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An Attempted Classification of the Iron Age  
Pottery in Phoenicia

By

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## P R E F A C E

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## A B S T R A C T

The writer's primary object in this study is first to identify Phoenician pottery as such, to distinguish it from that of the Late Bronze Age as well as from that of the neighbouring countries, and to describe the main characteristics of this pottery whether they pertain to technique, finish or decoration. The second object is an attempt to date some of these Phoenician types, and when possible follow the evolution and development of each. But in order to describe and classify these types, the writer has found it convenient to devote her first chapter to a thorough study of pottery material and techniques. She then found it equally essential to define the meaning of the "type" concept and the value of classification in archaeology. Finally before launching on her main work, she devoted the last part of her second chapter to stressing the importance of pottery in archaeology.

The ultimate aim however is to try and see if the Iron Age of Phoenicia can be divided into two or more phases and thus establish the relation of Phoenician culture with that of its neighbours. In endeavouring to underline these distinctions and differences, the writer has kept in mind the common features that characterize all contemporary cultures of the Iron Age.

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LIST OF ABBREVIATIONS

A.A.A.	Annals of Archaeology and Anthropology
A.A.S.O.R.	The Annual of the American Schools of Oriental Research
A.J.A.	American Journal of Archaeology
B.A.S.O.R.	Bulletin of the American Schools of Oriental Research
I.E.J.	The Israel Exploration Journal
Opusc. Arch.	Opuscula Archaeologica
Opusc. Athen.	Opuscula Atheniensia
P.E.F.	Palestine Exploration Fund
Q.D.A.P.	The Quarterly of the Department of Antiquities in Palestine
Rev. Bibl.	Revue Biblique
S.C.E.	The Swedish Cyprus Expedition

## CHAPTER I

### INTRODUCTION

#### MATERIALS AND TECHNIQUES

"To interpret the objects he collects, to classify them and even to describe them correctly, an archaeologist ought ideally to be able to make them."<sup>1</sup>

### I. MATERIALS

#### A. CLAY

In a study of this nature it is essential to understand the nature of clay and its physical properties. Broadly defined, clay is a fine grained earthly material that develops plasticity when mixed with water. Its distinctive physical properties, besides plasticity when wet, are fineness of texture and hardening when subjected to intense heat. Its essential chemical components are silica, alumina and water. Frequently it contains appreciable amounts of iron, alkalis and alkaline earths. It is not as was formerly believed an amorphous material with microscopic particles, neither is it essentially of a single pure substance - kaolinite - its different properties being attributed to the various impurities in it. Clay is composed of minute but definite crystals, which can be grouped into fairly definite species of minerals,

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<sup>1</sup>Gordon Childe, A Short Introduction to Archaeology (London: 1960), p. 105.

depending on the structural pattern which the atoms take in each crystal and on the constitution and manner in which the sheets constituting the crystal are combined. On this basis clay minerals may be divided into three major groups:

1. The Kaolinite Group: Chemically, this group is a hydrated aluminum silicate; it is the most important group from the commercial standpoint because it is found in extensive deposits and meets the requirements of high grade ceramic products. Its crystals form minute plates roughly hexagonal in outline, each unit plate being composed of two sheets superimposed one on top of the other. As the Kaolinite minerals do not absorb water between their plates, their drying shrinkage is low.

2. The Montmorillonite Group: This group is a hydrous aluminum silicate in which part of the aluminum is replaced generally by magnesium. Like Kaolinites, it has a platy structure, but unlike it, the particles have a ragged irregular outline; furthermore, each unit plate has a three layer sheet instead of two, and these are characterized by absorbing water between their sheets causing swelling. Thus such clay minerals have excessive shrinkage and cannot be used alone for pottery. They are found in bentonite which are derived from volcanic ash.

3. The Illites: These are micaceous clay minerals, similar to Muscovites (a micaceous clay accessory) in structure. They have a three layer sheet unit plate, are non-expandable, and



are important constituents of many clays. Chemically, they are hydrous aluminum silicates with magnesium, iron and potassium included in the molecule.<sup>1</sup>

Clays are a product of rock alteration. Feldspars are among the few important minerals forming the chief constituents of the common crystalline igneous parent rocks the commonest of which are granites and gneiss; three fourths of the known surface of the earth is formed of granite and gneiss containing 60 per cent to 90 per cent feldspar. But the minerals of the earth's surface are constantly undergoing change due to being subjected to physical forces, chemical process and biochemical action. Feldspars, a family of closely related basic aluminum silicates including potash feldspars and soda lime, are among those minerals that alter readily - the alkali in them being slowly removed and hydrous aluminum silicate minerals in very fine crystals being formed. When found in the same positions as the parent rocks from which they are derived, these clays are referred to as "Primary" or "Residual"; when deposited at great distances from the point of origin, they are called "Secondary" or "Sedimentary" clays.<sup>2</sup> Secondary clays are more plastic than primary clays due to increased fineness of particles resulting from mechanical friction

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<sup>1</sup>Norton, Elements of Ceramics (Cambridge, Mass., 1952), p. 1-17; Shepard, Ceramics for the Archaeologist (Washington, 1956), p. 6-10; p. 374-377.

<sup>2</sup>Norton, op. cit., p. 18-26; Shepard, op. cit., p. 10-12.

during transportation, the addition of decayed vegetable matter and contact with bog waters.<sup>1</sup>

The physical properties of clay are mainly the following:

1. Particle Size - Texture: Although clays are very fine in relative terms, yet they differ greatly among themselves in the size of their particles. Particle size is a very important element since it influences many other properties such as plasticity, dry strength, and base exchange capacity - the finer fraction of clay being the most active and having the greatest effect on plasticity and fusibility.

2. Particle Shape: Although of interest because of its effect on the way in which particles pack, very little is known about the exact shape of clay particles. However, the particle shape of the Kaolinite group is hexagonal, and that of the Montmorillonite is ragged.

3. Plasticity: "Plasticity is that property of a water-clay mixture that allows it to be pressed into a shape without returning to its original form when pressure is released".<sup>2</sup> The finer-grained clays are highly plastic, but even coarse-grained clays containing a small proportion of Montmorillonite, may be quite plastic. Flint and shales clays require fine grinding to become plastic. Clays containing a lot of accessory minerals such as sand lose plasticity.<sup>3</sup>

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<sup>1</sup>Kelso and Thorley, "The Potter's Technique at Tell Beit Mirsim, Particularly in Stratum A," A.A.S.O.R., Vol. XXI-XXII (1943), p. 87.

<sup>2</sup>Shepard, op. cit., p. 14-15.

<sup>3</sup>Norton, op. cit., p. 34.

4. Base Exchange Capacity: The maximum capacity of a clay to adsorb ions is called its base exchange capacity. Adsorbed ions affect the dispersion of clay particles, and therefore influence quality of slip.

5. Colour: The colour of the raw clay is of little importance in pottery as it either changes or is destroyed by heat. And as the relation between the colour of raw and fired clay is not simple but very complex, the archaeologist cannot make definite predictions from pottery to guide him in recognizing the colour of the original clay.

6. Slacking: The time required for one-inch cube of dry clay to disintegrate after being immersed in water is usually taken as a measure of slacking. This property varies a great deal. The slacking time has considerable bearing on the process and equipment needed to break down raw clay into the plastic state.

7. Drying Properties: Drying shrinkage is a property measured by determining either the length or volume change when clay is dried. High shrinkage necessitates very slow drying to prevent cracking. Generally, the fine-grained plastic clays have the higher shrinkage values. Dried strength is an important property to facilitate handling ware between the dryer and the kiln. Again the fine-grained clays, especially those containing Montmorillonite are the strongest.<sup>1</sup>

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<sup>1</sup>Ibid., p. 27-35; Shepard, op. cit., p. 12-18.

## B. CLAY IMPURITIES

Natural clay contains a certain amount of impurities. These impurities may be divided into two main classes, namely, accessory and organic.

1. Accessory Minerals: Natural clays contain many types of minerals; those that are not clay minerals are known as accessory minerals. The clay mineral, as will be remembered, is the result of the decomposition of feldspar in the parent rocks (such as granite or gneiss). However, these igneous crystalline parent rocks do not consist of feldspar alone, but are a heterogeneous mixture of feldspar, quartz and other forms of silica, mica, titanium, calcium carbonate (marls and limestone) and iron compounds (hematite, goethite, limonite, magnetite, pyrite, marcasite, and siderite). In quartz, some of the feldspar and mica remain unaltered during the chemical action,<sup>2</sup> while iron compounds and the calcium carbonates, although solubles, yet some of them remain undissolved.

2. Organic Matter: Organic matter has an important influence on the plastic and dried properties of clays. Its type and condition, as well as its amount, are highly variable. The "Primary" clays contain the least of it. Vegetable matter is common in surface clays of recent origin; bituminous and asphaltic matter occurs in shales and clays associated with coal measures.<sup>3</sup>

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<sup>1</sup>Norton, op. cit., p. 30.

<sup>2</sup>Rosenthal, Pottery and Ceramics (London, 1954), p. 54, 57.

<sup>3</sup>Shepard, op. cit., p. 19.

### C. TEMPER

Tempering material is a certain amount of gritty stuff technically known as temper which is added to the clay unless it is already present in the raw material. It may consist of chopped straw or other vegetable matter, sand, comminuted potsherds, flint, quartz, carbonates such as shell, limestone and calcite, muscovite mica which gives a silvery or golden cast to pottery and volcanic ash.<sup>1</sup> Temper is not a binder in the sense that it strengthens the body; plastic clay is the binder and temper weakens the body. If the clay is too sticky, nonplastics counteract this excessive plasticity, improve the porosity of the clay, and reduce its shrinkage and its cracking and warping tendencies during drying and firing.<sup>2</sup> This is explained as follows: "Each of the fine particles of a plastic clay is surrounded by a water film. As water at the surface is drawn off by evaporation, it is replaced by water from the interior, but the movement is slow because of the fineness of capillary spaces between particles. Consequently the outer zone may become much drier than the inner zone, and strains are set up because of differences in rates of shrinkage. The nonplastic matter, being coarser than the clay, opens the texture and allows water to escape more readily. It also reduces the amount of water required to bring the paste to a workable state. When a clay is

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<sup>1</sup>Gordon Childe, op. cit., p. 120; Rosenthal, op. cit., p. 75-77.

<sup>2</sup>Kelso and Thorley, loc. cit., p. 93.

highly plastic, temper renders it less sticky and easier to work, but an excess will reduce plasticity to the point at which the clay is lean and short and lacks the cohesiveness necessary for shaping. Firing shrinkage occurs when the clay particles draw together as they soften and sinter. Nonplastics being coarser, decrease this effect."<sup>1</sup>

#### D. FLUXES

Materials which lower the vitrification temperature of clay and increase the firing shrinkage are called fusible materials or fluxes.<sup>2</sup> Alkalies and alkaline silicates (such as feldspar, mica and soluble salts) act as powerful fluxes. Calcium compounds (such as chalk, limestone, shells, calcite and lime feldspar) give off carbon dioxide or sulphur gases when heated, and combine with iron, silica and alumina to form very powerful fluxes.<sup>3</sup>

#### E. SLIP

A slip is a suspension of clay in water, mixed in about equal proportions to the consistency of cream. The clay must be the same as that from which the body of the vessel has been made but freer from any coarse grit. The slip solution therefore must

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<sup>1</sup>Shepard, op. cit., p. 25.

<sup>2</sup>Rosenthal, op. cit., p. 70.

<sup>3</sup>Kelso and Thorley, loc. cit., p. 88.

have the same heat coefficient of expansion as that of the body and should therefore adhere well onto the surface of the pot.<sup>1</sup>

There is no sharp line of division between a slip and a paint. Slips are clays modified by small proportions of oxides, natural or introduced, while pigments are predominantly metal oxides.<sup>2</sup>

#### F. WASH

Both slip and wash are basically liquid clay at about the consistency of cream, but a wash usually contains a considerable admixture of lime, ochre, or some other pigment. A slip is always fired; a wash is never fired, but is applied to a plain surface after the vessel has been fired. A wash therefore is easily destroyed by handling or by moisture, and is a cheap substitute for a slip. In Palestine, during the Iron Age, a wash was applied to the whole vessel or to large sections of it. Sometimes painted designs were worked over it.<sup>3</sup>

#### G. PAINT

A paint must meet two conditions in order to be suitable for the decoration of pottery: It must retain a desirable colour

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<sup>1</sup>Gordon Childe, op. cit., p. 122; Leach, A Potter's Book (Faber and Faber Ltd., Mcml), p. 53; Shepard, op. cit., p. 67.

<sup>2</sup>Leach, op. cit., p. 127.

<sup>3</sup>Kelso and Thorley, loc. cit., p. 106.

after firing and it must adhere to the vessel surface. Therefore, such available paints are limited. All organic compounds (such as dyes) are normally burned to ash. Many other substances lose their colour when fired, and hence many mineral paints are excluded. Therefore, often the potter resorts to painting after firing. The following is a list of suitable paints, each class of which includes paints from different sources and each produces a range of colours depending on composition, degree of oxidation and presence of impurities. Some are adapted to particular kinds of clay or require special methods of firing for good results.

1. Carbon Paints: The use of an organic substance, such as the juice of a plant, for pottery paint, seems to be anomalous, because in firing, it chars, forming carbon which should be burned out, leaving only a trace of white ash. Yet carbon paint is common on the Black-on-White pottery for by proper choice of slip and short firing, the paint is charred without burning out, resulting in a uniform satiny black. Graphite is formed principally by the metamorphism of carbonaceous deposits and is found in metamorphic rocks. However, graphite is not always organic in origin and occurs in meteorites, granite, gneiss, mica schist, quartzite and crystalline limestone. It is found in foliated masses, is often scaly or platy and also granular to compact or earthy. The colour is iron black to steel gray. The surface has either metallic luster or is dull. It has a greasy feel. Graphite is soft and



easily abraded when rubbed on pottery either before or after firing. It shows no appreciable oxidation when fired rapidly to 700°C. It is therefore practicable to use on low-fired ware.

2. Iron Oxide Paints: It is no wonder then that potters were attracted from early times by the rich array of colours the iron oxides afford. Their range is wide, their variations are subtle, and they do not disappoint the potter when they are fired. Yellow limonite changed to red is still a bright and attractive colour; and when red hematite is reduced in firing, it gives a strong black. Nature has supplied the iron oxides freely, for they occur in all types of rock and are widely distributed. The Iron Oxide Minerals - Hematite and Limonite - are more widely distributed in convenient form than Magnetite. Bog ore, ochres and ironstone are all likely sources of paint. The softer, earthy forms of these minerals can be used without preparation. Hard ironstone or bog ore has to be ground. Red Iron Oxide paints are highly variable in colour, texture, luster, hardness and bonding. It is important to recognize that the ferric oxide paint is sometimes granular and powdery, showing no apparent effects of firing. Black Iron Oxide paint can be produced in two ways: By using Magnetite and preventing it from oxidizing in firing or by reducing hematite. In either case, it is necessary to control firing atmosphere.

3. Manganese and Iron-Manganese Paints: Manganese and Manganese-Iron ores were widely used by pre-wheel potters for blackish

paint and are still used today. The common oxides and hydroxides of manganese are black or brownish black and retain their colour when fired.

4. Clay Paints: The array of clay colours and the richness of their contrasts call for little wonder that they were used decoratively by potters. The sources and properties of these paints have been covered under the discussion on clay. The effect of heat on the colour of these clay paints is discussed later. However, with regard to their use as paints, the spreading quality of a clay paint is determined largely by its particle size and dispersion; the finer the texture the more smoothly the paint will flow. Coarse or flocculated clays are unsatisfactory for paint because they settle too quickly. Many clays are not fine enough for delicate linework, and the clay paint has often considerable relief because it was applied as a thick suspension. The texture and luster of clay paints differ in relation to the properties of the clay and whether or not they were smoothed or polished. The permanence of clay paint depends on its bonding power and temperature of sintering. The purer more refractory clays do not harden sufficiently at low temperatures to be permanent. The majority of white paints were relatively pure kaolins or white marls - a mixture of clay and calcite. The Kaolins are usually powdery after firing because they are much more refractory than the body. The red and

yellow clays that owe their colour to iron oxide or hydrated iron oxide are less refractory and form a good bond as they grade into earthy hematites.<sup>1</sup>

#### H. GLAZE

A glaze may be defined as a "continuous adherent layer of glass, or glass and crystals, on the surface of a ceramic body."<sup>2</sup> Glass and glazes are the products of reaction between acidic and basic oxides.<sup>3</sup> However, the essential element in a glaze is the fluxing agent (be it lead, borax, soda, salt, limestone, magnesia or wood ash) which causes the other ingredients to melt or to flow. In contrast to it is the hard heat resisting Silica (flint or quartz). The subdued brilliance of the glaze is due to varied substances such as feldspar, tin oxide or frits.<sup>4</sup>

Glazes and glass are amorphous bodies lacking the regular atomic arrangement found in the uniform pattern of the crystal, and having instead a random network of molecules. The word "network" does not imply regularity, because the strands are uneven and the spaces unequal. In other words, glass represents a special and uncommon state of matter: "When a substance changes from the liquid to the solid state, the atoms which were moving freely in the liquid

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<sup>1</sup>Shepard, op. cit., p. 31-43.

<sup>2</sup>Norton, op. cit., p. 171.

<sup>3</sup>Rosenthal, op. cit., p. 134.

<sup>4</sup>Leach, op. cit., p. 134.

have a strong tendency to assume regular positions with relation to each other because of the forces acting between them..."<sup>1</sup> Sudden chilling checks this process; and in place of the uniform and regular pattern of the crystal, there is produced the random network of the glassy state.<sup>2</sup> The difference between a glaze and glass is the reaction of the glaze with the body - forming an intermediate layer between the properties of the glaze and those of the body.<sup>3</sup>

A glaze, having a different coefficient of expansion than the clay body, may crack on cooling. Hence fitting a glaze to a body means more or less equalizing the coefficient of expansion of the two.<sup>4</sup> Therefore, according to Gordon Childe, true glazes and glaze paints can only be successfully applied to pots that have already been fired. A second firing is required to fuse and vitrify the glaze.<sup>5</sup> However, glazes are produced over a wide range of temperatures because of the differences in fluxes and the effect of varying proportions.

Glazes may be applied by brushing, pouring, dipping or spraying. They are mainly used for the purpose of producing a surface that is hard, non-absorbent, and easily cleaned. At the same time, they permit the attainment of a greater variety of surface colours and textures than would be possible with the body

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<sup>1</sup>Shepard, op. cit., p. 44.

<sup>2</sup>Ibid.

<sup>3</sup>Norton, op. cit., p. 176.

<sup>4</sup>Ibid., p. 178.

<sup>5</sup>Ibid., p, 171, 176.

alone.<sup>1</sup>

A distinction now must be made between a glaze and a vitreous slip. Fusible silicates in the paint may partially vitrify so that the painted surfaces look shiny. Such glossy paints are correctly termed "lustrous" in contrast to dull or "matt" colours. They are often incorrectly described as glazes. But glaze is glass, and to glaze should mean to cover the surface with a thin film of glass. Hence the brilliant black "glaze" of Classical Greek vases and the red "glaze" of Samian ware in Roman times should be called "vitreous slips" instead of "glaze".<sup>2</sup>

Although genuine glaze paints were used by the Assyrians as early as 1250 B.C., it was not extensively used till late Roman times.<sup>3</sup> During the Iron Age, the ancient Palestinian potter whether Canaanite or Israelite did not use glaze. The finest wares were treated with a slip, and the cheaper ones with a wash.<sup>4</sup>

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<sup>1</sup>Norton, op. cit., p. 171, 176.

<sup>2</sup>Gordon Childe, op. cit., p. 124-125.

<sup>3</sup>Ibid.

<sup>4</sup>Kelso and Thorley, loc. cit., p. 104, 106.

## II. TECHNIQUES

Having treated the various materials from which ancient pottery was made, it is now necessary to explain the methods and techniques followed by the ceramist in ancient times. These include the preparation of clay, shaping, turning, surface finish, drying and firing.

### A. PREPARING THE CLAY

1. Weathering: Red clay was mostly used in Phoenicia and Palestine during the Iron Age. As surface clay, it was readily accessible when the top soil was removed. Larger pieces of extraneous foreign matter such as vegetation and pebbles were first removed. If compact and needing weathering, it was then spread out in summer on a hillside facing the sun for its action. Later, when the frost and the rains came permeating the hard clay, an equal physical distribution of moisture resulted; the water, acting as solvent, removed any chemical impurities, especially carbon dioxide, alkalis and soluble sulphates when present, while temperature changes caused mechanical disintegration. The clay was then arranged in heaps or rows so that it could be turned over from time to time to insure equal exposure. The potter had to guard against too much winter weathering as heavy rains might cause the finest clay particles to be washed away and lost.

2. Purification: Both natural and weathered clay had to be purified in order to remove excess sand or other substances by washing and settling in a chain of vats dug on a sloping hillside. The upper vat was kept filled with clay and water. The water picked up the finer particles of clay and overflowed into the next lower vat, and so on down the slope. Thus the lowest vat contained the most purely levigated clay. For extra fine clay the material in the lowest vat would be strained through a cloth. Well levigated clay could be further improved by souring it to improve its plasticity; animal and vegetable refuse would be added to the clay which would be allowed to stand in a cool moist place such as a cave.

3. Treading and Hand-wedging: The clay was then trodden by feet so that water could be evenly distributed throughout the clay and air bubbles removed. Air makes successful throwing difficult and would produce blisters in fired ware. Hand-wedging was an alternative method for treading.<sup>1</sup>

4. Tempering: The temper used in Phoenicia during the Iron Age differed in quality and fineness with respect to the various classes of pottery. For the delicate red slip and black-on-red wares, the temper, although mixed with limestone, was fine in size, and very well levigated with the clay. But for the coarse

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<sup>1</sup>Gordon Childe, op. cit., p. 121.

kitchen ware, the size of the particles was larger and the clay coarser. The bichrome ware had sometimes a gritty feel, and the tempering material was easily discerned on account of its size and colour which was sometimes gray. The Phoenicians might have used together with limestone, either flint, chert or quartz for temper.

