop handles; none of these is more than 17 cm. in height.

<sup>116</sup>Ibid., No. RH 5909, H. 27.4, D. 21.7.

and quality of the glaze are the same.<sup>117</sup> Another example is a jug with a cylindrical body and sharp shoulder-angle, and green glaze in the Kelekian collection, which was published as transitional, either late Sasanian or Early Islamic.<sup>118</sup> It must be definitely Islamic, because of an almost identical jug from Rayy having a leaf to olive-green glaze, and the same shape.<sup>119</sup> Another green glazed jar which seems to me to fall into this category appears in Fig. 259. It is in the Indjoudjian collection.<sup>120</sup> On the body are two sets of the wavy applied pressed band between horizontal bands; on the neck is an incised zigzag, with circular depressions in the triangular spaces. It seems to represent an elaboration of the single wavy applied band on the jar from Rayy described just above.<sup>121</sup> Another jar of this type is one in the Heeramaneck collection,<sup>122</sup>

<sup>117</sup> Art Institute, Chicago, No. 17.218; the glaze is a deep leaf-green glaze, with much iridescence. This vase was formerly in the Kirkor Minassian collection, Paris, and was published in Meisterwerke Muhammedanische Kunst, II Nr. 1099, Pl. 89, below. H.24.5. It was here attributed to Mesopotamia, but rightly assigned to the Early Islamic period.

<sup>118</sup> Ettinghausen, op. cit., p. 678, Fig. 233.

<sup>119</sup> University Museum, Philadelphia, No. RG 7677. The clay is red; H.15.8, D.10.6.

<sup>120</sup> Ettinghausen, op. cit., p. 675, "Probably early Islamic. Dr. Ettinghausen kindly showed me a photograph of it.

<sup>121</sup> See Note 116.

<sup>122</sup> Ettinghausen, op. cit., Pl. 189, B, p. 675. This was included in his second stylistic class, "Examples decoratively too far advanced to be Parthian," and therefore considered to be Sasanian.

which has a shape almost exactly like that of the Indjoujian jar in Fig. 259, and a similar dotted zigzag, but placed on the shoulder, instead of on the neck. It may be remarked in passing that the very simple dotted zigzag found on both the Indjoujian and Heeramaneck jars is very similar to that on the unglazed burnished pot of the Sasanian period, from Persia (Fig. 160). The zigzag on the two green glazed jars have been said to foretell the Mshatta facade scheme (Fig. 205) but it seems to me that a primitive incised pattern which any potter could use anywhere, at any time, can hardly have influenced an elaborate architectural facade carved in stone. On the other hand, the zigzags filled with petalled rosettes on the Umayyad pilgrimbottle in Ettinghausen's collection (Fig. 223) may well have derived from the Mshatta facade, for the pilgrimbottle is probably only a little later, if not contemporary; and the whole class of molded ware reveals influence from the more complex three-dimensional arts of woodcarving, stonecarving and metal.

In the blue-green (alkali) glazed group we have seen the continuation of the old Mesopotamian glaze which had been used continuously on pottery (as opposed to faience)

since 1500 B.C.,<sup>123</sup> through the Assyrian, Hellenistic, Parthian and Sasanian periods. In the Early Islamic period it received the addition of a small quantity of lead, probably an influence from the lead-glazed pottery of the Mediterranean coasts, of Roman times. Shapes on which this glaze occur are very close to shapes of the preceding centuries. The decoration, barbotine and incised, also had its origins at that time, but is developed with the Islamic richness and love of space filling; a sort of decoration typical of the unglazed barbotine wares as well. The blue-green glazed ware was exported west into Syria and Cilicia, and southeast into the coasts of the Persian Gulf, following the trade routes to India and China. On the other hand, it seems not to have penetrated into northern Persia, where a green-glazed (lead?) ware was more typical. But in the Persian green-glazed ware there is a definite influence of Mesopotamian shapes and methods of decoration; while its green (lead?) glaze may be due to the influence of the Roman Cilician glaze.

<sup>123</sup>Richard F. S. Starr, *Nuzi*, p. 442, a bluish-green copper glaze was applied directly to the clay without a slip; it was found in Temple A. Temple A was in Stratum II (pp. 42 and 62). The date of Stratum II is given as from some time after 1740, to 1475 B.C. (p. 520, in Appendix A). In other words, the date of 1500 B.C. is given by the excavators in round numbers to indicate a time when this glaze, as well as the white(tin)glaze, and a yellow glaze, were in use. Debevoise had already had this information from Dr. Chiera; Seleucia, pp. 28-29.

D. "SAMARRA" MOLDED WARE, GLAZED AND LUSTERED

This class, and the following, which has the white tin glaze, have been called "Samarra wares," because the site which first established their date was the Abbasid capital Samarra, built in 838 and abandoned in 883 A.D. This term does not imply that these wares were made in Samarra, but it is useful because it makes a distinction between them and stylistically similar wares made in both Egypt and Persia. The "Samarra wares" are made exclusively with the "Samarra clay," a very fine, smooth, well-levigated clay, ranging in color from pale yellow to buff-pink and a pale terra-cotta red.<sup>124</sup> It must be stated at the outset that so far no evidence has been found to prove where these classes of pottery were actually made, that is, no kilns or kilnwasters of it have been found.<sup>125</sup> Further, "Samarra pottery" having the "Samarra clay," yellow or pale red, has been found all the way from northwest India

<sup>124</sup>Sarre, Samarra, p. 101. Actually Sarre applied this term to the yellow clay only, but in my opinion the two are the same, as will be seen later.

<sup>125</sup>A potter's kiln and wasters of the luster ware were reported to have been found at Susa, in 1927-28. Dr. Ettinghausen has informed me that the gentleman who described this find is neither a ceramic technologist nor a specialist in the history of pottery, and that therefore his remarks stand in need of corroboration. See J. M. Unvala, "Note on the Lustered Ceramics of Susa," BAIPAA, IV, No. 2, (December, 1935), p. 79. No illustrations.

to Spain. This wide distribution raises the following questions: (1) Was all this pottery made in a single country, where this clay existed exclusively? (2) Was identical clay native to India, Persia, Mesopotamia, Syria, Egypt, North Africa, and Spain? (3) Did potters in all these various countries have a recipe for washing or treating local clays so as to result in the "Samarra clay," just as they doubtless had the recipes for making the white tin glaze, and luster? The third point is a possibility, which will be discussed in connection with the white-glazed lustered tiles from Kairawan; but it is not supported by the evidence from Persia and Egypt. The second point is one that could only be settled by geologists and chemists, and is therefore no further discussed in this paper, for lack of evidence.

The first point, namely the possibility of the "Samarra wares" having been made in a single country, and exported from it, is one generally accepted by most writers on the subject. But to some this single country is Egypt, to others, Persia, to a third group, Mesopotamia. The group holding to the Mesopotamian origin have, in my opinion, the greatest mass of evidence on their side, that is, general facts concerning the history and the art-history of the time and a few specific references in Arab authors of the ninth and tenth centuries. To this well-known, and long-known evidence I wish to add one corroborative point,

derived from the ceramic history of the preceding centuries, namely, that one would expect the white glazed "Samarra ware" and therefore all the "Samarra wares," to have originated in a country where this white tin glaze had been in constant use for hundreds of years and not in other countries where there was not a single sign of it until the ninth century A.D.

The first class of the "Samarra wares" to be discussed here is the molded ware with green and yellow lead glazes. This falls into two groups: one having the green glaze only,<sup>126</sup> the other having a yellow glaze covered all over with plain gold luster.<sup>127</sup>

Examples of the green glazed molded ware without luster are seen in Figs. 260, 261, 264, 265. Fig. 260, excavated at Susa, represents a shape very common in this ware: a low, wide, flat-bottomed bowl with vertical (or convex) sides. It has an obvious relationship to earlier flat-bottomed bowls in Mesopotamia, for instance, Figs. 187 and 204, of the Sasanian period. Its clay has been described as: "Terre rosée, très fine."<sup>128</sup> Sarre says of this type in general, "Der Scherben zeigt meist eine rosa

<sup>126</sup> Sarre, Samarra, Nos. 125-129, pp. 31-32.

<sup>127</sup> Ibid., Nos. 130-146, pp. 32-36.

<sup>128</sup> Koechlin, Suse . . . . Louvre, No. 124, Pl. XVIII, p. 88. Compare also Nos. 125, and 126, Pl. XVII.



bis rote Färbung".<sup>129</sup>

But two sherds of this ware from Samarra in the British Museum, one having the identical patterns of Fig. 260, have definitely the pale yellow "Samarra clay," exactly like that of the white-glazed group.<sup>130</sup> Again, the small four-lobed bowl in Fig. 261, from Susa, in which the lobes are marked off by ridges covered with a row of chevrons, has a clay which Pézard described as "terre grise,"<sup>131</sup> and Koechlin as "Terre gris-jaune très fine."<sup>132</sup> When I saw it, however, I found that its clay is precisely the pale yellow "Samarra clay."<sup>133</sup> The bowl in Fig. 261 is clearly very closely related to the Chinese T'ang type of four-lobed bowl, of which a green and yellow-brown glazed example from the Eumorfopoulos Collection is shown in Fig. 262.<sup>134</sup> A Chinese

<sup>129</sup>Sarre, op. cit., p. 31.

<sup>130</sup>British Museum, London; these sherds have no numbers; they are in the study collection, not in the cases. My notes on them were made in 1936.

<sup>131</sup>Pézard, La céramique archaïque de l'Islam, Pl. XI, Fig. 1, p. 207. H.2.4, D.13.

<sup>132</sup>Koechlin, Suse . . . . Louvre, Pl. XVIII, No. 130, p. 89.

<sup>133</sup>In 1938 at the exhibition at the Bibliothèque Nationale. Mlle. Madeleine David of the Louvre Museum very kindly opened many of the cases for me, and allowed me to see the pottery in my hands. See Bibliothèque Nationale. Les arts de l'Iran, No. 279, not illustrated, assigned to the seventh to eighth centuries; the clay was not mentioned.

<sup>134</sup>R. L. Hobson and A. L. Hetherington, The Art of the Chinese Potter (London, Benn, 1923), Pl. XXIII, below. Its length is 14 cm.

white porcelain example of the same shape was excavated at Samarra, and another at Susa.<sup>135</sup> Yet this shape is not native to China, but everyone agrees that it is derived from a shape known in Sasanian silver, for instance the polylobed bowl shown in Fig. 263.<sup>136</sup> More recently Gallois attempted to establish for the shape an origin purely Mediterranean, and Roman in date.<sup>137</sup>

The wide-bodied narrow-necked molded vase, with a green glaze and yellow clay, shown in Fig. 264, has been published as being either Parthian or Sasanian.<sup>138</sup> In my opinion the absence of any such shape in either of these periods, and the absence of the technique of molding in the latter period, means that this curious vase must be of a different date.

<sup>135</sup>Sarre, op. cit., Pls. XXIV, 1, and XXV, 2, No. 217, pp. 61-62. For the white porcelain bowl from Susa see J.J. Marquet de Vasselot, "Quelques exemples des relations artistiques entre l'orient et l'extrême-orient," Mélanges offerts à M. Gustave Schlumberger (Paris Geuthner, 1924), pp. 363-367, Fig. 59.

<sup>136</sup>Sarre, ibid., p. 62; Koechlin, op. cit., pp. 82-83. The Sasanian silver bowl shown in Fig. 263, found in Perm, Russia, was published by Smirnov, op. cit., No. 75, Pl. XLI, p. 14; see also Orbell and Trever, op. cit., Pl. 57. A green glass dish of the same polylobed form is preserved in the Japanese Treasury of Shosoin at Nara: Jiro Harada, English Catalogue of Treasures in the Imperial Repository Shosoin (Tokyo, Imperial Household Museum, 1932), Pl. LIII, No. 398, p. 86. This glass dish is Tang in date and is either Chinese or an importation from the West.

<sup>137</sup>H. C. Gallois, "About T'ang and Ta Ts'in," TOCS, 1935-1936, XIII, pp. 38-50, Pls. 10-11.

<sup>138</sup>Pézarid, op. cit., Pl. II, 2, pp. 27 and 204. Compare Ettinghausen, op. cit., p. 673, not illustrated.

In fact in its composition it has practically the same scheme as the lobed dish in Fig. 261. The four panels filled with a small all-over pattern are marked off by four ridges, beside which are chevron bands; but this scheme here is used on the outside of a vase, instead of on the inside of a dish or low bowl. This scheme has been met already in Early Islamic molded pottery: in the unglazed cup, the ridges that separate the compartments are clearly the Classical laurel wreath; in the other examples (Figs. 237, 261, 264) the ridges have merely the chevron band, which, however, I believe to be a degeneration of the laurel wreath. The high flaring foot of the vase in Fig. 264 is unusual in Early Islamic pottery (the typical foot of this period being a very low, rather wide ring-foot) but a high flaring foot was used for the Umayyad pilgrimbottles from Tarsus, and on the pilgrimbottle in Dr. Ettinghausen's collection, Fig. 223.

Another example of green-glazed molded pottery having what is fundamentally the same scheme of decoration as that used on the lobed bowl in Fig. 261 and the vase in Fig. 267<sup>44</sup>, is the small cup in Berlin shown in Fig. 265. Its shape, as well as its decoration, may possibly be related to this type, though its sides are much higher than in the bowls of Figs. 261-263. On the other hand, because its skyphos-handle, it may be an Islamic derivation of the Roman green-glazed skyphos, cf. Fig. 66; or better, it may be a cross

between the two very different types. On the bottom it has the potter's signature, "Husain," in Kufic letters. Sarre considers it to be Mesopotamian and of the ninth century A.D.<sup>139</sup> I am not informed as to the nature of the clay used in it.

The dish shown in Fig. 266 is one of the finest examples of the molded ware with all-over luster; it came from Samarra and its clay is, like the clay of most of the lustered group, "Sehr fein geschlemmt, sehr hart, gelbrötlich bis ziegelrot gefärbt."<sup>140</sup> This dish illustrates very well the metal origin of the ware, with its flat base on three lion's claw feet, and the curving sides forming a sharp angle to the base. The border of large dots may go back to the Sasanian "pearl-border" or to the large bosses found on Sasanian silver, as in Fig. 195. On the other hand these large bosses are found on purely western silver, as a bowl and an oinochoe of perfectly classical form, and with the "hall-mark" in

<sup>139</sup>T. J. Arne, "En Sino-Iransk Kopp," Satryck ur Fornvännen, II (1938), p. lll, Fig. 8, (in Swedish). Arne did not recognize that the handle is the skyphos-handle, but considered it to be Chinese in origin, hence his title. This molded cup was published by Sarre, "Frühislamische Keramik aus Mesopotamien," Der Cicerone, XXII (January, 1930), pp. 23-43; an article quoted by Arne but unfortunately not available to me. The cup is Inv. No. 5531 in the Islamic Department of the State Museums, Berlin. More recently this cup has been mentioned by Arthur Lane, "Glazed Relief Ware of the Ninth Century A.D.," Ars Islamica, VI (1939), p. 58.

<sup>140</sup>Sarre, Samarra, the clay, p. 32; the lustered dish is No. 130, Pl. X, pp. 33-34. Here appears the side view, with three feet; and handles below the rim.

Greek.<sup>141</sup> The arcade on the sloping sides of the dish has the continuous or returned molding (curving over the arches and going horizontally between the arches, without break) which is typical of Roman architecture in Syria. Later Syrian examples of it are found in Early Christian architecture and silver, as on the two plates from Kerynia with scenes of the life of David in the Pierpont Morgan collection, or on the paten from Riha showing the Last Supper, in the Bliss Collection.<sup>142</sup> The base is bordered by the stylized laurel wreath; in the center a Greek fret develops into overlapping squares; the individual bands end in the half-palmette which originated as such in the Sasanian period.

Another plate of the "Samarra" molded ware with all-over luster and decoration also composed of the Greek fret and gilloche patterns, terminating in half-palmettes, is seen in Fig. 267.<sup>143</sup> The scheme of geometrical interlacing

<sup>141</sup>Illustrated by Hayford Pierce and Royall Tyler, L'art Byzantin, 200 planches en phototype, décrites et commentées (Paris, Librairie de France, 1932), I, Nos. 58 and 59. These are in Berlin. The authors assign them to the end of the fourth century A.D.

<sup>142</sup>Charles Diehl, "L'Ecole artistique d'Antoche et les trésors d'argenterie syrienne," Syria, II (1921), pp. 83-95; the Kerynia plates in Pls. X-XI, the Riha paten in Pl. XIV.

<sup>143</sup>Bibliothèque Nationale, Les arts de l'Iran, No. 283, Pl. V. Also illustrated by A. U. Pope, "The Ceramic Art in Islamic Times, A, The History," The Survey of Persian Art, Pl. 567, A. The former gives its size as 38 cm., the latter, as 27.5.

bands seems to exist on this class of Early Islamic pottery alone. It is however, fairly common in other contemporary arts, for instance, on stucco excavated at Ctesiphon, Fig. 268,<sup>144</sup> and on a flat metal dish, Fig. 269. This silver dish is probably of the ninth century, not only because it represents a degeneration of the style of Sasanian silver (from which it obviously stems),<sup>145</sup> but because it is identical in style with a vase having a Kufic inscription of a ninth-century type: the hexagonal plate and the vase might have been part of the same table service, if not made by the same man.<sup>146</sup>

Another sort of design appears on an odd little bowl with a long wide handle; Fig. 270. On the handle are pointed ovals arranged in a lattice pattern, a scheme often found on the unglazed molded ware of the eighth to ninth

<sup>144</sup>This panel is from the Islamic house at Selman Pak; see Reuter, Die Ausgrabungen der deutschen Ktesiphon-Expedition, 1928/1929, Fig. 19.

<sup>145</sup>First published by Smirnov, op. cit., No. 126, Pls. LXIX, LXX; later by Sarre, "Einige Metallarbeiten parthisch-sasanidischen Stils in der islamischen Kunstabteilung," Berliner Museen, Berichte, LII (1931), Part 5, pp. 99-100, Fig. 8: "So müssen wir auch diese Silberarbeit unzweifelhaft als nachsasanidisch bezeichnen und etwa VIII-X Jahrhundert zuschreiben."

<sup>146</sup>Smirnov, op. cit., No. 127, Pls. LXXI; and LXXVIII, a drawing of the inscription. I have not been able to read all of the inscription; it contains the words: لابى سید [?], مولى امير المؤمنين, or, "To Abu Sa'id [??] client of the Commander of the Faithful." The style of the letters and the shape of the vase are comparable to those of the bronze jug shown here in Fig. 229.

centuries, as in Figs. 225-227. The sides of the handle end in half-palmettes; about the rim of the bowl is the stylized laurel wreath. The luster has almost entirely worn off, leaving the partly decayed powdery yellow glaze beneath; Koechlin had classed it with the non-lustered group having merely an ocher-yellow glaze; he described its clay as "terre fine gris rosé."<sup>147</sup>

Purely Islamic designs also occur on the molded ware with pale red clay, yellow glaze and all-over luster, namely Kufic inscriptions. Of this type none has been preserved completely, and therefore the content of the inscriptions is as yet unknown if indeed they may not be merely decorative. In some cases the letters are dotted on a plain ground, as on a fragment from Baghdad in the British Museum, Fig. 271<sup>148</sup>, in other cases the letters are plain on a dotted ground, as in Fig. 272, a fragment from Egypt in Peter Ruthven's Collection,<sup>149</sup> and in Fig. 273, excavated at Tarsus.

The molded ware with all-over luster has been found in Mesopotamia at Ctesiphon,<sup>150</sup> Samarra, Baghdad, Hira, and :

<sup>147</sup>Koechlin, *Suse . . . . Louvre*. No. 134, Pl. XVIII, p. 90. See also Pézard, *op. cit.*, Pl. XII, 1.

<sup>148</sup>Lane, *op. cit.*, Fig. 11, A. Lane described it as having a "lustrous glaze," which is hardly exact; it has luster over the glaze.

<sup>149</sup>*Ibid.*, Fig. 10; here it is shown upside down.

<sup>150</sup>Metropolitan Museum, New York, No. 32.150.120; the pattern is the gilloche.

Susa; in Persia, at Rayy; in Syria, at al-Mina and Antioch; in Cilicia, at Tarsus; in Egypt, at Fustat, and other sites.<sup>151</sup>

It was discovered also in Sind at Brahminabad<sup>152</sup>; Sir Aurel Stein's work in southwest Persia has resulted in the finding of two sherds of this ware, one in Kerman at Jiruft (Shahr-i-Daqianus), and one in Makran at Dambian (a site by Bampur).<sup>153</sup>

Both these sites are on the overland route from Fars to Sind; that is, their distribution is the same as the distribution of the blue-green glazed and the unglazed molded wares, which have already been discussed.

A type of molded ware which we know to have been made in Egypt, and for epigraphical reasons in the ninth century A.D., is very different from both the unlustered and the lustered "Samarra wares." First, the clay is not smooth, fine and pale yellow or pale red, but is (in the pieces which I have seen) a rather coarse and gritty clay, and brownish-

<sup>151</sup>At both al-Mina and Antioch in very small quantities; see Lane, ibid., pp. 56 and 62.

<sup>152</sup>R. L. Hobson, "Potsherds from Brahminabad," TOCS, 1928-30, pp. 21-23, Pl. VIII; also his Guide to the Islamic Pottery, pp. 8-10, Plate IV.

<sup>153</sup>Peabody Museum, Harvard University. The sherd from Jiruft has been spoilt, and both clay and glaze turned greyish perhaps in some conflagration. The sherd from Dambian has the luster worn off.



red in color.<sup>154</sup> Secondly, this pottery is never lustered. Third, instead of a monochrome green glaze, the glaze is in three colors, ocher-yellow, green, and dark manganese brown, the different colors being used for different parts of the designs. Fourth, though there are some designs related to those of the "Samarra wares," Fig. 275), naturalistic birds, plants and animals occur, such as are not found in the "Samarra wares."

The proof for the Egyptian origin of this ware is the inscription on the small square "condiment dish" in Fig. 274, in the British Museum:

هذه الملا [?] نة عمل ابو نصر السير [ى] نصر

"This [? condiment dish] is the work of Abu Nasr al-Basri [or, al-Nasri] in Egypt."<sup>155</sup> Altogether there are six objects known with part or all of this potter's name preserved. (1) This complete dish, Fig. 274, in the British Museum. (2) A fragment from Fustat : عمل ابي نصر السير [?]

<sup>154</sup>Fortunately this description of it is very close to that of Lane, *op. cit.*, p. 60: "I have not been able to examine all the pieces I have quoted, but where this was possible I found that the clay was usually rather coarse, pale yellowish or pinkish, and full of small dark brown or black impurities. Exceptions occur in the fragments (Figs. 2, E, F and 8 [Fustat]); here the clay is purplish gray, but still gritty and somewhat coarse."

<sup>155</sup>Published by Lane, *op. cit.*, p. 59, Fig. 7; Mr. Rhuvon Guest's translation of the inscription is on pp. 64-65. This happens to be the only example preserved in which the potter's name is given incorrectly in the nominative case, instead of in the genitive case, following the phrase, "The work of."

which Fouquet read as "The work of Abu Naṣr al-Naṣ [rānī]", that is, the Christian.<sup>156</sup> (3) A sherd from Akhmīm in Berlin [عمل ابي نصر الـصـد [ري]ه [راي]] which Herzfeld read as "[The work of] Abu Naṣr al-Baṣrī (from Baṣra) or, al-naṣrānī (the Christian)."<sup>157</sup> (4) A sherd from the British Museum excavations at al-Mina, having the single word الصري "Al-Naṣrī, or, al-Baṣrī."<sup>158</sup> Two other fragments having the same potter's name, in the same style of Kufi, were evidently not known to Mr. Lane; they are in the Benaki Museum: (5) a sherd with a greenish yellow glaze, and rough, gritty buff clay, and (6) a hexagonal stamped glass medallion, of an opaque leaf-green glass.<sup>159</sup>

<sup>156</sup>Lane, *op. cit.*, pp. 59 and 65. Lane here gives the reference to Fouquet's publication of it: D. M. Fouquet, *Contribution à l'étude de la céramique orientale* (Cairo, 1900), Pl. XV, No. 1, p. 125. This work was not available to me.

<sup>157</sup>Herzfeld, "Epigraphisches," in Sarre, *Samarra*, pp. 31 and 82, Fig. 173. It is in the Islamic Department of the State Museums, Berlin, No. 248. Also, Lane, *op. cit.*, p. 59, Fig. 1, D. The words of Herzfeld are here quoted incorrectly.

<sup>158</sup>Lane, *op. cit.*, p. 59, Fig. 2, C. Lane had also published this sherd in his "Mediaeval Finds at al-Mina in North Syria," *Archaeologia*, LXXXVII (1938), pp. 33-34, Pl. XVIII, D. Here Lane summarized the four pieces just mentioned.

<sup>159</sup>Benaki Museum, Athens. Thanks to the kindness of the Director, Makridy Bey, I was able to see and study these pieces. They could not be illustrated here because the rights of publication of all the glass in that Museum have been granted to C. J. Lamm. Most of the Islamic art objects in the Benaki Museum were purchased in Egypt; these two inscribed fragments probably included.

The importance of the square dish in the British Museum is, first, that it gives the country of manufacture as Egypt, and second, that it eliminates the possibility of the man's epithet being "The Christian" (al-Nasrānī). The second part of the man's name thus may be read as either al-Nasrī (related to a man, or tribe called Nasr) or al-Basrī, that is, from the city of Basra.<sup>160</sup> The latter is the simpler and the more probable, for the nisba (which describes the place of origin) is very common and widespread in Arabic nomenclature. The fact that the same man's name, in identical lettering, occurs on both pottery and glass, is to my mind an additional reason for reading Abu Nasr's name as al-Basrī, for we know from Ya'kūbī, who wrote his Geography (Kitāb al-Buldān) in 889 A.D., that both glass and pottery were made at Basra, and that it was from Basra that potters and glass-makers were transported to Samarra in 838 A.D., to work in the new capital.<sup>161</sup> And if Abu Nasr, who signed his name on both pottery and glass, did indeed originate in Basra,

<sup>160</sup>Herzfeld, loc. cit., said that there was no place name in Egypt which (1) began with these letters, and, (2) was at the same time short enough to suit the inscription.

<sup>161</sup>Ya'kūbī, "Kitāb al-Buldān," BGA, VII, p. 264. See also Gaston Wiet's translation, Ya'kūbī, Les Pays (Cairo, Institut Français d'Archéologie orientale, 1937), pp. xi and 57. The Arabic text will be given later, in the discussion of the origin of the luster wares.

and then go from Basra to Egypt,<sup>162</sup> this would explain the technical similarity between the molded "Samarra wares" and the molded ware made in Egypt.

A second example of the molded ware colored yellowish-green, ochre, and brown, having pinkish clay full of brown and black grits, and therefore to be attributed to Egypt, is the small four-lobed dish in Fig. 275, in the Meyers collection in the Museum at Eton.<sup>163</sup> It is obviously derived from the type of the Chinese four-lobed dish shown in Fig. 262. The flat bowl or plate shown in Fig. 276 illustrates the sort of birds typical of this Egyptian ware.<sup>164</sup> The star-rosettes and the tiny rings in the borders are of course taken over from the "Samarra wares." (cf. Fig. 270).

<sup>162</sup>Naturally a man will only refer to himself by his place of origin when he is away from it. An exactly parallel case is seen in Egypt in the fourteenth century A.D. when potters whose names were al-Ghaibī (the stranger) al-Shāmī (the Syrian) al-ʿAjāmī (the Persian) went to work in Egypt. See M. A. Abel, Gaibi et les grands faïenciers égyptiens d'époque mamlouke (Cairo, Institut Français d'Archéologie Orientale, 1930), pp. 14-18, 28-32.

<sup>163</sup>First published by A. J. Butler, Islamic Pottery (London, Benn, 1926), p. 77, Pl. VII, B. Butler considered it to be Roman, "Because there is nothing in the Myers Collection later than the Roman period." Also, Lane, "Glazed Relief Ware," p. 58, and Figs. 3 and 4. In the Eton College Museum it is No. 29, and is exhibited in Case F; it was seen by the writer in April, 1939.

<sup>164</sup>Fouquet Sale Catalogue (Paris, Galerie Georges Petit, June, 1922), No. 258, Pl. XI; Pézard, op. cit., Pl. XII, 5, p. 208. In the Fouquet Sale Catalogue its provenance is given as Akhmīm; Pézard says it came from Fustat. It is shown in a color-plate in R. Koechlin and G. Migeon, Oriental Art, Ceramics, Fabrics, Carpets (New York, Macmillan, 1928), Pl. V.

Mr. Lane believes that the Egyptian ware (as in Figs. 274-276) is earlier than the molded "Samarra wares," and is indeed their prototype. This is in spite of the fact that he inclines to the reading "al-Baṣrī" for the potter's name (Fig. 274); and he says, "If the latter reading is right, there is a link, at present unexplained, with Egypt, where a kindred form of pottery appears as a native growth."<sup>165</sup> His reasons for this assumption are first, that he believed that the prototype for the Islamic molded wares, that is, the Roman green and ochre glazed ware, (as in Fig. 66) originated in Egypt, whereas the American excavations have proved that it was manufactured in Tarsus, in Cilicia. Secondly, he made no mention of the earlier Islamic use of the technique of molding in Mesopotamia, Syria and Persia. Certainly the Umayyad cup (Fig. 222) and pilgrimbottle (Fig. 223) are as early as the eighth century, while both the "Samarra" molded and the Egyptian molded wares cannot be before the ninth century, because of the ninth century character of their Kufi inscriptions. Thirdly, Lane claimed an Egyptian, more precisely, a Coptic origin for certain designs in both these wares, namely, the dotted band and the hatched band, and says that they were "adopted into Mesopotamian art." On the contrary, the dotted band, or "pearl-border" is one of

<sup>165</sup>Lane, op. cit., pp. 63-64.

the commonest elements in arts of the Sasanian period, stone, stucco, metal, textiles, whether they were made in Mesopotamia or Persia. Thus he supposes "That Egyptian workmen helped to introduce the manufacture of glazed relief ware at the calif's court"<sup>166</sup>; though all the evidence of all classes of molded pottery points to the opposite conclusion; and we have the specific statement of Ya'Kūbī that potters from Basra, as well as from Kufa, were brought to work at Samarra.

Another theory has been proposed concerning the Early Islamic molded wares, a theory which is quite fantastic. Mr. Pope has combined as one class (1) the Umayyad unglazed molded ware (Fig. 222); (2) both the "Samarra" green glazed and the "Samarra" lustered molded wares, and (3) the Egyptian molded wares; and suggests that they are Umayyad in date and Syrian in origin. "One might well expect such a ware to be invented in Syria for the Damascus market, when that was the Umayyad capital, for the type is entirely consistent with the scandalous ostentation of the later Umayyad court, which revelled in a revived Roman luxury."<sup>167</sup> To avoid attributing the invention of luster to Syria (for Mr. Pope believes it to have been invented in Persia) he simply states that the molded "Samarra wares"

<sup>166</sup>Ibid., p. 62.

<sup>167</sup>Arthur U. Pope, "The Ceramic Art in Islamic Times. A. The History," Survey of Persian Art, p. 1473.

were not lustered, but "covered with a thin coating of powdered gold."<sup>168</sup> I hope that my description of the Early Islamic molded wares will have made unnecessary any further discussion of the inconsistencies contained in Mr. Pope's ideas.

In the preceding pages we have seen that the "Samarra" molded ware with green glaze has exactly the same pale buff-yellow clay as was used with the white tin glaze, though with the molded ware it has occasionally also a pinkish tinge. The "Samarra" molded ware with the yellow glaze and all-over gold luster has a clay of the same fine quality which is only occasionally buff, and usually pink to pale red. It is my opinion that the clays of the two molded wares are really the same clay, differing only in color. Whether this possibility would ever be raised to the level of a fact, only microscopic and chemical examination would show.<sup>169</sup> But from my experience with the American Excavations

<sup>168</sup>Ibid., p. 1472. Mr. Pope gives no reference for this idea, so it may be his own opinion, which is exactly contrary to the statements of such authorities as Hobson, Sarre, and Kühnel. Or did he perhaps have in mind the description of Koechlin, in Suse . . . . Louvre, p. 84: "Ce lustre ne consiste, comme nous l'avons dit, qu'en une mince pellicule, une sorte de légère poussière d'or repandue à la surface et n'a rien de commun avec celui des ceramiques polychromes." For my part, on the best preserved pieces I have seen I have been able to distinguish no difference whatsoever between the gold luster on the molded ware and the gold luster on the white tin glazed ware.

<sup>169</sup>Unfortunately Mr. Matson has had no time as yet to make any such examinations of these wares.

at Tarsus, where I was cleaning and mending, as well as cataloguing the pottery, I can say that the yellow and the red clay have the same gross physical characteristics: the same texture, the same hardness, the same porosity, the same quality of fracture, which is smooth, but with sharp edges (as can be seen in Fig. 261). Lane says: "The fracture is often conchoidal, like that of porcelain."<sup>170</sup>

Mr. Matson has told me that a difference of temperature in firing will affect the color of clay; that some clay baked at a low temperature will be red, and at a high temperature, yellow to white; with other clays the reverse will be true. Is it possible that some such circumstances might account for the difference between the red and the yellow "Samarra clays"? In the meantime I offer the suggestion that these two clays are fundamentally the same, and therefore that the green-glazed and the lustered molded wares were most probably made in the same country; and that this country must be the country where the white tin-glazed pottery, having the same yellow clay, was made.

In the ninth-century molded wares we have seen a diversity of influences at work: Hellenistic and Christian architecture, pottery and metal; Sasanian metal, earlier Islamic pottery and contemporary Islamic metal and stucco; Chinese porcelain. These influences testify to the

<sup>170</sup>Lane, op. cit., p. 60.



cosmopolitan, international character of Islamic art, pottery included; for this reason these stylistic characteristics give no exact clue as to the place of origin of any class of pottery. To determine this we must consider pottery as a physical object, and not as the embodiment of a particular artistic style.

## E. "SAMARRA" WHITE TIN-GLAZED WARE

This class of pottery has always<sup>171</sup> the pale yellow "Samarra clay," though I have seen some sherds of it which are tinged with pink. This clay is consistent, whether the white glaze is a monochrome, or whether it has additional decoration painted over the glaze in turquoise, cobalt blue, manganese brown or luster, or whether the glaze is itself colored turquoise, brown, or cobalt blue. Koechlin has quite erroneously described this ware as: "Céramique à décor peint sur engobe et sous couverte"; Hobson makes the same statement.<sup>172</sup> Actually there is no slip whatever on either the "Samarra" molded wares on the "Samarra" white glazed ware.<sup>173</sup> Secondly, no decoration could show through the white glaze for it is perfectly opaque, a fact which is illustrated by a sherd from Samarra having a cobalt blue glaze with a Kufi inscription painted

<sup>171</sup> Sarre, Samarra, pp. 37 and 44.

<sup>172</sup> Koechlin, Suse . . . . Louvre, pp. 58 and following; Hobson, Guide, p. 4.

<sup>173</sup> Lane, loc. cit., points out that Sarre was mistaken in thinking that the "Samarra" molded ware had a slip. To be sure, a slip is used on the type of green, ochre and brown lead-glazed "Samarra" pottery, imitating Tang pottery, but this is an entirely different matter, for this type is related to the sgraffito wares, where a slip is essential. Dr. Ettinghausen has in his collection a small bowl of the "Samarra" green, ochre and brown splashed ware.

over it in the opaque white.<sup>174</sup> As for the color of the glaze, it has been often described as pinkish or grayish, but these tones are probably either accidental, or the results of burial. Sarre's term "cream-colored" for the white glaze seems to me too misleading, for the best preserved pieces are practically as white as this paper.

The shapes of the white-glazed pottery include some which are similar to those of the molded wares: low, wide, cylindrical bowls with flat bottoms.<sup>175</sup> A deep bowl with straight flaring sides is new (Fig. 294). Jars with high rounded shoulders, low rims, and horizontal loop handles (Figs. 279, 295) suggest, however distantly, being smaller and more refined, the blue-green glazed ribbed jars (Figs. 239-241). Wide flat plates have three feet (Fig. 280) like the feet of a metal prototype (as in Fig. 266). Jugs, also on three feet, reveal influence from post-Sasanian or Early Islamic metal.<sup>176</sup> By far the most common shape is a very graceful, well-proportioned bowl with a rim curving out, and a low wide ring foot (as in Figs. 281-2, 285-7, 291-2) which is a shape directly taken from Chinese porcelain.<sup>177</sup>

<sup>174</sup>Sarre, *op. cit.*, No. 196, Fig. 120, pp. 49-50.

<sup>175</sup>*Ibid.*, No. 165, Pl. XXXVI, 3, p. 45. This is a monochrome white-glazed bowl.

<sup>176</sup>*Ibid.*, No. 176, Fig. 105, p. 47; compare Fig. 98, on p. 44.

<sup>177</sup>*Ibid.*, Pls. XXIX and XXX.

Another type of bowl has five ridges, suggesting the shape of a lotus flower. A polychrome example was found at Samarra,<sup>178</sup> and pure white ones at Ctesiphon<sup>179</sup> and at al-Mina.<sup>180</sup>

The glazing and potting of the white glazed wares is very good. The foot and rim are well finished, in keeping with the simplicity and severity of the shapes. The glaze is thick, smooth and gleaming, and has no crackle at all, which testifies to the technical skill of the potters. On the other hand, it sometimes shows a tendency to flake off. The glaze is of the same excellent quality both inside and out, and covers completely the bottom of the base. These points are important because they are lacking in the white glazed wares made in the late ninth to tenth centuries in Egypt and Persia, and therefore form criteria for distinguishing one from the other.

The monochrome white-glazed pottery, not illustrated here, will be no further discussed, for its shapes have already been mentioned.<sup>181</sup>

<sup>178</sup>Ibid., No. 175, Pl. XX, 4, p. 47; it is in turquoise, manganese and green.

<sup>179</sup>Metropolitan Museum, New York, No. 32.150.93, in Selman Pak. Diameter of the base 17; the bowl is less than half preserved.

<sup>180</sup>Lane, "Mediaeval Finds at al-Mina," Pl. XVI, 2, and p. 31. Lane describes this as a cup, but its diameter is 13.5, which is rather big for a cup. Everyone else describes this shape as a bowl.

<sup>181</sup>See Notes 175 and 179-80.

The "Samarra" white glaze with turquoise decoration alone is not illustrated here; as a class it was not found at Samarra. The little object shown in Fig. 277 is not of the "Samarra ware," for it has reddish clay and the under side of the base is not glazed.<sup>182</sup> In my opinion it belongs to the class of coarse local wares which were made in imitation of the finer "Samarra wares"; such cheaper products were made in Mesopotamia, in Syria, and at Tarsus, as well as in Persia and Egypt. The piece of pottery in Fig. 277 (it has been described as a spittoon, though this use seems to me uncertain) is included because its simple decoration of blue-green spots is a direct continuation of the Mesopotamian style already described, which was found in the first and second centuries A.D., that is, during the Parthian period. Even then it was rare, for I was able to find only about thirty examples of it. A bowl from Nippur (Fig. 70) has a blue-green band about the rim; one from Dura, many streaks running down from the rim to the center (Fig. 71); two from Kish (Figs. 72 and 73) had three spots within the rim. The early existence in Mesopotamia of this color scheme, and the method of applying the second color in running streaks or spots, is exceedingly important, for in Islamic pottery the scheme of running or splashed colors is generally attributed to Tang influence.

<sup>182</sup>Pézarid, *op. cit.*, Pl. CVI, 4, p. 240. The glaze is described as "blanc gris." H.9.5, rim D.16.3.

This is certainly the case with the ochre, green and brown splashed-color class, for we have the Chinese originals to prove it. But the blue-green on white is purely Mesopotamian in origin, and antedates pottery of the T'ang dynasty (618-906 A.D.) by at least four hundred years. On the other hand, there is no sign of the Mesopotamian first to second century ware having influenced the T'ang ware; evidently the T'ang ochre, green and brown splashed ware was developed quite spontaneously and independently by the Chinese. The shape of the so-called spittoon in Fig. 277 is also considered to be Near Eastern. It is found in Chinese white porcelain of the T'ang period, but Chinese art historians consider the shape to be non-Chinese, and point out that a (cobalt?) blue glass "spittoon" preserved in the Shosoin Treasury at Nara is "no doubt Persian or Arab."<sup>183</sup>

Among the "Samarra wares" the combination of turquoise and the so-called cobalt blue painted on the white glaze is very frequent (Figs. 278-280). All writers on the subject speak of "cobalt blue" without question; when pottery from Samarra was tested it was definitely stated: "Die Glasur

<sup>183</sup> Anonymous, "Description of Specimens. 2. A Porcelain Spittoon," TOCS, 1924-25, pp. 9-10, Pl. I, Fig. 2. The T'ang spittoon is in the collection of Mr. Oppenheim; H.c.10 cm. (or 3.8 inches).

enthält Kobalt."<sup>184</sup> Matson has recently pointed out to me that the test for the presence of cobalt is a very delicate operation, one in which mistakes are very easily made; and that this deep blue color ought not to be called cobalt until all earlier tests have been re-checked by the most modern and exact methods. In the meantime, then, we must be cautious in accepting Hobson's statement that the use of cobalt blue is an Islamic contribution: "Painting in cobalt blue is more advanced on the Samarra pottery than on any known Chinese specimen of even date."<sup>185</sup> In this paper the term cobalt blue will be understood to refer to the color, and not to the chemical substance.

In the flat plate in Fig. 278 there are four groups of turquoise runs on the rim; the four hatched triangles from which grow very graceful leafy sprays are in cobalt blue.<sup>186</sup> On a jar in the British Museum,<sup>187</sup> in Fig. 279,

<sup>184</sup>Sarre, Samarra, Appendix II, p. 99. But the method of testing the glaze, whether microscopic or chemical, was not explained.

<sup>185</sup>Hobson, Guide, p. xiv. Koechlin maintains exactly the opposite, namely, that the Islamic cobalt on white is derived from China; even though he admits that no Chinese pottery of this type has ever been found in Mesopotamia or Persia. As evidence he cites an unpublished bowl in the David-Weill Collection, Paris. Koechlin, "A Fragment of Mussulman Pottery Found in a Tomb at Dura," Dura First Season, 1928, p. 74; also, Suse . . . . Louvre, p. 71.

<sup>186</sup>Pézarid, op. cit., Pl. CIII, p. 239; Koechlin, "A propos de la céramique de Samarra," Syria, VII (1926), Pl. XLVI, 1.

<sup>187</sup>Hobson, Guide, Fig. II, pp. 5 and 14. No provenance is given.

we see again the same freely and surely drawn leaves, which suggest laurel or myrtle, here forming a wreath about the shoulder; on the handles and shoulder are splashes of turquoise. The bowl in Fig. 280, excavated at Susa<sup>188</sup> has the main geometrical designs drawn in cobalt blue, with additional touches on the rim in turquoise. The combination of the straight lines of the triangle with the curved semicircles suggest a much simpler variation of the complex angular and curving interlacing bands of the molded lustered bowl, in Fig. 267.

The plain cobalt and white bowls include a number whose designs, in their composition, in the simplicity and spontaneity of the painting, as well as in the beauty of the pure, clear deep blue against the white, make them the classics of their period. The potter's artistic purpose is completely expressed; nothing is tentative, and nothing is overdone. The potter, who was a painter as well, was the master of his craft. Here are bold palmettes, as in Fig. 281,<sup>189</sup> or Fig. 282;<sup>190</sup> or a branching spray which suggests

<sup>188</sup>Koechlin, Suse . . . . Louvre, Pl. XII, No. 92, p. 67; also, "A propos de la céramique de Samarra," Pl. XLII, I. Koechlin describes the central pattern as a "Solomon's seal." The bowl stands on three feet.

<sup>189</sup>Sarre, op. cit., No. 167, p. 46, colorplate XVIII. This was bought in Paris; its provenance is unknown.

<sup>190</sup>Gaston Wiet, L'Exposition persane de 1931, (Cairo: L'Institut Français d'Archéologie Orientale, 1933) Pl. XVI, at the right, No. 4, p. 9. The bowl is in the Ethnology Museum, Munich. Its diameter is 25 cm.



leaves and fruits, as in Fig. 285,<sup>191</sup> without being photographically exact. More abstract designs also occur in this class, as on the bowl in Chicago in Fig. 286;<sup>192</sup> what it represents exactly I do not know. The dotted band is like those which occur in the molded lustered ware (Figs. 266, 267).