#### B. SHAPING

During the Iron Age in Phoenicia, pottery was shaped on a fast moving wheel, which must have consisted of a pivoted disk that could be spun freely, rotating at more than one-hundred revolutions a minute. The secret of this wheel was its centrifugal force. A lump of wet plastic clay was thrown at precisely the center of the wheel, which was then turned rapidly either by an apprentice or by the potter himself. The centrifugal force allowed the potter to form it as he wished without exerting any physical force beyond light pressure from the fingers. But the fingers left faint but strictly parallel or concentric striations on the vessel's walls. These striations are the most reliable evidence for the use of the wheel, and are most likely to be discernible on the interior walls or on the base.<sup>1</sup>

The multiple-piece group was a technique in which the vessel

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<sup>1</sup>Gordon Childe, op. cit., p. 121.



was originally made in two or more pieces which were joined together with a little slip when leather-hard, just as handles were applied. Thus the lentoid pilgrim bottle of the Early Iron Age was thrown as two bowls and when leather hard, these were stuck rim to rim, and the mouth and handles were then added. Iron I chalices were made in two pieces, a bowl placed upon a tall inverted vase. The latter had originally been thrown right-side-up and then turned upside-down to serve as the pillar support for the bowl. In the making of the largest jars, one method was to throw them in two pieces and to join them with a slip when leather-hard at the point of greatest width in each unit. Another method was used in which the body of the jar was fashioned by hand, using a fragment of an older jar as the mould. The neck, however, was made on the wheel and the point of its juncture with the hand-made body was sealed with a small tool as is sometimes used in sealing joints today.<sup>1</sup>

Moulding was done by pressing the wet clay with the fingers or palm of the hand into a preformed mould (usually of bronze or of baked clay). The mould might consist of two or more pieces fitted together which, when the clay had dried and shrank away from it, can be taken to pieces and re-used after the vessel had been removed. The moulded clay was then ready for complete drying and

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<sup>1</sup>Kelso and Rhorley, loc. cit., p. 102-103.

firing. The interior of the mould was wetted or oiled before the clay was applied and was sometimes engraved or carved with the negative of a pattern that is to appear in sunk or raised relief on the finished pot. No striations were left by the process. It was extensively used for the manufacture of decorated vases including terra sigillata or Samian ware in Hellenistic and Roman times.<sup>1</sup> The Astarte figurines of the Late Bronze Age are another example of this technique.

#### C. TURNING

After shaping the vessel on the wheel, the thrower took it off very carefully lest it warp and put it aside to dry slowly without exposing it to too much heat or irregular drafts. When the water content was down to about eight per cent to fifteen per cent, the clay was said to be leather-hard.<sup>2</sup> It was at this stage that the art of turning was applied either by the thrower himself or, more usually, by another specialist, the turner, who replaced the vessel on the wheel and with a cutting tool removed irregularities left in forming and shaping - finger depressions, marks left by the edge of the support, or weld marks of joined sections. Contour was evened up, texture was improved, luster might be imparted, and if the vessel was slipped, colour might be modified.<sup>3</sup> Thus vessels

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<sup>1</sup>Gordon Childe, op. cit., p. 122.

<sup>2</sup>Kelso and Thorley, loc. cit., p. 109.

<sup>3</sup>Binns, The Potter's Craft (London, 1955), p. 69; Shepard, op. cit. p. 65.

thinner walls, more delicate and refined forms and finish.<sup>1</sup>

After the turner's work was over and while the vessel was still leather-hard, the handles were stuck with a little slip.<sup>2</sup>

#### D. SURFACE FINISH

The surface of vessels was finished in various ways which may be summarized as follows:

1. Wet-Smoothing: Wet-smoothing was the simplest finish. It was produced either by hand alone, as soon as the vessel was formed and while the paste was still plastic and easily redistributed, or with a wet rag before or after slipping.<sup>3</sup>

2. Slipping: The pot after having been allowed to dry to leather hardness was sometimes covered with a slip. The simplest way was to dip the pot in this solution either by holding it by its foot and immersing it in the liquid, lip downward, or by holding and steadying it from within and pressing it down until the slip rose to the lip. In either case the residue was wiped off with a sponge.<sup>4</sup> The slip also was applied to the vessel by pouring or by the use of a brush or a rag.

There are few fundamental technical requirements for a slip. Primarily, a slip should adhere to the body, and hence should

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<sup>1</sup>Kelso and Thorley, loc. cit., p. 96.

<sup>2</sup>Ibid., p. 109.

<sup>3</sup>Shepard, op. cit., p. 66.

<sup>4</sup>Kelso and Thorley, loc. cit., p. 104.

necessarily be of the same heat coefficient of expansion as the body of the vessel so that it would neither peel nor craze. It should harden within the the same temperature range as the body, and should have sufficient covering power to conceal the body; therefore, additional applications were given, all of which at the leather-hard stage.

During the Iron Age, the best slips were made of the finest levigated clays of a rich iron content, thinned out with water to the consistency of cream. To this was added red ochre which stepped up still higher the percentage of iron.

3. Burnishing: Burnishing is rubbing the vessel surface to give it luster and sheen. However, many clay surfaces that have been rubbed with a hard smooth tool lack luster in consequence of peculiarities of the clay or of shrinkage after rubbing. The secret of luster by burnishing lies in the potter's ability to go over the surface as many times as possible before it dries. It is essential that the surface be even and smooth at the start because the burnishing tool does not touch pits, grooves or small depressions.<sup>1</sup> And whereas, in turning and smoothing, part of the surface clay is removed from the ware, in burnishing, the surface clay is gently pressed into the ware to seal the surface pores of the leather-hard clay. This is done by pressing them in with a

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<sup>1</sup>Shepard, op. cit., p. 66-67.

smooth pebble or a tool of metal, wood, or bone, or even a piece of cloth or soft skin. The effect was secured either by holding the bowl in the hand as in Iron I, or by pressing the burnishing tool against the vessel as it spins upon the wheel as was done in Iron II in Palestine. A very slow-moving wheel is most appropriate for burnishing which is best done while the wheel is being turned in the direction opposite to that used for throwing and turning.<sup>1</sup> The technique can be applied to either a slipped or an unslipped surface. If the surface is unslipped, then burnishing tends to produce a superficial coating of finer clay, resembling an applied slip which can be described as a "mechanical slip" which does not peel off.<sup>2</sup>

Burnishing by hand could be applied in various ways. It could be continuous, with short strokes close together and going in all directions, irregular, criss-cross, vertical, chordal, with the center of each stroke at right angles to the radius of the bowl; ring-like, with concentric lines parallel to the rim; and various other types of pattern designs. Wheel burnishing, on the other hand, could be either horizontal or spiral.<sup>3</sup>

During the Iron Age in Phoenicia vertical burnishing was applied over bichrome and red slipped jugs and jars. A peculiar

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<sup>1</sup>Kelso and Thorley, op. cit., p. 105.

<sup>2</sup>Gordon Childe, op. cit., p. 122-123.

<sup>3</sup>Kelso and Thorley, loc. cit., p. 105.

kind of burnishing was applied over the red slip pinched rim jugs in which vertical burnishing with a hard stick was applied on the neck while horizontal wheel burnishing was applied on the rest of the body. The bowls were either hand burnished or wheel burnished, and sometimes both wheel and hand burnish appeared on the same vessel.

4. Plastic Decorative Techniques: The leather-hard clay or even the fired vessel with a soft body could be scraped, grooved or carved with a strong and sharp tool. Incising was produced by pressing or cutting lines into the paste - lines that might run straight or wavy, singly or in combinations, encircling the vessel or related to the shoulder or the neck, and that could be short (e.g. herring-bone), or in ropes (oblique, vertical, horizontal or wavy). These, besides their line decoration, gave special effect to the play of light and shadow so important in ceramics. Incisions, however, were mostly done after slipping, exposing thus the original colour of the paste. The quality of incisions was determined by the artistic skill and taste of the decorator, by paste firmness and texture and by the kind of tool employed.<sup>1</sup>

During the Iron Age in Phoenicia faint grooves were applied on the shoulders of the globular red slip jugs with trefoil mouths and deeper grooves parallel to the rim of certain bowls. Ridges

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<sup>1</sup>Shepard, op. cit., p. 194-203.

on the necks of bichrome jugs were a main characteristic of the period. Sometimes grooves appeared on the handles of jars.

5. Modeling: Modeling which is a free hand manipulation, was used extensively during the Iron Age for high relief decoration and for the representation of human and animal figures. Either the surface of the vessel itself was worked or elements were formed separately by hand and then applied to the vessel. The zoomorphic terra cotta vessels of the Iron Age are peculiar to the period appearing as from the twelfth century. A substantial amount of such vessels have turned up in the cemetery at Khaldeh.

6. Painting: Painting might be applied to the surface of a vessel either before or after firing. It might also be applied after firing but with a secondary heating.<sup>1</sup> If painting was to be applied before firing, then the potter had to work with his finished colours in mind rather than with the actual colours on hand, for firing changed the original colour of the paint. Besides, ceramic painting presented other problems to the potter. In the first place it required a different kind of brush from that used in other painting, because whether the clay was white hard (ready for kiln) or whether it had been fired, its surface was very absorbent. And so a special technique in using the brush was needed; only a good brush whose hairs spring back easily could be successfully used.

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<sup>1</sup>Shepard, op. cit., p. 206-207.

The lines painted must be spontaneous, swift and complete, otherwise the clay absorbed unequal amounts of paint at different points and the accuracy of the line was ruined. The brush could never be lifted for a split second when working upon clay. Neither could a line be retouched for the point of correction would show a blot. Thus the painter must have had every detail of his composition definitely fixed in mind before he applied his brush to the clay. Also since much of the pottery had a circular surface, the design had to be so well conceived and executed that the point of juncture was not noticeable.<sup>1</sup> However, the extension of brush strokes beyond the point of juncture of separate strokes, the number of strokes composing a broad line, the length of a stroke and degree of uniformity in its width and thickness, the sharpness of angles marking change in line direction (and thus the lifting up of the brush) are all some of the many peculiarities that distinguish a style of painting from another. Thus pottery painting demands special skill, and excellence in workmanship therefore depends on many factors, namely, the quality and grain size of the pigment, the type of brush used, the method of handling the brush, and the potter's skill.

Regarding styles of decoration, decorative designs may

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<sup>1</sup>Kelso and Thorley, loc. cit., p. 107-108.



be naturalistic, conventional and stylized, geometric, symbolic, or abstract and used for pure decorative purposes. It is sometimes very hard though to draw a sharp dividing line between each, and often their margins are found to overlap; for example, the representation of objects as they appear in nature are abbreviated and straight lines are substituted for curved lines giving the object a form that is conditioned by the style and conventionalities with which the artist is familiar. Features and ornaments may be conventionalized as symbols of particular beings. The geometric may be either symbolic or abstract, and when the history of a design is lacking, there can be no proof of its significance.

Besides, the field of decoration or the area chosen for ornamentation, the relation of decoration to shape, the manner in which design was planned by identifying the original outlines and major divisions of the field, symmetry and balance of dark and light, simple design involving only the repetition of a motif or the elaboration of a line, the panelling of a band and the subdivision of its rectangles and complex design when secondary lines are given more weight or prominence than the primary structural ones, the continuity of line and the overlap of brush strokes, motifs and geometric elements, motion and rhythm, etc.. are all important aspects of design analysis.

And last but not least is the factor of colour combination in design, and whether decoration is in monochrome, bichrome or polychrome.

#### E. DRYING

At this stage the clay was set aside for complete drying which was done slowly with special care being taken to avoid a draft. The speed of drying depended primarily on the shape of the vessel, spherical articles taking the longest time and thin walled tubes the shortest; on the temperature of the surrounding air which should be sufficiently warm to absorb the moisture; on its humidity, namely, if very humid the surrounding air would be unable to take in moisture; and finally on the velocity of the air circulation. During drying, the articles shrink, and the greater the shrinkage the more plastic is the clay. On the other hand, the more open the bodies on account of the temper used, the more easily the drying process takes place.<sup>1</sup> When the ware is white hard containing three per cent of the water of plasticity, plus all the chemical water contained in the clay molecules, then it is ready to go into the kiln and be fired.

#### F. FIRING

Firing was the inevitable and relentless test to which the potter had to subject the product of his skill and patience. The first consideration which faced him was the provision of means to retain heat. Primitive pottery was baked in a pit or surrounded with

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<sup>1</sup>Rosenthal, op. cit., p. 97, 98.

fuel above ground. However, the kiln was later invented, and it was the most important discovery in the history of ceramics, for not only did it retain heat but also it permitted the control of draft and of firing atmosphere.<sup>1</sup>

No kilns of the Iron Age have been found in Phoenicia so far, but remains of Palestinian kilns have been found at Tell 'Ajjul, Tell en-Nasbeh, Megiddo and Gezer. The packing of the kiln required special care for there was a variation of at least 100°C, in different parts of a small kiln. The ware requiring most heat was placed closest to the fire and that needing the least was placed farthest from it, in other words, at the top and center of the kiln. The problem of distributing the weight of the ware was also important, especially in firing bowls or any type of thin ware. Thick heavy ware was placed at the bottom of the kiln nearest the flame.<sup>2</sup>

In addition, there was also the factor of time; those under high temperatures were modified by the amount of time they were exposed to. The question of the fuel added other problems. Certain woods were better for one type of ware and other woods for others.

Firing Schedule:<sup>3</sup> There are three distinct phases in firing, namely, dehydration, oxidation, and vitrification.

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<sup>1</sup>Shepard, op. cit., p. 75-76.

<sup>2</sup>Kelso and Thorley, loc. cit., p. 110.

<sup>3</sup>Shepard, op. cit., p. 19-24; 74-93.

1. Dehydration: Dehydration is when water of crystallization is driven off at low heat to avoid too rapid formation of steam. The kiln is normally started slowly so that all the chemical water contained in the clay molecules and between the plates of clay mineral is driven off; this water escapes at a lower temperature than the water of crystallization, the loss of which causes the crystal lattice to be destroyed, and the clay minerals start to take up heat. At higher temperatures, new minerals begin to crystallize and heat is given off. With constant rate of heating dehydration takes place over a considerable range. The temperatures at which these changes take place differ for the various clay minerals depending on their structure and composition - each having a characteristic heating curve. Kaolins begin to lose combined water at  $450^{\circ}\text{C}$ . With constant rate of heating dehydration takes place over a wide range, but the peak of the curve is reached at about  $600^{\circ}\text{C}$ . The pattern of the dehydrated material shows that the crystalline structure is destroyed although the outlines of crystals remain intact. The heating curve of the montmorillonite is more complex. Between  $100^{\circ}\text{C}$  and  $250^{\circ}\text{C}$  the interlayer water is driven off. Destruction of the crystal lattice begins at  $600^{\circ}\text{C}$  and is fully destroyed between  $850^{\circ}\text{C}$  and  $900^{\circ}\text{C}$ . The principal constituents that are dehydrated are the clay minerals themselves; the water of crystallization escapes; plasticity is lost, and the porosity of the

body is increased. Some impurities such as limonite and goethite are also dehydrated.

2. Oxidation: Oxidation is when carbonaceous matter is burned out from the clay, and iron and other compounds are fully oxidized. Unlike dehydration, it is a chemical change that affects the impurities of clay chiefly carbon and iron compounds. Minerals containing sulphur are also oxidized but these are less common. However, the oxidation of these compounds does not take place simultaneously. Carbon has a greater affinity for oxygen than does iron, and therefore any iron that is not in its highest state of oxidation will remain unaffected until the carbon is burned out. Carbonaceous matter in the clay combines with oxygen to form carbon monoxide or dioxide and passes off as gas. This reaction produces heat and raises the temperature of the ware. High content of carbonaceous matter will even cause over-firing in some cases if the rate of combustion is uncontrolled. Some carbonaceous matter commences to oxidize at temperatures as low as  $225^{\circ}\text{C}$ ; the most effective temperature are between  $700^{\circ}\text{C}$  and  $800^{\circ}\text{C}$ . Above this temperature, carbon may be converted into a denser form that is less easily oxidized; moreover, vitrification which impedes circulation of oxygen may occur at these temperatures. If carbonaceous matter is not fully removed before vitrification commences, gases will be trapped by the dense impervious surface that is formed, and the interior will become black and visicular, and the wall bloated.

This defect is known as black coring. It should not be confused with the black cores of low-fired pottery which are the result of incomplete oxidation.<sup>1</sup> Oxidation requires a good draft and temperature sufficiently high to burn off carbonaceous matter. Sulphur can occur in clay as iron sulphide, in organic matter, or as sulphate. However, sulphur is objectionable because it unites with other substances to form salts that produce a scum (either brown or white) on the surface of the ware. Sulphur compounds are not oxidized until all the carbon is burned off. The Iron-bearing minerals of clay differ with respect to their state of oxidation and are therefore affected differently in firing. Hematite and the hydrous oxides can undergo no further oxidation. Magnetite begins to oxidize when heated to 400°C. Other iron-bearing minerals will take up oxygen after carbonaceous matter has been burned out.<sup>2</sup> The most effective temperature for oxidation depends partly on the particular properties of a clay because it must be below the vitrification point which varies greatly for different clays. The variability of clays also affects requirements for oxidation; some highly carbonaceous and dense clays require a long oxidation period; those which are open in texture or contain little organic matter are easily oxidized.<sup>3</sup>

Decomposition: Oxidation is not the only chemical change

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<sup>1</sup>Shepard, op. cit., p. 21, 81.

<sup>2</sup>Ibid., p. 21-22, p. 81-82.

<sup>3</sup>Ibid. p. 81.

that takes place during the intermediate temperature range of firing. Some impurities are decomposed and the term "oxidation and decomposition range" is sometimes applied to this period of firing. The chief constituents that are decomposed are the carbonates, and of these calcium carbonate in its many forms is the commonest. When calcite or limestone is heated above  $650^{\circ}\text{C}$ , it begins to lose carbon dioxide, which passes off as a gas leaving calcium oxide. Although this reaction starts at a relatively low temperature, and proceeds slowly at first, the rate increases with the rise of temperature up to  $898^{\circ}\text{C}$  when it is immediate and complete in air. Carbon dioxide in the firing atmosphere (which increases during the oxidation of a highly carbonaceous clay) retards decomposition. So the rate of decomposition depends on temperature and also on the amount of carbon dioxide in the kiln atmosphere. Calcium oxide, the product of the decomposition of limestone and other carbonates of calcium, is a fluxing agent and promotes vitrification. If it does not react with constituents of the clay during firing, it will take up moisture from the atmosphere after firing, forming calcium hydroxide, a reaction accompanied by expansion which will cause popping or spalling of the vessel surface.<sup>1</sup>

3. Vitrification: Vitrification or the action of conversion into a glassy substance occurs when the constituents of the

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<sup>1</sup>Shepard, op. cit., p. 22.

pottery begin to soften and cement producing a hard stone-like substance retaining the original plastic shape without modification except for normal shrinkage.<sup>1</sup> As will be remembered, dehydration causes the crystal lattice to be destroyed. The material remains in this state until a sudden reaction occurs, and the constituents begin to crystallize again (kaolins at 1000°C; montmorillonites between 950°C and 1400°C). Thus during vitrification a fundamental change in the clay substance itself occurs: New minerals crystallize from the alumina and silica left by the decomposition of the clays and glass begins to form. Various impurities such as alkalis, alkaline earths and ferrous oxide lower the vitrification point. The formation of a glassy phase is preceded by sintering or the condition in which the edges of particles soften sufficiently to adhere to each other in order to be cemented by the glass that is formed - the body becoming increasingly dense and less pervious or porous. Clays high in fluxing impurities vitrify quickly and therefore are subject to deformation, whereas clays that vitrify slowly and over a long temperature range produce sound dense ware.

It should be noted that these three major changes, dehydration, oxidation, and vitrification do not occur in neatly separated succession each reaction being completed before the other starts, but instead their ranges overlap; oxidation may commence before dehydration is complete and may still be in progress when vitrification starts.<sup>2</sup>

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<sup>1</sup>Shepard, op. cit., p. 81.

<sup>2</sup>Ibid., p. 22, 23, 20.



Generally to avoid cracking, pottery is allowed to cool slowly before being drawn from the kiln in order to avoid the strain of sudden excessive contraction. After firing, vessels may be either coated on the interior with some substance that renders them less pervious or painted on the exterior with a substance that improves their luster.<sup>1</sup>

G. COLOUR OF CLAYS AND THE EFFECT OF HEAT ON THEM  
OR THE CAUSES OF POTTERY COLOUR

Clay is coloured principally by impurities. Thus the colour of raw clays vary according to the kind of impurities present and to the percentage of such impurities. Clays free from impurities are white.<sup>2</sup> The two primary kinds of impurities affecting the colour of raw clays are carbonaceous matter and iron compounds. Carbonaceous matter is present in the clay as decomposed animal or vegetable matter, and as lignite, mineral and graphite. It makes the colour of raw clay vary from grey to black. Iron compounds can be in various forms affecting the colour of raw clay accordingly.

1. The Effect of Heat on Carbonaceous Matter: Carbonaceous matter colours pottery gray or black if subjected to either one of two processes in firing, namely, reduction or smudging.

(a) Reduction: Colour is often described in terms of

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<sup>1</sup>Shepard, op. cit., p. 90-91.

<sup>2</sup>Ibid., p. 16.

whether firing took place in an "oxidizing" or "reducing" atmosphere; by the former is meant a firing atmosphere that is adequately provided with oxygen causing carbonaceous matter to be decomposed and driven off in the form of carbon dioxide gas. "Reducing" means that the firing atmosphere not only lacks sufficient oxygen for complete combustion of the fuel but also contains reducing gases that take away oxygen from the constituents of clay. Under such circumstances carbonaceous matter in the paste will remain unburned and unoxidized, resulting in giving pottery a permanent gray or even black colour. In either case, the effect can be strong or weak or even neutral, and in either case the temperature must be high enough to promote reaction. At certain higher temperatures, iron oxides will be reduced to a lower state and their colour effect will be gray instead of red. And so even though carbon occurs and is the chief colorant, the lower oxide of iron may also be present and contribute to the gray colour. But since it is difficult to prove that firing atmosphere was reducing, it is advisable to describe gray ware as unoxidized rather than as fired in a reducing atmosphere. Thus carbonaceous matter in the clay gives a grayish colour to pottery only if there is lack of or insufficient oxidation. However, the proportion of oxygen in the atmosphere, the length of firing and the temperature at which firing takes place affect the rate at which

carbonaceous matter burns off and hence the different results in colouring.

(b) Smudging: Smudging is a means of graying and blackening pottery by causing carbon and products of combustion from a smoky fire to be deposited on it. Black colour is produced when such a process is carried out under intensive conditions.<sup>1</sup>

2. The Effect of Heat on Iron Compounds: In firing, iron compounds are converted to oxides and become a permanent colorant of pottery. The effect of the iron bearing mineral compounds on pottery colour depends on several factors, the most important of which are the amount, particle size and distribution of the iron compounds themselves; the characteristics and components of the clay which has a considerable influence on colour as well, and which in certain cases, suppress and bleach out the iron oxide colour, such as it is in calcareous clay; firing atmosphere - "reducing" or "oxidizing"; the former giving a colour ranging from gray to black, and the latter, a colour from buff or even white to red. At higher temperatures, the iron compounds may react with other constituents of the clay.