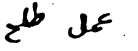

The inscription in the center of the bowl in Fig. 282<sup>193</sup> is a good example of the style of the Kufi used on the white-glazed pottery, whether painted in blue or in luster. Herzfeld has pointed out that it is the same style as that of the molded glazed and lustered ware,<sup>194</sup> as in Figs. 271-273 here. What slight difference there is in their appearance is due to the difference in technique: in the molded ware there is greater stiffness, because the letters are carved, and carved backwards, into the mold, while in the white-glazed class the inscriptions are actually written, and therefore

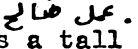
<sup>191</sup>Art Institute, Chicago, No. 30.984; H.6.6, D.20.5.

<sup>192</sup>Ibid., No. 30.883; H 6.6, D.21.7.

<sup>193</sup>Wiet, loc. cit., reads the inscription as: "Bénédiction à son possesseur! Oeuvre de Muhammad al- . . . (?)" To me the last part of the name seems to be clearly al-Salḥī, الصلحي. Further, Wiet gives the date of this bowl as probably of the middle of the tenth century. For this I can see no reason, as the designs and the inscription are characteristic of the Samarra wares in every respect, and would therefore be of the ninth century. Pézard, op. cit., Pl. CIX, 2, and p. 183, reads it as "oeuvre universelle," عمل كلي.

<sup>194</sup>Herzfeld, Appendix I, in Sarre, Samarra, p. 83. Fig. 174 illustrates the alphabet in this style.

are more free and flowing. This epigraphical style I take as a criterion in identifying the "Samaritan wares," and consider that wares having a different sort of epigraphy belong to another clan. For instance, in Fig. 283 is a bowl in the de Lorey collection of the usual T'ang shape, and painted in cobalt blue on white, but the Kufi inscription shows a marked difference between the broad and the narrow strokes; the style is delicate rather than strong, wiry and nervous rather than smooth and simple. Further, it is doubtful whether the inscription is a true one, or decorative; that is to say, it might be read as "The work of Talh"  or else as "The work of Kalh" , but neither of these makes a correct Arabic word.<sup>195</sup> The decorative border of the bowl also has a rather mechanical precision which is not characteristic of the "Samarra wares." In view of the differences in epigraphy and decoration between the de Lorey bowl and the "Samarra" bowls, I suggest that it may have been made somewhere else, or else at a different date. To explain the epigraphical differences it would not be enough to suggest that it had been made by a different potter; for there are quite a number of potter's names known in the

<sup>195</sup>In this again I differ from the reading of Wiet, *op. cit.*, p. 9, No. 5, Pl. XVI, at the left. Wiet reads it as "The work of Sālih" . But there is no alif; and the letter ṣād never has a tall stem in the ninth or tenth centuries.

blue and white "Samarra ware," and they are all in a style which is practically identical, and unlike that of the de Lorey bowl.<sup>196</sup> There are several other blue and white bowls which in decoration and epigraphy are similar to the de Lorey bowl, and which I thus also exclude from the "Samarra" group.<sup>197</sup>

A bowl formerly in the Koechlin collection,<sup>198</sup> which is stylistically in the same group as the de Lorey bowl, and which has the same border, was chosen by Koechlin to prove the Chinese origin of the blue and white style in the Near East. He compared it to a Chinese bowl in the Rucker-Emden collection, Fig. 284, which has five large scallops and small "comma-like" touches in dark brown glaze on a white

<sup>196</sup> Herzfeld, *op. cit.*, gives three potter's names: al-Ahmar, No. 8, Fig. 176; Abu Khālid, No. 9, Fig. 177, and Kā[thīr] ibn 'Abd]allah (?), No. 10, Fig. 178. The Munich bowl, here, in Fig. 282, makes a fourth. Two others, only fragmentary, are unpublished: one from Ctesiphon, in the Metropolitan Museum, New York, No. 32.150.92; another excavated at Rayy, University Museum, Philadelphia, No. RG 7983.

<sup>197</sup>(1) A bowl of the Koechlin collection, now in the Louvre, Paris; see Pézard, *Pl. CIX*, 4, p. 241, and, Koechlin and Migeon, *Oriental Art*, *Pl. IV*, in color; (2) a bowl excavated at Susa, with a laurel wreath about the rim; Koechlin, *Suse . . . . Louvre*, *Pl. XI*, No. 83, p. 65; (3) a bowl belonging to Charles Vignier, also with a laurel wreath, Pézard, *Pl. CIX*, 1, pp. 183 and 241; Pézard reads the inscription as "oeuvre d' amour." The laurel wreath on two of these is drawn very differently from that on the plate and jar shown here in Figs. 278 and 279. In all three the inscriptions are perfectly meaningless, and merely decorative.

<sup>198</sup>This is the bowl (1) in Note 197.

ground.<sup>199</sup> But why should a Chinese bowl in brown and white be reproduced in the Near East in blue and white, when in all other instances of known Chinese influence the Near Eastern copy is very faithful to the original color-scheme? Possibly in this case the influence may have gone from west to east. We have seen already that the turquoise on white pottery, with its spots or splashes, was not due to Chinese influence, but had its own Mesopotamian prototype. The similarity here may be simply a coincidence.

The distribution of the white-glazed "Samarra ware" with painted over-glaze decoration in cobalt blue, turquoise green, or manganese brown, or else with the glaze itself tinted in these colors, is very wide. Starting with Mesopotamia, it has been found at Samarra, Susa, Dura,<sup>200</sup> Kish,<sup>201</sup> and Ctesiphon<sup>202</sup>; in Syria, Hama,<sup>203</sup>

<sup>199</sup>Oscar Rucker-Embden, Chinesische Frühkeramik (Leipzig, Hiersemann, 1923), Pl. 10, b, pp. 57-58; Rucker-Embden believed that the "comma-marks" were derived from Arabic letters. Koechlin, "Chinese Influences in the Musulman Pottery of Susa," Eastern Art, I, (July, 1928), No. 1, p. 7, pl. I, 1 and 2. Sarre had previously, in 1925, published the Rucker-Embden bowl, in Samarra, p. 45, Fig. 101, comparing it to a sherd of blue and white found at Samarra, No. 169, Fig. 100.

<sup>200</sup>Koechlin, "A Fragment of Musulman Pottery Found in a Tomb at Dura;" not illustrated.

<sup>201</sup>Field Museum, Chicago, No. 236083. It was found on the surface.

<sup>202</sup>Metropolitan Museum, New York, in the 32.150. series, Nos. 122, 284, 300, 292, and 92.

<sup>203</sup>Ingholt, Rapport préliminaire, p. 37, not illustrated.

perhaps Antioch, and in Cilicia, Tarsus; in Persia, Rayy, also Sava and Kumm.<sup>204</sup> In the Stein Collection of sherds at the Peabody Museum examples come from sites along the overland and sea routes from Mesopotamia to Sind: in Fars, at Kashkuk, near Siraf; in Kerman, at Jiruft (Shahr-i-Daqianus) and Tump-i-Kharg; in Makran, at Tiz, Qalat-i-Jamshid, Geh, and Damin.<sup>205</sup> At Brahminabad, in Sind, was found part of a white monochrome bowl.<sup>206</sup>

At Nishapur in eastern Persia the Metropolitan Museum Expedition found some white-glazed bowls with turquoise and brown over-painting, (but no cobalt blue, as far as I know). These have not yet been published, but are on exhibition in the Museum.<sup>207</sup> The base of one is flat, of the other, grooved; that is, not the typical "Samarra" ring foot. Again, the Kufi inscriptions are not in the style illustrated in Fig. 282. The glaze looks like a tin glaze; but the clay was not visible. Thus these bowls appear to be local Nishapur pottery, though clearly related to the "Samarra" style.

All of the white-glazed "Samarra" pottery has identical glaze, whether the decoration is painted in colors or

<sup>204</sup>Pope, "The Ceramic Art in Islamic Times," pp. 1484-5, mentions Sava and Kumm.

<sup>205</sup>From my notes made at the Peabody Museum in July, 1939.

<sup>206</sup>Hobson, Guide, p. 8.

<sup>207</sup>Metropolitan Museum, New York, Nos. 38.40.109. and 38.40.110.

lustered. There is no question about the homogeneity of the white-glazed types as a group, for the evidence of the clay and the glaze alone is sufficient. But it is interesting to find that on a few rare examples both luster and color occur together: "Two bowls in the Victoria and Albert Museum, the one painted in ruby, the other in yellow lustre, bear inscriptions in blue as part of the design."<sup>208</sup> One of these, in gold luster, is shown in Fig. 287.<sup>209</sup> According to Dr. Ettinghausen, Herzfeld has a sherd of this type in his collection. A fourth example was excavated at Hira.<sup>210</sup>

Another type in which color was combined with luster is that in which the tin glaze itself is colored, and the luster painted over it. At Samarra were found examples of the cobalt blue glaze with rinceaux in a greenish gold luster.<sup>211</sup> At Tarsus was found, besides this lustered cobalt blue glaze, a turquoise glaze with gold luster. Both types were rare, and occurred only in small fragments.

<sup>208</sup>Lane, "Mediaeval Finds at Al-Mina," p. 32. Lane states that they were published in Victoria and Albert Museum, Review of Principal Acquisitions, 1931, p. 15, Fig. 8, and *ibid.*, 1934, p. 8, Fig. 9. These two publications were not available to me.

<sup>209</sup>I am indebted to Dr. Ettinghausen for showing me a photograph of this bowl. From the photograph it is impossible to make out the inscription.

<sup>210</sup>This was not mentioned specifically by Rice, "The Oxford Excavations at Hira," pp. 69-70. It is among the other pottery from Hira at the Ashmolean Museum, Oxford; seen by me in April, 1939.

<sup>211</sup>Sarre, Samarra, p. 43.

Though the white-glazed pottery with blue, turquoise and brown, and the white-glazed pottery with luster have the same basic physical nature (clay, and glaze), stylistically they differ. In the former the very simple designs are painted broadly on a perfectly plain background; in the latter the designs themselves are apt to be more complex, and the main design is often reserved in white against a background consisting of a fine all-over pattern. Again, the luster is not of one tone only, but may be gold, greenish-gold, copper-gold, and dark brown. The most splendid color is a deep ruby-red. The gold luster, the same tone as that on the molded ware, may be used alone, or two or several shades used together. All these different tones of the luster have varying reflected lights--green, flame-pink, or purple shading to blue. The variety and brilliance of these various lusters marks a peak in the history of pottery; all, except the plain gold, seem to have died out, with the "Samarra wares," immediately after the ninth century, though some continued in Egypt through the Fatimid period.

The bowl in Fig. 287 illustrates, in the plain gold luster, the type of composition in which the main design in solid silhouette is reserved in white against a background consisting of a fine all-over pattern. In this case the background pattern is of small V-shapes. Incidentally, the animal on this bowl though it looks like a deer, has

the one-sided antlers typical of the elk; compare the Mesopotamian unglazed stamped jar of the Sasanian period, in Fig. 168. The rim of the bowl has typical scallops, set off from the background by a plain white area. It will be remarked that these scallops are quite different from those of the de Lorey blue and white bowl in Fig. 283. The same small all-over V-pattern fills the ground of the main field of the large plate fragment in Fig. 288.<sup>212</sup> The figure represented here, a person of uncertain sex, is playing on a lute; the drawing of the face is typical of the plain gold lustered style. The main field of the plate is bordered by a band of small circles with large dots in the middle (a motive commonly called the "peacock-eye") on a ground of dots or V-s. The silhouette composition, the V-ground, and the "peacock-eye," are all common in the "Samarra" type having gold painted luster on the white glaze, but the design of the rim makes one think of the cobalt on white, and of the molded lustered ware. On the rim is an arcade, a border design which we saw in the molded lustered dish in Fig. 266, but instead of being round-arched, the arches here have three lobes. The lobed arch is found on eighth to ninth century molded pottery (Fig. 232) and is even more typical of late eighth century Mesopotamian wood carving, as in the *mimbar* at Kairawan (Fig. 233) and the panel from Takrit

<sup>212</sup>Pézarid, *op. cit.*, Pl. CXV, p. 243; H.3.3, length of the fragment 35.



(Fig. 235). The fact that the arcade and its columns are hatched again recalls the Kairawan mimbar panel; but on the other hand it suggests the hatching of narrow bands in the blue and white class, as on the bowls in Figs. 280 and 286. Again, the profile of the gold-lustered plate in Fig. 288 is the same as that of the plate in turquoise and cobalt on white, in Fig. 278 (as well as the gold-lustered plate in Fig. 290).

The "peacock-eye" motive on a V-ed ground is used for the background of a charming little bowl in the Brangwyn Collection.<sup>213</sup> in Fig. 289. The main design, of three beautifully painted half-palmettes, has exactly the same style and feeling as the palmettes of the blue and white class, as in Figs. 281 and 282. The fine indentations on the rim do not go down to the base of the bowl, that is, the bowl is not entirely lobed. The Kufi inscription is incomplete; the phrase "The work of" occurs three times.

On the flat plate in Fig. 290 in the Homberg collection, Paris<sup>214</sup> the scheme of a solid gold figure reserved in white on a "peacock-eye" ground is used for the border on the rim only; in the center is a fantastic bird partly in solid silhouette, partly with the details painted on white. This bird, with a leaf in its beak, goes back to Sasanian art;

<sup>213</sup>Ibid., Pl. CXVIII, 3, p. 244. Diameter c. 12.

<sup>214</sup>Bibliothèque Nationale, Les arts de l'Iran, Pl. V, No. 285, pp. 88-89. Diameter 30.

a close parallel for the scale-like representation of the feathers is found on the Early Islamic silver plate in Fig. 269. This silver plate also suggests a possible origin for the scheme of figures reserved in a plain tone against a back ground with an all-over pattern; and suggests that the "peacock-eye" pattern may be a development of the feather pattern of the silver plate, where it is used decoratively in the small polygonal areas between the guilloche bands and the outline of the hexagon.<sup>215</sup>

Occasionally in the pottery with plain gold luster on white we find designs freely painted, and not reserved on a patterned ground. An example of this style is seen in Fig. 291, a bowl in the Arab Museum, Cairo,<sup>216</sup> which represents a galley with rigging and oars. The absence of a patterned ground recalls the type of composition of the blue and white pottery; but here

<sup>215</sup>It will be remembered that the scheme of a main figure in silhouette reserved on a plain area against a patterned ground occurs also on the slip-painted pottery in cream, brown, red and yellow, which was made in eastern Persia and in Turkestan. Perhaps this scheme on the Turkestan pottery also goes back to late Sasanian metal, for in my opinion there seems to be no direct, contemporary connection between the "Samarra wares" and the Turkestan pottery. At least no such connection has as yet been well explained, or proved; and a common origin in metal seems more likely.

<sup>216</sup>Arab Museum, Cairo, No. 7900. This bowl has been published many times: see Gaston Wiet, Album du Musée Arabe du Caire (Cairo, Musée Arabe, 1930), No. 61; H.9, D.21; also Hassan, Al-Fann al-Islami fi Misr, (Cairo, Musée Arabe, 1935), I, Pl. 26, pp. 107-108. Both Wiet and Hassan say that it may be "Samarra ware," or else a local Egyptian imitation of it. But in my opinion, because of the nature of the clay and glaze, it is certainly the former. It was seen by me in March, 1939.

indeed, the ship, with its accompanying banners and fishes, leaves no room for any background.

Another type of the luster on white glaze has two shades, the green-gold, and brown. The bowl in Fig. 292, in the Arab Museum, Cairo,<sup>217</sup> has the gold for the outlines and for the tiny space-filling dots, while the large dots (in the center of the "peacock-eye") and the broad bands are in dark brown. The all-over square, or plaid, composition is rather unusual. We have already noted the "peacock-eye" on a dotted ground in the plain gold-lustered ware (Figs. 288-290). This gold and brown lustered type was excavated at Samarra, for instance, the famous eagle bowl:<sup>218</sup> the highly stylized eagle is outlined in dark brown bands, and reserved in white on a ground of a dotted checker pattern, and a fine spiral scribble pattern. Another fragmentary bowl from Samarra is divided by four radiating arms into four compartments, each of which is filled with sprays of gold flowers outlined in brown.<sup>219</sup> At Susa was found part of a bowl with the same naturalistic gold and brown-outlined flowers.<sup>220</sup> In the Art Institute,

<sup>217</sup> Arab Museum, Cairo, No. 4176. Wiet, op. cit., No. 60, H.7, D.27. Also, Hassan, op. cit., Plate 24.

<sup>218</sup> Sarre, op. cit., No. 156, Pl. XII, 2 (profile) and XIII, 2 (full view), p. 41.

<sup>219</sup> Ibid., No. 157, Pl. XIII, 1, p. 41.

<sup>220</sup> Koechlin, Suse . . . . Louvre, No. 155, Pl. XXII, pp. 107-8. Koechlin describes the fine brown outlines as being red.

Chicago<sup>221</sup> is a jar with loop-handles on the shoulder, having the same sort of gold flowers, broad dark brown bands, and checker patters: Fig. 293. Its similarity in shape to the British Museum jar with cobalt blue leaves and turquoise splashes (Fig. 279) has already been mentioned. A plate in the Kelekian Collection, London, Fig. 294,<sup>222</sup> is very close to being a twin to the Chicago jar. One of the most beautiful of this group is a bowl in the Louvre, in which four radiating half-palmettes, in dark brown, are reserved in white against a ground filled with branching leafy sprays in gold.<sup>223</sup> A bowl found at Tell Asmar, in northern Mesopotamia, and now in the Art Institute, Chicago,<sup>224</sup> is shown in Fig. 295. It has a fairly simple geometrical pattern: the bowl is filled with a large trefoil, which is formed by three intersecting arcs. The curved triangles within the trefoil are filled with bands alternately hatched and dotted. The smaller curved triangles outside of the trefoil are filled with tiny spiral scrolls, which recall

<sup>221</sup>Unfortunately I have not the number, or the dimensions of this jar.

<sup>222</sup>Pézar, op. cit., Pl. CXXXIV.

<sup>223</sup>Illustrated by Pope, op. cit., Pl. 580, B. Its diameter is 22 cm. In its case in the Louvre it is labelled "Rhâges, XI-XIIIe siècle."

<sup>224</sup>Art Institute, Chicago, No. 33.4; H.6.8, D.17.5. It was found at Tell Asmar, where the Oriental Institute Expedition was working, and given to the Art Institute by Mrs. Neilson C. Debevoise.

the spiral scribble in the background of the eagle bowl from Samarra. Bands of dark brown reserved on white separate the different sections. Thus in its color scheme and its general compositional scheme it is related to the gold and brown group; though its details of hatching and dotting connect it with the polychrome group.

The polychrome luster of the "Samarra" white glazed pottery is one of the richest and most elaborate. Here are used together the green-gold, the copper gold, and the dark brown; each has a different color of reflection, appearing when the light falls at a different angle, for instance, pinkish from the gold luster, and purplish-blue from the dark brown luster. Added to this coloristic brilliancy and subtlety is the effect of a very complicated composition, with variegated detail. On a bowl found at Samarra, Fig. 296,<sup>225</sup> are rather abstract patterns: the "Sasanian wings," with bands of hatching going alternately left and right; lobed leaves, having checker patterns filled with dots and spots of different sizes and colors; odd figures with the "peacock-eye" on a dotted ground. This style is identical with that of the polychrome luster tiles still in situ on the wall by the mihrab in the Great Mosque,

<sup>225</sup>Sarre, op. cit., No. 155, Pl. XVI, 2, pp. 40-41.

Kairawan.<sup>226</sup> One of these is shown in Fig. 297.<sup>227</sup> These tiles are dated by an Arabic text, which says that the Aghlabid Amir Abu Ibrahim Ahmad was building in the mosque in 862 A.D., and tells how some tiles were imported, and how a man from Baghdad made additional tiles which he added to them.<sup>228</sup> Of course the implication of this is that the first imported lot must also have come from Baghdad, if a Baghdad man was called upon to duplicate them.

Still another type of luster remains to be mentioned, the ruby-red painted on the white glaze. Often the outlines are in gold or brown; the red itself is very deep and brilliant, but has a tendency to run in a paler tone, partly obscuring the designs. The designs are very much like those of the polychrome type--rather geometrical compartments or stylized palmettes filled with hatching, stars or rosettes, and the "peacock-eye". A color-plate of some fragments found at Samarra is given by Sarre<sup>229</sup>; ordinary illustrations

<sup>226</sup>Ibid., pp. 36-38, gives a very good discussion of the polychrome lusters of Kairawan, and of Samarra, which are, indeed, identical. In 1925, when Sarre was writing this, the only available publication on this site was Henri Saladin, La mosquée de Side Okba à Kairouan (Paris, Leroux, 1899).

<sup>227</sup>Georges Marçais, Les faïences à reflets métalliques de la Grande Mosquée de Kairouan (Paris, Geuthner, 1928), Pl. XXVI.

<sup>228</sup>Ibid., pp. 7-11. This Arabic text will be given later.

<sup>229</sup>Sarre, op. cit., Pl. XVII, 1-3, and 4, Nos. 162, 163, pp. 42-43.

give no idea of either the color or the designs. The red lustered pottery is very rare; fortunately there are some complete examples of it in a few museums.<sup>230</sup> Fragments of it were found in the excavations at Tarsus.

The "Samarra" luster painted on the white tin glaze, considering all the varieties together, has a wider distribution than the cobalt and turquoise on white. In Mesopotamia it has been found at Samarra, Susa, Ctesiphon,<sup>231</sup> Baghdad,<sup>232</sup> Hira,<sup>233</sup> Tell Asmar (Fig. 295); in northern Persia at Rayy, in eastern Persia at Nishapur (Fig. 298); in Kerman, at Jiruft (Shahr-i-Daqianus) and at Tump-i-Kharg<sup>234</sup>; in Sind at Brahminabad<sup>235</sup>; in Turkestan at Samarkand<sup>236</sup>; in Syria at Antioch and al-Mina; in Cilicia, at Tarsus; in Egypt at several sites, chiefly Fustat; in North Africa,

<sup>230</sup>Dimand, A Handbook of Mohammedan Decorative Arts. (New York, Metropolitan Museum, 1930), Fig. 91, on p. 156; and p. 154.

<sup>231</sup>Metropolitan Museum, New York, No. 32.150.123, and No. 32.150.363.

<sup>232</sup>Sarre and Herzfeld, Archäologische Reise, II, pp. 114-115.

<sup>233</sup>Rice, op. cit., p. 70.

<sup>234</sup>Sherds in the Stein collection at the Peabody Museum, Cambridge.

<sup>235</sup>Hobson, Guide, Pl. IV, Fig. 14, p. 8.

<sup>236</sup>Ibid., pp. 9-10. Hobson does not illustrate these sherds, which are in the Victoria and Albert Museum, nor say to which variety they belong.

at Kairawan; in Spain, at Medina az-Zahra.<sup>237</sup> In other words, this remarkable sort of pottery was in demand throughout the whole world of Islam.

There is no evidence as yet to show that any of the luster types were made in Persia. Dr. Erich F. Schmidt, the director of the American Excavations at Rayy, wrote "The scarcity of the vessels and even sherds of the first two categories [i.e., luster on white, and cobalt and turquoise on white] at Rayy seems to support the theory of the importation of these wares, but not necessarily from abroad."<sup>238</sup> At Nishapur the Metropolitan Museum Expedition found very little of the Samarra wares, and of these only one has so far been published; Fig. 298. "We have now discovered actual importations, pieces of early celadon and stoneware of the T'ang dynasty (A.D. 618-906) from the Far East; and from the West fragments of polychrome luster ware of Samarra type and a small bowl of yellow clay [Fig. 298 here] decorated in golden yellow luster."<sup>239</sup> Far more interesting was the discovery of two bowls of local Nishapur

<sup>237</sup> Ricardo Velazquez Bosco, Medina Azzahra y Alamiriya (Madrid, Blass, 1912); this book was not available. An example of this luster ware was illustrated by Pézard, *op. cit.*, Pl. CXXV, 3 and 4; this is of the plain gold on white. The palace at Medina az-Zahra was built in 936 or 937, that is, well on in the first half of the tenth century.

<sup>238</sup> Erich F. Schmidt, "Rayy Research 1935, Part I," p.83.

<sup>239</sup> W. Hauser, J. M. Upton and C. K. Wilkinson, "The Iranian Expedition 1937," BMMA, XXXIII (November, 1938), Section II, Fig. 10, on p. 10, text, p. 14.



ware which are clearly imitations of the "Samarra" luster ware; see Fig. 299. "Variously shaped panels are drawn on the cream white slip with a strong brown-black line, and some of these shapes are colored yellow. Most of the panels and the bottom of the bowl are filled with dots and peacock eyes or dots and small foliage on very thin curly stems; by the rim are two very stylized birds and beneath them two triangular shapes that are filled with a trifoliate design. The color of these bowls strongly suggests that lustered pottery served as the model. As far as we know lustered ware was not made in the eastern part of Irān before the Mongolian conquest."<sup>240</sup> The other bowl of this type, which is not published, but is on exhibition in the Museum, has designs which are even more closely related to the "Samarra" polychrome luster, for it lacks the uncharacteristic bird and small foliage scrolls.<sup>241</sup> This sort of pottery has never been found at sites outside of Persia; it was evidently not exported.

In Persia there is no evidence either that the "Samarra lusters" were manufactured there, or that other kinds of lusterware were made locally. In Egypt, on the other hand, lustered pottery was actually made, probably as early as

<sup>240</sup>Wilkinson, "The Iranian Expedition, 1936," BMMA, XXXII (October, 1937), Section II, Fig. 18, on p. 14, and text, pp. 17-19.

<sup>241</sup>Metropolitan Museum, New York, No. 38.40.135. The label for it in the case says "Bowl: glazed pottery with decoration imitating luster, Persia, IX century."

the ninth century and continuing all through the Fatimid period, that is, through the twelfth century. This has long been known, for the lusterwares which are found in Egypt, but never exported anywhere else, and therefore evidently local, are very different from the "Samarra wares."<sup>242</sup> Instead of having a fine well-levigated creamy-yellow clay, and a smooth, uncrackled white glaze which covers all the exterior including the bottom of the foot, the Egyptian lustered pottery has a rough, coarse sandy clay which is buff-brown to red in color, a thick white glaze which is very often crackled and which is usually used only on the interior. On the exterior the white glaze is only partially used, leaving occasional unglazed areas on the sides and on the bottom of the base. Again, the roughness and sandy nature of the clay precludes the use of very thin walls, while the "Samarra wares" often have walls as thin as three or even two centimeters, a circumstance permitted by the smoothness and fineness of the "Samarra clay."<sup>243</sup> In addition to the evidence of the

<sup>242</sup>As I write I have before me several sherds of both the "Samarra" and the Egyptian luster wares, all from Fustat, which were given me by M. Gaston Wiet, Director of the Arab Museum, Cairo, and Dr. Zaky Hassan, Curator, to whom I am exceedingly grateful for this gift.

<sup>243</sup>The same observations concerning the Egyptian wares have been made by Mr. Oscar Raphael, in, "Some Notes on the Early Pottery of the Near East," TOCS, 1925-26, p. 29 and by Ernst Kühnel, "Die Abbasidischen Lusterfayencen," Ars Islamica, I (1934), Pt. 2, p. 150.

difference between the Egyptian and the "Samarra" wares and the fact that the former are not found exported into the Near East, there is a further epigraphical proof. Wiet published in 1936 a bowl of the typical Egyptian clay, glaze and potting, which has on the exterior the fragmentary inscription "Made by . . . . [I]brahīm . . . . in Egypt."

عمل [أ] براهميم . . . . . عمل ; Fig. 300.<sup>244</sup> Thus there are now two types of ninth to tenth century Egyptian pottery known with potter's signatures, this lustered elephant bowl, and the type of the condiment dish signed by Abu Nasr; both are equally dependent on the land of the "Samarra wares."

<sup>244</sup>Gaston Wiet, "Deux pièces de céramique égyptienne," *Ars Islamica*, III (1936), Part 2, pp. 173-179, Figs. 1-3. Wiet described neither the clay nor the glaze nor the potting, but concerned himself solely with the decoration and with the inscriptions: a second very large inscription on the underside of the base is simply "Sahha" شح which Wiet renders as "bon à tirer," or, "bon à cuire." (p. 178). Wiet dates the bowl to the end of the ninth century A.D.

## F. WHERE WERE THE "SAMARRA WARES" MADE?

To many authorities the most important thing about the "Samarra wares" is the question of the origin of luster. But many have written about it as if luster were a thing in itself, and have discussed it quite independently of the glazed pottery on which it appears as a surface decoration. People have claimed the invention of luster for this country or that country while remaining quite unconscious of the implications of this claim for the history of pottery. In my opinion the method of divorcing surface decoration from the pottery itself is quite unsound.<sup>245</sup> For these reasons in the preceding pages I have attempted to point out the fundamental homogeneity of all the "Samarra pottery." I suggested that the single "Samarra clay" was used for all types: its color being pale yellow for both the green-glazed molded pottery and the white tin-glazed pottery,

<sup>245</sup>Of course luster is found on Early Islamic glass as well, but none of this glass has yet been dated any earlier than Samarra. Further, the colors of the luster on glass and on pottery are the same, and the style of epigraphy is the same. Ya'kūbī says that glass makers as well as potters were taken from Basra to Samarra; and Ibn al-Faḥīh says that Baghdad was famous for its glass of all varieties; (these references will be given in detail later, with the pottery references). In other words, for the purposes of this paper, luster on glass may be omitted, for it has the same date, and the same country of manufacture, as lustered pottery. Compare C. J. Lamm, Das Glas von Samarra (Berlin, Reimer-Vohsen, 1928).

or sometimes a yellowish-pink for both, and varying to a pale red for lustered molded pottery; and suggested (but could not prove) that this difference in color may be merely accidental, due to a difference in firing. It will be remarked that in this my opinion differs from that of Sarre<sup>246</sup> and Kühnel<sup>247</sup> who considered that the red clay of the molded lustered ware necessitated its exclusion from the group of the "Samarra wares." Further, the same white tin glaze is used for both the cobalt blue-painted pottery and the luster-painted pottery; and the same gold luster is used on both the molded ware and the painted white-glazed ware. Again, I attempted to point out stylistic similarities between the three groups (molded, blue-painted and luster-painted) which might be taken as an indication that the three classes had a common origin, though this is not really significant, for artistic motives travel, and Islamic art is international.

It may be well at this point to consider the chronology of the Samarra wares. I agree entirely with Kühnel in considering the molded luster pottery to be more archaic in character than the painted lustered pottery: "Sie . . . höchstens als technisches Vorstadium für diese anzusprechen ist."<sup>248</sup> Certainly in its shapes and designs this ware has

<sup>246</sup> Sarre, Samarra, p. 101.

<sup>247</sup> Kühnel, "Die Abbasidischen Lüsterfayencen," pp. 151-152.

<sup>248</sup> Ibid., p. 152.

a closer connection with Hellenistic-Roman and Sasanian art (see Figs. 266-270) than do some of the other "Samarra wares." And we have seen in the section on the pre-Samarra molded wares that the making of molded pottery was a well-established Islamic practice before the ninth century. Further, the fine dish on three feet found at Samarra (Fig. 266) has nothing to do with Chinese pottery and is certainly a translation into clay of a metal shape, as Sarre was the first to point out.<sup>249</sup> Therefore Kühnel's remark: "Wenn man von der wohl nicht unberechtigten Voraussetzung angeht, dass die Lüsterfayence berufen war, ostasiatisches Porzellan und Steinzeug nach Möglichkeit zu verdrängen, so muss man annehmen, dass sie vor der Gründung von Samarra noch nicht bestand,"<sup>250</sup> seems to me to be inconsistent with his other idea, namely, that the molded luster ware is the earlier type. I feel that this class is a natural Islamic development, and that it need not be assumed to have developed in competition with imported pottery. Very likely it may have been made as early as 800 A.D., though it has not yet been found in any context which would establish such a date.

Kühnel has worked out a most reasonable chronology for the other lustered pottery. He suggests that of the pottery with luster painted on the white glaze the earliest may have

<sup>249</sup>Sarre, op. cit., p. 32.

<sup>250</sup>Kühnel, op. cit., p. 153.

been the ruby luster, then the polychrome, then the gold and brown, and finally the plain gold alone, which continued to be made as late as the tenth century.<sup>251</sup> More precisely, he suggested that the ruby luster must have been made before 850, the polychrome before 860 (for 862 A.D. is the date of the Kairawan tiles) and the brown and gold before 870. As for the plain gold, he considers that it was probably not in general use until the end of the Samarra period (i.e., after 870) because the few examples of it at Samarra were of relatively poor, or degenerate workmanship, and therefore late.<sup>252</sup> On the other hand, he suggests that some plain gold luster which has the "peacock-eye" (as in my Figs. 289-290) may have been made at the same time as the polychrome.<sup>253</sup> But examples of it which have the V-ed background as well as the "peacock-eye" (compare my Fig. 288) he considers to be "unbedingt nach 880," because only a single example of the V-ed background was found at Samarra.<sup>254</sup> This argument seems to me a little uncertain, because, as Sarre pointed

<sup>251</sup>It happened that in my discussion of this pottery I followed exactly the reverse order, for I was merely following the progression from technical simplicity to complexity without regard to chronology.

<sup>252</sup>Kühnel, op. cit., pp. 153-158.

<sup>253</sup>This probability has become a reality because of the discovery at Tarsus of two fragmentary bowls signed with the same potter's name ('Ali Abu, or Akhu, Shaddād) one of which is in a rich polychrome, the other in the plain gold luster.

<sup>254</sup>Kühnel, op. cit., Fig. 6, pp. 157-8.

out, "Samarra . . . . was intentionally given up and deserted, wherefor the inhabitants took everything of value with them and left there only what could not be used and was broken."<sup>255</sup> Another plain gold group with the V-ed background, has animals and human beings reserved on it; animals and human beings were not found on this type of pottery at Samarra,<sup>256</sup> and he therefore assigns this group to "frühestens gegen 900." But he also gives a more convincing reason for assigning this particular type to the early tenth century, namely, that it was found in the palace at Medina az-Zahra in Spain, which was not built till 936 or 937 A.D.<sup>257</sup>

If this chronology stands, there is then a series of "Samarra" lustered wares starting with the early molded lustered pottery (existing surely about 840, if not as early as 800 A.D.) and continuing to the plain gold luster on white of the early tenth century. As Kühnel pointed out,

<sup>255</sup>Sarre, "Samarra in Mesopotamia, a Calif's Residence of the Ninth Century," Art in America, XIII (February, 1935), No. II, pp. 91-92. Sarre quoted this historical fact in order to explain why no valuables, and precious metals, and only a few coins were found at Samarra; it seems to me to apply to the pottery as well. 2

<sup>256</sup>Two representations of birds were found at Samarra, but one, a rooster, was on a polychrome lustered tile (Sarre, op. cit., Pl. XXII) and the other, the eagle, was in brown and gold luster (ibid., Pl. XIII).

<sup>257</sup>Kühnel, op. cit., p. 158. The publication of the pottery from Medina az-Zahra has already been mentioned; see Note 237. See also Hobson, Guide, p. 9.



this means that the luster wares cover a period longer than the life of the city of Samarra (838-883 A.D.); in other words, that it cannot have been manufactured in the city of Samarra. Kühnel concludes that it must have been made somewhere near by in Mesopotamia, perhaps at Baghdad.<sup>258</sup>

Two other countries, Egypt and Persia, have been proposed as the home of luster (but without considering the other types of "Samarra ware"). Egypt has been supported by Martin, Fouquet, Butler, Gallois, and Ashton. The arguments of Butler, the chief protagonist, are briefly: that Egypt was the earliest and the greatest center of the making of glazed pottery; that the making of glazed pottery in Egypt continued unbroken from the Roman through the Coptic to the Islamic period; that luster was discovered in Egypt about the third century of our era; that it cannot have been made in Persia because in the eleventh century a Persian traveller in Egypt spoke of Egyptian luster at that time as something that he had never seen before.<sup>259</sup> Lucas

<sup>258</sup> Ibid., p. 152. For Baghdad as a center for making pottery Kühnel refers to J. Karabacek, "Zur muslimischen Keramik," Oesterreichische Monatsschrift für den Orient, (December, 1884), No. 12; but here on p. 289. Karabacek states the fact without giving any reference to the source of his information.

<sup>259</sup> A. J. Butler, Islamic Pottery (London, Benn, 1926), Chapters I-VIII. In this book he expanded what had appeared in his previous articles: "Egypt and the Ceramic Art of the Nearer East," BM, XI (July, 1907), pp. 221-226; "Egypt and the Ceramic Art of the Nearer East," BM, XII (1907-1908), pp. 48-51; "The Origin of Luster Ware," BM, XVI (1909-1910), pp. 18-23.

has destroyed the first statement by showing that there was no glazed pottery in Egypt till the Islamic period, and that all glazed wares made in Egypt till then were faience.<sup>260</sup> To illustrate the unbroken tradition of pottery-making during the Coptic period Butler could only cite two actual pieces of "glazed pottery," one a bowl with a brown stag on a white ground, for whose date he offered no evidence, the other, the famous Constantine bowl in the British Museum.<sup>261</sup> This bowl whose provenance is unknown, has outside a checker pattern in blue and white and inside, in the center a bearded Christ with cruciform nimbus, flanked by profile portraits of Constantine and Fausta, whose names are given in a Latin inscription about the rim. The fact that Constantine's date is in the fourth century, while the cruciform nimbus does not occur till the sixth century, has caused some authorities

<sup>260</sup>Alfred Lucas, "Glazed Ware in Egypt, India and Mesopotamia," JEA, XXII (December, 1936), Part II, 141-164, passim, and especially his table on p. 164. Lucas did not mention the Constantine bowl in the British Museum; perhaps he considered it to be of faience, not glazed pottery.

<sup>261</sup>Butler, op. cit., p. 8.

to consider this bowl to be modern.<sup>262</sup> The ordinary Coptic pottery which can be dated before the Islamic period is unglazed.<sup>263</sup>

Butler's claim that luster was in use by the third century A.D. in Egypt<sup>264</sup> is invalid, because the shining or gleaming surfaces he describes are technically not at all the same thing as luster. As Migeon has said, "Nous n'allons pas compliquer le problème en y mêlant aveuglement toutes ces céramiques où peut apparaître une luisance, ou même une irisation chatoyante accidentale . . . . Nous rejetons donc de la question toute la céramique antique (par bleu, nous la connaissons bien aussi, cette luisance

<sup>262</sup>O. M. Dalton, British Museum. Catalogue of the Early Christian Antiquities (London, British Museum, 1901), pp. 159-161, Pl. XXXIII, No. 916; here he suggests that the white color of the inside of the bowl is due to a white slip under the vitreous (*sic*) glaze, which has a greenish tinge where it is thickest. Later, in Byzantine Art and Archaeology (Oxford, Clarendon, 1911), pp. 609-610, Dalton suggests that the glaze might be a tin glaze, because "Babylonian bricks used oxide of tin." See also his Guide to the Early Christian and Byzantine Antiquities (London, British Museum, 1921), p. 172; D. T. Rice, Byzantine Glazed Pottery (Oxford, Clarendon Press, 1930), p. 3, mentions a color-plate of it given by H. Wallis, Egyptian Ceramic Art (London, 1898), Pl. XII, p. 28. The closest parallels I know for the use of blue and white and checker patterns are two bowls in Pézard, op. cit., Pls. XXVI, XXVII, which are now considered to be modern.

<sup>263</sup>Margaret A. Murray, "Coptic Painted Pottery," Ancient Egypt and the East (June, 1935), Part I, pp. 1-15; M. S. Dimand, "A New Coptic Vase," BMMA, XIX (1924), pp. 123-124; Stephen Gaselee, "The Coptic Period," The Art of Egypt through the Ages, edited by Sir Edward Denison Röss (London, The Studio Ltd., 1931), pp. 55-60.

<sup>264</sup>Butler, op. cit., p. 78.

dans le verni, qui n'est pas le lustre)."<sup>265</sup> In order to establish his Egyptian theory by eliminating Persia, Butler cited the eleventh century Nasir-i-Khusrau, who apparently knew no luster at that time in Persia.<sup>266</sup> But what was happening in Persia in the eleventh century is no proof for what was happening there in the ninth century.<sup>267</sup> One might just as well argue "The use of tobacco was known in England in the sixteenth century, therefore its use was also known there in the fourteenth century."

Finally, Butler said that when the calif Ma'mun (sic) was building Samarra "he followed the practice of his predecessors and imported from the various countries of his empire gangs or guilds of . . . artisans and artists"; "And it is even more probable that instead of importing the wares, he brought skilled potters from Cairo to set up their own manufacture in Samarra."<sup>268</sup> As we shall see

<sup>265</sup>Gaston Migeon, "Le décor lustré dans la céramique musulmane à propos de publications récentes," Syria, X (1929), p. 135.

<sup>266</sup>Butler, op. cit., pp. 40-41.

<sup>267</sup>Indeed, as we know from the Metropolitan Museum Excavations at Nishapur, luster ware was imported as well as imitated there in the ninth century A.D.; see Figs. 298 and 299.

<sup>268</sup>Butler, op. cit., p. 48. Later, p. 56, he suggests that it may have been the Tulunid, Ahmad ibn Tulun (868-883) who exported luster ware from Egypt to Samarra; while he admitted, in the same place, that Ahmad ibn Tulun was brought up in Samarra and went from there to Egypt. Butler (p. 55) quoted Guy Le Strange, The Lands of the Eastern Caliphate (Cambridge University Press, 1905), p. 54, for the fact that artisans were brought to Samarra from the whole Islamic world.

from the text of Ya'kūbī, potters were not brought from Egypt.

The Persian theory of the origin of luster was started by Vignier, who excavated several types of "Samarra wares" at Rayy<sup>269</sup> and followed by Pézard, Riefstahl, Koechlin, Salles, Wiet, Pope and Wilber. This whole school of thought is based on the assumption that since the luster ware was found at Rayy, it must have been made there, and thence exported to Samarra, and elsewhere: "Si . . . des pièces exactement semblables se rencontrent dans un centre céramique à vieilles traditions renommées, tel que Rhagès, dont le rayonnement sur l'Orient est indéniable, et à la fois dans la 'ville neuve' qu'était Samarra, il y a toutes chances pour que Samarra ait reçu ses premiers modèles de Rhagès."<sup>270</sup> Again, Rayy has been considered to be the center for lustered pottery because certain types were found there which were not found at Samarra. These are the plain gold luster painted on white, with animals and human beings reserved against a V-ed ground. We have just seen how Kühnel pointed out their post-Samarra, early tenth century date, by comparison with sherds found at Medina az-Zahra in Spain, and therefore their presence at Rayy signifies nothing as to their origin.

<sup>269</sup>Charles Vignier, "New Excavations at Rhages, the so-called Samarra Fayence," BM, XXV (July, 1914), pp. 212-218.

<sup>270</sup>Koechlin, Suse . . . Louvre, pp. 9; also 58. In this quotation the italics are mine.

The Persian school has used another argument for Persia which is exactly the same as one used by Butler for Egypt, namely, the habit of the Abbasid califs to transport workmen. Thus in 1928 Koechlin wrote "Sûrement, quand Moutasim eut fondé Samarra, il y fit venir des potiers de Bagdad, sinon d'Égypte et de Perse, qui y travaillèrent suivant leurs traditions";<sup>271</sup> again, "Very probably the caliph who built Samarra introduced potters from elsewhere, and as Rhages was one of the great ceramic centers of the orient it was from this capital doubtless that he selected them."<sup>272</sup> In 1932 Wiet repeated the idea, with this conclusion: "Nous avons donc le droit de penser que les potiers y vinrent de la Perse."<sup>273</sup> In 1936, however, Wiet quoted for the first time the actual text of Ya'kūbī who stated clearly that potters were taken to Samarra from Kufa and Basra, but he summarized it thus: "Les pottiers y vinrent sans doute de Kufa et de Bassorah, où il s'étaient installés, depuis l'avènement des Abbasides, en provenance de Ray très probablement."<sup>274</sup> Still the same insistence

<sup>271</sup>Koechlin, "Les céramiques musulmanes de Suse au Musée du Louvre," Syria, IX (1928), p. 43.

<sup>272</sup>Koechlin, Dura First Season, 1928, pp. 73-74. The latter was quoted by Pope, op. cit., p. 1485, but omitting "doubtless."