Thus in view of the above possible variants, it is inaccurate and in fact, misleading to take colour as the basis for judging the percentage of ferric oxide in a clay. Evidently, it is also very difficult to judge clay composition or firing conditions from

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<sup>1</sup>Shepard, op. cit., p. 88-90; 104.

the colour of the fired clay. The question to be asked, when making inferences from pottery colour, should not therefore be whether firing methods were identical (for there is no reason why they should be as long as clays from two regions differed) but rather whether potters obtained full or partial oxidation, or smudging.

## CHAPTER II

### THE CLASSIFICATION OF ARCHAEOLOGICAL DATA AND

#### THE IMPORTANCE OF POTTERY IN ARCHAEOLOGY

"If we purpose to inquire into the life of a nation, we may do well through the history of its ceramics."<sup>1</sup>

#### I. THE CLASSIFICATION OF ARCHAEOLOGICAL DATA

The main interest of archaeology is Man, his actions and thought as expressed in the changes of the material world around him whether these are relics or monuments. The ultimate aim is to reconstitute those actions and to recapture the thought that caused them, and to know when, where, whatfor, and by whom they were performed. Therefore, to an archaeologist, the value of a bit of junk lies in its representation as the "fossilized"<sup>2</sup> result of human behaviour; it becomes meaningful only when found in its original context, associated with other "fossils", and only when it represents not the experience, behaviour and concept of an individual person alone, but of a whole community; in other words it becomes an archaeological datum only because the discovery or invention was adopted and imitated by some society. Archaeological data are

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<sup>1</sup>Fukui, Human Elements in Ceramic Art, p. 9.

<sup>2</sup>Gordon Childe, Piecing Together the Past, p. 1.

also "abstract types"<sup>1</sup> - in contrast to an object of art which is individual and unique. Instances of a type are "cultural traits"<sup>2</sup> resulting from a common pattern of behaviour, imposed by a community of tradition which the archaeologist strives to disclose. He therefore proceeds to classify his "type fossils"<sup>3</sup> and examines minute details and distinguishing sub-types. It is only after systematically and scientifically classifying his abstract types that an archaeologist can, through a correct method of interpretation, render his archaeological data intelligible and meaningful. An archaeologist is primarily a historian of culture and his data are "historical documents".<sup>4</sup>

#### THE TYPE CONCEPT AND TYPOLOGICAL CLASSIFICATION

Archaeology begins as a classificatory science and ends by extracting history. The archaeological record is therefore composed of the sum total<sup>5</sup> of types found in significant associations.<sup>6</sup> The term "type" - and in the present circumstance "pottery type" - refers to a standard abstract which bears certain common and constant or persisting features pertaining to such things as form and function, clay composition and tempering material, style, decoration and technique, and in which the small individual and minor changing peculiarities of any individual concrete pot are

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<sup>1</sup> Ibid., p. 5.

<sup>2</sup> Crawford, Archaeology in the Field, p. 15-17.

<sup>3</sup> Gordon Childe, Piecing Together the Past, p. 33.

<sup>4</sup> Gordon Childe, A Short Introduction to Archaeology, p. 9.

<sup>5</sup> Ibid., p. 9.

<sup>6</sup> Ibid., p. 13.

ignored. However, in spite of the fact that the "pottery type" is an abstraction, in other words, a generalization with no individual example including all of its features,<sup>1</sup> yet only specific features<sup>2</sup> are the criteria on which such a classificatory unit is based; furthermore, the "type" should not be abstracted from the essentials of its composition and the method of its manufacture and the role of the potter should not be ignored; therefore, although the "pottery type" has been accepted as a "taxonomic unit"<sup>3</sup> selected to mark the passage of time and thus outline relative chronologies, it should not be conceived as a "sorting group"<sup>4</sup> a meaningless and mechanical division, to define chronological sequence with no cultural significance attached to it,<sup>5</sup> but rather as the embodiment of an invention, discovery or innovation, adopted and repeated by the members of a community so that a social tradition dictates both what to do and how to do it.<sup>6</sup> In brief, the "pottery type" may be defined as representing "pottery made by people using the same materials and methods, influenced by the same stylistic tradition, and employing pottery for the same purpose".<sup>7</sup> The "type" would thereby cease to be "an artificial creation of the classifier" and would come to have some basis in reality and be thus in some measure a "cultural entity".<sup>8</sup> And so, as a "type fossil" the

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<sup>1</sup>Shepard, op. cit., p. 317.

<sup>2</sup>Ibid., p. 309.

<sup>3</sup>Ibid., p. 306.

<sup>4</sup>Ibid., p. 316.

<sup>5</sup>Ibid., p. 309.

<sup>6</sup>Gordon Childe, Piecing Together the Past, p. 33.

<sup>7</sup>Shepard, op. cit., p. 309.

<sup>8</sup>Ibid., p. 308.

"pottery type" must necessarily be confined to a limited area appearing in several stratified sites, during a given period of time.<sup>1</sup> This is of course based on the assumption verified by experience that it is highly improbable that such types of a particular culture should have been independently made and adopted by another society separated from it by no great distance in time and space.<sup>2</sup>

No matter what their concept of the "type" may be, all taxonomists, when they come to the laborious task of classification, are faced with the same pertinent problem - namely - what criteria should be selected for the purpose of delimiting types, the analysis, significance and evaluation of such criteria, the possible meaning conveyed and limitations. In the availability of primary documents in the form of minutely and well recorded excavation reports, whether of closed finds such as tombs or of stratified tells, lies the reliability of a systematic and scientific method of classification.

In so far as the pottery type is selected as a means of recognizing cultural change and outlining relative chronologies, any readily recognizable feature that changes with the passage of time, is accepted as a suitable criterion for classification.<sup>3</sup> Whether the change is gradual or abrupt, conscious or unconscious on the

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<sup>1</sup>Gordon Childe, Piecing Together the Past, p. 23.

<sup>2</sup>Ibid., p. 35.

<sup>3</sup>Shepard, op. cit., p. 307.



part of the makers and users of pottery, evolutionary involving some technical or functional improvement, or devolutionary and degenerate, it is the aim and duty of the taxonomist to establish the different stages in such a development and assign to each vessel its proper place in the series giving its evolutionary or devolutionary order. It must be born in mind, however, that some types do not evolve or devolve from previous ones but represent totally new conceptions, sometimes appearing in contemporaneous use with other completely different types though showing different distribution.<sup>1</sup>

The reason why the use of the "pottery type" is so advantageous as a means for chronological sequence is the fact that it is defined with reference to a number of criteria, and offers a series of steps in a scale than would the group of traits by which it is defined considered separately because of the many possibilities of combination.<sup>2</sup> Although the pottery type is defined by a number of criteria, some of which vary continuously, others discontinuously, yet all of them are related in some way to pottery composition, technique, style, decoration and function or to a combination of them, and therefore the taxonomist is actually dealing with cultural features whether he recognizes them as such or not; it is therefore of prime importance that this circumstance be acknowledged in order to avoid difficulties and in order to accomplish better

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<sup>1</sup>Laet, Archaeology and Its Problems, p. 59.

<sup>2</sup>Shepard, op. cit., p. 346.

and more fruitful results. Along this line, specialized, evolved and developed types are far more important than simple ones for comparative purposes and the identification of cultures.

1. Form: The most important criterion for type identification is morphological. The fact that plastic clay affords the potter the freedom to mould it into whatever shape his fancy may suggest, has given pottery an exceptional prominence in archaeology.<sup>1</sup> True, form is limited by function, but the potter is nevertheless left with a wide scope for the expression of his aesthetic concept. Furthermore, function and aesthetics do not overlap for a potter's taste expresses itself in such features as subtlety of contour and modifications in rim, neck, base and so forth rather than in basic shape, size and proportion, the sudden appearance of which reflects, in part, new ways of doing things, such as the adoption of new methods in food and drink, or the introduction of different ritual practices. Thus the form of a vessel serves both an aesthetic and a functional purpose and is therefore conditioned by both utility and pleasure. However, the wide variety of shapes, the changes they undergo with the passage of time under the influence of many factors, plus the fact that shape is readily recognized, although perhaps not so adequately described, makes it peculiarly suited for typological purposes and a vital criterion

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<sup>1</sup>Gordon Childe, *Piecing Together the Past*, p. 37.

in the delimiting and identification of types and periods of occupations. The more varied and specialized the shape the more useful it becomes to the taxonomist.<sup>1</sup>

Although not adequate enough, archaeologists have followed a simple system in classifying shapes and have divided vessels into the common categories of jars, craters, jugs, juglets, bowls, plates, dishes, dippers, pilgrim bottles, cooking pots, and so on. The body shape of a vessel has been described as globular, squat (depressed), elongated, caliciform, cylindrical, piriform (pearshaped), carinated, or conical; the rim as flared, plain, inverted, everted, rolled, or pinched; the handle as ear-like, elliptical, basket-like, lug, wish-bone, ledge-handle, loop, double-strand, triple-strand, and horizontally or vertically placed; the base as flat, disc, round, ogee, ring, umbilical, high stump, pointed, or button-like; the neck as narrow, short, long, or wide.

2. Surface Finish and Decoration: The next most important criterion for type identification is surface finish and decoration. Vessels may be classified as unburnished and unslipped, burnished and slipped, slipped and wet-smoothed, or glazed. In addition, they may be left either plain or decorated. Decoration entails several techniques which may be applied singly or in combination, such as stamping, incising, carving, combing, and painting in which

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<sup>1</sup>Shepard, p. 224-255; 342-343.

a particular way in the handling of the brush or a repeated design may be used as a criterion for classification purposes. Specialized techniques are more useful in type identification than general techniques, and the combination of colours in a polychrome ware together with the element of colour selection play an important role as well. Furthermore, identification of the major constituents of a paint (through the use of micro-chemical or oxidizing tests) and the identification of organic and iron paints render painting still more useful in typological studies. Small modeled or moulded figures may be applique in high relief to the the body of the vessel. The whole vessel or part of it may be either modeled or moulded.

However, surface finish and decoration can only be made use of for classification and type identification purposes, if they have been carefully recorded in detail by the excavator; in other words, if adequate verbal description of them is accompanied by good illustrations in both photographs and drawings. It is only then that the characteristics can be summarized, the range of variation emphasized, the typical distinctive and aberrant features distinguished and the relationships and their significance considered.

3. Physical Properties: The physical properties of pottery that are easy to define, measure or test are particularly suited for type identification and classification. These may be

summarized under the following main headings:

(a) Colour: Colour is very frequently used in defining types. Yet the subtle and varied colours that a single clay acquires on firing casts some doubt on the reliability of colour as a criterion for classification, legitimate. But a physical property should be considered in relation to the materials and processes that determine it. Hence, if pottery colour can tell us something about the chemical composition of clay and about the methods of firing (atmosphere, temperature, and duration), it becomes a more meaningful criterion for classification. But because colour is conditioned primarily by two independent variables - namely, clay composition and firing methods - it does not afford an accurate key for a knowledge of either, although sound inferences may be drawn regarding one variable alone if the other is controlled. However, by performing a simple refiring test on samples of sherds, a taxonomist can know whether or not such samples had been fired in a "reducing" or "oxidizing" atmosphere, i.e., whether they were fully oxidized, partially so or still unoxidized, and whether they were smudged or reduced. Once firing conditions have been standardized, colour becomes very meaningful and useful in delimiting types. Moreover, by establishing and using a colour standard, subtle differences in colour, if specifically and accurately described, become very useful in identifying pottery types.

(b) Texture: Texture includes the texture of paste and of surface. The former is influenced primarily by the tempering material - amount of, grain size, grading and shape - and by the porosity and grain size of the clay. Variability of grain size depends on the nature of the tempering material and on the method of preparing it. The appearance of texture, however, is greatly affected by colour contrasts of nonplastics with clay, and so black particles of basalt temper, for example, will stand out conspicuously in a white clay, while opaque white feldspar - hardly discernible in a white paste - is clearly visible in a reddish one. Although paste texture can be judged by visual inspection, yet this gives merely relative estimates, and microscopic measurements together with the adoption of standard terms are essential in obtaining absolute measures and avoiding confusion and subjective judgments.

Surface texture, on the other hand, is determined by the composition of paste and by the finish (such as wiping with a piece of cloth, scraping with a sharp edged flint knife, rubbing with a water pebble, or patting. These often leave distinctive marks and hence the terms "rough" and "smooth". However, the difference between a surface that is made smooth by rubbing with a hard smooth tool and one that is smooth by virtue of the texture of the paste is basic and should always be recognized. Thus the term

"smooth and compact" would apply to a surface finished by rubbing with a hard tool; and the term "fine textured" would be applied to surfaces which owe their smoothness to fine paste.<sup>1</sup>

4. Temper: Temper is a very useful technical feature in identifying pottery and in indicating relationships between types primarily because of the distinctiveness of its character. The great variety of things used as temper together with the availability of means for identifying them with exactitude and precision, afford a wealth of detail that helps in dividing one kind of pottery from another and render temper particularly suited as a criterion for type identification. Sometimes, when a rare type of rock is used temper becomes so distinctive that the pottery types it characterizes can be recognized even when the surface is destroyed or when sherds are hundreds of miles away from their source of origin. But sometimes, however, temper may consist of common material of wide distribution; in this case special varieties<sup>2</sup> among the common materials of temper must be sought, and these are far greater than is usually realized. The hand lens, the bicocular microscope, and the petrographic microscope have to be used in detecting and identifying tempering material. The pottery examined is either in powdered form or in thin sections.

Once a satisfactory tempering material has been selected

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<sup>1</sup>Shepard, op. cit., p. 117-121.

<sup>2</sup>Regarding the criteria for identification of varieties within common classes of temper, cf. Shepard, op. cit., Appendix C., p. 378-384.

there is little reason for change, and potters tend to follow the same ceramic tradition handed down to them by their respective society. Therefore, while studying the stratigraphic sequence of pottery types on a particular site or group of sites, change in tempering material must be explained in terms of a change of population, or in the influence of another folk with a different ceramic tradition, or in the development of the native tradition itself. Thus without consistency in practice, temper would have little value either in distinguishing types or in identifying intrusives. And so whenever a difference in temper is correlated with a difference in body clay, slip, finishing technique, shape, decoration or any other feature, the evidence for a different source or tradition is strengthened. The uniformity of temper should be sought within groups that are stylistically uniform, although exceptions may occur in a region with different natural resources. Furthermore, the fact that sherds alone are just as satisfactory for analysis as entire vessels adds to the value of temper as a criterion for type identification. However, a distinction must always be made between temper and natural inclusions in clay.

In the Iron Age, although limestone is the usual temper, yet in pots which after firing are often subjected to frequent heating such as cooking pots, quartzite or flint is generally used as temper.



5. Clay Composition: Clay is generally less useful as a criterion for pottery identification than temper, which is more distinctive and more quickly and easily identified. This is due to the extreme fineness of grain and the impure state of clay. Even if a lengthy laboratory analysis could be arrived at, the mineral and chemical composition of clay thus defined would be far more common and widely distributed than many types of temper. Moreover, in firing, clay alters and becomes a different class of material. The fired clay has been dehydrated, its plasticity destroyed and all direct evidence of its working properties lost. Furthermore, fire destroys the crystalline structure of the clay minerals (unless the temperature is very low); and when crystalline structure is lost, identification of the clay minerals becomes difficult. This is to say nothing of the many tests which though applicable to clay cannot be tried on the fired body.

6. Shaping Technique: The method of building a vessel is a major criterion in the identification of pottery types, namely, the manner of fashioning the pot whether by hand or on the wheel, and again whether the wheel was of the variety propelled by hand or of the fast moving type propelled by foot.

7. Firing Techniques: Firing methods add more light on the techniques of manufacture and are a source of guidance in

classification. The vessel could have been fired in an oxidizing or a reducing atmosphere, and thus could have been partially oxidized, unoxidized, or smudged. Furthermore, it could have been badly fired, over-fired, under-fired, or uniformly, evenly and well fired. The pot could be fired under high or low temperature. The time of firing also varied, in some cases extending over a fairly long period and in others cut short. In the early stages, firing was done in the open air, but in the later periods the pots were fired in kilns where the atmosphere was often controlled. These and other problems on the complex techniques of firing are of prime importance to the taxonomist.

#### THE WARE CONCEPT

Like the pottery type, ware is a concept that has often been used for classification purposes. It has been defined as a group of types which consistently show certain conspicuous features in such things as identical methods of manufacture, surface finish or paste attributes.<sup>1</sup> An adjective naming the diagnostic feature usually precedes the term "ware" in order to prevent misunderstanding of the significance of the class, for example: "glazed ware," "black-on-white ware," "bichrome ware," and so on.

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<sup>1</sup>Shepard, op. cit., p. 318-319.

## II: THE IMPORTANCE OF POTTERY IN ARCHAEOLOGY

X It is only after pottery finds had been systematically and scientifically classified into types and sub-types, and only after the concept of "type" had been acknowledged to have had in it inherent cultural traits and to be in some measure a cultural unit embodying the results of human actions and thoughts, that pottery claims to hold a prominent position in archaeology and to play such an important and invaluable role. Pottery gives archaeology a historical perspective, and helps in the identification and distinction of culture.

The first man to have discovered the great value that pottery discretely possesses was Sir Flinders Petrie. After a long experience in Egypt where he set forth an ingenious method of sequence dating for the pottery discovered in the various tombs that he excavated there, he came in 1890 to Palestine and sunk a number of shafts of various depths at Tell el-Hesi<sup>1</sup> and established a relative chronology for Palestinian pottery. In other words, Sir Flinders Petrie, in the absence of recorded dates or materials giving absolute chronology studied the changes in the form and workmanship of pottery for the record they bear on the passage of time.

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<sup>1</sup>Petrie, A Mound of Many Cities.  
Petrie, Diospolis Parva.

#### A. POTTERY AND RELATIVE CHRONOLOGY

The foundation of all archaeological chronology is stratigraphy.<sup>1</sup> The locus of a vessel in an occupation level is the criterion used for relative dating. Absolute dating is determined by the proximity to this "locus" of other datable objects such as an inscription, a cylinder seal or a scarab on the Tell. However, type fossils of a certain stratified Tell or cemetery, if found in homotaxial deposits in other stratified Tells may or may not be contemporary.<sup>2</sup> What establishes the contemporaneity of occupations is the identification of intrusives.<sup>3</sup> Finally, in establishing chronology, the student of archaeology must be able to distinguish between "archaeological periods" termed "culture sequence"<sup>4</sup> and between "phases" or "sub-periods" of culture referred to as "culture periods" and also between the cultures resulting from divergencies of social tradition in one and the same archaeological period. An "archaeological period" is that period of time during which a particular set of types were current in a certain province distinguishing the relevant layers from those that preceded or followed. "Culture periods," on the other hand, constitute essentially differences that consist mainly in modifications of types in form, style, or technique without any radical

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<sup>1</sup>Gordon Childe, Piecing Together the Past, p. 58.

<sup>2</sup>Ibid., p. 73-75.

<sup>3</sup>Shepard, op. cit., p. 353.

<sup>4</sup>Gordon Childe, A Short Introduction to Archaeology, p. 20, 21.

<sup>5</sup>~~Gordon Childe, Piecing Together the Past, p. 84.~~

or comprehensive break in the general continuity of tradition.<sup>1</sup> However, historical events affecting one single community do not initiate new archaeological periods, but those affecting whole regions do,<sup>2</sup> such as the invasions of the Peoples of the Sea at the beginning of the Early Iron Age.

In the absence of stratigraphical evidence, different assemblages of types, recurring associated together in a single region such as graves or hoards can with due caution be arranged in chronological sequences, through a method of tripartition.<sup>3</sup> However, for the purpose of fixing the dates with precision reliance should rest on stratigraphy or any other independent criterion.<sup>4</sup> Horizontal stratigraphy is also a serviceable alternative in a cemetery where superposition is excluded - the earliest graves being the closest to the patriarch's tomb.<sup>5</sup>

The basic factors that render pottery particularly useful in relative chronology may be summarized as follows:

1. High Antiquity: Ever since the Neolithic Revolution man has not ceased to produce pottery to suit his needs - corporeal, religious and aesthetical. It is therefore indispensable for dating periods of high antiquity when inscriptions or other objects for dating purposes are lacking.

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<sup>1</sup>Gordon Childe, Piecing Together the Past, p. 84.

<sup>2</sup>Ibid., p. 57.

<sup>3</sup>Petrie used this method on 1000 graves and worked out his "sequence dates" S.D. 30-80 yielding three periods: Early, Middle and Late. Petrie, Diospolis Parva.

<sup>4</sup>Gordon Childe, Piecing Together the Past, p. 65-68.

<sup>5</sup>Ibid., p. 69.

2. Widespread Use: The great amount of pottery found at every site of pottery using peoples - no matter how poor the rest of the finds are makes it very suitable to the taxonomist. This widespread use of pottery is due to the fact that it was available for everyone as it was made of cheap and abundant material.

3. Indestructibility: Although delicate and fragile, pottery is very hard, and compared with any other category of material equipment, it is the most durable of all. Furthermore, it is easily preserved in the soil and if well fired it becomes practically indestructible, and even if broken, can be easily mended.

4. Variety and Change: The great variety of shapes into which pottery can be fashioned, the various materials, techniques and decorative designs used in making it, make it peculiarly suited for chronological purposes, especially that these variants change not only with different cultures but also with every age and can thus be used to identify and classify types which in turn may be used to define archaeological periods. Pottery is so sensitive to modification from generation to generation that it acts almost like a cultural barometer in reflecting change.

#### B. POTTERY AND THE IDENTIFICATION OF CULTURE ON A CHRONOLOGICAL BASIS

As pottery is one of the material culture traits, similar assemblages of pottery types when found repeatedly associated together

indicate that they had been made by the same people at the same time, while different assemblages of associated types occurring at the same time, indicate that they had been made by different peoples.<sup>1</sup> In other words, pottery sheds light on the people who made it - who they were and what standards of culture does their pottery reflect.<sup>2</sup> Furthermore, often the change in the composition of the assemblages of diagnostic types reflects a peaceful development within the same culture. In this case, the distribution on the map of the two assemblages of any two layers should be concordant<sup>3</sup> and a substantial number of the new types distinguishing later assemblages should be logically derivable from the old types, and ideally, all stages in the typological series linking them should be discovered; no new culture name need be given to these later assemblages, and a mere division into "early," "middle," and "late" is sufficient. If, on the other hand, not enough typological continuity can be established between consecutive layers, or in other words, if in a certain area, a new type of pottery makes its appearance, then it is most likely that such new traditions and new methods of pottery making were introduced by a new folk who had arrived in that region either as traders, emigrants, colonizers, or conquerors. Usually, both the place of origin and the route followed by these new comers can be easily traced through

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<sup>1</sup>Gordon Childe, Piecing Together the Past, p. 111-112.

<sup>2</sup>Kenyon, Beginning in Archaeology, p. 12-13.

<sup>3</sup>The two assemblages should agree well with each other showing the same distribution.

their new pottery remains. Under such circumstances, the new folk either graft a new civilization over the old, or become themselves absorbed by the former population and ultimately lose their identity. However, a third alternative is also possible, namely, when the old and the new populations fuse together to form one nation and to give birth to a new "mixed" or "composite" culture,<sup>1</sup> which is usually richer and more progressive than either of its components, manifesting itself in various fields, most striking amongst which is the appearance of new pottery types. A typical example of the third alternative is Phoenician culture and Phoenician pottery during the Iron Age.

Furthermore, a prosperous group may send out offshoots to acquire new land and spread the culture of the parent-group far and wide. In this respect, pottery becomes very useful in spotting cultural affinities and spheres of influence. But as culture is an adaptation to a specific environment<sup>2</sup> it is not expected that the assemblages of types remain constant in a different non-human environment. As a matter of fact, adaptation requires an assemblage of types so different from those of the homeland that they seem to constitute a distinct culture. If the old ceramic repertoire of forms and patterns developing into divergent local

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<sup>1</sup>Gordon Childe, Piecing Together the Past, p. 149.

<sup>2</sup>Ibid., p. 137.



styles are associated with parallel innovations in two or three other equally differentiated diagnostic culture-traits expressed in such things as architecture, armaments, burial rites and so forth, then a distinct culture should be recognized deserving a name of its own however obvious may its descent be from its place of origin.<sup>1</sup>

Moreover, since it is of prime importance to distinguish between change that results from native origination and discovery and that resulting from foreign influence, it is essential for the analyst to make himself familiar with the ceramic traditions of those cultures that are likely to influence that under consideration.

In concluding, it is worth noting that although the interactions of ceramic traditions may be a humble phase of cultural interplay, they are still a part of the picture. Moreover, they are not likely to take place without concomitant effects in other aspects of culture, and since the ceramic evidence of contact often catches attention, it can serve to alert the student to other signs of foreign influence. The more advanced pottery is, the more evolved its shapes and techniques become and the more elaborate its decorative styles and designs, the more informative it is about its makers.

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<sup>1</sup>Ibid., p. 111-122; 135-150.

### C. POTTERY AND TRADE RELATIONS

Because of the variety in style, technique and material used in making pottery, pottery offers a rich field for comparative studies, and is therefore considered as the primary means of studying interactions among cultures and contacts between peoples. Most important of these contacts is trade. Trade relations can only be established by identifying intrusives,<sup>1</sup> in other words, by spotting out isolated objects of culture "A", for example, appearing sporadically amidst associated predominantly culture "B" assemblage.<sup>2</sup> A study of the distribution of such objects establishes the trade routes in current use at that time. A concentration on clay composition and tempering material is very helpful in tracing trade relations and identifying sources of trade ware. It must be remembered along this line that because it was cheap, pottery was not necessarily an important trade commodity, and that the near indestructibility of potsherds gives a false impression of the importance of ceramics in the over-all picture of crafts and commerce.<sup>3</sup>

### D. POTTERY AN ASPECT OF ECONOMICS

Pottery may be used as an economic barometer for ancient times. A large amount of poorly thrown pots on a site reflect lack

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<sup>1</sup>Shepard, op. cit., p. 336-341.

<sup>2</sup>Gordon Childe, Piecing Together the Past, p. 34.

<sup>3</sup>Shepard, op. cit., p. 353.

of economic prosperity. On the other hand, a rich assemblage of pots found in a tomb have a lot to say about the economic as well as the social standing of its owner.

#### E. POTTERY AND TECHNOLOGICAL DEVELOPMENT

Pottery embodies and sheds a great light on the potter's understanding of the peculiar properties of the substances which he was manipulating and their potentialities. It reflects his cumulative experience, the intelligence with which he used his materials, and his unpredictable discoveries of such things as better paints or new burnishing techniques, or new techniques in the preparation of clay, shaping of vessel, and firing.<sup>1</sup> Therefore, in describing the technical features of pottery or in tracing the history of technological development through pottery, the analyst in resorting to scientific analysis, interpretation, correlation and measurement, and in concentrating on a scientific study and analysis of its physical properties - namely - colour, hardness, texture, lustre, porosity, strength and so on, must be able to distinguish what could have been caused by superior techniques from what owed its superiority to a better quality of clay composition. Thus, if pottery, for example, is exceptionally strong, the question posed must be

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<sup>1</sup>Shepard, op. cit., p. 343.

whether such strength is due to firing methods or to the fusion point of the clay; or, when walls are exceptionally thin, whether this is due to the potter's skill or to the plasticity and dry strength of the clay.<sup>1</sup> Finally, in his description of pottery techniques, the expert must also be able to differentiate between superior knowledge of techniques and quality of craftsmanship, that is to say from the potter's level of excellence or the degree of perfection he had attained within the orbit of the already achieved technological standards of his society.<sup>2</sup>

Technological analysis is not exhaustively made use of, nor sufficiently resorted to in pottery analysis and description. This circumstance is probably due to the relative late date of this subject, to the difficulties originating from the fact that the physical properties of pottery are determined by two variants, namely, techniques and clay composition, and to the painstaking procedures necessary for such analysis. Yet, difficult and time consuming as it is, the field of technological analysis is very important in ceramic studies and should certainly be given more attention. The value of technological analysis lies in its being objective and scientific, throwing light and giving precision to the criteria used for classification purposes. It also brings

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<sup>1</sup>Ibid., p. 360-363.

<sup>2</sup>Ibid., p. 343.

to the foreground the potter himself and his culture by unfolding the degree of technical advancement he attained. In brief, the study of technology is of prime importance to the archaeologist because technology is at the basis of culture.

#### F. POTTERY THROWS LIGHT ON EVERYDAY LIFE OF ANCIENT MAN

We glean a great deal of information about the main activities and customs of ancient man by means of the objects he used - the possible purpose they were used for, and the probable kinds of foods or drinks for which they were used. By copying shapes in metal or wood, pottery often discloses the work of the wood-carver and the metallurgist.

#### G. POTTERY DISCLOSES ANCIENT BURIAL CUSTOMS AND RELIGIOUS BELIEFS

Often ancient man preferred to bury his dead in large pottery jars such as is met with in the Chalcolithic burials of Byblos, or in urns as was frequently practised by the Phoenicians during the Iron Age. Pots were usually buried close to the ceased and consist of all kinds which undoubtedly contained food or drink; in addition, jewels or articles of ornaments were also buried with the dead. Terra cotta figurines of gods and goddesses, men, animals and birds or any other object found in the grave beside the corpse

give us information not only about the daily habits of ancient man but also about his burial customs and his religious beliefs as well as his ideas of the hereafter.

#### H. POTTERY IMPORTANT AS AN INDEX OF ARTISTIC TASTE

As an expression of art, pottery is important in archaeology because it can be used as a yardstick to measure the artistic taste and standards of the people making it. Its aesthetic value lies mainly in form and decoration, colour, proportion and finish. As already indicated, form and decoration serve as the most important criteria in typological classification; but nevertheless they are equally important from the standpoint of art. To the appreciator of beauty, a product of good form can never be born from a mind in which thoughts of a low order are present. The art historian therefore views form as "the" quality of beauty in ceramic art: "It is chiefly in the form of the product that the dignity of work, harmony, elegance, beauty and strength are expressed."<sup>1</sup> Regarding decoration, decorative design remains a popular art in as far as pottery is a household craft, but when elaborately modelled and painted, "ritual vessels can be transformed into the image of a god" demanding the creative genius of an artist, who although influenced by the dictates of his own culture does often

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<sup>1</sup>Fukui, op. cit., p. 3.

emancipate himself from the fetters of tradition and popular demands into the realm of creativity and originality. Thus the art historian, although interested in the typical and the ordinary is nevertheless captivated by products of rare significance. Hence it is for the critic to distinguish the trials of the beginner from the work of the expert, and the effort of the copyist from the expression of the creator.

Being influenced by beliefs and concepts of ornamentation pottery decoration may become an expression of the psychology of the people who made it. But although beliefs may dictate the choice of symbols, yet there is no direct way of knowing whether the design meant anything of great significance to the potters or whether it was merely a traditional form of ornamentation.<sup>1</sup> Repetition of a traditional pattern when the meaning and original inspiration of it have been lost, results in progressive degeneration and distortion.<sup>2</sup>

Thus pottery combines in itself both the material utilitarian and the spiritual religio-artistic trends in culture. It is at once "structure" and "superstructure"<sup>3</sup> and through its simple

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<sup>1</sup>Shepard, op. cit., p. 358-360; 344-345; 304-305.

<sup>2</sup>Gordon Childe, Piecing Together the Past, p. 15.

<sup>3</sup>Ibid., p. 43-44.

pots and ritual vessels serves man and God alike. The potter, on the other hand, in his struggle to realize perfect fusion between the vision of his inner soul and the excellence of execution needs complete co-ordination and labouring toil - a process which develops in him qualities of self-discipline, endurance, healthy self-criticism and the ability of focusing his total attention on one great aim.

Therefore this modest pot which carries on itself the marks of the passage of time has a long story to tell about its maker, who created it from the clay which he found around his house, as if to embody his soul. What a relic left by man to speak for him in his absence when he himself had been turned into formless clay!



CHAPTER III  
IDENTIFICATION AND DESCRIPTION  
OF PHOENICIAN WARES

Thanks to the vigilance and industry of the Directorate of Antiquities in Lebanon, three different sites of the Iron Age have been located and cleared: the grotto at Khirbet Silim, the tombs at Zeb'in, and the necropolis at Khaldeh. But, as the personnel of the Directorate of Antiquities are still studying the material discovered it is not possible to draw any conclusions as yet. But to all intents and purposes so far no Phoenician pottery from well stratified sites of the Iron Age in Phoenicia is available for study and classification, and until such sites are excavated under proper control any attempt at a chronological classification must be considered tentative and can only provide the framework for a more thorough study in the future.

The student of the Iron Age civilization in Phoenicia is still handicapped by an appalling scarcity of scientific publications. Apart from Woolley's article on "La Phénicie et les peuples égyptiens";<sup>1</sup> Montet's reference to a few sherds found

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<sup>1</sup>Syria, Vol. II, (1921), p. 172-194.

in the pit of Ahiram's tomb<sup>1</sup> and Macridy-Bey's excavation of some tombs and cremation burials at Tell al-Rashidiyyeh,<sup>2</sup> nothing has yet been published on the Phoenician pottery of the period.

Thus the identification of Phoenician pottery and its distinction from the contemporary ware of the neighbouring countries has to be based on probability, on the analysis of decorative styles, technological examination and evidence based on statistics. Further light has been thrown on the subject by attempting to find affinities and see similarities and relationships in the pottery types of Phoenician sites outside Phoenicia where the Phoenicians had established trading stations, bearing in mind, however, the fact that when a culture is adapted to a specific environment it becomes slightly modified when transferred to a different environment. The Phoenician or the "Palestinian" dipper<sup>3</sup> for example after its appearance in Cyprus in Cypro-Geometric II, underwent certain modifications and was later imported into Phoenicia and Palestine in a modified form. It should also be remembered that if a branch of any culture is transplanted in a new environment away from its source, it develops certain specific characteristics which are propagated at the cost of some qualities and may soon dominate the scene<sup>4</sup>. The red slip jug (J.20 and J.21) with its pinched

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<sup>1</sup>Montet, Byblos et l'Égypte (Paris, 1928), p. 218 ff., Pl. CXLIII.

<sup>2</sup>Macridy-Bey, A Travers les necropoles sidoniennes (Paris, 1904), Pl. VI, p. 19-24; also in Revue Biblique (1904), p. 565.

<sup>3</sup>Gjerstad, The Swedish Cyprus Expedition (Stockholm, 1948), Vol. IV, Part 2, p. 289.

<sup>4</sup>Sjogvist, Problems of the Late Cypriote Bronze Age (Stockholm, 1940), p. 92-93.

rim and wide tapering neck was the outstanding and typical Phoenician jug, found in all Phoenician settlements abroad, and also as an imported fabric on non-Phoenician sites, together with the disc topped oenochoe (J.24); they are both known in Cyprus and Carthage where they undergo different evolutions.<sup>1</sup> The presence in the A.U.B. Museum of a collection of Iron Age pots considered to be Phoenician<sup>2</sup> together with the collection at the National Museum in Beirut and the pottery discovered at Qrayeh, Khirbet Silim, Zeb'in, and Khaldeh shed a flood of light on the character of Phoenician wares and repertoire of forms. The great number of vessels of "Cypriote" character excavated at the Phoenician necropolis at Khaldeh necessitates a revision of what so far has been termed "Cypriote ware" but should most probably be termed "Phoenician" as well. The fact that during the Early and Middle Iron Age, the Phoenicians were the leading artists, sculptors, architects, masons, craftsmen and artisans of their time adds more weight to the hypothesis that the "fine" ware called "Cypriote" was for the most part Phoenician.

The best way to locate the origin of any ware is of course to discover kilns and pottery producing centers. This has not yet been done in Phoenicia. Fortunately, eight kilns have been found

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<sup>1</sup>Culican, "Aspects of Phoenician Settlement in the West Mediterranean," Abr-Nahrain, Vol. I: 1959-1960 (1961), p. 39.

<sup>2</sup>Woolley, "La Phenicie et les peuples egeens," loc. cit.

in Tarsus in Cilicia from which an enormous amount of broken pottery of "Cypriote" character has been retrieved. Most interesting of the lot were the unfired leather-hard sherds which had been painted in the "Black-on-Red" and "White Painted" styles.<sup>1</sup> This discovery is enough to show that pottery of "Cypriote" character was actually manufactured outside Cyprus along the coasts opposite the Island. Although such phenomena have been interpreted as evidence for the existence of "Cypriote" trading colonies along the coast, this interpretation is open to doubt and confirmation or otherwise will have to await the excavation of some sites in Phoenicia proper.

After the Phoenician settlement in some parts of Cyprus at the end of the Cypro-Geometric II Period and the beginning of Cypro-Geometric III, but particularly during the Archaic Period, Phoenicia and Cyprus came to form in many respects one single cultural area. This is so clear in the different facets of the arts and crafts of the two countries that sometimes it is hard to distinguish between Cypriote and Phoenician products. This cultural unity can be more clearly understood in the light of the historical events which took place towards the end of the Late Bronze Age - namely - the great ethnic movements which swept over the Near East, bringing to an end the Mycenaean and Late Bronze civilizations in Phoenicia and Cyprus and ushering in the Iron

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<sup>1</sup>Broughton, "Excavations at Gozlu Kule, Tarsus, 1937," A.J.A., Vol. XLII (1938), p. 40-41.

Age civilization. "In the eighth year of the reign of Rameses III, 'Northerners in their islands were disturbed' and as a result, the Hittite Empire, together with all North Syria, as far as Arvad and Amor was plunged in chaos, while Egypt was exposed to the attack of a confederacy of sea-peoples, the main support of whom were the Peleset, Zakkara (or Thekel), Shekelesh, Denyen (Denyew), Weshesh and Sherden."<sup>1</sup> In other words, before the fall of the central Mycenaean power its overseas Anatolian possessions, mentioned in the Archives of Boghaz Keui, succumbed during the migrations. The scattered Achaeans who in small bodies had been resident on Anatolian soil for a century or more headed the Anatolian tribes and fled before the invaders, towards the south and the east and invaded Cyprus and Phoenicia.<sup>2</sup> Gjerstad even holds that they invaded Cyprus via the Phoenician coast, and must therefore have incorporated with them Canaanite tribes as well and that they

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<sup>1</sup>Phythian-Adams, "Philistine Origins in the Light of Palestinian Archaeology," Bull. Brit. Sch. Arch., No. 3 (1923), p. 22. These names were not the first of their kind, for as from the beginning of the thirteenth century B.C. the Achaeans and their kindred folks were already harrying or settling in the southern sea-board of Asia Minor and the islands which lie along it. As early as 1280 B.C., the Luka, Sherden, Derden, Mesa, Mawuna (Yaruna ?), Pedes, and Kelekesh were among the non-Hittite allies who fought for the Hittites at the Battle of Qadesh against Rameses II (Breasted, Ancient Records, III, 306, 309, 312). In the reign of Merneptah (1232-1225 B.C.) a confederacy of these sea-lovers joined hands with the Libyans in a pincer movement upon the Delta; their names are given as the Ekmes, Teresh, Shekelesh, and again, the Luka and Sherden (Ibid., III, p. 574).

<sup>2</sup>Baramki, Phoenicia and the Phoenicians (Beirut, 19 ); also Sjoqvist, op. cit., p. 208-209. Woolley, "Asia Minor, Syria and the Aegean," A.A.A. (Liverpool, 1922), Vol. IX, p. 50.

settled in Salamis and along the eastern coast of Cyprus.<sup>1</sup> They were responsible for introducing into Cyprus what Sjoqvist calls the "Sub-Mycenaean" ware,<sup>2</sup> termed by Gjerstad "Debased Levanto-Helladic"<sup>3</sup> and "Decorated Late Cypriote"<sup>4</sup> by Furumark who points out that its heterogeneous style is well contrasted with the homogeneous and stylistically well defined class of the "Proto-White Painted" ware.<sup>5</sup>

According to Sir Leonard Woolley, the invaders of Phoenicia at the beginning of the Iron Age were an Aegean folk from Asia Minor who brought with them a certain type of pottery decoration in which the compass drawn concentric circle ornament prevailed, and in which apart from the use of plain horizontal bands, the geometric rectilinear ornament was practically excluded.<sup>6</sup> The last part of

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<sup>1</sup>Gjerstad, "The Initial Date of the Cypriote Iron Age," Opusc. Arch., Vol. III (Lund, 1944), p. 107 ff.; Gjerstad, S.C.E. IV:2, p.429.

<sup>2</sup>Sjoqvist, op. cit., p. 73.

<sup>3</sup>Gjerstad, "The Initial Date of the Cypriote Iron Age," loc. cit. p. 123; also Gjerstad, Prehistoric Cyprus, p. 220 ff.

<sup>4</sup>Furumark, "The Mycenaean IIIC Pottery and Its Relation to Cypriote Fabrics," Opusc. Arch., III (1944), p. 231.

<sup>5</sup>The "Proto-White Painted" ware was introduced into Cyprus about 1100 B.C. by a second wave of invaders who coming from the eastern and northern parts of the Peloponnesos settled along the west coast of Cyprus. Gjerstad, "The Initial Date of the Cypriote Iron Age," loc. cit., p. 123 ff.

<sup>6</sup>Woolley, "Asia Minor, Syria and the Aegean," A.A.A. (Liverpool, 1922), p. 52.

Woolley holds that the coming of these invaders marked a complete break with the Late Bronze civilization. Pottery changed

Sir Leonard Woolley's statement could be modified. Rectilinear geometric ornaments do appear on Phoenician vessels although they may be different from either the Cypriote or the Philistine designs. In the Early Iron Age level (precise dating of level ?) of the ancient city of Dora (modern Tanturah) a vessel furnished with a strainer spout was discovered on which was painted in bichrome cross-hatched lozenges of black, spaced between parallel bands of red and black.<sup>1</sup> This fragment while "forming part of a vase which farther south would be recognized at once as typically Philistine, exhibits a style of decoration which has never so far been found within the limits of Philistia. It is important in

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altogether, cremation burials were introduced and conoid seals replaced the cylinder seals. He further maintains that as a result of these ethnic movements the Canaanites along the Phoenician coast "were leavened by a minority of conquering invaders, an iron-using 'Aegean' folk from Asia Minor, who themselves inheriting the sea-faring traditions and the trade connections of the now extinct Aegean (island) empire, gave a new impetus and a new direction to Phoenician business" industry, art, and culture. In other words, about 1200 B.C. Syria [Phoenicia] was "Aegeanized". Ibid., p. 54. Cf. Baramki, Phoenicia and the Phoenicians. On cremation burials, cf.: Macridy-Bey, "Caveaux de Tell-el-Rachedieh a Tyr," Rev. Bib. (1904), p. 565; in Syria and Palestine: (during Late Bronze Age): Schaeffer, Strat. Comp., p. 10; (during Iron Age): Beth-Pelet, Gerar and Athlit; in Cyprus: McFadden, "A Late Cypriote III Tomb from Kourion Kaloriziki No. 40," A.J.A. Vol. LVIII (1954), p. 131 ff. The cemetery of Khaldeh offers an ideal example of Phoenician burial customs where cremation was practiced side by side with inhumation burials.

<sup>1</sup>"Tanturah (Dora). Part II: Archaeological Results," Bull. Brit. Sch. Arch. Jerusalem, No. 4 (1924), pl. III:1

this connection to note that so far no fragments of characteristic Philistine pottery have been found at Dora. It is certainly very tempting to see in this fact a close connection with the historical advent of the Zakkara.<sup>(1)</sup> The pattern on the Dora Vase is as different from Philistine pottery as are these from the Cypriote wares of this period, yet few would deny the close family resemblance between all these three when contrasted with the Bronze Age culture which was annihilated by their arrival."<sup>2</sup> If the Aegeo-Canaanites (the Phoe-

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<sup>1</sup>These invaders were probably of the same northern origin as the Philistines who accompanied them, and might be expected therefore to make use of the same type of vessel. "The history of the city of Dora begins for us in the story of Wenamon, the luckless Egyptian traveller who sailed from the Delta to Byblos about 1100 B.C. and put in at Dora during the course of his voyage. The city at that time was in the hands of a people called the Zakkara, and from subsequent notices we gather that they were of an active sea-faring disposition, possessed a fleet of their own, and were strong enough to demand the surrender of a refugee from the Prince of Byblos himself... They came with the Philistines in the great invasion of 1190 B.C. when a combined force of foreign sea-rovers foiled in their attack on Egypt, settled along the Palestine coast from Carmel to Gaza. How long the Zakkara remained strictly independent we have no means of knowing... With Tyre predominant along the coast, it is scarcely likely that Dora retained an unchecked liberty of action." "Tanturah(Dora). Part I: Historical Notes," loc. cit. p. 39.