<sup>273</sup>Gaston Wiet, "Exposition d'art persan. Céramique," Syria, XIII (1932), p. 82. He referred to no Arabic text.

<sup>274</sup>Wiet, "Deux pièces de céramique égyptienne," Ars Islamica, III (1936), Pt. 2, pp. 172-173.

upon Rayy, though it is not even mentioned in the Arabic text.

Another Arabic text has been quoted to the effect that "luster dishes were made in Rayy."<sup>275</sup> This is a translation from Ibn al-Fakīh's Kitāb al-Buldān which he wrote in 903 A.D., from the chapter where he lists the specialities of the countries of the known world. The words in question are:

ولاهل الرى الطباق المدحنة

"And the people of Rayy have painted dishes."<sup>276</sup> In other words, Minorsky mistranslated the text. To be sure, the editor de Goeje does give in a footnote a variant reading:

الاطباق المزحبة, or, "gilded dishes." But Minorsky advanced no reasons for doubting de Goeje's methods of editing, and I can see none myself. Even if textual criticism might in the future prefer the reading gilded to the reading painted (and the difference between المدحنة and المزحبة lies only in the position of two dots) we still have no reference to pottery (and thus no possible reference to lustered pottery); for the word الطباقي (طبق) refers to a shape, and not to a material--it means a cover,

<sup>275</sup>Minorsky, article on Rayy in the Encyclopedia of Islam: "'Lustre dishes', an interesting detail in view of the celebrity enjoyed by the ceramics 'of Rhages'."

<sup>276</sup>Ibn al-Faqīh al-Hamadhānī, Kitāb al-Boldān BGA, V (Leyden, Brill, 1885), p. 253, line 21. The passage goes on to describe silk weaving and various other textiles, and objects made in wood at Rayy.

or large flat dish or tray.<sup>277</sup> A similar example of unfortunate translating is provided by Kahle who out of a passage in the History of Tabari concerning some spoils of war taken by the Arabs near Samarkand in the year 751 A.D., draws the conclusion that the Arabs saw here for the first time Chinese porcelain.<sup>278</sup> The text says:

واخذ... من الاواني الصينية المنقوشة المزجبة التي لم ير مثلها  
 "And he took . . . . Chinese vessels, engraved and gilded, the like of which had not been seen." As no Chinese pottery or porcelain of the T'ang period was gilded, much less lustered, the vessels in question seem to me to have been Chinese bronzes, which are often inlaid with gold or silver. There are words in Arabic for clay, ghidār غصار and tīn طين and for pottery, fakhkhar فخار and Khazaf

<sup>277</sup>Gallois has made a very reasonable suggestion, i.e., that these dishes of Rayy were very probably of wood; H. C. Gallois, "La céramique archaïque de l'Islam," Aréthuse, V (1928), No. 21, pp. 147-148. He quoted the passage from Ibn al-Fakih (referring to the author as Muhammad ibn Ishak) and supported it by quotations (without any references) from the later authors Mukaddasī and Kazwīnī. Kazwīnī stated that the people of Rayy import khalanj wood from Tabaristan, and re-work it and gild it. Adam Mez, in Die Renaissance des Islams (Heidelberg, Winters, 1922), p. 365, gives a quotation from the Kitab al-Bukhālā of al-Jāhiz of Basra (died 869 A.D.) to the effect that vessels of khalanj-wood were as highly prized as Chinese wares.

<sup>278</sup>Paul Kahle, "Islamische Quellen zum chinesischem Porzellan," ZDMG, N.F., XIII (1934), pp. 5-7 and 45. Kahle translated the word mankūsha منقوشة as painted (though it really means engraved, or carved) and therefore thought that the vessels must be of pottery or porcelain. The Arabic text is in Tabari, Annales, edited by M. J. de Goeje (Leyden, Bri 1879-1901 ), Series III, Vol. I, p. 79, lines 16-17.



خزف , and when an Arab writer means pottery, he says so. Therefore it seems to me perfectly unwarranted to give the meaning pottery to a word which means only vessel or dish.

What can be said for Rayy as "un centre céramique à vieilles traditions renommées?" In the late Parthian period we mentioned a glazed jug said to have been found at Rayy (Fig. 103); and noted that a few sherds and a pitcher with bluish-green glaze were found by the American Expedition there, of which Dr. Schmidt wrote, "Mesopotamia had given to Iran the art of glazing" (above, page 76). No Sasanian pottery was found at Rayy. In Persia in general at this time the absence of the making of glazed pottery, and its probable importation from Mesopotamia, has already been pointed out (above pages 148-151). Indeed, native Persian pottery in both the Parthian period (Figs. 23-26) and in the Sasanian period (Figs. 151-152, 158, 160-162) seems to have been unglazed, either plain or burnished. In the Islamic period much more pottery is known from Rayy (as well as from other sites). The technique of burnishing continued. (Fig. 208). A new method of matt painting seems to be definitely related to Mesopotamia (Fig. 221). Molded pottery (Fig. 232) seems to have connections with Hellenistic-Roman art and with the molded pottery of Syria and Mesopotamia of the seventh and eighth centuries. A monochrome green glaze (perhaps lead), very different from the common

Mesopotamian blue-green glaze, has as its only prototype the green lead glaze of Roman Tarsus, and its origin is as foreign to Persia as it is to Mesopotamia. It is used however, on shapes which are derived from Mesopotamia (Figs. 256, 257). Thus through all these centuries Rayy was remarkable for the scarcity of glazed pottery, and for the fact that its occurrence was apparently due to foreign influence, though we must await the final publications of Rayy for the complete picture. We have already quoted Schmidt as to the presence of a few examples of two varieties of the "Samarra wares," the cobalt on white, and the painted luster on white; he considered them to be not native to Rayy. Indeed, though the Mesopotamian blue-green glaze has been found at Rayy and at Kasr-i-Abu Nasr during the Parthian and Sasanian periods, there has not as yet been reported a trace of the Mesopotamian white tin glaze on Persian soil before the Islamic period, and more precisely, before the ninth century A.D. Thus all the evidence seems to indicate that Rayy, or any site in the whole of Persia, could not be described as "un centre céramique à vieilles traditions renommées . . . dont le rayonnement sur l'Orient est indéniabile." The objective evidence of the pottery itself refutes theories based on the assumption of Persian superiority in all the arts, for pottery has a different history from metal, textiles, and stone-carving.

In Mesopotamia the situation is far otherwise. Mesopotamia

even under the Umayyads, had been an important province, and under the early Abbasids was the center of the califate, so that in general one might expect the patronage of the court to stimulate works of art. But since the capital imported as well as exported, this generalization is not enough. Fortunately the two well known Arabic texts to which allusion has already been made are concerned definitely with pottery.

The first is from Ya'kūbī's account of the founding of Samarra by the calif Mu'tasim, in 838. After describing the bringing of workers from various countries, including papyrus makers from Egypt, Ya'kūbī says:<sup>279</sup>

و حمل من البصرة من يعمل الزجاج والخزف والحصر و حمل  
من الكوفة من يعمل الخزف و من يعمل الاذهان .

"And he had brought from Basra makers of glass and pottery and straw mats, and from Kufa makers of pottery and colors [or, paints]." Even in these two lines there are several questionable points. The word khazaf خزف for pottery is clear. But Schwarz, who was the first to translate this passage, in 1909, felt that since potters were brought from Basra, they need not have been brought from Kufa also, and suggested that the second occurrence of khazaf might be a

<sup>279</sup> Al-Jakubi, Kitāb al-Boldān, BGA, VII, pp. 231-373, (2nd ed.; Leyden, Brill, 1892), p. 264, lines 12-13. Ya'kūbī's book was written in 889 A.D., in other words, only fifty-one years after the events he was describing.

mistake for khazz خَز which means raw silk.<sup>280</sup> In support of this is the fact that Ibn al-Fakīh says that khazz was one of the specialities of Kufa,<sup>281</sup> as well as al-adhān الادهان but he does not mention pottery. Wiet, on the other hand, in his translation of Ya'kūbī makes no mention of the suggestion of Schwarz but simply translates "pottery" for both Kufa and Basra.<sup>282</sup> A second controversial word is al-adhan الادهان which I have given here as paints, or colors, following Wiet.<sup>283</sup> Now the ordinary meaning of the word duhn (pl. adhān) is oil, or sweet smelling ointment, and it is thus that Schwarz translates it. But this comes from the same root as the word describing the Rayy dishes, المرصنة; and I think that it is more reasonable to consider that the Rayy dishes were painted, rather than that

<sup>280</sup>Paul Schwarz, Lie Abbasiden-residenz Samarra. Neue historisch-geographische Untersuchungen (Quellen und Forschungen zur Geschichte der Erdkunde), I (Leipzig, Wigand, 1909), pp. 36-37.

<sup>281</sup>Ibn al-Fakīh, op. cit., p. 252, lines 15-17.

<sup>282</sup>Ya'kūbī, Les Pays, traduit par Gaston Wiet, (Cairo, Institut Français d'Archeologie Orientale, 1937), p. 57.

<sup>283</sup>Ibid., p. 41, note 3, gave the reference to Paul Pelliot, "Des artisans chinois à la capitale Abbaside en 751-762," T'oung Pao, XXVI (1929), pp. 110-112. The same text had been published previously by Friedrich Hirth and W. W. Rockhill, Chau-Ju-Kua (St. Petersburg, 1911), p. 110. The Chinese captive at Kufa stated that the making of silk, goldsmithery and painting were introduced by the Chinese; it is from this mention of painting that Wiet derives the meaning color or paint for Ya'kūbī's word al-adhan الادهان. Curiously enough the Chinese captive, T'u Huan, whose home was at Sian-fu, the terminus of the overland silk route, returned home by sea.

they were oiled, or rubbed with sweet-smelling ointments. This then supports the reading of the ادمان at Kufa as paints or colors. In other words, Ya'kūbī tells us that early in the ninth century Basra was famous for glass as well as for pottery, and Kufa was famous for paints or pigments as well as for pottery. This is significant from a technical point of view, for though the word خزف means simply plain pottery, the association of glass and pigments with it suggests that the potters in these towns may have known how to make glazed pottery as well. Finally, in Ya'kūbī's account there is no mention of makers of pottery, glass, or colors from either Egypt or Persia.

The second Arabic text referred to is that describing the mimbar and tiles sent to Kairawān from Baghdad in 862 A.D. The text is from the author Ibn Nājī, who died in 1494, who quoted it directly from at-Tojībī, a native of Kairawān who died in 1031 A.D.<sup>284</sup> This is almost two hundred years after the event, but we have to trust that both Arab authors were reasonably accurate. Ibn Nājī described some improvements made in the Great Mosque by the Aghlabid Amīr Abu Ibrahim Ahmad (856-863) in the year 248 H., or 862 A.D.:

<sup>284</sup>George Marçais, Les faïences à reflets métalliques de la Grande Mosquée de Kairouan (Paris, Geuthner, 1928), pp. 9-10.

عمل المحراب . جلبت له تلك القراميد الثمينة لمجلس  
 اراد ان يجعله . و جلبت له من بغداد خشب الساج ليعمل  
 له منها عيدان يحملها منبر للجامع . و جاء بالمحراب مفصلاً  
 ، فخاماً من العراق عمله في جامع القبروان . و جعل تلك  
 القراميد في وجه المحراب و عمل له رجل بغداد قراميد  
 زادها اليها . و زينه تلك الزينة العجيبة بالرخام و الذهب  
 والالة الخشبية [الحسنة] .

"He [the amir] made the mihrab. These precious tiles were brought to him for an audience-hall which he wished to build. And there was brought to him from Baghdad teak-wood to be made into furniture for him, but he made of it a mimbar for the mosque. And the mihrab was brought as separate pieces of marble from Irāk; he constructed it in the mosque of Kairawān. And he placed these tiles on the facade of the mihrab, and a man from Baghdad made for him some tiles which he added to them. And he [the amir] gave it [the mosque] this marvelous decoration, of marble, and gold, and the wooden furniture i.e., the mimbar." 285

285 Ibid., p. 10. Three minor misprints occurred in the text as reproduced by Marçais, in the words tilka, ath-thamaniyya, and Kairawān; these misprints I have corrected here. Further, I have ventured upon one amendment of the text, in the final word. This Marçais gives as hasana (beautiful) and he has therefore translated the previous word as material, the phrase being al-āla al-hasana, "belles matières." But this word, al-āla, is singular, and has the definite article, that is, it means a specific object. Therefore it occurred to me that the author might have been thinking of the mimbar, which is the third object the prince had installed; and so suggest that the word given as al-hasana might be a mistake for al-khashaba الخشبية and the whole read as "the wooden furniture," meaning, the mimbar. At least furniture is closer than material to the meaning of al-āla; though āla in the strictest sense means tool, or instrument. It will be noticed also that I have differed from Marçais' translation of three other words. He inserted

Marçais published his book, with this text, in 1928. Years previously, in 1899, Saladin had published<sup>286</sup> a rough account of these tiles, based on insufficient evidence. Butler with great joy pointed this out, and therefore said that surely the whole account was a myth, and that the Kairawān tiles must have come from Egypt.<sup>287</sup> But almost all other authorities accepted Marçais' information, for instance, Koechlin,<sup>288</sup> and Migeon, who quoted his translation *verbatim*, and added, "La Mésopotamie et Bagdad nous réservent peut-être encore bien des surprises."<sup>289</sup> But Gallois very rightly pointed out a serious fault in Marçais' translation: Marçais had inserted the word "aussi" at the beginning of

---

the word beams, when no word for beam occurs in the text; secondly, he gave to ʿidān the meaning of lute, which is only a secondary meaning; the word ʿūd, ʿidān, meaning fundamentally wood, or anything made of wood. The beautiful panels of the mimbar, as in Fig. 233, which were evidently carved in Baghdad, could not possibly have been made over into lutes, curved objects like a guitar; compare the musical instrument on the lustered plate in Fig. 288. Thirdly, he understood the last sentence to refer to the decoration of the mihrab only, while I take it to refer to the decoration of the mosque as a whole. Of course I have omitted the "aussi" which Marçais put at the beginning of the second sentence.

<sup>286</sup>Henri Saladin, La mosquée de Sidi Okba à Kairouan (Paris, Leroux, 1899). This book was not available to me.

<sup>287</sup>See note 259. In his article in BM, XII (1907-1908), pp. 48-51, he even went so far as to say that the tiles were obviously Persian, and fourteenth century in date (p. 51).

<sup>288</sup>Koechlin, Suse . . . . Louvre, p. 8, Note 1.

<sup>289</sup>Gaston Migeon, "Le décor lustré dans la céramique musulmane à propos de publications récentes," Syria, X, (1929), pp. 130-136.

the second sentence, thus: "On importa pour lui ces précieux panneaux de faïence pour une salle de réception qu'il voulait construire, et [aussi] de Bagdad des poutres de bois de teck."<sup>290</sup> The insertion of "aussi" at this point implies that the tiles were brought from Bagdad, as well as the teakwood; a statement not contained in the text.

In 1939 another criticism of this text was published by Wilber, who objected to Marçais' inserted "aussi" as Gallois had done, but apparently without being familiar with Gallois' article.<sup>291</sup> He also objected to Marçais' translation of Karāmīd قرا میر as "panneaux de faïence," on the grounds that this definition is not given by the dictionaries. This seems to me to be quibbling, for the actual objects are preserved, and they are tiles; further, they are glazed and lustered, (Fig. 297). Here we have a case where the object itself provides the definition of a word whose meaning may be dubious from the dictionaries. Wilber himself made a slip in the date of the work in the mosque, which he quoted as 836, not as 862 A.D. Further,

<sup>290</sup>H. C. Gallois, "La céramique archaïque de l'Islam," Aréthuse (1930), No. 28, pp. 94-99. Gallois published here a translation of the passage made by Blochet, who boldly gave "carreaux à reflets" for Karāmīd, and, very reasonably, "estrade" for īdān. But Blochet omitted the last sentence.

<sup>291</sup>Donald N. Wilber, "The Development of Mosaic Faïence in Islamic Architecture in Iran," Ars Islamica, VI (1939), Pt. 1, p. 22, and Notes 17-18. Curiously enough all the examples of glazed architectural tiles which Wilber was able to cite before the twelfth century A.D. are outside of Iran.



he evaded the whole question of the Baghdad origin of the tiles by the simple expedient of quoting only the first sentence and a half, and arriving at the conclusion:

"Thus the entire assumption that the faience [sic] tiles in the mosque at Kairouan were imported from Baghdad finds no support."<sup>292</sup>

What information does this text actually give us? That teakwood for the mimbar was brought from Baghdad; that marble for the mihṛāb was brought from Irāk; that some tiles were imported (no provenance) and that a man from Baghdad was required to make additional tiles. We have Marçais' statement that all the one hundred and thirty-nine tiles, whether their luster is monochrome or polychrome, have the same clay ("une terre blanc jaunâtre très fine") the same glaze ("d'un blanc gris verdâtre ou délicatement ivoire") and are of the same shape and size (two hundred and eleven millimeters square); so that Marçais very properly concludes: "Tous les carreaux présentent une similitude assez grande d'échelle et de facture pour qu'on puisse les imaginer sortis du même atelier."<sup>293</sup> Therefore we may believe that if a man from Baghdad made the extra tiles, the first lot must also have come from

<sup>292</sup>Ibid., Note 18.

<sup>293</sup>Marçais, op. cit., p. 15. He does not state in so many words that their clay is "the Samarra clay," but his description, "yellowish-white," certainly suggests that it is. I have never seen these tiles.

Baghdad, since we know that all the tiles are technically identical. Further, Marçais gives several historical instances of the dependence of the Aghlabids of Kairawān upon the court of Baghdad.<sup>294</sup>

In other words, the technical nature of the Kairawān tiles, as well as the historical evidence, all point to their origin in Baghdad; that is, that the "Samarra" monochrome and polychrome lusters painted on the white glaze are connected with Baghdad. On the other hand, Ya'kūbī states that potters were sent to Samarra from Kufa and Basra; while Sarre and Herzfeld found no potter's kilns of the "Samarra wares" within the city of Samarra. But potter's kilns are usually not within cities, but outside, near some clay bed which they must use. Perhaps there may still be unknown remains of kilns in the neighborhood of Samarra. And Kufa and Basra have never been excavated; who knows what might be revealed there? What seems to me very possible is that potters were making the "Samarra wares" all over Mesopotamia, for we have the names of four possible

<sup>294</sup>Ibid., pp. 11-12. Marçais included among his references the fact that at Tāhert was a settlement of merchants from Kufa and Basra, who had their own mosques and bazaars.

cites, Kufa, Basra, Samarra and Baghdad<sup>295</sup>; and that they all had some secret of refining and treating the clay so that it resulted in the "Samarra clay," just as they had their secrets for making the glaze and the luster. Thus it is possible that a Baghdad potter could make "Samarra" lustered tiles at Kairawān, though he evidently did not found a school, nor confide his methods to anyone else; there is no evidence of lustered pottery having been made there at any later time.

Historical evidence from Arabic sources points clearly to Mesopotamia as the home of the "Samarra wares" with luster painting on the white tin glaze. To Wiet's suggestion that the potters of Basra and Kufa had been settled there "depuis l'avènement des Abbasides, en provenance de Rayy très probablement," a refutation has already been offered; Persia knew no white tin glaze till the ninth century A.D., and was dependent on Mesopotamia for learning how to make the blue-green glaze as well. Egypt, as well, had no glazed pottery till the Islamic period; and though the Egyptians learned to use the white glaze and the luster,

<sup>295</sup>J. Karabacek, *op. cit.*, p. 289. states that, from his literary researches, cities famous for pottery in the ninth century A.D. besides Baghdad were Hims, Kufa, Basra, and Siraf. For the first four he gave no references, so that I have not been able to find out if there are other texts, besides those already discussed, for these cities. Hobson, *Guide*, p. 10, and Kühnel, *op. cit.*, p. 152, quoted this statement of Karabacek without comment. Kühnel, indeed, quoted Baghdad only, as a famous pottery center, without mentioning Kufa and Basra.

their pottery is always distinguished from the imported "Samarra wares" by its rough clay, its method of glazing, and by the fact that these white glazed lustered wares were never exported. Another type of ninth century Egyptian pottery, the glazed molded ware, without luster, is also clearly derived from Mesopotamia because of the potter's signature "The work of Abu Nasr al-Basri in Egypt."<sup>296</sup>

But today we have no tangible evidence of where the "Samarra wares" were made; we have no kilns and no kiln-wasters; we do not know where luster was invented, nor exactly when; we do not know where the cobalt blue (if it is cobalt) was first used. To the historical evidence which points to Mesopotamia for all of this, I have but one corroborative point to add.

From the history of pottery we have seen that an opaque white tin glaze (as well as blue-green and alkali glazes), was being made in Mesopotamia as early as 1500 B.C., at Nuzi; that its use continued on through the Assyrian and Neo-Babylonian periods. It has not yet been found on pottery of the Hellenistic period, but it cannot have been forgotten then; for it reappears in the first two centuries

<sup>296</sup>A single sherd of the pottery made by Abu Nasr was found at al-Mina, as Lane pointed out. But the presence of a single sherd suggests that the piece simply happened to belong either to an Egyptian who went to Syria, or to a Syrian who had picked it up on a visit to Egypt. It does not imply an international trade in the ware, as was the case with the Samarra wares, which are found all the way from India to Spain.

A.D., in the Parthian period. At this time it is found both as a monochrome, and with additional bands, spots and splashes of blue-green. In the Sasanian period it is rare, and has been found only as a monochrome. In the Early Islamic period its tradition continues, though we have as yet no dated examples before the ninth century A.D. In the ninth century A.D. the white tin glaze is used on a very fine creamy pale yellow clay, the "Samarra clay." This white-glazed "Samarra" pottery is decorated with splashes and streaks of turquoise, or pale blue-green, a style which goes back to the first and second centuries A.D., and also with a beautiful clear deep blue (called cobalt blue), a color that appears here for the first time, and with luster, in ruby red, green gold, copper gold, dark brown and polychrome combinations; this being also the first appearance of luster. Now exactly the same yellow "Samarra clay," occasionally shading to pinkish, is also used for molded pottery with a green lead glaze. I suggest further (but cannot prove) that it is this clay, but having a pale red color, which is used for the molded pottery with all-over luster; this gold luster is exactly the same as is used for painting on the white tin glaze. In other words, these different "Samarra wares," various as they are, have a fundamental physical and technical homogeneity, and I therefore suggest that the three classes must have made in the same country.

Until the Islamic period, Egypt's fame in ceramics lay in its faience; Persia's, in its unglazed burnished wares. Mesopotamia's speciality was in the development of glazed pottery, which had gone on for centuries before the Islamic period. No ceramic proof has yet been found for the making of the "Samarra wares," which, because of their technical excellence, their beauty of color, and their decoration (either of a classic simplicity or of a luxurious complexity) rank among the masterpieces of all Islamic art, and of pottery throughout the world. If future excavations will ever result in finding kilns or kilnwasters, it seems likely that these discoveries will be found in the soil of Mesopotamia, where centuries of tradition in the making of glazed pottery had prepared the way for the "Samarra wares."

## CONCLUSIONS

Among Near Eastern countries Mesopotamia is the land par excellence of glazed pottery. Glaze had been known since 3000 or 4000 B.C. in the Indus valley, and in Egypt, as well as in this country. In the Indus valley in this early period glaze was applied to pottery, this being the most ancient appearance of glazed pottery; but later it disappeared. In Egypt glaze was used for faience exclusively, no glazed pottery having been made there till the Islamic period. In Mesopotamia, however, pottery glazed with blue-green alkali and opaque white glazes was made continuously from the time of Nuzi, about 1500 B.C., throughout the centuries, and into the Islamic period. Just as Egypt was famous for faience, so Persia's specialty was its unglazed pottery. Persia only gradually learned the use of glaze from Mesopotamia, as is testified by a few examples of both the Parthian and Sasanian periods.

1. From this we may conclude that the term "Parthian pottery" used to describe pottery of the Parthian period in this country, is erroneous. This pottery is Mesopotamian in every respect. Indeed, the influence of Classical pottery, in certain shapes, and in the application of figural plaques in relief, is stronger than any other influence. Persian

influence at this time is seen only in unglazed burnished pottery, as is known from a few pots of this ware found at Seleucia.

2. Mesopotamia can claim no share in the introduction of glaze into China, for the Chinese of the Han period already had both ash glazes and felspathic glazes. The green lead glaze, which was new in the Han period, has no relation to the Mesopotamian blue-green alkali glaze. Its prototype seems to have been the green lead glaze made in the Augustan period at Tarsus; a supposition supported by the occurrence of Classical shapes--the amphora, the oinochoe, the skyphos, the rhyton--in Chinese pottery of a later date.

3. For the pottery of the Sasanian period the situation is the same as that of the Parthian period; glazed pottery is Mesopotamian, unglazed burnished pottery is Persian. Again, this glazed pottery is not stylistically new, but in the typical tall slender shape with continuously curving profile, and in the use of disks or bosses all over the surface for decoration, is merely a continuation of a style which had begun in the preceding period, before 160 A.D. Finally, the influence of Sasanian metal shapes (the tall vase with heavy torus molding, and the jug) is not purely Persian, for these shapes are evidently related to Syrian silver of the Classical period, and to the Classical oinochoe.

4. In the Early Islamic period the persistence of the Mesopotamian blue-green glaze is perfectly clear, as is also



the introduction of certain shapes and styles of decoration from China, and the influence of the Tarsus Roman lead-glazed ware on the Mesopotamian green-glazed molded pottery. But it has been argued that, of the famous ninth century "Samarra wares," the pottery with a white tin glaze (monochrome, or painted with turquoise, "cobalt blue" or luster) must have been made in Egypt, or, according to others, in Persia. Certain authorities attribute its origin to Mesopotamia, because it was widely exported, as far as India, Samarkand, and Spain, while stylistically similar wares made in both Persia and Egypt were never exported elsewhere. Again, a few well-known contemporary Arabic sources point to Baghdad and Samarra, if not Kufa and Basra, all in Mesopotamia, as places where this ware was manufactured.

These are probabilities. To them I add one corroborative point: the opaque white glaze was made in Mesopotamia in the Assyrian, Neo-Babylonian, Parthian and Sasanian periods, and was never made, or found, in Egypt or Persia till the Islamic period, and then only on wares stylistically similar to, but technically different from, the "Samarra" pottery. In other words, the concrete evidence of the earlier ceramic history of Mesopotamia suggests that the white-glazed Samarra pottery was most probably made in the land where the white glaze had been made, and made exclusively, for over two thousand years. Therefore one would suppose that the luster, and the "cobalt blue", painted on the white tin glaze, must

have originated in the same land, for the date of the "Samarra wares" is earlier than that of similar, or derived, wares in Egypt and Persia. Further, the green-glazed molded "Samarra pottery" has the same pale yellow "Samarra clay" as the white-glazed group; and the molded lustered group has the same gold luster as the white-glazed group, if not the same clay. In other words, these three types of "Samarra pottery" have certain physical characteristics in common, and must belong together.

Today there is no proof of exactly where the "Samarra wares" were made; no kilns, and no kilnwasters have been found. In the meantime, the distribution of this pottery, and information from contemporary Arabic sources, together with new evidence, the ceramic history of pre-Islamic Mesopotamia, point to that land as the home of this very beautiful Early Islamic pottery.

## ABBREVIATIONS USED IN BIBLIOGRAPHY

- AAA Annals of Anthropology and Archaeology
- AJA American Journal of Archaeology
- AJSL American Journal of Semitic Languages and Literatures
- AMI Archäologische Mitteilungen aus Iran
- AR Asiatic Review
- BAIC Bulletin of the Art Institute of Chicago
- BAIPPA Bulletin of the American Institute of Persian  
Art and Archaeology
- BCH Bulletin de Correspondence Hellénique
- BGA Bibliotheca Geographorum Arabicorum, edited by  
de Goeje
- BM Burlington Magazine
- BMFA Bulletin of the Museum of Fine Arts, Boston
- BMMA Bulletin of the Metropolitan Museum of Art,  
New York
- Dura First Season, Spring 1928; Dura Second Season 1928-1929,  
etc.
- Excavations at Dura-Europos, Preliminary Report  
of First Season of Work, Spring 1928, edited by  
P.V.C. Baur and M.I. Rostovtzeff. (Later Seasons  
edited by Baur, Rostovtzeff, Alfred R. Bellinger  
and Clark Hopkins.) Yale University Press.
- GA Gazette Archéologique
- GBA Gazette des Beaux-Arts
- IS International Studio
- JAOS Journal of the American Oriental Society
- JEA Journal of Egyptian Archaeology
- OZ Ostasiatische Zeitschrift

QDAP      Quarterly of the Department of Antiquities,  
            Palestine

Q St      Palestine Exploration Fund, Quarterly Statement

RAA      Revue des Arts Asiatiques

REI      Revue des Études Islamiques

TOCS      Transactions of the Oriental Ceramic Society

UMB      University Museum Bulletin, Philadelphia

ZDMG      Zeitschrift der Deutschen Morgenländischen  
            Gesellschaft

## BIBLIOGRAPHY

Books which were unavailable are marked with an asterisk (\*). Different works by the same author are given in chronological order.

### TECHNIQUE AND ANCIENT POTTERY

Andrae, Walter

Coloured Ceramics from Ashur and Earlier Ancient Assyrian Wall-painting. London: K. Paul, Trench, Trubner and Company, 1925.

Bazl, Farajollah

"Contemporary Persian Techniques," A Survey of Persian Art. Editors, A. U. Pope and P. Ackerman; London-New York: Oxford University Press, 1938.

Blumner, Hugo

Technologie und Terminologie der Gewerbe und Künste bei Griechen und Römern. 2 vols.; Leipzig: B. G. Teubner, 1875-87.

Brongniart, Alexandre

Traité des arts céramiques; ou, Des poteries considérées dans leur histoire, leur pratique, et leur théorie. 3<sup>e</sup> ed., avec notes et additions par A. Salvétat, 2 vols.; Paris: Asselin, 1877.

Brooklyn Museum

The Art and Technique of Ceramics, an Exhibition presented by the Rockefeller Foundation Internes of the Brooklyn Museum. Brooklyn, New York: Brooklyn Museum, 1937.

Debevoise, Neilson Carel

"The History of Glaze and Its Place in the Ceramic Technique of Ancient Seleucia on the Tigris," American Ceramic Society Bulletin, XIII (1934), 293-300.

de Genouillac, Henri

"Termes techniques désignant les états de la céramique ancienne de Mesopotamie," Syria, XI (1930), 307-8.

Franchet, Louis

Céramique primitive. Introduction a l'étude de la technologie. Paris: Geuthner, 1911.

Hannover, Emil

Pottery and Porcelain, a Handbook for Collectors, edited with notes and appendices by Bernard Rackham, Keeper of the Department of Ceramics, Victoria and Albert Museum. Vol. I, "Europe and the Near East; Earthenware and Stoneware"; Vol. II, "The Far East"; London: Benn, 1925.

Harrison, Herbert Spencer

Pots and Pans, the History of Ceramics. London: Gerald Howe, 1928.

Hobson, R. L.

"Persian Ceramic Techniques," A Survey of Persian Art. London-New York: Oxford University Press, 1938.

Hornblower, G. D.

"Blue and Green in Ancient Egypt," Ancient Egypt and the East, (June, 1932), Pt. 2, 47-53.

Kenyon, Sir F. G., editor

How to Observe in Archaeology. 1st ed.; London: British Museum, 1920.

Langdon, Stephen Herbert

Watelin, L. C.

Excavations at Kish: The Herbert Weld (for the University of Oxford) and Field Museum of Natural History (Chicago) Expedition to Mesopotamia. Vols. I, III-IV; Paris: Geuthner, 1924-34.

Lucas, Alfred

Ancient Egyptian Materials and Industries. 2nd ed.; revised; London: E. Arnold and Company, 1934.

Lucas, Alfred

"Glazed Ware in Egypt, India, and Mesopotamia, JEA, XXII, (December, 1936), Pt. 2, 141-164.

Mackay, Ernest

Report on the Excavation of the "A" Cemetery at Kish, of the Field Museum-Oxford University Joint Expedition. Preface by Stephen Langdon. Chicago: Field Museum, 1925-29.

March, Benjamin

Standards of Pottery Description, with an introductory essay by Carl E. Guthe (Occasional Contributions from the Museum of Anthropology of the University of Michigan, No. 3). Ann Arbor: University of Michigan Press, 1934.

Marshall, John Hubert

Mohenjo-Daro and the Indus Civilization, being an official account of Archaeological Excavations at Mohenjo-Daro carried out by the Government of India between the years, 1922 and 1927. 2 vols.; London: Arthur Probstain, 1931.

Massoul, F.

"Vocabulaire des termes principaux employés dans les différentes techniques de la céramique," Les Arts Français (1918), No. 23, 243-246.

Neuburger, A.

The Technical Arts and Sciences of the Ancients, translated by Henry L. Brose. London: Methuen and Company, 1930.

Petrie, Sir. W. M. Flinders

The Arts and Crafts of Ancient Egypt. Edinburgh-London: T. N. Foulis, 1909.

Searle, A. B.

An Encyclopaedia of the Ceramic Industries. 3 vols.; London: Benn, 1929-1930.

Starr, Richard Francis Strong

Nuzi. Report on the excavations at Yorgan Tepe near Kirkuk, Iraq, conducted by Harvard University in conjunction with the American Schools of Oriental Research and the University Museum, Philadelphia, 1927-1931, with appendices by Ruth Sears Chute, Robert W. Ehrich, H. W. Eliot, Rutherford J. Gettens, and Ernest R. Lacheman. 2 vols., text and plates; Cambridge: Harvard University Press, 1937-1939.

Thompson, Reginald Campbell

On the Chemistry of the Ancient Assyrians. London: Luzac, 1925.

\*Ustad Ali Muhammad

On the Manufacture of Modern Kashi Earthenware Tiles and Vases in Imitation of the Ancient, translated from the Persian MS by J. Fargues. Edinburgh: Museum of Science and Art, 1888.

## ROMAN LEAD-GLAZED MOLDED POTTERY

Anonymous

"The Mr. and Mrs. Isaac D. Fletcher Collection, Classical Art," BMLA, XII (March, 1918), 58-59.

Courby, Fernand Henri Fabien

Les Vases grecs à reliefs (Bibliothèque des Écoles françaises d'Athènes et de Rome, Fasc. 125). Paris: E. de Boccard, 1922.

Dechelette, Joseph

Les Vases céramiques ornés de la gaule romaine (Narbonnaise, Aquitaine, Lyonnaise). 2 vols.; Paris: Alphonse Picard et Fils, 1904.

Egypt Exploration Society, Graeco-Roman Memoirs

The Oxyrhynchus Papyri. Edited with translation and notes by Bernard P. Grenfell and Arthur S. Hunt; London: Egypt Exploration Fund, 1898- ; XVI, pp. 202-203.

Heuzey, Léon

"Les fragments de Tarse au Musée du Louvre," GBA, XXXIX 18<sup>e</sup> année, 2<sup>me</sup> période, tome 14 (Novembre 1876), 385-405.

\*Mazard, H. A.

De la connaissance par les anciens des glaçures plombifères. Paris: Morel, 1879.

Merlin, Alfred

"Une pyxide grecque à glaçure plombifère," Commission de la Fondation Piot (Académie des Inscriptions et Belles-Lettres) XXXII, 51-60. Paris, 1932.

Oswald, Felix

Pryce, T. Davies

An Introduction to the Study of Terra Sigillata. London: Longmans, Green and Company, 1920.

Rayet, Olivier

Collignon, Maxime

Histoire de la céramique grecque. Paris: G. Decaux, 1883.

Reinach, S.

"La poterie jaune émaillée de Smyrne," BCH, VII (1883), 78.

Reinach, S.

"Terrecuites de Smyrne," Mélanges Graux, recueil de travaux d'érudition classique dédié à la mémoire de Charles Graux, pp. 147-148. Paris: E. Thorl, 1882-1884.



- Rice, David Talbot  
Byzantine Glazed Pottery. Oxford: Clarendon Press, 1930.
- Richter, G. M. A.  
 "Hellenistic and Roman Glazed Vases," BMLA, XI (March, 1916), 64-68.
- Richter, G. M. A.  
The Craft of Athenian Pottery. Yale University Press, 1923.
- Richter, G. M. A.  
 Milne, M. J.  
Shapes and Names of Athenian Vases. New York: Metropolitan Museum, 1935.
- Robinson, David N.  
 "An Oenophorus Belonging to the John Hopkins University," AJA, 2d series, XIII (1909).
- Walters, Henry Beauchamp  
History of Ancient Pottery. 2 vols.; London: J. Murray, 1905.
- Walters, Henry Beauchamp  
Catalogue of Roman Pottery in the Department of Antiquities. London: British Museum, 1908.
- Zahn, Robert  
 "Hellenistische Reliefgefäße aus Süd Russland," in Jahrbuchd. Kaiserlich-deutsches Archäologisches Institut, XXIII, pp. 45-77. Berlin, 1908.
- Zahn, Robert  
 "Glasierte Tongefäße im Antiquarium," Amtliche Berichte aus den Königlichen Kunstsammlungen, XXXV Jahrgang, Nr. 10, (Juli, 1914). Berlin.

#### SYRIA, PAGAN AND CHRISTIAN

- Baur, P. V. C.  
 Torrey, C. C.  
 "Metal Vases and Molds, Silver Vase," Dura, Fourth Season, 1930-1931, pp. 229-231.
- Bréhier, Louis  
La sculpture et les arts mineurs Byzantins. Paris: Les Editions d'Art et d'Histoire, 1936.

Butler, Howard Crosby  
Architecture and Other Arts. New York: The Century  
 Company, 1903.

Butler, Howard Crosby  
Early Churches in Syria, Fourth to Seventh Centuries.  
 Ed. E. Baldwin Smith; Princeton: Published for the  
 Department of Art and Archaeology of Princeton University,  
 1929.

Contenau, Georges  
L'art de l'Asie occidentale ancienne. Paris, Brussels:  
 G. van Oest, 1928.

Diehl, Charles  
 "L'école artistique d'Antioche et les trésors d'argenterie  
 Syrienne," Syria, II (1921), fasc. 2., 83-95.

Dunand, Maurice  
Le musée de Soueïda, inscriptions et monuments figurés.  
 Paris: Paul Geuthner, 1934.

Dussaud, René  
 "Patère de bronze de Tafas," Syria, V (1924), 212-215.

Iliffe, J. H.  
 "A Tomb of el Bassa of c. A.D. 396," QDAP, III (1933),  
 81-91.

Ingholt, Harald  
Studier over Palmyrensk Skulptur. Copenhagen: C. A.  
 Reitzels Forlag, 1928.

Ingholt, Harald  
 "The Oldest Known Grave-Relief from Palmyra," Acta  
Archaeologica, I (1930), 191-194.

Ingholt, Harald  
 "Quatre bustes palmyréniens," Syria, XI (1930), 242.

Ingholt, Harald  
 "Quelques fresques récemment découvertes à Palmyre,"  
Acta Archaeologica, III (1932), 1-20.

Ingholt, Harald  
 "Palmyrene Sculptures in Beirut," Berytus, I (1934),  
 32-43.

Ingholt, Harald  
 "Five Dated Tombs from Palmyra," Berytus, II (1935),  
 13-120.

Lehmann-Harleben, Karl

"Two Roman Silver Jugs," AJA, XLIII (1938), 82-105.

Morey, Charles Rufus

The Mosaics of Antioch. London, New York: Longmans, Green and Company, 1938.

Musil, Alois

Palmyrena, A Topographical Itinerary, New York: American Geographical Society, 1928.

Pfister, R.

Textiles de Palmyre découverts par le service des Antiquités du Haut-Commissariat de la République française dans la nécropole de Palmyre. Paris: Les éditions d'art et d'histoire, 1934.

Pfister, R.

Nouveaux textiles de Palmyre découverts par le Service des Antiquités du Haut-Commissariat de la République française dans la nécropole de Palmyre (tour d'Elahbel). Paris: Les éditions d'art et d'histoire, 1937).

Pierce, Hayford

Tyler, Royall

L'art byzantin--200 planches en phototype, décrites et commentées. 2 vols.; Paris: Librairie de France, 1932.

Poidebard, A..

La trace de Rome dans le désert de Syrie: Le limes de Trajan à la conquête arabe, recherches aériennes (1925-1932), Introduction de Franz Cumont. Paris: Geuthner, 1934.

Schlumberger, D.

"Neue Ausgrabungen in der syrischen Wüste nordwestlich von Palmyra," Jahrbuch des Deutschen Archäologischen Institut, L (1935), 595-633.

Seyrig, Henri

"Trois bas-reliefs religieux," (Antiquités syriennes, 8.) Syria, XIII (1932), 255-277.

Seyrig, Henri

"Bas-reliefs monumentaux du temple de Bel à Palmyre," (Antiquités syriennes, 17.) Syria, XV (1934), 155-186.

Seyrig, H.

"Notes sur les plus anciennes sculptures palmyreniennes," Berytus, III (1936), 137-140.

Séyrig, Henri

Amy, Robert

"Recherches dans la nécropole de Palmyre. I. L'Hypogée de Iarhai fils de Barikhi, petit-fils de Taimarsô," Syria, XVII (1936), 228-266.

Seyrig, Henri

"Armes et costumes iraniens de Palmyre," (Antiquités syriennes, 20) Syria, XVIII (1937), 4-31.

Stillwell, Richard, ed.

Antioch on-the-Orontes II, The Excavations, 1933-1936. Contributors: W. A. Cambell, Glanville Downey, Nabih A. Faris, Jean Lassus, Donald N. Wilber. Princeton University Press, 1938.

Strzygowski, Josef

L'ancien art chrétien de Syrie. Paris: E. De Boccard, 1936.

Volbach, Wolfgang Friedrich

Duthuit, Georges

Salles, Georges

Art byzantin, cent planches reproduisant un grand nombre de pièces. Paris: A. Levy, 1933.

Wiegand, Theodor, ed.

Baalbek. Ergebnisse der Ausgrabungen und Untersuchungen in den Jahren 1898 bis 1905. Berlin, Leipzig: de Gruyter, 1921-1925.

Wiegand, Theodor, ed.

Palmyra; Ergebnisse der Expeditionen von 1902 und 1917. Berlin: H. Keller, 1932.

Worcester Art Museum

The Dark Ages, Loan Exhibition of Pagan and Christian Art in the Latin West and Byzantine East, February 20-March 21, 1937. Worcester, Massachusetts: Worcester Art Museum, 1937.

Wulff, Oskar

Altchristliche und byzantinische Kunst. Berlin, Neubabelsberg: Akademische Verlags gesellschaft Athenaion, 1914.

## COPTIC POTTERY

- Dalton, O. M.  
Catalogue of Early Christian Antiquities and Objects from the Christian East. London: British Museum, 1901.
- Dalton, O. M.  
Byzantine Art and Archaeology. Oxford; Clarendon Press, 1911.
- Dalton, O. M.  
British Museum. Guide to the Early Christian and Byzantine Antiquities. 2nd ed.; London: British Museum, 1921.
- Dimand, Maurice Sven.  
 "A New Coptic Vase," BMMA, XIX (1924), 123-124.
- Gaselee, Stephen  
 "The Coptic Period," The Art of Egypt through the Ages, edited by Sir Edward Denison Ross. London: The Studio Ltd., 1931, pp. 55-60.
- Murray, Margaret A.  
 "Coptic Painted Pottery," Ancient Egypt and the Near East," Part I (June, 1935), 1-15.
- Rice, David Talbot  
Byzantine Glazed Pottery. Oxford: Clarendon Press, 1930.
- Wallis, H.  
Egyptian Ceramic Art; the Macgregor collection; a contribution towards the history of Egyptian pottery. London, 1898.

## POTTERY OF THE PARTHIAN PERIOD

- Andrae, Walter  
Hatra (Wissenschaftliche Veröffentlichungen der deutschen Orient-Gesellschaft, IX, XXI). Leipzig: Hinrichs, 1908, 1912.
- Andrae, Walter  
 Lenzen, Heinz  
Die Partherstadt Assur (Wissenschaftlich Veröffentlichungen der deutschen Orient-Gesellschaft, LI). Leipzig: J. C. Hinrichs, 1933.