<sup>2</sup>Ibid., p. 42.



nicians) included the Tzakkarai "it would explain why the Cypriote relation seems to be stronger and more lasting in Phoenicia than in the rest of Syria, since the Tzakkarai can be identified with the Teukroi, and the Teukroi are just those iron-using people who, according to Greek tradition founded Salamis in Cyprus not far from where the Phoenicians later on founded their trading station of Kition."<sup>1</sup> Furthermore, the Phoenician coast by virtue of its geographical position was rendered more accessible and exposed to the Aegean and Aegeo-Anatolian invasions which apparently must have thrown themselves on the area from three directions: the north (the south-western coast of Asia Minor, the south (Philistia), and the west. This intensive influx of Aegeans and Aegeo-Anatolians led to the creation of new traditions which sprang out of the fusion of Aegean and local Canaanite cultures and which are manifested in the Phoenician civilization.

Both in shape and decoration Phoenician pottery shows ample evidence that a Mycenaean tradition tempered by native Canaanite practices came into being. The most degenerate of local Canaanite forms, namely, the bowl and the cup of the Late Bronze Age gave way, at the beginning of the Iron Age, to locally manufactured bowls and cups of a superior type worthy of a foremost rank among ceramic forms,

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<sup>1</sup>Woolley, "Asia Minor, Syria and the Aegean," A.A.A., Vol. IX (Liverpool, 1922), p. 55-56.

thus indicating not only a difference in technique and execution in the ceramic industry but also a difference in the way of living, and hence the arrival of a new folk.<sup>1</sup>

It should not therefore be assumed when pottery in the "Cypriote" style is discovered along the Phoenician coast, that either Phoenician potters were imitating Cypriote wares, or that all such wares were imported from Cyprus. The amount of the so-called "Cypriote" pottery which has been unearthed in recent years along the Phoenician coast and North Syria renders present day opinion doubtful about its "Cypriote" origin and more inclined to the belief that it had been locally manufactured.<sup>2</sup> The finds at al-Mina<sup>3</sup> and the Yunes cemetery at Carchemish,<sup>4</sup> Tell Fara (Beth Pelet), Lachish, Amman, Achzīb,<sup>5</sup> Atlīt, Tell Abu Hawam and other sites in Palestine, Nebesheh<sup>6</sup> and Tell el-Retabeh,<sup>7</sup> Shaghanbeh,<sup>8</sup> and Tell el-Yehudiyeh,<sup>9</sup> in Egypt,<sup>10</sup> are but a few sites out of many which have yielded this type of Cypro-Phoenician pottery. The

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<sup>1</sup>Phythian-Adams, "Report on the Stratification of Ascalon," P.E.F.Q. (1923), p. 60-84.

<sup>2</sup>Woolley, Carchemish, Vol. III (London, 1952), p. 237.

<sup>3</sup>Taylor, "The Cypriote and Syrian Pottery from al-Mina, Syria," Iraq, Vol. XXI (1959), p. 62 ff.

<sup>4</sup>Woolley, "The Iron Age Graves of Carchemish," A.A.A., Vol. XXVI, (1939-1940), p. 11-37.

<sup>5</sup>Immanuel Ben-Dor has recently excavated an 8th century B.C. Phoenician cemetery in Palestine the results of which have not yet been published (A.A.A., Vol. 59 (1955), p. 170).

<sup>6</sup>Petrie, Tanis II, Pl. III.

<sup>7</sup>Petrie, Hyksos and Israelite Cities (1906), Pl. XXXVI: 4, 8, 9, 15.

<sup>8</sup>Ibid., Pl. XXXIX L, 32.

<sup>10</sup>Gjerstad, S.C.E. IV:2, p. 242.

<sup>9</sup>Neville and Griffith, The Mound of the Jew, Pls. XII-XV.

specimens in Egypt have been identified by Gjerstad to be definitely of a non-Cypriote fabric. They included barrel jugs, aryballoi, pilgrim bottles, and other Cypriote parallels. This is further borne out by the presence in Cyprus, as from the beginning of Late Cypriote III<sup>1</sup> and even earlier, of typically Canaanite forms, such as the jar with depressed piriform or biconical body with vertical handles on the shoulder (as from Middle Cypriote III and Late Cypriote I)<sup>2</sup> bowls<sup>3</sup> and jars<sup>4</sup> supported by tripods of loops (as from Late Cypriote III), the lentoid jug<sup>5</sup> (common in Cyprus as from the Late Bronze Age)<sup>6</sup> developing during the Cypro-Geometric I into the barrel-shaped jug<sup>7</sup> and the globular jug with collar-shaped rim,<sup>8</sup> the lentoid "Pilgrim Bottle," a characteristic "Syrian" [sic]

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<sup>1</sup>"The pottery of the Late Cypriote III is characterized by an initial coalescence of Mycenaean, Cypriote and Syro-Palestinian elements a reflection of the ethnic amalgamations of the period following upon the invasions of the Teucrians and the Mycenaeans. In the pottery of Cypro-Geometric I the ceramic fusion continued and was completed ... partly Cypro-Oriental and partly Mycenaean Greek - into an artistic unity represented in the types of the white painted and bichrome wares. The bulk of the shapes are of Mycenaean origin but a considerable number are derived from Cypriote proto-types, and a few shapes show Syro-Palestinian connections." Gjerstad, S.C.E. IV:2, 434.

<sup>2</sup>Ibid., p. 285, 286, Fig. III:10.

<sup>3</sup>Ibid., Fig. II: 12, 13.

<sup>4</sup>Gjerstad, "Pottery Types: Cypro-Geometric to Cypro-Classical," Opusc. Athen. III (1960), Fig. 5.

<sup>5</sup>Gjerstad, S.C.E. IV:2, p. 283, and Fig. III:11.

<sup>6</sup>Gjerstad, Prehistoric Cyprus, p. 187, flasks nos. 1, 2; Sjoqvist, op. cit., p. 36, bottle type 3. Imported probably North Syrian specimen: Gjerstad, Prehistoric Cyprus, p. 203, Red Lustrous III ware, No. 3; Sjoqvist, op. cit., p. 53, Red Lustrous wheel-made ware, bottle type 2a.

<sup>7</sup>Gjerstad, S.C.E. IV:2, Fig. III: 12-15.

<sup>8</sup>Ibid., Fig. III: 16, 17.

type<sup>1</sup> appearing in Phoenicia, Syria and Palestine in the Late Bronze Age, and taken over by the Cypriotes before the end of the same era,<sup>2</sup> together with the torpedo jar<sup>3</sup> and the dipper<sup>4</sup> (as from Cypro-Geometric II ) to mention only a few. This, together with the appearance at the beginning of Cypro-Geometric III<sup>5</sup> of new pottery types which until the end of Cypro-Geometric II were imported and

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<sup>1</sup>Duncan, Corpus of Palestinian Pottery (London, 1930), No. 85. "The type was spread to the Aegean already in the Middle Minoan Period. The Cretan potters often changed the lentoid shape into a globular one and provided the bottle with a base ... Mycenaean bottles of this type are found in Cyprus. The type introduced into Cyprus at the beginning of the Iron Age is, however, of the baseless lentoid shape, so that a Syrian derivation is evident and Mycenaean influence excluded. Syrian imported bottles of this type are also often found in tombs of Cypro-Geometric I". Gjerstad, S.C.E. IV:2, p. 286, 272.

<sup>2</sup>Ibid., Vol. II, Pl. CLXIV:3.

<sup>3</sup>Gjerstad, "Pottery Types: Cypro-Geometric to Cypro-Classical," loc. cit., Fig. 6.

<sup>4</sup>Ibid., Fig. 9.

<sup>5</sup>The new pottery at the beginning of Cypro-Geometric III represents a new technique, new shapes, and new ornaments characterized by concentric circles. The laxity of Cypro-Geometric II is no longer found, the shapes of the vases being restrained, distinct and elegant, sometimes with a tendency towards a sharp angular outline in accordance with the disciplined temperament of the Cypro-Geometric III artists and their sense of strictness and accuracy. This new pottery was the outcome of ethnic movements caused by the ruthless campaigns of Shalmaneser III. The immigrants were most probably Phoenicians, who judging from the ceramic evidence did not settle in separate communities but were incorporated into the existing Cypriote settlements. It was not a colonization but an immigration on a large scale. (Gjerstad calls these immigrants "Syro-Anatolians".) Gjerstad, S.C.E. IV:2, p. 434-436, 443,

which henceforth came to be locally manufactured in Cyprus - namely - the Black-on-Red and its undecorated variety, the Red Slip wares, and together with the absence in Phoenicia of typically Cypriote forms<sup>1</sup> - all this point to an influence from the mainland on Cyprus and not the other way round. Thus, it is clear that the forms common to both Cyprus and Phoenicia are either Canaanite "Syro-Palestinian" or are derived from Mycenaean proto-types. Most important of the latter are the amphorae with two handles either from the rim to the shoulder<sup>2</sup> or horizontally placed on the body,<sup>3</sup> bowls with two loop-handles placed below the rim,<sup>4</sup> and cups with vertical loop-handles.<sup>5</sup> The jug with pinched rim is also derived from a Mycenaean proto-type.<sup>6</sup>

Gjerstad describes the pottery at Amathus in Cyprus as made out of a rather coarse and not well levigated ware as was usual in Cyprus, their shapes being "characterized by a certain rustic heaviness that is not typical of the other contemporary Cypriote pottery but is met with in the contemporary Syrian pottery imitating "Cypro-Geometric" proto-types. It is therefore tempting to interpret the characteristics of the Amathusian pottery as a ceramic indication that the Eteocyprian population with its "Syrian" connections was predominant in that city. This ceramic individuality is

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<sup>1</sup>Gjerstad, S.C.E. IV:2, p. 282 ff.

<sup>2</sup>Gjerstad, "Pottery Types: Cypro-Geometric to Cypro-Classical," loc. cit., Fig. 13.

<sup>3</sup>Ibid., Fig. 14.

<sup>4</sup>Ibid., Fig. 2; also Gjerstad, S.C.E. IV:2, Fig. XXIV: 9-13.

<sup>5</sup>Gjerstad, "Pottery Types: Cypro-Geometric to Cypro-Classical," loc.cit. Fig. 3.

<sup>6</sup>Ibid., Fig. 10. Gjerstad, S.C.E. IV:2, p. 282, Fig. IV:8-14.

not, however, of such a kind that it conflicts with the greater and general stylistic uniformity shown by the pottery.<sup>1</sup> Its Phoenician character is obvious. But Gjerstad usually avoids the use of the term "Phoenician" the character of which seemed vague to spot, and refers instead to what he calls "Syro-Palestinian" and "Syro-Anatolian" influences. The present writer believes, on the other hand, that Phoenician pottery exhibits both Anatolian and Palestinian elements and features and hence Gjerstad's terminology!

In the light of the foregoing facts it is legitimate to expect pottery types which were simultaneously produced in both Cyprus and Phoenicia. Owing to the provincial styles prevalent during the Iron Age, it is not surprising to see pottery types made in certain localities of Cyprus looking more like parallel Phoenician pottery types than like Cypriote fabric in some other regions of the island. One further point must be borne in mind in the identification of Phoenician ware, namely, the fact that although Cypriote culture during the Cypro-Geometric and Archaic epochs reached its full vigour and vitality<sup>2</sup> yet this was true of Phoenicia as well. The Golden

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<sup>1</sup>Gjerstad, S.C.E. IV:2, p. 434.

According to Gjerstad, the Phoenician colony of Kition was established about 800 B.C. (page 439), and Phoenician cultural influence which reached its zenith during the Cypro-Archaic period was even then restricted to the region of Kition. But this, he goes on to say, does not exclude the possibility that small groups may have settled in Cyprus before 800 B.C. since a tomb inscription has been found which according to the epigraphic evidence dates from the ninth century B.C. It is also probable that the true colonization of the western Mediterranean was preceded by sporadic infiltration of Phoenicians. Ibid., p. 287-292.

<sup>2</sup>Ibid., p. 448.

Age of Phoenicia may roughly be dated to range from 1100 B.C. to 800 B.C. Furthermore, Cyprus has been looked upon as being a "transmarine outlier and receptacle of obsolescent phases" rather than as a centre for invention.

Therefore, in addition to Gjerstad's "Phoenician" red slip jug (type J. 21) and bell shaped oenochoe (J.24), the writer will discuss other types which, in the light of what has been said already, could be considered as typical Phoenician ware. It should be emphasized however that these types are by no means comprehensive or in any way exhaustive.

#### I. THE "BICHROME" PAINTED WARE

Pls. II:2; III; IV;  
V:2-7; VI:1-2;  
XVII:1-2

This is a ware with painted designs on a reddish buff clay. In decoration it showed some Mycenaean survivals although there were new shapes which could not be traced to a Mycenaean origin. The painting often consisted of red horizontal bands. Sometimes a red band was set between a number of narrower black bands.<sup>1</sup> Often two colours were used to form the pattern desired. This bichrome technique was very popular in Phoenicia, and the colours mostly used were black or dark brown, together with red, reddish-brown,

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<sup>1</sup>Braidwood, "Two Sondages in North Syria," Syria, Vol. XXI, (1940), p. 193-194, Fig. 5:2.

purplish brown, or brick orange. The ware was both locally made in Cyprus and also imported into Cyprus from Phoenicia during Cypro-Geometric I and II. It was certainly of Oriental origin as it was not represented at all in the West. The use of red and black for bichrome effect was especially prevalent in sites in the Amuq plain near Antioch and al-Mina; the red used is reddish brown in contrast to the brown to purple red used at Tarsus. The three colour decoration was a characteristic type of decoration in Asia Minor and so were the rectilinear geometric and concentric compass-drawn circle ornaments.<sup>2</sup>

In contrast with the frequent gray core of Phoenician ware, the Cypriote Bichrome was usually homogeneous throughout with "sparse fine silt grits" including some mica but very little limestone. The interior and exterior walls were covered with an even white-to-cream slip.<sup>3</sup> The Phoenician ware, on the other hand, was tempered with limestone and quartzite grits and whereas the colour of the ware of the Cypriote variety might be either buff, brown, or greenish, the Phoenician ware was mostly reddish buff, drab, or reddish brown. It was usually covered either with a self-same slip, or a cream to buff slip, but sometimes with a white slip as well. The slip was then either burnished or wet-smoothed. Vertical and irregular hand

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<sup>1</sup>Goldman, (ed.), Excavations at Gozlu Kule, Tarsus, Vol. III, p. 38.

<sup>2</sup>Woolley, "Asia Minor, Syria and the Aegean," A.A.A., Vol. IX (1922), p. 52-53.

<sup>3</sup>Goldman, op. cit., p. 54; Gjerstad, S.C.E. IV:2, p. 60-69.



burnish were the most popular. Sometimes the paint was applied directly on the plain surface of the vessel, but at other times, though not often, a brush was used for applying the slip, which was unequally spread on the surface, leaving the lower part of the vessel without any slip. Very often the pots had a gritty feel and were rustic and heavy in appearance. The designs mostly used on Phoenician vessels were horizontal lines and bands encircling the body, short vertical strokes, groups of oblique strokes forming triangles, chevrons, the star ornament, the diagonal cross, and rows of triangles with dentils dropping from the base. The panel style was also used, in which the upper part of the body was divided into panels or metopes by vertical lines dropping on the band or bands encircling the body. The panels were left either plain or were filled with a single ornament such as latticed or hatched lozenges, diagonals, triangles, checker-board designs, parallel lines filled with a latticed design, a cross resembling the Maltese cross, or the tree ornament. The use of the plain bodied style was also prevalent in which encircling horizontal rings decorated the upper part of the neck while the rest of the body was left plain. Sometimes, few bands were horizontally painted around the body. The forms included jugs with globular bodies, collared necks, ring or round bases, as well as jars, amphorae, and jugs with open strainer spouts.

II. THE BLACK-ON-RED WARE

Pls. V:1; VIII:2; X;  
XI; XII; XV; XVI; XX

The next most important Phoenician fabric is the "Black-on-Red" ware. It consists of a number of types of reddish ware covered with a red slip over which the ornaments were painted in dull black. The ware may be divided into two categories: (a) the fine quality ware (Pls. V:1; X; XI; XII; XVI), and (b) the sturdier and coarser ware (Pls. XV; XX).

The finer quality was made of reddish brown clay, covered with a reddish brown slip which was highly burnished; sometimes the clay was reddish buff in colour, and was slipped in an orange red or orange buff slip and likewise burnished. Over the burnished slip, the ornaments were painted in dull black. The decoration consisted of encircling lines and bands. Jugs were not infrequently decorated with intersecting concentric lines; but the most characteristic ornament consisted of isolated concentric circles, which were sometimes placed below the rim of deep bowls or on the shoulder of jugs, amphorae, juglets and amphorisci. The vessels had thin walls, and the clay was tempered with fine and medium sized limestone grits, and was very well fired. Irregular and close hand-burnishing was applied especially on juglets and amphorisci, and sometimes the traces of the burnishing tool which consisted of a hard stick applied horizontally along the lower part of the body can be clearly detected.

Earlier, this group was thought to be Cypriote, but the presence of a non-Cypriote variety, confirmed by Gjerstad, which "differs both in artistic and technical respects from the Cypriote one,"<sup>1</sup> has posed the problem of the original home of this ware, a problem which has not been solved yet. This non-Cypriote variety was imported into Cyprus during Cypro-Geometric I and Cypro-Geometric II<sup>2</sup> in relatively small quantities,<sup>3</sup> but as from Cypro-Geometric III, it came to be manufactured on the island itself in far greater quantities. This non-Cypriote variety can be distinguished from the Cypriote by<sup>4</sup> the following traits:

(a) A gray core which is often seen in the cross-section of the wall of the pot. Goldman agrees with Gjerstad in this respect; the Cypriote fabric, she says, was uniformly oxidized so that it did not contain a gray core as Cilician ware often did - a technicality in firing methods to which the Cilician potter adhered closely.<sup>5</sup> This, apparently, was also true of Phoenician firing technique.

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<sup>1</sup>Gjerstad, S.C.E. IV:2, p. 243.

<sup>2</sup>Ibid., p. 230; Lapithos Tomb 417, Nos. 65, 82.

<sup>3</sup>Ibid., p. 287.

<sup>4</sup>Ibid., p. 270, Note 1.

<sup>5</sup>Goldman, Tarsus III, p. 38.

(b) A bright orange burnished surface with the decoration applied over the burnish. The writer believes that the Phoenician fabric included also the reddish brown slip variety as well; for such examples of imported Phoenician amphorisci and juglets have been found in Early Iron sites in Palestine and Tarsus.

(c) The surface of the non-Cypriote fabric usually flakes off easily, and very often is pock-marked. The lustrous slip of the Cypriote fabric was never burnished after Cypro-Geometric III.<sup>1</sup>

Gjerstad does not think that this class of pottery was Phoenician. "It is also impossible," he writes, "to combine the appearance of the Black-on-Red pottery in Cyprus with the Phoenicians because there is no evidence whatsoever that this pottery though apparently of Syrian origin has any association with the Phoenicians."<sup>2</sup> The present writer sees no conclusive evidence to warrant such a generalization. The substantial amount of Black-on-Red ware which has recently turned up at Khaldeh and Achzīb cemeteries is enough to show that this ware was Phoenician. Furthermore, the appearance of this new concentric circle geometric style on Black-on-Red at Tarsus during the eleventh century B.C. identified by Goldman as foreign<sup>3</sup>

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<sup>1</sup>Gjerstad, S.C.E. IV:2, p. 69.

<sup>2</sup>Ibid., p. 438.

<sup>3</sup>Goldman, Tarsus III, p. 102.

and its contemporary and simultaneous appearance in Palestine and during Cypro-Geometric I in Cyprus as an imported ware suggest a Phoenician origin. At al-Mina, examples of this ware were known from levels eight to nine, dated by Joan du Plat Taylor to the ninth century.<sup>1</sup> Fragments from Chatal-Huyuk IV-VI (N and O) 1200-600 B.C.<sup>2</sup> were noted by Goldman in Antioch. Seton-Williams noted only one or two examples of the miniature jugs in a survey of thirty-seven Cilician sites.<sup>3</sup> Riis has not found in Hama a single local example of concentric circles arranged in a row, although imported Black-on-Red juglets in the so-called Cypriote style have appeared, and these have been assigned to Cypro-Geometric III.<sup>4</sup>

Thus these brilliant little miniature juglets, so popular for their value as cosmetic bottles must have been made in highly specialized work-shops probably in Tyre or Sidon.<sup>5</sup> Most probably they were started by the Phoenicians and spread through Phoenician trade to Cyprus, Cilicia and Palestine.

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<sup>1</sup>Taylor, "The Cypriote and Syrian Pottery from Al Mina, Syria," Iraq, Vol. XXI, Part I (1959), p. 74. Although in her article (Iraq 1959) Miss Taylor dates levels X-VIII to the eighth century yet according to Miss Goldman, Miss Taylor has raised her dating of these levels to the ninth century B.C. (Goldman, Tarsus III, p. 104, Note 55).

<sup>2</sup>Goldman, Tarsus III, p. 57.

<sup>3</sup>Seton-Williams, "Cilician Survey," Anatolian Studies, Vol. IV (1954), p. 37.

<sup>4</sup>Riis, Hama II:3, p. 103 ff. Fig. 130; p. 112, Fig. 133.

<sup>5</sup>Goldman, Tarsus III, p. 57.

While C.N. Johns considers them to be Phoenician,<sup>1</sup> Henri Frankfort<sup>2</sup> suggests that the Black-on-Red technique and the concentric circle decoration originated in Phoenicia and spread abroad through Phoenician trade. But Leonard Woolley holds that the original home of the concentric circle ornament was in Asia Minor. "Conclusive evidence," he writes, "is afforded by a sherd found by Chantre at Boghazkeui. The vase was of red clay with black-bordered panels of a pinkish cream slip whereon are compass-drawn circles (the impressed dot in the centre is clearly visible) in dark red; the pot was handmade. Another fragment from the same site has concentric circles drawn free-hand in black on a drab slip. These do not date later than the beginning of the Iron Age.."<sup>3</sup>

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<sup>1</sup>Johns, "Excavations at Pilgrims' Castle: 'Atlit," Q.D.A.P., vol. VI (1936-37), p. 129.

<sup>2</sup>Frankfort, Studies in Early Pottery of the Near East, Vol. II, (1924), p. 164.