- Bellinger, Alfred R.  
 "New Material for the History of Dura," Dura Third Season, 1929-1930, pp. 161-164.
- Bellinger, Alfred R.  
 "New Material for the History of Dura," Dura Fourth Season, 1930-1931, pp. 283-284.
- Bellinger, Alfred R.  
 "The Coins," Dura Fourth Season, 1930-1931, pp. 259-282.
- Bellinger, Alfred R.  
 "The Sixth, Seventh and Tenth Dura Hoards," Numismatic Notes and Monographs, No. 69 (1935), pp. 1-75.
- Crosby, Margaret  
 "The Houses in Block C3," Dura Sixth Season, 1932-1933, pp. 106-139.
- Cumont, Franz  
 "Une patère de l'époque parthe," in Mélanges offerts à M. Gustave Schlumberger, membre de l'Institut, à l'occasion du quatre-vingtième anniversaire de sa naissance (17 octobre, 1924). Paris: Geuthner, 1924, pp. 355-358.
- Debevoise, Neilson C.  
 "Did the Parthians Have an Art?" JACS, XLIX (1929), 369.
- Debevoise, Neilson C.  
 "The Pottery of the Parthians," BAIC, XXIV (September, 1930), 77-78.
- Debevoise, Neilson C.  
 "Parthian Problems, Abstract of Ph.D. Thesis at the University of Illinois, 1929," AJSLL, XLVII (January, 1932), 73-82.
- Debevoise, Neilson C.  
Parthian Pottery from Seleucia on the Tigris. Ann Arbor: University of Michigan Press, 1934.
- Debevoise, Neilson C.  
 "The Oriental Amphora," Berytus, II (1935), 1-4.
- Debevoise, Neilson C.  
A Political History of Parthia. Chicago: University of Chicago Press, 1938.
- Dieulafoy, Marcel Auguste  
L'acropole de Suse, d'après les fouilles exécutées en 1884, 1885, 1886, sous les auspices du Musée du Louvre. Paris: Hachette et Cie., 1890-1891.

Dussaud, René

Review of: M. I. Rostovzeff, Dura and the Problem of Parthian Art, Yale Classical Studies, V (1935), 137-304 in Syria, XVII (1936), 388-390.

Erdmann, Kurt

"Partho-Sassanian Ceramics," BM, LXVII (August, 1935), 71-77.

Ettinghausen

"Parthian and Sasanian Pottery," in A Survey of Persian Art from Prehistoric Times to the Present. Ed. Arthur U. Pope, and Phyllis Ackerman; New York: Oxford University Press, 1938, pp. 646-680.

Hilprecht, Hermann Vollrat, ed.

Explorations in Bible Lands During the Nineteenth Century. Philadelphia, Edinburgh: A. J. Holman, 1903.

Hilprecht, Hermann Vollrat,

The Excavations in Assyria and Babylonia. Philadelphia, Department of Archaeology of the University of Pennsylvania, 1904.

Hopkins, Clark

"The Pottery," Dura Second Season, 1928-1929, pp. 31-46.

Hopkins, Clark

"Pottery Lamps and Glass," Dura Third Season, 1929-1930, pp. 72-78.

Hopkins, Clark

"The Palmyrene Gods at Dura-Europos," JAOS, LI (1931), 119-137.

Hopkins, Clark

"IX Additional Finds, Minor Finds," Dura Fifth Season, 1931-1932, pp. 289-294.

Hopkins, Clark

"Excavations in Blocks M7 and M8," Dura Sixth Season, 1932-1933, p. 175.

Hopkins, Clark

"Season 1934-35 at Dura," AJA, XXXIX (July, 1935), 293-299.

Hopkins, Clark

"Aspects of Parthian Art in the Light of Discoveries from Dura-Europos," Berytus, III (1936), 1-31.

Hopkins, Clark

"Sculpture from the Temple of Zeus Kyrios, A, The Cult Bas-relief," Dura Seventh and Eighth Seasons, 1933-1934 and 1934-1935, pp. 292-302.

Hopkins, Susan M.

"Stamped and Scratched Pottery," Dura Second Season, 1928-1929, pp. 46-53.

Jordan, J.

"Uruk-Warka," (Wissenschaftliche Veröffentlichungen der deutschen Orient-Gesellschaft, LI). Leipzig: J. C. Hinrichs, 1928.

Koldewy, Robert

The Excavations at Babylon, translated by Agnes S. Johns. London: Macmillan, 1914.

Koldewy, Robert

Das wieder erstehende Babylon. Leipzig: J. C. Hinrichs, 1913.

Kohlhaussen, Heinrich

Islamische Kleinkunst, Führer durch das Hamburgische Museum für Kunst und Gewerbe, XII, Hamburg, 1930.

Little, A. McN. G.

Rowell, H. T.

"Greek Inscriptions," Dura Fourth Season, 1930-1931, pp. 72-79.

Little, A. McN. G.

"The Sassanian Fresco," Dura Fourth Season, 1930-1931, pp. 182-206.

Little, A. McN. G.

"Pottery," Dura Fourth Season, 1930-1931, pp. 223-229.

Loftus, William Kennett

Travels and Researches in Chaldaea and Susiana. London: J. Nisbet, 1857.

Massoul, Félix

Mme. Madeleine

"La céramique de Doura," Appendix in Fouilles de Doura-Europos (1922-1923), by Franz Cumont, 2 vols.; Paris: Geuthner, 1926.

Anonymous

"On View in the International Exhibition of Persian Art, at the Royal Academy, Burlington House, London," Parnassus, III (January, 1931), 28.



Peters, John Punnett

Nippur; or, Explorations and Adventures on the Euphrates, University of Pennsylvania expedition to Babylon in the years 1888-1890. New York: G. P. Putnam's Sons, 1897-98.

Pliny

The Natural History of Pliny, translated with copious notes and illustrations by John Bostock and H. T. Riley. London: Bohn's Classical Library, 1855-1857.

Reuther, Oscar

Die Innenstadt von Babylon (Wissenschaftliche Veröffentlichungen der deutschen Orient-Gesellschaft, XLVII). Leipzig: J. C. Hinrichs, 1926.

Richter, G. M. A.

"Roman Glazed Pottery," BMMA, XIX (1924), 94-95.

Richter, Giselda M.

"Two Roman Glazed Amphorae," BMMA, XXXIII (November, 1938), Sec. 1, 240-242.

Rostovtzeff, M. I. A.

"Syria and the East," Chapter V in Cambridge Ancient History, VII. Cambridge University Press, 1928.

Rostovtzeff, M. I. A.

"Graffiti," Dura Fourth Season, 1930-31, pp. 221-222.

Rostovtzeff, M. I. A.

Caravan Cities, translated by D. and T. Talbot Rice. Oxford: Clarendon Press, 1932.

Rostovtzeff, Michael I. A.

"Dura and the Problem of Parthian Art," Yale Classical Studies, V. New Haven: Yale University Press, 1935.

Rostovtzeff, M. I. A.

Dura-Europos and Its Art. Oxford: Clarendon Press, 1938.

Sarre, Friedrich

"Die Keramik im Euphrat- und Tigris-Gebiet," Chapter XI in Archäologische Reise im Euphrat- und Tigris-Gebiet, IV, by Friedrich Sarre and Ernst Herzfeld. Berlin, 1920, pp. 1-25.

Sarre, F.

Die Kunst des alten Persien. Berlin: Cassirer, 1923.

Sarre, F.

"Die Keramik von Samarra," Die Ausgrabungen von Samarra. Berlin, 1925, II, 5-7, 25-27.

Sarre, F.

Review of Debevoise, "Parthian Pottery from Seleucia on the Tigris," in Archiv für Orientforschung, XI, Heft 1-2, (1936), 79-80.

Strelkoff, A.

"Eine Parthische Amphora in Moskau," in Jahrbuch des deutschen Archäologischen Instituts, L, Heft 3-4 (1935), cols. 58-70.

Thompson, R. Campbell

Hutchinson, R. W.

"The Excavations on the Temple of Nabu at Nineveh," Archaeologia, LXXIX (1929), 103-145.

Thompson, R. Campbell.

Hutchinson, R. W.

"The Site of the Palace of Ashurnashirpal at Nineveh, Excavated in 1929-1930 on Behalf of the British Museum," The Pottery by R. W. Hutchinson. AAA, XVIII (1931), 79-112.

Thompson, R. C.

Hamilton, R. W.

"The British Museum Excavations on the Temple of Ishtar at Nineveh, 1930-31," AAA, XIX (1932), 55-116.

Torrey, C. C.

"The Safaitic Inscriptions," Dura Second Season, 1928-1929, pp. 172-177.

Welles, C. B.

"Graffiti, The House of Nebuchelus," Dura Fourth Season, 1930-1931, pp. 79-145.

Van Ingen, Wilhelmina

"Figurines from Seleucia on the Tigris," Discovered by the Expeditions Conducted by the University of Michigan with the Cooperation of the Toledo Museum of Art and the Cleveland Museum of Art. Ann Arbor: University of Michigan Press, 1939.

Wroth, Warwick

Catalogue of the Coins of Parthia. London: British Museum, 1903.

## POTTERY OF THE SASANIAN PERIOD

- Ackerman, Phyllis  
 "L'Exposition d'art iranien à Leningrad," Syria, XVII  
 (1936), 45-52.
- Bibliothèque Nationale  
Les arts de l'Iran, L'ancienne Perse, et Bagdad.  
 Catalogue rédigé par: Henry Corbin, Remy Cotteville-  
 Giraudet, Jean David-Weill, Eustache de Lorey, Georges  
 Salles; préface de Paul Pelliot, Membre de l'Institut.  
 Paris, 1938.
- Christensen, Arthur Emanuel  
L'Iran sous les Sassanides. Paris: Geuthner; Copenhagen:  
 Levin and Munksgaard, 1936.
- Dalton, Ormonde Maddock  
The Treasure of the Oxus, with Other Objects from Ancient  
 Persia and India. London: British Museum, 1905.
- \*Dalton, Ormonde Maddock  
The Treasure of the Oxus. 2d ed.; London, 1926.
- deGenouillac, Henri  
Fouilles francaises d'el-Akhymer, Premières recherches  
 archéologiques à Kich, Mission H. de Genouillac, Rapport  
 sur les travaux et inventaires, fac-similes, dessins,  
 photographies et plans, 2 vols.; Paris, 1924.
- Dimand, M. S.  
 "A Recent Gift of Near Eastern Art," BMMA, XXVI (January,  
 1931), 6-12.
- Dimand, M. S.  
 "Parthian and Sasanian Art," BMMA, XXVIII (April, 1933),  
 79-81.
- Erdmann, Kurt  
 "Austellungen. Berlin. Kaiser-Friedrich-Museum Erge-  
 bnisse und Funde der deutschen Ausgrabungen in Ktesiphon,"  
Zeitschrift für Bildende Kunst, Jahrgang 64, Heft 2  
 (May, 1930), Beilage, Kunstchronik und Kunstliteratur,  
 pp. 14-16.
- Erdmann, Kurt  
Sasanidische Kunst, Staatliche Museen in Berlin,  
 Islamische Abteilung, Beihefte der Islamischen Abteilung,  
 Heft 4, Introduction by Kühnel. Berlin, 1937.
- Erdmann, Kurt  
 "Das Datum des Tāk-i-Bustān," Ars Islamica, IV (1937,  
 79-97.

Field, Henry

The Field Museum-Oxford University Expedition to Kish, Mesopotamia, 1923-1929, Anthropology Leaflet No. 28. Chicago, 1929.

Field, Henry

"The Field Museum-Oxford University Joint Expedition at Kish," (2 parts), Art and Archaeology, XXXI (1931), Part I--May, No. 5, pp. 243-252; Part II, June, No. 6, pp. 323-

Ghirshman, R.

Salles Georges

"Châpour: Rapport préliminaire de la première campagne de fouilles," RAA, X, No. 3 (1936), 117-122.

Ghirshman, R.

"Inscription du monument de Châpour I<sup>er</sup> à Châpour," RAA, X (1936), 123-129.

Herzfeld, Ernst

Am Tor von Asien. Berlin: D. Reimer, 1920.

Herzfeld, Ernst

"Ein Sasanidischer Elephant," AMI, III (1930), 26.

Herzfeld, Ernst

Archaeological History of Iran, The Schweich Lectures of the British Academy, 1934. London: H. Milford, Oxford University Press, 1935.

Herzfeld, Ernst

"Khusrau Parwēz und der Tāq i Vastān," AMI, Band IX, Heft 2 (June, 1938), 91-158.

Kelekian, Dikran Khan

The Kelekian Collection of Persian and Analogous Potteries--1885-1910. Paris, Herbert Clarke, 1910.

Kühnel, Ernst

Die Ausgrabungen der zweiten Ktesiphon-Expedition vorläufiger Bericht. Berlin: Islamische Kunstabteilung der Staatlichen Museen, 1933.

Langdon, S.

Harden, D. B.

"Excavations at Kish and Barghuthiat. 1933," I. Sassanian and Parthian Remains in Central Mesopotamia," by S. Langdon, pp. 113-123; II. Pottery, by D. B. Harden, pp. 124-136, Iraq, I (1934).

- Le Coq, Albert von  
 "Ein spatantiker Krug ans Chotän," Turan (1918), 336-343.
- Meyer, Eduard  
 "Seleukia und Ktesiphon," Mitteilungen der Deutschen Orient-Gesellschaft, Nr. 67 (April 1, 1929), 1-26.
- Noldeke, Theodor  
 "Geschichte der Perser und Araber zur Zeit der Sasaniden,"  
Auß der Arabischen Chronik des Tabari übersetzt und mit ausführlichen Erläuterungen und Ergänzungen versehen.  
 Leyden: E. J. Brill, 1879.
- Orbeli, J.  
 Trever, C.  
Orfèvrerie Sasanide, objets en or, argent et bronze.  
 Moscow: Leningrad, Academia, 1935.
- Paruck, Furdoonjee D.  
Sassanian Coins. Bombay: The Times Press, 1924.
- Rawlinson, George  
The Seven Great Monarchies, vol. III of A History of Parthia, pp. 1-240. 3 vols.; New York: John B. Alden, 1885.
- Reuter, Oscar  
 "The German Excavations at Ctesiphon," Antiquity, III (December, 1929), 434-451.
- Reuter, Oscar  
Die Ausgrabungen der deutschen Ktesiphon-Expedition im Winter 1928/1929. Wittenberg: Herrose and Ziemsen, [1930].
- Sarre, Friedrich  
 Herzfeld, Ernst  
Iranische Felsreliefs. Berlin: E. Wasmuth, 1910.
- Sarre, Friedrich  
Die Kunst des alten Persien. Berlin: Cassirer, 1923.
- Sauvaget, Jean  
 "Remarques sur l'art Sassanide: questions de méthode à propos d'une exposition," REI, Année 1938, cahiers II-III, pp. 113-131.
- Schmidt, Erich I.  
 "Tepe Hissar Excavations, 1931," The Museum Journal, XXIII (1933), 458.

Schmidt, Erich Friedrich

Excavations at Tepe Hissar, Damghan, with an additional chapter on the Sasanian building at Tepe Hissar by Fiske Kimball. Philadelphia: University of Pennsylvania Press, 1937.

Schmidt, J. Heinrich

"L'expédition de Ctésiphon en 1931-32," Syria, XV (1935), 1-23.

Schmidt, J. Heinrich

"Figürliche Sasanidische Stuckdekorationen aus Ktesiphon," Ars Islamica, IV (1937), 175-184.

Smirnov, Ivanovich.

Argenterie orientale, in Russian. St. Petersburg, 1909.

Treuer, C.

"Nouveaux plats sasanides de l'Ermitage," Académie des Sciences de l'URSS et Musée de Leningrad. Moscow: Leningrad, 1937.

Upton, J.

"The Expedition to Ctésiphon, 1931-1932," BMMA, XXVII (August, 1932), 188-197.

Upton, Joseph M.

"The Persian Expedition, 1933-1934. The Season's Finds," BMMA, XXIX (December, 1934), Sec. II, pp. 14-22.

Wachtsmuth, Freidrich

"Die Ergebnisse der deutschen Grabung in Ktesiphon-West im Winter 1928/29," Forschungen und Fortschritte, VI (10 Juni, 1930), 221-222.

#### CENTRAL ASIA

Ebert, M.

"Keramische Funde," in Le Coq, Chotscho. Berlin: D. Reimer, 1913.

Field, Henry

Prostov, Eugene

"Archaeological Investigations in Central Asia, 1917-1937," Ars Islamica, V (1938), Pt. 2, pp. 233-271.

Hedin, Sven

The Silk Road, translated from the Swedish by F. H. Lyon. New York: E. P. Dutton and Company, 1938.

- Hoernle, August Friedrich Rudolf  
 "A Report on the British Collection of Antiquities from Central Asia," Journal, Asiatic Society of Bengal, LXX, Part I, Calcutta, 1901.
- Le Coq, Albert von  
Chotscho. Berlin: D. Reimer, 1913.
- Le Coq, Albert von  
 "Die vierte deutsche Turfan-Expedition," Turan, 1918, pp. 7-24.
- Rapson, E. J.  
The Cambridge History of India, I, Cambridge, 1922.
- Stein, Sir Mark Aurel  
 "A Journey of Geographical and Archaeological Exploration in Chinese Turkestan," in Smithsonian Institution Annual Report, 1903-1904), pp. 747-774. Washington, D. C., 1904.
- Stein, Sir Aurel  
Serindia (Central Asia and Westernmost China). Oxford: The Calrendon Press, 1921.
- Stein, Sir Aurel  
Innermost Asia. Oxford, The Clarendon Press, 1928.
- Strzygowski, J.  
 "Mittelasiatische Keramik auf dem Wege nach Mosul," in Altai-Iran und Völkerwanderung, pp. 260-272, Abb. 206-223. Leipzig: J. C. Hinrichssche Buchhandlery, 1917.
- Treuer, Camilla  
Terracottas from Afrasiab. Leningrad: State Editions Department, State Academy for History of Material Culture, 1934.
- CHINA AND THE NEAR EAST, HAN TO T'ANG
- Anonymous  
 "Description of Specimens; 2. Porcelain Spittoon," TOCS, 1924-25, pp. 9-10.
- Anonymous  
 "Description of Specimens; 1. T'ang Lamp in the Form of a Duck," TOCS, 1927-28, p. 11.
- Ashton, Leigh  
 "China and Egypt," TOCS, 1933-1934, pp. 62-72.

- Bell, Hamilton  
 "T'ang Pottery and Its Late Classic Affinities," BM,  
 XXVI (October, 1914), 9-15.
- David, Sir Percival  
 "The Shōsō-in Pottery," TOCS, 1931-32, pp. 21-43.
- de Vasselot, J. J. Marquet  
 "Quelques exemples des relations artistiques entre l'orient  
 et l'extrême-orient," in Mélanges offerts à M. Gustave  
 Schlumberger, pp. 363-367.
- Fenollosa  
 Epochs of Chinese and Japanese Art. New York: E. A. Stokes,  
 [1912?].
- Gallois, H. C.  
 "Mutual Influences between Chinese and Near Eastern  
 Ceramics in the T'ang Period and Before," AR, XXVIII  
 (1932), 643-649.
- Gallois, H. C.  
 "About T'ang and Ta Ts'in," TOCS, 1935-1936, XIII, pp. 38-50
- Harada, Jiro  
English Catalogue of Treasures in the Imperial Repository  
 Shōsōin, Tokyo: Imperial Household Museum, 1932.
- Hirth, Friedrich  
China and the Roman Orient. Leipzig; München: George  
 Hirth, 1885.
- Hirth, Friedrich  
Ueber fremde Einflüsse in der chinesischen Kunst.  
 München; Leipzig; Georg Hirth, 1896.
- Hirth, Friedrich  
 Rockhill, W. W.  
Chau-Ju-Kua, translated from the Chinese. St. Petersburg,  
 1911.
- Hobson, Robert Lockhart  
Chinese Pottery and Porcelain. 2 vols.; London: Cassell,  
 1915.
- Hobson, R. L.  
 "The Eumorfopoulos Collection; IV. Pottery from Han to  
 T'ang," BM, XXXIV (June, 1919), 231.
- Hobson, R. L.  
 "The Eumorfopoulos Collection; VII. T'ang Pottery," BM,  
 XXXV (November, 1919), 211-217.



- Hobson, R. L.  
 "The Significance of Samarra," TOCS, 1922-23, pp. 29-30.
- Hobson, R. L.  
 Hetherington, A. L.  
The Art of the Chinese Potter from the Han Dynasty to the End of Ming. London: E. Benn, 1923.
- Hobson, R. L.  
The George Eumorfopoulos Collection; Catalogue of the Chinese, Corean and Persian Pottery and Porcelain.  
 6 vols.; London: Benn, 1925-1928.
- Hobson, R. L.  
 "Chinese Porcelain from Fostat," BM, LXI (September, 1932), 109-113.
- Jackson, Sir Herbert  
 "The Iridescence on Early Chinese Lead Glazes," TOCS, 1924-1925, pp. 13-23.
- Kahle, Paul  
 "Islamische Quellen zum chinesischen Porzellan," ZDMG, Neue Folge XIII (1934), Heft I, pp. 1-45.
- Kershaw, Francis Stewart  
 "The Inscribed Vase of the Dana Collection," BM, XXIV (December, 1913), 151-152.
- King, William  
 "Early Chinese Pottery," Edinburgh Review, CCXL, No. 490 (October, 1924), 391-404.
- King, William  
 "Chinese Pottery of the Han Dynasty," International Studio, XCIV (December, 1929), 35-40.
- Koehlin, Raymond  
 "Chinese Influences in the Musulman Pottery of Suse," Eastern Art, I, No. 1 (July, 1928), 3-12.
- Laufer, Berthold  
Chinese Pottery of the Han Dynasty. Leiden: Brill, 1909.
- Laufer, Berthold  
Chinese Clay Figures (Field Museum of Natural History Publication 177, Anthropological Series, XIII, No. 2), Chicago, 1914, pp. 73-315.

Laufer, Berthold

The Beginnings of Porcelain in China, with a Technical Report by H. W. Nichols (Field Museum of Natural History Publication 192, Anthropological Series, XV, No. 2), Chicago, 1917, pp. 79-183.

Laufer, Berthold

Sino-Iranica, Chinese Contributions to the History of Cultivated Plants and Products (Field Museum of Natural History Publication 201, Anthropological Series, XV, No. 3), Chicago, 1919.

McGill, Elizabeth

Niles, Joan

"The Beginnings of Porcelain in China; A New Theory Placing Proto-Porcelain Prior to the Christian Era," A Paper Read by Elizabeth McGill and Joan Niles at the Michigan Academy, 1937 (typewritten copy).