<sup>3</sup>Woolley, "Asia Minor, Syria and the Aegean," A.A.A., Vol. IX (1922), p. 53, and 50.

III. THE RED SLIP WARE

Pls. I; II:1; VII;  
VIII:1, 3-6; IX;  
XIII; XIV; XVII:  
3-5; XVIII; XIX

The most prominent of Phoenician wares is the Red Slip ware which may be considered as an undecorated variety of the Black-on-Red ware. It has been discovered in great quantity at Khaldeh and Khirbet Silim. The pottery is similar to that of the Black-on-Red, but the forms are different. Like the Black-on-Red ware it also may be divided into two groups: (a) a fine quality ware (Pls. I; II:1; XIII; XIV; XVII:4-5; XVIII:1-2; XIX:1-2), and (b) a sturdier and coarser ware (Pls. VII; IX; XVII:3; XVIII:3). The typical form of the fine quality ware identified by Gjerstad as Phoenician is the jug with the pinched rim, wide tapering neck and biconical body (J.21; Pl. XVII:4). The clay may be light buff, very finely levigated to a powdery texture, contrasting sharply in colour with the pinkish red soft slip which tends to flake off easily. This slip sometimes may be dark red in colour, mellowing into brown and applied over a reddish buff surface. The jugs are of various sizes and shapes and are highly burnished. The burnishing is applied in two ways on the same pot. A vertical hard stick burnish is detected on the neck of the vessel while the rest of the body is horizontally burnished on the wheel. Sometimes

the whole vessel is handburnished, and traces of the hard stick horizontally applied on the lower part of the body can still be seen. Similar shapes also appear in black slip.

The coarser type of ware had a different repertoire of forms for jugs and jars. The size of the vessel might be larger and the walls were invariably thicker. The ware was red or reddish buff and the burnish was often applied vertically over a dark red slip on the whole surface of the vessel.

At Khaldeh, a very fine quality of red slip bowls has appeared which is similar to the lustrous "Samaria Ware".<sup>1</sup> As this ware has been found outside Samaria in such places as Megiddo, 'Atlīt, al-Mina and others, the writer is tempted to consider them Phoenician products.

The appearance of the red slip "pebble burnished" ware at Ascalon simultaneously with the painted Philistine ware induced W. J. Phythian Adams to conclude that "the use of the red pigment for colouring the surface of a vase may thus prove to have survived in obscurity through the Late Bronze Age and the beginnings of the Philistine domination".<sup>2</sup> This assertion cannot be accepted in view of the finds which do not yield any red slip vessels during the Late Bronze in Palestine.

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<sup>1</sup>Crowfoot, and Kenyon, The Objects from Samaria (London, 1957), p. 157-158.

<sup>2</sup>Phythian-Adams, "Report on the Stratification of Ascalon," PEFO (1923), p. 72-73.



Culican suggests that the red slip technique was introduced by settlers of the Sea People. "The Canaanite-Mycenaean cities of the coast," he writes, "were destroyed and patchily resettled by a branch of the Sea People who introduced new forms and fabrics and retained some local Mycenaean ones. These people introduced red slip and burnished wares in shapes which have no connection whatsoever with those of either Mycenaeans or Canaanites. They also perhaps introduced cremation burial to a people who retained a chamber tomb tradition."<sup>1</sup> Goldman asserts<sup>2</sup> that North Syria<sup>3</sup> and various parts of Anatolia<sup>4</sup> form the heartland from which the red slip wares expand during the Early and Middle Iron Age into Palestine<sup>5</sup> in the west and Mesopotamia<sup>6</sup> in the south. At Tarsus the occurrence of the red slip ware continued throughout Late Bronze II and the subsequent transitional period (1225-1100 B.C.)<sup>7</sup> However,

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<sup>1</sup>Culican, "Aspects of Phoenician Settlement in the West Mediterranean," loc. cit., p. 54.

<sup>2</sup>Goldman, Tarsus III, p. 61.

<sup>3</sup>Woolley, Alalakh, p. 322, types 3a, 6a. Periods IV-I: 1480-1190 B.C.; Tell Judaidah, 1600-1200 B.C. Mus. Antioch; Braidwood, Mounds in the Plain of Antioch, p. 6; Cyprus: Gjerstad, S.C.E. IV:2, p. 192; Sjoqvist, op. cit., p. 61, fig. 16; p. 88, 85, 90 on Syrian Red Lustrous ware.

<sup>4</sup>Beyce Sultan, Level I, dated after 1200 (?); S. Lloyed and J. Mellaart, Anatolian Studies, Vol. V (1955), p. 84 ff.

<sup>5</sup>Albright, "The Excavation of Tell Beit Mirsim I," A.A.S.O.R. Vol. XII (1930-1931), p. 85.

<sup>6</sup>Amuq and Khabur Regions: "Characteristic for Early Iron III and Middle Iron I 1020-720B.C." H. J. Kantor, Tell Fakhariyah, p. 26. Sultan Tepe n. Urfā, Anatolian Studies, Vol. III (1953), p. 46, Figs. 6:1, 7:44. Mesopotamia: Iraq, Vol. XVI (1954), p. 64, n. 11, c. 700 B.C.

<sup>7</sup>Goldman, Tarsus III, p. 61; and II, p. 203, Nos. 1132, 1168, 1219. For other Cilician sites, cf. Anatolian Studies, IV, (1954)p.137.

the early appearance of the red slip bowls in Tarsus correspond in date with their appearance in Palestine during the eleventh century B.C.<sup>1</sup> This remarkable uniformity of the red slip bowls over a wide area remains a problem, and it is expected that further excavation in the region will throw more light on it. To Goldman, the formulation of shapes and the transformation of Bronze Age technique seems to have taken place in southeast Anatolia and along the coast of Syria".<sup>2</sup> Reference may be made to similar Iron Age bowls from Judaidah VI (1600-1200 B.C.)<sup>3</sup> and to similar shapes from Alalakh Period IV-I (1480-1190 B.C.)<sup>4</sup> Riis<sup>5</sup> states that the same red slip pottery found at Judaidah VI (1600-1200 B.C.) and later at Judaidah IV (1000-500 B.C.) was also found at Tell Halaf<sup>6</sup> and Carchemish.<sup>7</sup> Tell Fakhariyah (900-600BC)

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<sup>1</sup>Tufnell, Lachish, Vol. III, p. 260; Goldman, Tarsus, Vol. III, p. 103-104.

<sup>2</sup>Ibid., p. 103.

<sup>3</sup>Museum of Antioch, A.J.A. Vol. XLI (1937), p. 10.

<sup>4</sup>Woolley, Alalakh, p. 322 and 332, types 3a, 6a and pl. 99.

<sup>5</sup>Riis, Hama, II:3, p. 84.

<sup>6</sup>H. Schmidt in M. von Oppenheim, Der Tell Halaf, p. 260ff., Fig. 4 and pl. 55. For the dating of Tell Halaf in tenth and ninth centuries B.C. Cf. Albright, Anatolian Studies, Vol. VI (1956), p. 75.

<sup>7</sup>Woolley, "The Iron Age Graves of Carchemish," A.A.A., Vol. XXVI (1939-1940), p. 11-37; also Woolley, Carchemish III, p. 232 ff.; Gjerstad, S.C.E. IV:2, p. 257.

also yielded this red slip variety.<sup>1</sup> The red slip in Hama appeared, according to Riis, in Periods III-IV (925-720 B.C.). In the light of his survey, Riis also concludes that the starting place for the red slip must be along the coast of Phoenicia and Syria.

In Cyprus the red slip Iron Age variety appears for the first time in Cypro-Geometric III<sup>2</sup> following probably the Phoenician infiltration into the island.

Similarly at al-Mina, the red slip ware although continuing to Level V was commonest in Level VIII.

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<sup>1</sup>H.J. Kantor, Tell Fakhariyah, "The Pottery" p. 25 ff.

<sup>2</sup>Goldman, Tarsus III, p. 115.

<sup>3</sup>Gjerstad, S.C.E. IV:2, p. 80 ff. Figs. XXVI, XXVII, XLII, LVI, LXI, LXVI.

CHAPTER IV

RELATIVE CHRONOLOGY AND THE CLASSIFICATION

OF SOME PHOENICIAN TYPES

A flood of light has been shed in recent years on the problem of Near Eastern chronology as a result of excavations in south-west Anatolia, Mesopotamia, North Syria and Palestine. The publications of Hetty Goldman's Excavations at Gozlu Kule: Tarsus, The Iron Age, vol. III (1963), and Braidwood's Excavations in the Plain of Antioch, vol. I (1960) with vol. II following are important. According to Braidwood, a complete stratigraphic record has been obtained as a result of his work at Tell al-Judaidah.<sup>1</sup> Other important works are Schaeffer's excavations at Ras-Shamra as well as the excavations at Hazor, Samaria, Tell Qasile, Megiddo, Tell Beit Mirsim, Tell Abu Hawam and others in Palestine. The refinement achieved by G.H. Crowfoot and K. Kenyon on the problem of Palestinian chronology in Samaria-Sebaste, vol. III, Kenyon's book on The Archaeology of the Holy Land, are indispensable in a study of this nature. The article by Y. Aharoni and Ruth Amiran on "A New Scheme for the Subdivision of the Iron Age in Palestine," as well as

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<sup>1</sup>Braidwood, Mounds in the Plain of Antioch, 1937.

<sup>2</sup>Israel Exploration Journal, vol. VIII (1958), p. 171-184.

others by E. Wright "Israelite Samaria and Iron Age Chronology,"<sup>1</sup> Maisler "The Stratification of Tell Abu Hawam on the Bay of Acre,"<sup>2</sup> and by Van Beek on "The Date of Tell Abu Hawam, Stratum III"<sup>3</sup> add further light on the subject. The article by Joan du Plat Taylor on "The Cypriote and Syrian Pottery from al-Mina in Syria"<sup>4</sup> and the revised dates she has suggested to Sir Leonard Woolley's chronology<sup>5</sup> is important for the purpose of this study. Equally important is Judy Birmingham's article on "The Chronology of Some Early and Middle Iron Age Cypriot Sites"<sup>6</sup> in which she suggests a revision of Gjerstad's chronology, based on evidence from the mainland and particularly from Palestine. Mrs. Birmingham has divided the Iron Age in Cyprus into (a) Early - 1050-900 B.C., and (b) Middle - 900-600 B.C., ascertaining thus "the importance of Cyprus ca. 900-600 ... particularly in its complete integration with the mainland of Western Asia to produce a Cypro-Levantine culture province of considerable interest both intrinsically and for its part

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<sup>1</sup>B.A.S.O.R., No. 155 (1959), p. 13-29.

<sup>2</sup>B.A.S.O.R., No. 124 (1951), p. 21.

<sup>3</sup>B.A.S.O.R., No. 138 (1955), p. 34.

<sup>4</sup>Iraq, Vol. XXI, 1959, p. 62-92.

<sup>5</sup>Journal of Hellenic Studies, Vol. LVIII (1938), p. 1-30; also The Antiquary Journal, Vol. XVII, 1937, p. 1 ff. Woolley, A Forgotten Kingdom, p. 165 ff.

<sup>6</sup>American Journal of Archaeology, Vol. 67, No. 1 (Jan. 1963) Gjerstad, S.C.E. IV:2, p. 436 ff.

in the transmission of oriental culture westwards." She goes on to say "By the S.C.E. chronology, Cyprus, although only half a day's sail from the mainland and throughout the Bronze Age closely linked to it both culturally and by trade, was in the first millennium culturally a century and a half behind. Sculpture, ivory-carving, bronze-working, pottery and stone masonry flourished in Palestine and Syria in the early first millennium until the disruption of most of these crafts was effected by the Assyrian descent on the Levantine coast in the late 8th century; identical techniques occur in Cyprus and the increasing evidence for contemporaneity can no longer be ignored."<sup>1</sup> Mrs. Birmingham stresses the cultural break in the later tenth century and the unbroken development and progress of the next three hundred years. Of great importance is Gjerstad's monumental work The Swedish Cyprus Expedition, vol. IV:2 (1948) which embraces not only the Cypriote and the Classical but

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<sup>1</sup>Birmingham, "The Chronology of Some Early and Middle Iron Age Cypriot Sites," loc. cit., p. 15.

the Near Eastern material as well. The system of chronology<sup>1</sup> worked out by him is of immense help in establishing a sequence of pottery types in Phoenicia because of the close relationship between the two countries. The material dealing with Late Cypriote III (1200-1050 B.C.) is at present being prepared by Dr. P. Aström and will soon appear in the forthcoming Swedish Cyprus Expedition, vol. IV, Part I B. However, this period has been dealt with by E. Sjöqvist in his book on Problems of the Late Cypriote Bronze Age, 1940, by Gjerstad in Prehistoric Cyprus, 1926, and in his article on "The Initial Date of the Cypriote Iron Age,"<sup>2</sup> and by Joan du Plat Taylor in her article "Late Cypriote III".<sup>3</sup> An important article written by W. Culican on "Aspects of Phoenician Settlements in the West Mediterranean"<sup>4</sup> suggests a revision for the chronology of Phoenician colonies in the West and the foundation date of Carthage.

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<sup>1</sup>On Cypriote chronology cf.: Gjerstad, "The Chronology of Cypriote Pottery from Early Iron Age Levels in Palestine," B.A.S.O.R. No. 130 (1953), p. 22-26; "The Initial Date of the Cypriote Iron Age," Opusc. Arch. III (1944), p. 73-106. Furumark, The Chronology of Mycenaean Pottery; and "The Mycenaean IIIC Pottery and its Relation to Cypriote Fabrics," Opusc. Arch. III, p. 194 ff. Sjöqvist, Problems of the Late Cypriote Bronze Age; Van Beek, "Cypriote Chronology and the Dating of Iron I Sites in Palestine," B.A.S.O.R., No. 124, (1951), p. 26-29; Albright, "Some Oriental Glosses on the Homeric Problem," A.J.A., Vol. LIV (1950), p. 175 Note 51. Hanfmann, "The Swedish Cyprus Expedition, vol. IV, Part 2," A.J.A., 55 (1951), p. 424-428; Desborough, "A Group of Vases from Amathus," J.H.S., LXXVII, 1957, p. 212-219; McFadden, "A Late Cypriote III Tomb from Kourion Kalorisiki No.40," A.J.A., 58 (1954), p. 131-142; Daniel, "Excavations at Kourion, the Late Bronze Age Settlement," A.J.A., 1938, p. 269 ff.

<sup>2</sup>Opusc. Arch. III.

<sup>3</sup>P.E.O. (1956), p. 22-37.

<sup>4</sup>Abr-Nahrain I, 1959-1960, (1961), p. 36-55.

The end of the Late Bronze Age in Phoenicia coincides with the destruction of Ugarit Recent 3 (1365-1200 B.C.)<sup>1</sup> and of Alalakh (Tell 'Atchana) Level I: (1273-1194 B.C.)<sup>2</sup> by the Peoples of the Sea, who over a few decades were throwing themselves in wave after wave of attack against the centers of civilization in the Near East. A wave of these peoples attacked Egypt at the accession of Merneptah (1232 B.C.) but it is not to this wave that the fall of Ugarit can be attributed. A sword bearing the name of Merneptah was found in the ruins of Ugarit. Moreover, the King of Ugarit Ammistamru was contemporary with the Hittite King Tudhaliash IV who in turn was contemporary with the Assyrian King Tukulti-Ninurta I. The latter ascended the throne less than ten years before the accession of Merneptah in 1232 B.C. Ammistamru was followed by no fewer than three kings on the throne of Ugarit, in at least two further generations. The conclusion then, that not the first but the second wave of the Peoples of the Sea was responsible for the destruction of Alalakh and Ras-Shamra is reassuredly safe.<sup>3</sup> The wave hit North Syria sometime before the eighth year of Rameses III - about 1191 B.C.<sup>4</sup> According to the annals of Rameses III, the Peoples of the Sea were defeated in 1191 B.C. by him at Pelusium

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<sup>1</sup>Schaeffer, Stratigraphie Comparee, p. 9.

<sup>2</sup>Woolley, Alalakh, p. 399.

<sup>3</sup>Hayes, Howton, and Stubbings, "Chronology: Egypt; Western Asia; Aegean Bronze Age," Cambridge Ancient History, (1962), vols. I & II, p. 67 and 68.

<sup>4</sup>Ibid., p. 75.



and allowed to settle in Palestine.

In Palestine, at Tell Abu Hawam, the destruction of level V in 1180 B.C.<sup>1</sup> or 1191 B.C.<sup>2</sup> is believed to have taken place at the hands of the Philistines. A gap in the occupation of the site followed which might have lasted over thirty years.<sup>3</sup> We also know that Tyre and Sidon were ravaged at the hands of the Philistines at the beginning of the 12th century B.C.<sup>4</sup>

When Ugarit and Alalakh were destroyed by the Peoples of the Sea, Mycenaean IIIb pottery<sup>5</sup> was still current there as an imported ware; the same is true of Tell Abu-Hawam Level V (1400-1230 B.C. Hamilton; 1300-1180 B.C. Maisler) which was also destroyed ca. 1180 B.C. by the Philistines. Furumark's dating therefore of the transition of Mycenaean IIIb to Mycenaean IIIc to ca. 1230 B.C.<sup>6</sup> should be reduced as the IIIc phase cannot have begun before 1180 B.C.<sup>7</sup> This agrees well with the chronology suggested by Gjerstad<sup>8</sup> and Sjoqvist<sup>9</sup> who date

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<sup>1</sup>Maisler, "The Stratification of Tell Abu Hawam," B.A.S.O.R. No. 124, (1951),

<sup>2</sup>Hayes, Rowton and Stubbings, op. cit. p. 75.

<sup>3</sup>Maisler, "The Stratification of Tell Abu Hawam," loc. cit.;

<sup>4</sup>Justin, History, XVIII, 3.

<sup>5</sup>Furumark, The Chronology of Mycenaean Pottery, p. 115. Furumark's Myc. IIIb (1300-1230 BC) is contemporary with Sjoqvist's Late Cypriote IIc (1275-1200 B.C.)

<sup>6</sup>Ibid., p. 115.

<sup>7</sup>Hayes, Rowton and Stubbings, op.cit.

<sup>8</sup>Gjerstad, "The Initial Date of the Cypriote Iron Age," loc.cit.

<sup>9</sup>Sjoqvist, op. cit.

the beginning of Late Cypriote III ca. 1200 B.C.

The appearance of the Sub-Mycenaean ware in Philistia in such localities as Askalon<sup>1</sup> strata v-y Period III,<sup>2</sup> Beth-Shemesh stratum III (1200-1000 B.C.),<sup>3</sup> Tell Qasile strata XI-XII (end of 12th and through 11th centuries),<sup>4</sup> Carchemish,<sup>5</sup> Tell al-Judaidah, level V (1200-1000 B.C.),<sup>6</sup> Tarsus, Late Bronze IIb (1225-1100 B.C.),<sup>7</sup> and Hama<sup>8</sup> to mention only a few, point to a Sub-Mycenaean culture spreading over Palestine, Phoenicia and Syria. This does not mean that this culture was in any way uniform. The fact that this type of pottery differed in each locality depending on the various tribes who introduced it and the area where they settled is a well established fact. It is sufficient for this purpose to analyse and compare Phoenician with Philistine wares. In Phoenicia where the Mycenaean influence was apparently the strongest, it did not disappear

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<sup>1</sup>Phythian-Adams, "Report on the Stratification of Ascalon," PEFQ, (1923), p. 60 ff.

<sup>2</sup>Gjerstad, Studies on Prehistoric Cyprus, p. 278.

<sup>3</sup>Grant, Ain Shems, Vol. V, p. 127-133.

<sup>4</sup>Maisler, "The Excavations at Tell Qasile," Israel Expl. Jour. 1950-1951, vol. I, p. 67.

<sup>5</sup>Woolley, A.A.A. (Liverpool) 1922, p. 51.

<sup>6</sup>Braidwood, Mounds in the Plain of Antioch, p. 6: Appearance of Sub-Mycenaean ware; Cypriote (?); series are distinct from Period IV copies; no burnished wares appear; cf. Heurtley, D.A.P.Q. V, (1936), p. 90-110.

<sup>7</sup>Goldman, Tarsus vol. II, p. 64 and 208.

<sup>8</sup>Riis, Hama, II:3: Cimeteiere a cremation.

after a short lease of life as it did at Tarsus, or after a somewhat longer period as it did in Philistia. Instead it fused with the Canaanite heritage to form a new Phoenician culture best exemplified in its ceramic art which soon began to show its influence on the neighbouring regions such as Tarsus during the 11th century and to appear as an imported ware in many places.

That there could have been a transitory formative period in Phoenicia during which this fusion took place is quite likely. However, this period could not have been a long one and might very well have covered about a century. This assumption of the writer has to be verified by future excavations in Phoenicia itself. Only future excavations of some well stratified sites can give precise descriptive information regarding the development and the evolution of pottery types in Phoenicia. For the moment it is enough to note that in general, the pottery of the Iron Age in Phoenicia differed in many respects from that of the Late Bronze Age. To start with, the clay itself changed, for whereas during the Late Bronze Age the paste was generally of a yellow and sometimes yellow-greenish tinge, during the Iron Age it became reddish-buff in colour, reddish-brown, pinkish cream, or buff. The skill with which the potter worked showed a marked improvement. In manufacture, the wheel-made vessels often show a great superiority over those of the earlier period when the thumb was literally used for finishing off handles, or when the thread was used to finish off bases. Furthermore,

new forms appeared together with new types of decoration. During the Late Bronze Age phase II, the finer quality ware was imported<sup>1</sup> into the country; the local imitations can be immediately recognized by the coarser ware and lack of skill in manufacture, technique and decoration. During the Iron Age, the vessels were manufactured in Phoenicia itself, as though in imitation of vases to which the makers had been accustomed to when they lived elsewhere.<sup>2</sup> Thus, unlike Israelite Early Iron pottery, Phoenician pottery during the Early Iron Age showed no signs of degeneration, but on the contrary, it was a period of artistic vitality when the potter took great care and pride in his work and in the finish and decoration of his vessels. This artistic renaissance is best exemplified in the handsome new forms that appeared and in the style of decoration.

Towards the very end of the Late Bronze Age, a ware with a red painted design on a reddish buff clay makes its appearance. It had a wide distribution and is found with slight variations in Syria, Phoenicia, Palestine and Cyprus. In ornaments it shows many Mycenaean survivals, although there are new shapes quite alien to Mycenaean forms. This pottery is certainly part of the Iron Age.<sup>3</sup> Beth-Shan VII, Megiddo

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<sup>1</sup>For Sjoqvist's theory that the Levanto-Helladic ware was actually manufactured in the Levant along the coasts of Syria and Phoenicia, read Sjoqvist, op. cit.