Martin, F. R.

"A Chinese Jug of Sasanian Form," BM, XXI (September, 1912), p. 357.

Pelliot

"Des artisans chinois a la capitale Abbaside en 751-762," T'oung Pao, XXVI (1929), 110-112.

Plumer, J. M.

"Certain Celadon Potsherds from Samarra Traced to Their Source," Ars Islamica, IV (1937), 195-200.

Plumer, James Marshall

"Early Pottery Fragments from Hangchow Bay," JRAS, North China Branch, LXVI (1935), 115-116.

Plumer, James Marshall

Early Chinese Pottery; An Exhibition at Ann Arbor, under the Auspices of the Institute of Fine Arts, University of Michigan, July 5th to August 13th, 1938. Ann Arbor: Edwards Brothers, 1938. (Photo-litho-printed)

Reinaud, Joseph Toussaint

Langlès

Relation des voyages faits par les Arabes et les Persans dans l'Inde et à la Chine, dans le IX<sup>e</sup> siècle de l'ère chrétienne. Texte arabe imprimé en 1811 par les soins du feu Langlès, publié avec des corrections et additions et accompagné d'une traduction française et d'éclaircissements. 2 vols.; Paris: Imprimerie Royale, 1845.

Röder, Kurt

"Über glasierte Irdenware und chinesisches Porzellan in islamischen Ländern," Studien zur Geschichte und Kultur des Nahen und Fernen Ostens. Paul Kahle zum 60. Geburtstag überreicht, . . . herausgegeben von W. Heffening und W. Kirfel; Leiden: Brill, 1935, pp. 133-144.

Rücker-Emden, Oscar

Chinesische Frühkeramik; eine Einführung. 2nd ed.; Leipzig: Karl W. Hiersemann, 1923.

Sarre, F.

"Wechselbeziehungen zwischen ostasiatischer und vorderasiatischer Keramik," OZ, VIII, Heft. 1-4 (1919-1920), 337-344.

Sarre, F.

"Die ostasiatische Keramik von Samarra," Zeitschrift für bildende Kunst, LIX (1925-26), 231-234.

Sarre, Friedrich

"Eine chinesische Pilgerflasche der T'angzeit," Pantheon, IX (September, 1934), Heft 9, pp. 273-276.

Seligman, C. G.

"Early Pottery from Southern China," TOCS, 1934-1935, pp. 26-34.

Silcock, Arnold

"The Earliest Porcelain of China," Parnassus, XI (January, 1939), 12-15.

#### EARLY ISLAMIC PERIOD

Abel, M. A.

Gaibi et les grands faïenciers égyptiens d'époque mamlouke. Cairo: Imprimerie de L'Institut Français D'Archeologie Orientale, 1936.

Anonymous.

"Excavations in Palestine 1933-4, Isbeita," QDAP, IV (1935), No. 4, 201-202.

Anonymous.

"Excavations in Palestine, 1934-5, Isbeita," QDAP, V (1935-36), 198-199.

Anonymous

"Excavations in Palestine and Trans-Jordan 1936-7. Khirbet Minya," QDAP, VII (1938), 49-51.

Ashton, A. L. B.

"Three New Glass Vessels Painted in Luster," BM, LX (June, 1932), 293-294.

Arne, T. J.

"En sino-iransk Kopp," (in Swedish), Satryck ur Fornvannen, vol. 2 (1938), 107-113, Figs. 1-9, with German summary, 10 lines on p. 113.

Bahgat, Aly Bey

La céramique égyptienne de l'époque musulmane, Musée de l'Art Arabe du Caire, Album without Text. Basel: Frobenius, 1922.

Bahgat, Aly Bey

La céramique musulmane de l'Égypte. Cairo: Musée Arabe, 1930.

Baly, Colin

"S'baïta," QSt (October, 1935), 171-81.

Baramki, D. C.

"Excavations at Khirbet el Mefjer," QDAP, V, (1935-1936), 132-138.

Baramki, D. C.

"Excavations at Khirbet el Mefjer. II," QDAP, VI, (1937), Nos. 3 and 4, 157-168.

Baramki, D. C.

"Excavations at Khirbet el Mefjer. III," QDAP, VIII (1938), Nos. 1 and 2, 51-53.

Butler, A. J.

"Egypt and the Ceramic Art of the Nearer East," BM, XI (July, 1907), 221-226.

Butler, A. J.

"Egypt and the Ceramic Art of the Nearer East," BM, XII (1907-1908), 48-51.

Butler, A. J.

"The Origin of Luster Ware," BM, XVI (1909-1910), 18-23.

Butler, Alfred Joshua

Islamic Pottery, A Study Mainly Historical. London: E. Benn, Ltd., 1926.

Cresswell, K. A. C.

Early Muslim Architecture, I, Umayyads, A. D. 622-750.  
With a contribution on the mosaics of the Dome of the  
Rock and of the Great Mosque at Damascus by Marguerite  
van Berchem. Oxford: Clarendon Press, 1932.

Cresswell, K. A. C.

"Islam's Newly Revealed Artistic Inheritance from  
Byzantium; Hellenistic Panels in the El Aksa Mosque,"  
Illustrated London News, 190 (January 16, 1937), 94-95.

Dimand, M. S.

A Handbook of Mohammedan Decorative Arts. New York:  
Metropolitan Museum of Art, 1930.

Dimand, M. S.

Loan Exhibition of Ceramic Art of the Near East, May 12  
to June 28. New York: Metropolitan Museum, 1931.

Dimand, Maurice S.

"Studies in Islamic Ornament. I. Some Aspects of  
Omayyad and Early Abbāsid Ornament," Ars Islamica, IV  
(1937), 293-337.

Flury, Samuel

"Une formule épigraphique de la céramique  
archaïque de l'Islam," Syria, V (1924), 53-66.

\*Fouquet, D. M.

"Contribution à L'Etude de la céramique orientale,"  
Memoires presentees à l'Institut Egyptien, IV, 1901.

Fouquet, D. M.

Collection du Dr. Fouquet, de Caire--Art Egyptien et  
Egypto-Arabe, art grec et Romain. Paris: Galerie Georges  
Petit, 8 rue de Seze, June 12, 13-14, 1922.

Gallois, H. C.

"The Origin of Luster Ware," BM, LIII (October, 1928), 196.

Gallois, H. C.

"La céramique archaïque de l'Islam," Aréthuse, V (1928),  
No. 21, 136-162.

Gallois, H. C.

"La céramique archaïque de l'Islam," Aréthuse, (1930),  
No. 28, 94-99.

Ghirshman, R.

"Les fouilles de Châpour (Iran). Deuxième campagne  
1936/37," RAA, XII (March, 1938), Numero 1, 12-19.

Goldman, Hetty.

"Excavations at Gozlü Kule, Tarsus, 1937," AJA, XLII (1938), 30-54.

Hannover, E.

See: Technique.

Hassan, Zaky Mohamed.

Les Tulunides, étude de l'Égypte Musulmane à la fin du IX<sup>e</sup> siècle, 868-905. Paris: Busson, 1933.

Hassan, Zaky Mohamed

Al-Fann al-Islami fi Misr, المصنوع الإسلامي في مصر, I. In Arabic. Cairo: Musée Arabe du Caire, 1935.

Hauser, Walter

Upton, Joseph M.

Wilkinson, Charles K.

"the Iranian Expedition, 1936: The Excavations at Nishapur," BMMA, XXXII (October, 1937), Section II, 3-40.

Hauser, W.

Upton, J. M.

Wilkinson, C. K.

"The Iranian Expedition, 1938. The Museum's Excavations at Nishapur," BMMA, XXXIII (November, 1938), Section II, 3-23.

\*Herzfeld, Ernst

Erster vorläufiger Bericht über die Ausgrabungen von Samarra. Berlin, 1912.

Herzfeld, Ernst

Der Wandschmuck der Bauten von Samarra und seine Ornamentik (Die Ausgrabungen von Samarra, I). Berlin: Dietrich Reimer, Ernst Vohsen, 1923.

Hobson, R. L.

"Notes on an Early 'Persian' Bowl and 'Rice-grain' Wares," BM, XI (1907), 83-89.

Hobson, R. L.

"Potsherds from Brahminabad," TOCS, (1928-30), 21-23.

Hobson, Robert Lockhart

A Guide to the Islamic Pottery of the Near East. British Museum, Department of Ceramics and Ethnography. London: British Museum, 1932.

Hobson, R. L.

"Pottery Fragments from Southern Persia and Northern Panjab," Appendix A, pp. 244-247, in Archeological Reconnaissances in North-western India and South-eastern Iran, by Sir Mark Aurel Stein. London: Macmillan, 1937.

Ibn al-Faqih al-Hamadhâni

"Kitâb al-Boldân," BGA, V. Leyden: Brill, 1885.

al-Jakûbî

"Kitâb al-Boldân," 2nd ed., BGA, VII, 231-373. Leyden: Brill, 1892.

Illustrated London News

(June 22, 1935), 1122-1123.

Karabacek, J.

"Zur muslimischen Keramik," Österreichische Monatsschrift für den Orient (December, 1884), Nr. 12, 281-292.

King, William

"The Origins of Lustre," a paper read by Mr. William King on February 1, 1928 in TOCS, 1928-1930, 15-20.

Koechlin, Raymond

"A propos de la céramique de Samarra," Syria, VII (1926), 234-246.

Koechlin, Raymond

"Chinese Influences in the Musulman Pottery of Susa."  
See: China.

Koechlin, Raymond

Les céramiques musulmanes de Suse au Musée du Louvre (Memoires de la Mission Archeologique de Perse, Tome XIX). Paris: Leroux, 1928.

Koechlin, Raymond

"Les céramiques musulmanes de Suse au Musée du Louvre," Syria, IX (1928), 40-58.

Koechlin, Raymond

"A propos de la céramique musulmane de Suse," Syria, IX (1928), 269-270, (Bibliographie).

Koechlin, R.

Migeon, G.

Oriental Art: Ceramics, Fabrics, Carpets, one hundred plates in color; with introduction and descriptions by Koechlin and Migeon; translated by Florence Heywood. New York: Macmillan, 1928.

Koechlin, Raymond

"A Fragment of Mussulman Pottery Found in a Tomb at Dura," Dura First Season, Spring 1928, pp. 72-74.

Kratchkovskaya, Vera A.

"A propos de l'épigraphie d'un plat à lustre métallique," Ars Islamica, IV (1937), 468-471.

Kühnel, E.

"Islamische Kunstabteilung. Islamisches Räuchergerät," Berliner Museen, Berichte aus der Preussischen Kunstsammlungen, XLI (1919-1920), 241-250.

Kühnel, Ernst

Islamische Kleinkunst. Berlin: R. C. Schmidt, 1925.

Kühnel, Ernst.

"Die Abbasidischen Lüsterfayencen," Ars Islamica, I (1934), Pt. 2, 149-159.

Lamm, C. J.

Das Glas von Samarra (Die Ausgrabungen von Samarra IV). Berlin: D. Reimer/E. Vohsen, 1928.

Lammens

"L'attitude de l'Islam primitif en face des arts figurés," Etudes sur le siècle des Omayyades. Beyrouth: Imprimerie Catholique, 1930, pp. 351-389.

Lane, Arthur

"The Early Sgraffito Ware of the Near East," TOCS, 1937-1938, XV, 33-54.

Lane, Arthur

"Medieval Finds at al-Mina in North Syria," Archaeologia, LXXVII, 19-78.

Lane, Arthur

"Glazed Relief Ware of the Ninth Century," Ars Islamica, VI (1939), Pt. 1, 56-55.

Le Strange, Guy

The Lands of the Eastern Caliphate. Cambridge University Press, 1905.

Marcais, G.

Coupoles et plafonds de la Grande Mosquée de Kairouan (Tunis. Notes et documents publiés par la Direction des Antiquités et Arts, VIII). Paris: Tunis, 1925.

Marcais, Georges

Les Faïences à reflets métalliques de la grande mosquée de Kairouan (Contributions à l'Etude de la céramique musulmane, IV). Paris: Geuthner, 1928.



- Marçais, G.  
 "Plafonds peints du IX<sup>m</sup> siècle à la Grande Mosquée de Kairouan," RAA, IX (March, 1935), No. I, 1-8.
- \*Martin, Frederick Robert.  
The Persian Luster Vase in the Imperial Hermitage of St. Petersburg and Some Fragments of Lustre Vases Found near Cairo at Fustat. Stockholm: G. Chelius, 1899.
- Martin, F. G.  
 "The Origin of Luster Ware," BM, LIII (August, 1928), 91-92.
- \*Martin, Frederik Robert  
Lustre on Glass and Pottery in Egypt from the Period of Hadrian to Saladin, 48 p. illus. 14 plates (Collana di Studi d'arte ceramica, v. c). Faenza: F. Lega, 1929.
- Mez, Adam  
Die Renaissance des Islāms. Heidelberg: Carl Winters Universitätsbuchhandlung, 1922.
- Migeon, Gaston.  
L'orient musulman (Paris: Musée du Louvre, Documents d'art) 2 vols.; Paris: A. Morancé, 1922.
- Migeon, Gaston.  
 "L'exposition d'art oriental de la Bibliothèque nationale," GBA, ser. 5, XI (1925), 317-330.
- Migeon, Gaston.  
Manuel d'art musulman. II, Les arts plastiques et industriels. 2nd ed.; Paris: A. Picard, 1927.
- Migeon, Gaston  
 "Le décor lustré dans la céramique musulmane à propos de publications récentes," Syria, X (1929), 130-136.
- \*Miles, George Carpenter  
The Numismatic History of Rayy. New York: The American Numismatic Society, 1938.
- Fézard, Maurice  
La céramique archaïque de l'Islam et ses origines. Paris: E. Leroux, 1920.
- Pope, Arthur Upham  
 "The Ceramic Art in Islamic Times, A, The History," A Survey of Persian Art, pp. 1446-1666.

Pope, Arthur Upham

A Survey of Persian Art from Prehistoric Times to the Present, Arthur U. Pope, editor; Phyllis Ackerman, assistant editor. New York: Oxford University Press, 1938-1939.

\*Puttrich-Reignard, Oswin

Schneider, A. M.

"Ein frühislamischer Bau am See Genesareth. Zwei Berichte über die Grabung auf Chirbet el-Minje," (Palestina-Hefte des Deutschen Vereins vom Heiligen Lande, Heft. 15), Köln 1937.

\*Puttrich-Reignard, Oswin

"Die dritte Grabung auf Chirbet el Minje bei Tabgha am See Genesareth in Palästina (Frühjahr 1937)," Das Heilige Lande, LXXXI (1937), 117-22.

Raphael, Oscar C.

"Fragments from Fustat," TOCS, 1923-24, 17-25.

Raphael, Oscar

"Some Notes on the Early Pottery of the Near East," TOCS, 1925-1926, 27-30.

Reitlinger, G.

"Islamic Pottery from Kish," Ars Islamica, II (1935), Pt. 2, 198-219.

Rice, D. Talbot

"The Oxford Excavations at Hira," Ars Islamica, I (1934), Pt. 1, 51-73.

Riefstahl, R. M.

The Parish-Watson Collection of Muhammedan Potteries. New York: E. Weyhe, 1922.

\*Rivière, Henri

La céramique dans l'art musulman; Recueil de cent planches en couleurs reproduisant les plus belles pièces originales choisies dans les musées et les collections privées françaises et étrangères. Préface, G. Migeon. 2 vols.; Paris: E. Levy, 1913.

Ross, Sir Edward Denison, editor.

The Art of Egypt through the Ages. London: The Studio Ltd., 1931.

\*Saladin, Henri

La mosquée de Sidi Okba à Kairouan (Les monuments historiques de la Tunisie). Paris: E. Leroux, 1899.

Salles, Georges

Ballot, Marie-Juliette

Musée National du Louvre. Les Collections de l'orient musulman. Paris: Musées Nationaux, Palais du Louvre, 1928.

Sarre, Friedrich

"Makam Ali am Euphrat, ein Islamisches Baudenkmal des X Jahrhunderts," Jahrbuch der Königlich Preussischen Kunstsammlungen, XXIX (1908), 63-76.

Sarre, F., ed.

Die Ausstellung von Meisterwerken muhammedanischer Kunst im München 1910, edited by F. Sarre and F. R. Martin, with collaboration by M. van Berchem, M. Dreger, E. Kühnel, C. List, and S. Schröder. Vol. 2, Die Keramik. München: F. Bruckmann, 1912.

Sarre, Friedrich

Herzfeld, Ernst

Archäologische Reise im Euphrat-und Tigris-Gebiet, IV, "Die Keramik im Euphrat-und Tigris-Gebiet" von F. Sarre, pp. 1-25. Berlin: D. Reimer, 1920.

Sarre, Friedrich

"Die Kleinfurde von Samarra und ihre Ergebnisse für des islamische Kunstgewerbe des 9. Jahrhunderts," Der Islam, V (1914), 180-195.

Sarre, Friedrich

"Die Aufstellung der Ergebnisse der Ausgrabungen von Samarra im Kaiser-Friedrich-Museum," Berliner Museen, Berichte aus der Preussischen Kunstsammlungen, (Amtliche Berichte), XLIII, Heft 5 and 6 (May-June, 1922), 49-60.

Sarre, Friedrich

Die Keramik von Samarra, unter Mitwirkung von Ernst Herzfeld (Die Ausgrabungen von Samarra, II). Berlin: Dietrich Reimer, 1925.

Sarre

"Samarra in Mesopotamia a Caliph's Residence of the Ninth century," Art in America, XIII, No. II (February, 1925), 82-92.

\*Sarre, Friedrich

"Frühislamische Keramik aus Mesopotamien," (with English summary), Der Cicerone, XXII (January, 1930), Pt. 2, 23-43.

Sarre, F.

"Einige Metallarbeiten parthisch-Sasanidischen Stils, in der islamischen Kunstabteilung," Berliner Museen, Berichte aus der Preussischen Kunstsammlungen, LII (1931), Heft 5, 95-101.

Sauvaget, Jean

"Les ruines Omeyyades du Djebel Seis," Syria, XX (1939), 239-256.

Schlumberger, Daniel

"Les fouilles de Qasr el-Heir el-Gharbi (1936-1938),  
Rapport préliminaire," Syria, XX (1939), 195-238.

Schmidt, Erich F.

"The Persian Expedition," UMB, V, No. 5 (March, 1935),  
41-49.

Schmidt, Erich F.

"Ray Research, 1935, Part I," UMB, VI, No. 3 (March,  
1936), 79-87.

Schmidt, J. Heinrich

"Ceramics," Encyclopedia of Islam, Supplement I.  
London: Luzac, 1934, pp. 44-47.

Schnéider, A. M.

"Die Grabung der Görresgesellschaft auf Chirbet Minje  
am See Genezareth," Oriens Christianus, XXXIII (1936),  
102-5.

Schwarz, Paul

Iran im Mittelalter nach den Arabischen Geographen, I.  
Habilitationsschrift. Leipzig: Otto Harrassowitz, 1896.

Schwarz, Paul

Die Abbasiden-residenz Samarra. Neue historisch-  
geographische Untersuchungen (Quellen und Forschungen  
zur Geschichte der Erdkunde, I). Leipzig: Otto Wigand,  
1909.

Schwarz, Paul

Iran im Mittelalter, nach dem arabischen Geographen, II  
(Quellen und Forschungen zur Erd- und Kulturkunde, III).  
Leipzig: Otto Wigand, 1910.

Stein, Sir Mark Aurel

Archaeological Reconnaissances in North-western India  
and South-eastern Iran, with appendices by Fred H.  
Andrews and R. L. Hobson, pp. 244-247. London: Macmillan,  
1937.

Stewart, W. A.

"The Pottery of Fostat, Old Cairo," BM, XXXIX (1921),  
11-18.

Tabari

Annales quos scripsit Abu Djafar Mohammed ibn Djarir  
At-Tabari, edited by M. J. de Goeje. Leyden: Brill,  
1879-1901.

Unvala, J. M.

"Note on the Lustered Ceramics of Susa," BAIPAA, IV, No. 2 (December, 1935), 79.

Upton, Joseph M.

Wilkinson, Charles K.

"The Persian Expedition 1934-1935, Excavations at Nishapur," BMMA, XXI (September, 1936), 176-182.

Van de Put, A.

"Egypt and the Ceramic Art of the Nearer East," BM, XI (1907), 391-392.

\*Velázquez Bosco, Ricardo

Medina Azzahra y Alamiriya. Madrid: Blass, 1912.

\*Victoria and Albert Museum, London

Review of Principal Acquisitions (1931).

\*Victoria and Albert Museum, London

Review of Principal Acquisitions (1934).

Vignier, Charles

Fry, Roger.

"New Excavations at Rhages," by Roger Fry; "The So-called Samarra Fayence," by Charles Vignier; BM, XXV (July, 1914), 212-218.

Vignier, Charles

"L'exposition d'art Oriental (2<sup>e</sup> article), Notes sur la céramique Persane," RAA, II, No. 3 (September, 1925), 41-48.

Wiasmitina, M.

L'art des pays de l'Islam, Catalogue. Musée des Arts de l'Académie des sciences d'Ukraine. Supplément épigraphique par V. Kratschkovska. Kiev: Edition de l'Académie des Sciences d'Ukraine, 1930.

Wiet, Gaston.

Album de Musée Arabe du Caire. Traduction anglaise par K. A. C. Creswell, traduction arabe par Hasan Hawary. Cairo: Imprimerie de l'Institut Français d'archéologie orientale, 1930.

Wiet, Gaston

"Exposition d'art Persan. Céramique," Syria, XIII (1932), 80-93.

Wiet, Gaston

L'exposition persane de 1931. Cairo: Imprimerie de l'Institut Français d'Archéologie Orientale, 1933.

Wiet, Gaston

"Deux pièces de céramique Égyptienne," Ars Islamica,  
III (1936), Pt. 2, 172-179.

Wilber, Donald

"The Development of Mosaic Faience in Islamic  
Architecture in Iran," Ars Islamica, VI (1939), Pt. 1,  
16-47.









**THE UNIVERSITY OF MICHIGAN**

**DATE DUE**

OCT 11 1993

NOV. 11 1995  
DEC 18 2000

AUG 04 2003

UNIVERSITY OF MICHIGAN



3 9015 01836 6644