<sup>2</sup>The difference between Late Bronze II and Early Iron wares is best illustrated in sites such as Gaza, Tell Jemmeh, Ain Shems, Ascalon, Tell Fara (Beth-Pelet) and Tell Beit Mirsim.

<sup>3</sup>Ehrich, Relative Chronologies in World Archaeology (Chicago 1954), p. 79.

VII and VIB and Tell Abu Hawam V offer good examples of pottery types which still fall within the Late Bronze tradition. Tell Abu Hawam V could however be considered slightly earlier than Megiddo VII due to the greater number of Mycenaean and Cypriote ware represented in it, and therefore Sinclair suggests a further lowering down for the dating of Megiddo VII.<sup>1</sup> The majority of the vessels have a wet-smoothed finish over which red decoration is applied. The decoration in this period is stylized and degenerate, for example, No. 12<sup>2</sup> which is the best criterion for level VII and the XIXth Dynasty in Palestine. There is still a certain realism as is apparent on jar No. 22 and bowl No. 29.<sup>3</sup> Reminiscence of this realism is still found in the painting on an amphora discovered in Kourion as an importation.<sup>4</sup> It was found with a cylinder seal of the 12th century B.C. McEwan views this vessel to be of Syrian origin, in spite of the fact that Syrian vessels have a different colour scheme.<sup>5</sup>

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<sup>1</sup> Sinclair, "An Archaeological Study of Gibeah (Tell el Fūl)," A.A.S.O.R., cols. XXXIV-XXXV (1954-1956) - 1960, p. 17.

<sup>2</sup> Shipton, Notes on the Megiddo Pottery of Strata VI-XX, p. 5-7.

<sup>3</sup> Ibid.

<sup>4</sup> Daniel, "Excavations at Kourion.." A.J.A., Vol. XLII (1938), p. 271-272, fig. 11 A and B.

<sup>5</sup> Ibid. Footnote 1.

An imported "Syro-Palestinian" krater was also found at Tarsus in the Transitional Late Bronze to Early Iron level (L.B.IIb)<sup>1</sup> It had a carinated ovoid body and high concave upper wall, rim with slight inner bevel, low ring base, and two thick vertical flat handles; it was made of reddish-buff ware containing traces of mica, sand and chaff; the surface is wet-smoothed and painted in a light red to brownish black colour; the pattern consists of bands around the rim and lower part of the body; the painting on the upper part of the body consisted of a zone of zigzag lines composed of four parallel lines with a tassel pattern at the base of the handle.

Thus ~~from~~ the evidence from Cyprus, Tarsus and Megiddo VIIA (1180-1100 B.C. Maisler), and Megiddo VIB (1100-1050 B.C. Maisler; Megiddo VI: 1150-1100 Kenyon), <sup>suggest that</sup> the decoration during the twelfth and early eleventh centuries consisted, apart from very few examples of realistic painting, of simple encircling bands, wavy lines on the necks of amphorae and kraters, twin triangle design, wavy lines set between straight bands vertically or horizontally applied on the body, groups of vertical lines dropping from a horizontal band at the base of the neck to a band horizontally painted around the body of the vessel forming a panel like design, and spirals. The spiral motif in Phoenicia and Palestine is very old ante-dating the Iron Age. Thus its

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<sup>1</sup>Goldman, Tarsus, Vol. II, No. 1353, fig. 336.

appearance on a small amphora at the A.U.B. Archaeological Museum (No. 5182) is but a continuation from an older tradition which had penetrated the country through Cretan influence as early as the Middle Bronze Age and had managed to survive through the Late Bronze Age. In Byblos the spiral motif is apparent on jugs and bowls in tombs dating from the Middle Kingdom.<sup>1</sup> One example of an amphora with a broad wavy line on the neck comes from Khaldeh. A Phoenician Krater also with a broad wavy line on the neck is published in Riis' Cote phenicienne, (p. 131, fig. 16); it is very similar to the krater in Tarsus found in transitional Late Bronze to Early Iron level (1225-1100BC).<sup>2</sup> The use of red and black paint for bichrome effect was especially prevalent in Phaze V (N) 1200-1100 B.C. in sites of the Amuq plain near Antioch and al-Mina.<sup>3</sup> During this period, jugs and juglets were provided with pinched rims and sloping shoulders. Examples come from Megiddo VII(A) and VI(B)<sup>4</sup>. Similar shapes are found in the A.U.B. Archaeological Museum.<sup>5</sup> Furthermore, the evidence from Tell Abu Hawam Level V and Tell Beit Mirsim Level B<sub>1</sub> (1230-1150 B.C.)<sup>6</sup> confirms the appearance of the cream

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<sup>1</sup>Montet, Byblos et l'Egypte, p. 293; also Dunand, Byblos, Vol. I, p. 275, 276, No. 3928.

<sup>2</sup>Goldman, Tarsus, Vol. II, No. 1353, fig. 336. Cf. Taylor, "Late Cypriote III," P.E.Q. (1956), p. 28, fig. 1:5,8.

<sup>3</sup>Goldman, Tarsus III, p. 38.

<sup>4</sup>Loud, Megiddo, Vol. II, pls. 67:10,17; 70:1; 71:7,6; 72:3; 74:19.

<sup>5</sup>Nos. 62.40; 62.41; 62.42; 54.6; 48.67; 5182; 5172.

<sup>6</sup>Albright, A.A.S.O.R. Vol XII, p. 60, Nos. 9 and 10, pl. 29; and p. 59, No. 17, pl. 27.

vertically hand burnished slip as early as 1230-1150 B.C. over which were painted bands in red.

Some of the forms which are typical of the Iron Age and which are treated with a cream slip over which were painted designs in bichrome red and black are the following:



J.1 BICHROME JUG WITH NECK-RIDGE  
AND ROUND BASE Pl. III:1,2.

During the last quarter of the thirteenth century or early in the twelfth century B.C., a new form of jug makes its appearance. It is made of reddish buff ware with dark and white grits, gray in section, and texture varying in finess. It has a round base, spherical body, narrow collared neck, with loop-handle from collar to shoulder; decorated on each side with vertical concentric circles in red and black paint over a cream or self-same slip, often vertically burnished or wet-smoothed; sometimes the paint is applied directly on the plain surface of the pot; the pattern used below the handle and on the shoulder as frontal ornament varies with different vessels. Ribbing inside the pot shows that the two halves were made independently and joined together along the plane of the handle.

The type appears as early as Megiddo VI (1150-1100 B.C. Kenyon; VI(B): 1100-1050 B.C., VI(A): 1050-980 B.C. Maisler), and continues through strata V and IV (1000-850 B.C., 850-750 B.C. Kenyon; V(B): 980-940 B.C., V(A)-IV(B): 940-920 B.C.; IV(A): 920-815 B.C. Maisler). At Tell Abu Hawam Nos. 249 and 250<sup>1</sup> were found 80 cms. below the foundation of Stratum IV(A) house 36. According to Hamilton therefore their attribution to Stratum V cannot be doubted. Mrs. Birmingham considers them to belong

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<sup>1</sup>Hamilton, Q.D.A.P., IV (1935), p. 41.

to Stratum IV(B). No. 251<sup>1</sup> appears to have been assigned to level V because of the Late Bronze beads and two scarabs of Amenhotep III which were found in the debris nearby. But as the area is much disturbed and as the vessel is identical in ware with No. 152 of Stratum IV(B), it is probable that it should not be assigned to Stratum V. The type appears also in TAH IV(B) (1195-1100 B.C. Hamilton; 1150-1000 B.C. Kenyon; 1050-980 B.C. Maisler and Van Beek), but not in TAH III (1000-925 B.C. Kenyon; 980-815 B.C. Maisler). It is found in Egypt with the Nebesheh group (twelfth-eleventh centuries B.C.),<sup>2</sup> at Tirzah level III (tenth to ninth centuries B.C.),<sup>3</sup> Beqa',<sup>4</sup> Tell Qasile Stratum VII (800-732 B.C.)<sup>5</sup> and Khaldeh.

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<sup>1</sup>Hamilton, Q.D.A.P., IV (1935), p. 41.

<sup>2</sup>This group had been dated in the publication of Petrie Tanis II pl. III, tomb 1) to the 7th and 6th centuries, but the presence of the anthropoid coffin in Tomb 17 (Tanis II, pl. 1, 17), and of the short-necked pilgrim flasks and the mixture of bronze and iron metal types necessitates a revised dating.

<sup>3</sup>De Vaux, Rev. Bibl., LIX (1952), p. 562, fig. 6:11.

<sup>4</sup>Woolley, Syria II (1921), p. 183 ff., pl. XVIII:16,18; XIX: 19, 21.

<sup>5</sup>Maisler, I.E.J., I (1950-1951), p. 199:b.

In Cyprus this type of jug appears first during Cypro-Geometric I(A) as an imported ware.<sup>1</sup> It is found in Lapithos and Amathus.<sup>2</sup> According to Mrs. Birmingham it does not occur after 800 B.C.<sup>3</sup>

The evidence from Tell Qasile suggests that it had a longer range on the mainland than in Cyprus. With the exception of only one example at Khaldeh which looks identical with the type from Tell Qasile VII, all the others are of the earlier better made variety. Therefore, although most popular during the eleventh to the ninth centuries, the type should be assigned a date between 1200 and 750 B.C. with a degenerate form during the eighth century.

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<sup>1</sup>Gjerstad, S.C.E. IV:2, p. 186; S.C.E.I, p. 230, pl. CXXXIX; Lapithos Tomb 417 No. 86.

<sup>2</sup>A.J.A., 67, No. 1 (1963), p. 37.

J.2 BICHROME JUG WITH NECK-RIDGE AND RING BASE  
Pl. III:3; IV:1.

At Tell Abu Hawam Stratum IV(B)<sup>1</sup> a new type of jug appears which is identical in ware and decoration with J.1, but has a ring base instead of a round base and is provided with a globular body. The type occurs also in TAH III<sup>2</sup> Tirzah III,<sup>3</sup> Megiddo V (with a poorer shape),<sup>4</sup> Beqa',<sup>5</sup> Khirbet Silim levels IV through I, and Khaldeh. In Cyprus it appears at Amathus;<sup>6</sup> according to Mrs. Birmingham, the Amathus examples are very close to the TAH IV-III jugs suggesting a mid-tenth century date for the group. By 850 B.C. the type develops a longer neck, which is represented in the Beqa' group. The

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<sup>1</sup>Hamilton, Q.D.A.P., IV (1935), p. 28, pl. XIV: 152.

<sup>2</sup>Ibid., p. 19, No. 52, pl. XXIII: 22.

On the importance and debatable problem of the terminal dating for TAH III, with respect to Palestinian, Cypriote and Proto-Geometric chronologies, cf. Desborough, "A Group of Vases from Amathus," J.H.S., LXXVII (1957), p. 216-217, note 35.

<sup>3</sup>Rev. Bibl., LIX, 1952, p. 563.

<sup>4</sup>Megiddo

<sup>5</sup>Syria, II (1921), p. XX:39.

<sup>6</sup>Cyprus distribution: A.J.A., 67, No. 1 (1963), p. 38.

type appearing in Cyprus on Bichrome Red I(IV)<sup>1</sup> and White Painted IV<sup>2</sup> copies must belong to the same period. A Black-on-Red copy also occurs in the Beqa' collection.<sup>3</sup>

Therefore the type must have had a range from ca. 1150-700 B.C.

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<sup>1</sup>Gjerstad, S.C.E. IV:2, Fig. XLI:7.

<sup>2</sup>Ibid., Fig. XXVIII:8.

<sup>3</sup>Syria, II (1921), Pl. XX:44.

J.3 BICHROME JUG IN THE PLAIN BODIED STYLE;  
WITH NECK-RIDGE AND RING BASE  
Pls. II:2; XVII:1.

This type of jug is made of finely levigated buff ware with a self same burnished slip. The decoration in red and black rings are painted round the rim and the upper part of the neck. It makes its first appearance at TAH III,<sup>1</sup> and occurs at Hazor VI-V,<sup>2</sup> Atlit,<sup>3</sup> Beqa',<sup>4</sup> Khirbet Silim grotto levels III; II, I and fosse level I in three different sizes, Khaldeh, al-Mina level VIII where the rim appears square cut and slightly drooping,<sup>5</sup> and in Tomb VII in the cemetery near Haifa.<sup>6</sup> An exactly similar shape but covered with a red slip over which black rings are painted on the upper part of the neck, has been found at Carthage by Delattre in a tomb on the Junou hillock together with a red slip trefoil pinched jug.

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<sup>1</sup>J.D.A.P., IV (1935), pl. XIII:78.

<sup>2</sup>Yadin, Hazor I, pl. LII:22.

<sup>3</sup>J.D.A.P. VI (1936-1937), p. 142, fig. 6:3 and 4.

C.N. Johns dates the cemetery to the seventh century. In the light of recent researches, the dating should certainly be raised to the eighth century. Apart from the pottery evidence, one of the tombs contained a scarab of Sheshonk IV (763-725 B.C.) of Dynasty XXII. Ibid., p. 134 and 149.

<sup>4</sup>Syria, II (1921), Pl. XX:43.

<sup>5</sup>Iraq, XXI (1959), p. 69, fig. 2:9,10,11; Pl. XXb.

<sup>6</sup>Guy, "Mt. Carmel: An Early Iron Age Cemetery Near Haifa - 1922" Brit. Sch. Arch. Jerus., No. 5 (1924), p. 52, Pl. III:27.

As Carthage could not have been founded before 720 B.C.<sup>1</sup> the type certainly continued to this date at least. The same type with a red wash and with bands of red and black painted around the upper part of the neck and the rim has been found in the Yunus Cemetery (Tomb Y H4) at Carchemish dated by Woolley to the seventh century B.C.<sup>2</sup> and revised by Birmingham to the eighth century B.C.<sup>3</sup>

Thus J.3 appeared first during the tenth century but became most popular between 825 and 700 B.C. continuing perhaps though to a lesser extent into the early seventh century. According to Gjerstad, the tendency is for the rim in the later types to become more disc-like and drooping, a feature which is also represented on some of the jugs at Khaldeh.

For the distribution of this type in Cyprus, cf. A.J.A. (1963), vol. 67, Nal p. 30-31.

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<sup>1</sup>Culican, Abr-Nahrain I, p. 54.

<sup>2</sup>A.A.A., vol. XXVI (1939-1940), p. 36.

<sup>3</sup>Ibid.,

J.4 BICHROME JUG WITH STRAINER OPEN SPOUT  
Pls. IV:2; XVII:2.

At the beginning of the Iron Age, a jug of buff ware provided with a tapering open spout with a strainer at right angles to the handle comes into great vogue in Phoenicia. It was provided with a low ring base, globular body, wide neck of medium height, flared rim, and a thick flat handle attached from the rim to the shoulder. The example at the A.U.B. Archaeological Museum (54.3) is of buff ware with limestone grits and a self same burnished slip; four thin black horizontal bands enclosing a thick red band encircled the body with a red band around the base of the neck; the shoulder was divided into four panels like metopes by double red lines from the base of the neck to the middle of the body; above the spout there is a horizontal wavy brown band. The jug no. 54.4, in the A.U.B. Museum, is of light red ware with a self same burnished slip and decorated in the same manner. A cross resembling a Maltese cross decorated the shoulder above the strainer spout. An example of the type appears at Khirbet Silim, grotto level IV and fosse level II. According to Gjerstad, the Cypriote variety of this type during the Cypro-Geometric I period has a lower base, shorter spout, more concave neck and body less depressed than the Cypro-Geometric II type.<sup>1</sup>

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<sup>1</sup>Opusc. Athen. III, p. 119 and fig. 12.



J.5 BICHROME JUG WITH STRAINER OPEN SPOUT

Pl. IV:2

This second variety has a long narrow and flared neck with a loop handle attached from the middle of the neck to the shoulder. It has a globular body with a flat and wide ring base; it is made of reddish buff ware and is treated with a self same or a cream slip which is vertically or irregularly burnished though sometimes wet-smoothed. A thick red band between thinner black lines encircle the body below the spout; the upper part of the body is divided into panels usually filled with a chequer-board design, palm trees, maltese cross, lattice design between parallel lines, lozenges or a diagonal cross. Sometimes instead of the panels, the upper part of the body is decorated with a star ornament dropping from the bottom of the neck to the encircling bands. The upper part of the neck is painted with wide red and thin black bands.

Both varieties (J.4 and J.5) appear in Cyprus. J.4 type occurs as early as Late Cypriote III A and B<sup>1</sup> while J.5 during Cypro-Geometric I and II.<sup>2</sup> By Cypro-Geometric III, the strainer spout disappears and is replaced by a tubular spout.<sup>3</sup>

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<sup>1</sup>P.E.Q. (1956), p. 34:F; Furumark, Opusc. Arch. III (1944), p. 234:G, fig. 10. Ibid., p. 79, fig. 2:14. Gjerstad, Prehistoric Cyprus, p. 223:6; S.C.E. IV:2, fig. IV:(15); XIII:(19); Opusc. Athen. III, (1960), p. 118, fig. 12.

<sup>2</sup>Gjerstad, S.C.E. IV:2, fig. XVI: (9).

<sup>3</sup>Opusc. Athen. III, p. 118, fig. 12.

Type J.5 appears at Megiddo, VI(A).<sup>1</sup> According to Maisler's dating of this level, its appearance in Megiddo agrees with its appearance in Cyprus ca. 1050 B.C. At the cemetery at Khaldeh, it is very well represented in several tomb groups and is almost invariably associated with J.1 and J.2. It also appears at Khirbet Silim grotto level III.

Fragments of jugs with open strainer spouts occur at Tell Beit Mirsim B<sub>2</sub>-B<sub>3</sub> (1150-1100 B.C., 1000-925 B.C.),<sup>2</sup> at Dora (modern Tanturah) in the Early Iron Age level,<sup>3</sup> Tell Abu Hawam IV(B) and V.<sup>4</sup>

Mrs. Birmingham holds that both on the mainland and in Cyprus, the type is rare after 800 B.C.<sup>5</sup> At Megiddo a red slip with close vertical burnish appear on beer jugs in strata IV-III,<sup>6</sup> to have replaced the Bichrome variety. The same phenomena appears at Khirbet Silim where the red slip appears on similar jugs.

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<sup>1</sup>Loud, Megiddo, vol. II, pl. 75:20-23.

<sup>2</sup>Albright, A.A.S.O.R., XII, p. 73, Pl. 25:27 and 24:24.

<sup>3</sup>Brit. Sch. Arch. Jerus., Vol. I-VII, (1922-1925), No. 4, 1924, p. 42, para. 1.

<sup>4</sup>Hamilton, Q.D.A.P. IV, p. 41, No. 252; also Vol. III, Pl. XXII:20.

<sup>5</sup>Birmingham, A.J.A., Vol. 67, No. 1 (1963), p. 37.

J.6 BICHROME BARREL-SHAPED JUG

Pl. V: 3,7,6.

During Cypro-Geometric I, a barrel-shaped jug appeared in both Cyprus and Phoenicia. It has a short body which is roughly globular or somewhat flattened at both ends, a carefully modelled handle-ridge, concave neck, and collar-shaped rim. It is covered with a cream slip over which is painted the decoration in red and black. During Cypro-Geometric II, the body becomes longer tapering somewhat towards both ends; the handle-ridge is less carefully made than in type I, and the concavity of the neck is usually less pronounced; the rim is small and without a collar. During Cypro-Geometric III, the elongating and tapering tendencies are increased. The handle-ridge is more summarily indicated, while the neck starts to be almost straight below the ridge. This type which appears first in Cypro-Geometric I has its proto-type in the lentoid jug<sup>1</sup> common in Cyprus during the Late Bronze Age.<sup>2</sup>

A White Painted I jug of this type has turned up in Gerar level 185.<sup>3</sup> It is painted in vertical circles on either side and with two winged lattice-lozenges as front and back

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<sup>1</sup>Gjerstad, S.C.E. IV:2, fig. III:(11).

<sup>2</sup>Gjerstad, Prehistoric Cyprus, p. 187, flask 1 and 2.

<sup>3</sup>Petrie, Gerar, p. 22, Pl. LX:86. Exact parallel comes from Amathus Tomb 19:4 in S.C.E. Vol. II, Pl. XCI:2.

ornaments; encircling spirals were also painted around the neck and mouth. The same White Painted I fragmentary jug occurs also at Gibeah, IInd city.<sup>1</sup> A Bichrome II jug was found at Khan-Sheikhun,<sup>2</sup> and at Quarayet near Sidon. The type appears also in Megiddo Strata VIA-V.<sup>3</sup> For its distribution in Cyprus, cf. Birmingham, A.J.A., 67, No. 1 (1963). According to Mrs. Birmingham, these barrel-shaped jugs come to an end at Amathus ca. 800 B.C.<sup>4</sup>

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<sup>1</sup>Albright, "Tell el-Ful (Gibeah)" A.A.S.O.R., Vol. IV (1924), p. 87, Pl. XXXI:7; Gjerstad, S.C.E. IV:2, p. 245.

<sup>2</sup>Ibid., p. 253.

<sup>3</sup>Loud, Megiddo, vol. II, Pl. 80:1 and 90:7.

<sup>4</sup>Birmingham, A.J.A., (1963), p. 28.

J.7 BICHROME BARREL-SHAPED JUGLET

Pl. V: 2,4,5.

A type which has appeared at Khaldeh in fairly large numbers is a juglet of buff or reddish-buff ware with a cream slip over which the decoration is painted in black and red lines. Its distribution in Cyprus<sup>1</sup> is consistent with an early tenth century date, becoming very common during the latter part of the tenth century as well as during the 9th century, with the latest stratified appearance in ca. 825-800 B.C.

This type of juglet appears on the mainland in Tell Fara (Beth-Pelet or Sharuhen) Tombs 202 and 229 (with scarabs of the XXII Dynasty),<sup>2</sup> Tomb 227 (with scarabs attributed by Dr. M. A. Murray to the same Dynasty) and also in Tombs 223, 241 and 777.<sup>3</sup> The juglets in these tombs are of the Cypro-Geometric I and Cypro-Geometric II variety. It was also found at Lachish Tombs 6006 (925 B.C.), 224 (850-800 B.C.),<sup>4</sup> Beqa',<sup>5</sup> Tell Hesi (Cypro-Geometric III)<sup>6</sup> and at Gezer, Tomb 96 (Cypro-Geometric I).<sup>7</sup>

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<sup>1</sup>A.J.A., 67, No. 1 (1963), p. 38.

<sup>2</sup>Gjerstad, S.C.E. IV:2, p. 243.

<sup>3</sup>Petrie, Beth-Pelet, I, Pl. XXXIX: 86 D.

<sup>4</sup>Tufnell, Lachish, Vol. III, p. 297 ff.

<sup>5</sup>Woolley, Syria, II, (1921), p. 188, fig. 35 and 36 on Pl. XX.

<sup>6</sup>Gjerstad, S.C.E. IV:2, p. 243.

<sup>7</sup>Macalister, Excavation of Gezer, Vol. I, p. 337, and Vol. III, Pl. XC:6.

According to Gjerstad,<sup>1</sup> Type 1 (Cypro-Geometric I) was provided with a high collar-shaped rim (Pl. V:2). In Cypro-Geometric II the high collar shaped rim disappears, while the neck widens slightly upwards into a plain rim (Pl. V:4). In Cypro-Geometric III, the neck flares into a funnel shape (Pl. V:5).

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<sup>1</sup>Gjerstad, Opusc. Athen. III, p. 114, fig. 7.

About 1150 B.C., or more probably, about 1100 B.C., at the latest, a new type and style of pottery in Red Slip and Black-on-Red ware makes its appearance in Phoenicia and the neighbouring countries with increasing frequency as from 1050 B.C. onwards.<sup>1</sup> "About 1050 B.C.," writes Miss Goldman, "a new style of pottery was established at Tarsus which drew its inspiration from abroad. ... At present it is impossible to define the origin of Cilician Geometric wares with precision. For while the general character of the style points to Cyprus, the decoration with concentric circles is supposedly unknown there before Cypro-Geometric III. ... A Phoenician origin has been claimed or implied; but so far we lack sites that would provide a clear sequence proving the contention. ... That concentric circles are used on the little black-on-red flask and juglets as early as the eleventh century at Tarsus may weigh in favour of the Phoenician hypothesis."<sup>2</sup>

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<sup>1</sup>The evidence comes from the stratified sites in Palestine. At Tell Beit Mirsim, Stratum B<sub>1</sub> (1230-1150 B.C.), although vertical hand burnishing on fragments of jugs with a creamy buff slip decorated in painted red bands did occur together with most degenerate Late Bronze types, yet the red slipped hand burnished ware did not appear before Stratum B<sub>2</sub> where it was found side by side with Philistine painted ware (Albright, A.A.S.O.R., XII, p. 63, Pl. 28:1,2,3,4. No. 8 is a squat jug with a buff surface burnished vertically on the neck and horizontally and with oblique strokes on the body, with vertical burnishing on the underside). At Ascalon and at 'Ain Shems, Stratum III, the same phenomena recurs, though in the latter in much less quantity than in the subsequent Stratum II (Phythian-Adams, P.E.F.Q. 1923, p. 72 and 73; Grant, Ain Shems, Vol. V, p. 127-133, and p. 134-145). At the ancient city of Dora (modern Tanturah)

over the layer of ash separating the Late Bronze from the Early Iron Age, fragments of the "pebble-burnished ware" finely burnished all over, appears together with the "Zakkarai" painted ware (Brit. Sch. Arch. Jerus., I-VII, No. 4 (1924), p. 42, and No. 6 (1924), p. 81). As the commencement of the occupation of the Philistines could not have been much earlier than 1170 B.C. it can be assumed that Philistine pottery began to filter into the neighbouring towns about 1150 B.C. (Albright, A.A.S.O.R., XII, p. 58).

Hence according to Albright, the Red Slip ware must have appeared as early as 1150 B.C. And Culican, therefore, suggests that the Red Slip technique was introduced by the Peoples of the Sea into Phoenicia and Palestine (Culican, Abr-Nahrain I, p. 54). Miss Kenyon, on the other hand, holds that there has been an interval between the appearance of the Philistine ware and that of the Red Slip hand burnished ware. "The former," she writes, "appears below the foundation of Petrie's Building at Tell Jemmeh (ancient Gerar), while the latter is neither found associated with the J. Building nor in the occupation material on its floors, but only appears in a level over the destroyed tops of the walls of the J. Building. The red hand burnished ware cannot therefore appear before ca. 1100 B.C." (Crowfoot and Kenyon, Samaria-Sebaste, Vol. III, p. 200). The evidence from Tell Qasile, Stratum X in which Red Slip ware occurs and which dates to the end of the eleventh and the beginning of the tenth centuries - post-Philistine and pre-Israelite - confirms Miss Kenyon's view (I.E.J., Vol. I (1950-1951), Pl. 28:2, and p. 67, 132-136).

Miss Kenyon also holds that during the tenth century B.C., the red slip hand burnished ware becomes predominant Kenyon, Archaeology in the Holy Land, p. 254). Together with the Black-on-Red ware, the Red Slip hand burnished ware characterizes Stratum V at Megiddo. The break between this new technique and the red or red and black painted bands over a wet-smoothed surface so characteristic of Megiddo VIIA and VI is sharply defined at Megiddo (Shipton, Notes on the Megiddo Pottery of Strata VI-XX, p. 5-10; Lamon and Shipton, Megiddo, Vol. I, p. 163-165). At Tell Abu Hawam, although the Red Slip appears in Stratum IV(B), yet it is represented in far greater numbers in Stratum III. The same thing applies to Beth-Shemesh Strata III and II, and at Tell el Ful (ancient Gibeah) where it becomes predominant in Period II: 1020-990 B.C. (Sinclair, A.A.S.O.R., 1960, p. 19). At Tell Judaidah, after an eclipse of two



According to Miss Taylor, the Red Slip ware had reached Tell Halaf and Nimrud by the end of the eighth century "a fact which is consistent with the residence of Phoenician workmen certainly at Nimrud."<sup>1</sup> The presence of the Red Slip and Black-on-Red ware together with the Bichrome painted variety at Megiddo, al-Mina, 'Atlīt, Achzīb, Tell Abu Hawam and Cyprus point to a similar Phoenician infiltration.

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centuries - 1200-1000 B.C. - it reappears again at the beginning of the tenth century and characterizes Period IV: 1000-500 B.C. (Braidwood, Mounds in the Plain of Antioch, 1937, p. 6).

The contemporary appearance of the Black-on-Red ware with the Red Slip ware has been established on the sites of Tell Beit Mirsim B<sub>2</sub> (Albright, A.A.S.O.R., XII, Pl. LI:9), Ascalon (Phythian-Adams, P.E.F.Q., 1923, Pl. II:13), and at Beth-Shemesh III (Grant, Ain-Shems, Vol. V, p. 132; and Vol. IV, Pl. XXXVIII:3, Pl. LXI:39), to mention only a few. They appear also at Beth-Shan V (Fitzgerald, The Four Canaanite Temples of Beth-Shan, Vol. II, Part II: The Pottery, Pl. XLVII: 5, 8, 11), and formed a good proportion of the pottery at al-Mina, levels X-VIII and to a less extent in levels VII and VI.

<sup>2</sup>Goldman, Tarsus, Vol. III, p. 102.

<sup>1</sup>Taylor, Iraq, Vol. XXI (1959), p. 85.

The necropolis at Khaldeh which, according to the present writer, dates to the tenth century and which must have covered the ninth and the eighth centuries as well, has yielded abundant examples of Phoenician Bichrome, Black-on-Red and Red Slip wares.

Some of the commonest Phoenician forms are the following:

J.10 BLACK-ON-RED HANDLE-RIDGE JUGLET

Pl. XVI: 8, 7.

This is a juglet with a small flat base, squat, oval, or globular body, a narrow collared neck flaring into a funnel shaped mouth; a loop handle is attached from the neck-ridge to the shoulder. It is made of buff or light reddish ware, and covered either with a reddish-brown or an orange buff slip; the slip which could also be of a light red colour, was highly polished by hand in close and irregular burnish; sometimes the marks of the hard burnishing tool are clearly apparent applied horizontally along the lower part of the body. Over the burnished slip, bands in dull black were painted around the upper part of the body, the neck and the upper side of the handle. In most cases, one or more groups of concentric circle design were also painted on the shoulder. There are at least three types of this miniature jug. The

first type has a squat body, while the other two either have an oval or a globular shape. In Lachish Miss Tufnell noted two varieties. The first variety (type 337)<sup>1</sup> was decorated with four or more bands around the body, and one or more concentric circles above the shoulder; the top of the handle was parallel with the ridge on the neck. The second variety (type 336)<sup>2</sup> had more bands on the body, on the neck and on the handle while the top of the handle curved down somewhat to join the ridge on the neck.

This type of juglet appeared in Palestine during the Early Iron Age, as an imported ware, in context with Philistine pottery. It was found at Tell Beit Mirsim B<sub>2</sub><sup>3</sup> together with a curiously spouted bowl<sup>4</sup> also found at Beth-Shemesh under a known locus of Stratum III (Philistine)<sup>5</sup> - a fact which points to a date early in the Iron Age I. But in view of the fact that the Philistine bowl was relatively late in type, a date in the eleventh century is given to the spouted vase. The imported perfume juglet was unquestionably in context, since part of another was found in Silo 43, immediately under the stone on which a Philistine jug was

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<sup>1</sup>Tufnell, O. Lachish, Vol. III, p. 297, Pl. 88:337 and 37:6.

<sup>2</sup>Ibid., Pl. 36:64.

<sup>3</sup>Albright, A.A.S.O.R., XII, (1932), Pl. 51:9 and Pl. 31:43; p. 61; also XXI-XXII (1941-1943), p. 9.

<sup>4</sup>Albright, A.A.S.O.R. XII, Pl. 50:9.

<sup>5</sup>Grant, Ain Shems Excavations, Vol. IV, Pl. LVI:7.

discovered. At Beth-Zur<sup>1</sup> it was found before the destruction of the city ca. 1050 B.C. and while Philistine ware was still in use. However, it must be noted here that Albright dated the destruction of the level on the basis of the "Cypro-Phoenician" juglet which he thought could not ante-date 1050 B.C.<sup>2</sup> At Ascalon<sup>3</sup> and Ain Shems Stratum III<sup>4</sup> the juglet was again found with Philistine ware, and also at Gezer<sup>5</sup> Tomb 59 which sample was "peculiar" in having two sets of concentric circles.

Perfect specimens have been recovered from Tell Ta'annek<sup>6</sup> Tell al Judaidah<sup>7</sup> and Tell Zakariyeh<sup>8</sup>. Vincent views it as being derived from a Late Bronze II proto-type, namely, the "bilbil" with its very fine and well silted clay; the foot of the bilbil, he writes, slowly diminishes into a flat base and the body

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<sup>1</sup>Sellers, The Citadel of Beth-Zur, (Philadelphia, 1933), p. 37, Fig. 31.

<sup>2</sup>Albright, A.A.S.O.R. XXI-XXII (1941-1943), p. 36-37.

<sup>3</sup>Phythian-Adams, P.E.F.Q., (1923), Pl. II:13.

<sup>4</sup>Grant, Ain Shems, vol. IV, Pl. LXI:39; Vol. V, p. 132 ff.

<sup>5</sup>Macalister, Gezer, vol. I, p. 330-331, No. 6.

<sup>6</sup>Sellin, Eine Nachlese auf dem Tell Ta'annek, 24, figs. 31 and 44.

<sup>7</sup>Braidwood, Mounds in the Plain of Antioch, 1937, p. 6.

<sup>8</sup>Le Pere Hugues Vincent, Canaan (1914), p. 348-350.

becomes more globular; the flaring rim is retained, the neck becomes shorter, and the decoration is reduced to horizontal bands encircling the body and to concentric circles on the shoulder.

At Tell Fara<sup>1</sup> (Beth-Pelet or Sharuhen), the type was found in Tombs 201, 206, 211, 221, 227, 229 and 236. Tombs 227 and 229 contained scarabs of Dynasty XXII. Parallels come from Tell Jemmeh (ancient Gerar)<sup>2</sup> Strata G and H at levels 183-185; they are dated by Albright<sup>3</sup> to the tenth century B.C. Examples were also found at Tell 'Ajjul (ancient Gaza)<sup>4</sup> in Tombs 1010, 1022, 1037, 1067, 11106 (Type 82 G<sup>3</sup>) and Tomb 1011 (Type 82 E). All the specimens from Gerar and Gaza are according to Gjerstad of the non-Cypriote variety.<sup>5</sup> Eighteen vessels of this type were found in the cemetery at Lachish (Types 336 and 337) in graves 147, 152 and 167; double burial 160; tombs 218 and 120; tomb 224, 6024, 1002.<sup>6</sup> Others come from Beth-Shan level V<sup>7</sup> (formerly dated to Rameses II: 1292-1225 but revised by Kenyon to 1000-850 B.C.<sup>8</sup> and by Albright to the

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<sup>1</sup>Petrie, Beth-Pelet I, Pls. XXXIX, 82 G<sup>3</sup>; XL, 83G<sup>2</sup>; XLI.

<sup>2</sup>Petrie, Gerar, p. 9, Pls. LX, 82; LXII.

<sup>3</sup>Albright, A.A.S.O.R., XII (1932), p. 72.

<sup>4</sup>Petrie, Ancient Gaza, Vol. II, Pl. XXXV.

<sup>5</sup>Gjerstad, S.C.E. IV:2, p. 243.

<sup>6</sup>Tufnell, Lachish, vol. III.

<sup>7</sup>Fitzgerald, op. cit., p. 32, Pl. XLVII:27.

<sup>8</sup>Kenyon, The Archaeology of the Holy Land, p. 235.

eleventh and tenth centuries;<sup>1</sup> Tell Abu Hawam III;<sup>2</sup> the Iron Age cemetery near Haifa;<sup>3</sup> the Phoenician cemetery at 'Atlīt;<sup>4</sup> Megiddo V-III;<sup>5</sup> and Samaria Periods I through VI.<sup>6</sup>

In Hama two Cypro-Geometric III juglets have been found in urns.<sup>7</sup> The type is also represented at al-Mina, level VIII;<sup>8</sup> in the Beqa' collection at the A.U.B. Archaeological Museum; at Khirbet Silim grotto level IV, III and II; Zeb'īn and Khaldeh.

In Cyprus, it was imported into the island as early as Cypro-Geometric I<sup>9</sup> and continued to be imported until the end of Cypro-Geometric II.<sup>10</sup> With Cypro-Geometric III, the type came to be manufactured in Cyprus itself. For its distribution in Cyprus, cf. A.J.A., (1963), p. 36. On the development and

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<sup>1</sup>Albright, A.J.A., XLV (1941), p. 485.

<sup>2</sup>Hamilton, Q.D.A.P., IV (1935).

<sup>3</sup>Brit. Sch. Arch. Jerus. I-VII, No. 5 (1924), p. 51, Pl. II:8.

<sup>4</sup>Johns, Q.D.A.P., VI, p. 128.

<sup>5</sup>Lemon and Shipton, Megiddo, I, Pl. 5:123.

<sup>6</sup>Crowfoot and Kenyon, Samaria, Vol. III, p. 106, No. 8, Fig. 3; p. 195, Fig. 33 (C93<sup>8</sup>a); Fig. 2:8.

<sup>7</sup>Ingholt, Rapport préliminaire sur sept campagnes de fouilles a Hama en Syrie (Copenhagen, 1940), p. 97 and 98; Pl. XXX:2.

<sup>8</sup>Taylor, Iraq, XXI (1959), p. 78; Fig. 5:8.

<sup>9</sup>Gjerstad, S.C.E. IV:2, p. 269; and Vol. I, p. 230, Lapithos Tomb 417, No. 82.

<sup>10</sup>Gjerstad, Opusc. Arch., III (1944), p. 99.

evolution of the type cf. Gjerstad, Opusc. Athen. III, p. 115.

Albright's statement that these juglets "do not descend to a later date than the ninth century in Palestine"<sup>1</sup> can no longer stand in the light of the evidence from Megiddo V-III and Samaria I-VI. According to Mrs. Birmingham<sup>2</sup> and to Gjerstad<sup>3</sup> the type continues in Cyprus with a strongly biconical shape down to Cypro-Archaic II. On the mainland and Phoenicia, it has a terminal date between 750 and 720 B.C.<sup>4</sup>

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<sup>1</sup>Albright, A.A.S.O.R., XII (1932), p. 72.

<sup>2</sup>Birmingham, A.J.A., (1963), p. 36.

<sup>3</sup>Gjerstad, Opusc. Athen., III, p. 115.

<sup>4</sup>Culican, Abr-Nahrain I, p. 38.

J.11 BLACK-ON-RED JUGLET WITH PINCHED RIM

Pl. XVI: 1-5

A fine juglet of pink buff thin walled well fired ware makes its appearance during the Iron Age in Phoenicia. It is provided with a small flat base, piriform body, narrow flared neck with rim pinched into trefoil, and with a loop handle from the rim to the shoulder. It is covered with a light red or orange buff slip and is highly burnished. Over the slip it is decorated in dull black concentric circles.

In Cyprus this type of juglet appears on Black-on-Red II(IV)<sup>1</sup> but on the mainland, it makes its appearance as early as Megiddo VA<sup>2</sup> and IV.<sup>3</sup> It also occurs in Lachish in grave 147 and tomb 218,<sup>4</sup> and at Tell el-Ghaseel, level I.<sup>5</sup>

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<sup>1</sup>Gjerstad, S.C.E., IV:2, Fig. XXXVIII:23(12).

<sup>2</sup>Loud, Megiddo, Vol. II, Pl. 88:7.

<sup>3</sup>Ibid., Pl. 91:2.

<sup>4</sup>Tufnell, Lachish, Vol. III, p. 297, Pl. 88, type 338.

<sup>5</sup>Baramki, D.C. The writer was given this information orally by Dr. D. C. Baramki.



J. 12 BLACK-ON-RED SACK-SHAPED JUGLET

Pl. XVI:9

This is a juglet of fine pink buff hard well fired ware, with blue-gray core and well made. It is provided with a small flat base, a bag-shaped body with sloping shoulders, a narrow collared neck with flaring mouth and with a loop handle attached from the neck-ridge to the shoulder. It is treated with a fine light red slip with close burnish and decorated in dull black bands around the body and the neck including the handle and the rim.

The type occurs at Megiddo V,<sup>1</sup> Tell Abu Hawam III,<sup>2</sup> Lachish Tomb 120 (bottom layers),<sup>3</sup> Achzib cemetery,<sup>4</sup> Jericho,<sup>5</sup> Ta'annek,<sup>6</sup> and in Tomb VII in the cemetery near Haifa where it is unburnished and of coarser ware.<sup>7</sup>

The juglet also appears at Khirbet Silim, grotto level II and at Khaldeh.

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<sup>1</sup>Loud, Megiddo, Vol. II, Pl. 88:18.

<sup>2</sup>Hamilton, Q.D.A.P., IV (1935), p. 22, No. 87, Pl. XIII.  
Van Beek, B.A.S.O.R., No. 138 (1955), p. 35.

<sup>3</sup>Tufnell, Lachish, Vol. III, p. 297, type 330, Pl. 88.

<sup>4</sup>Johns, P.E.Q. (1948-1949), p. 88-89, Pl. II, Fig. 2.

<sup>5</sup>Sellin and Watzinger, Jericho, No. 4, Blatt.30:G,4.  
For a revised chronology of Jericho, cf. A.A.S.O.R. IV, (1924) p. 11.

<sup>6</sup>Vincent, Canaan, p. 351, fig. 250.

<sup>7</sup>Brit. Sch. Arch. Jerus., No. 4, (1924), p. 52 and 55; Pl. III, No. 38.

J.13 GLOBULAR JUG WITH PINCHED RIM AND  
INTERSECTING CIRCLE DESIGN

Pl. V:1

This is a globular jug with a ring base, narrow neck, rim pinched into trefoil and with a loop handle attached from the rim to the shoulder.

At Megiddo V(A)-IV(B)<sup>1</sup> it is covered with a black well burnished slip and painted in yellow decoration of vertical concentric circles intersected by horizontal bands on the shoulders. The type continues through Strata IV and III. At al-Mina,<sup>2</sup> one of the jugs was made of thin pinkish-buff ware, covered with an intense red slip, which was hand-burnished except under the base, and had the intersecting circle design painted on it in dull black colour. The larger jugs with large vertical circles and intersecting multiple bands were not only represented in Black-on-Red ware but also in a light brown ware which was covered by a drab and sometimes brownish slip over which the intersecting circle design was painted in dull black.

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<sup>1</sup>Lamon and Shipton, Megiddo, Vol. I, Pl. 8:176.

<sup>2</sup>Taylor, Iraq, XXI (1959), p. 78, Pl. XXII b: 2-5, 6.

A.10 BLACK-ON-RED AMPHORISCUS

Pl. XVI:6

This is a two-handled diminutive jar with small flat base, globular body, narrow collared neck, flaring rim, and with two vertical loop handles attached from the collar at the neck to the shoulder. It is covered with a light red slip which is highly close burnished and over which horizontal bands around the body and the neck were painted in dull black colour.

Concentric circles decorated the shoulders.

The type occurs at Tell Beit Mirsim B<sub>2</sub><sup>1</sup>, Tell Jemmeh,<sup>2</sup> tenth to ninth centuries B.C., Megiddo V-III,<sup>3</sup> Achzib,<sup>4</sup> dated by Culican<sup>5</sup> to the ninth and 8th centuries B.C., and at Lachish, Tomb 1002<sup>6</sup>. At Tell el Ajjul, the example in Tomb 1074 was decorated with intersecting circles,<sup>7</sup> and was dated by Petrie to the XXII Dynasty. It appears also at Khaldeh.

A fragment from the shoulder of an imported amphoriscus was found at Tarsus in the Early Iron Age level (1100-850 B.C.).<sup>8</sup> In Cyprus,<sup>9</sup> however, the type does not appear before Black-on-Red II(IV). For its distribution in Cyprus, cf. A.J.A. (1963), p. 35.

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<sup>1</sup>Albright, A.A.S.O.R., XII, p. 62, Silo 43, No. 44; Pl. 26.

<sup>2</sup>Petrie, Gerar, Pl. LX:82.

<sup>3</sup>Lamon and Shipton, Megiddo, I, Pl. 17:87; and Loud, Megiddo, II, Pl. 89:6.

<sup>4</sup>P.E.F., 1948-1949, Pl. II:2.

<sup>5</sup>Culican, Abr-Nahrain, I (1959-1960), p. 42.

<sup>6</sup>Tufnell, Lachish, Vol. III, Pl. 88:339.

<sup>7</sup>Petrie, Ancient Gaza, Vol. II, Pl. XXXV: 69P<sup>2</sup>

<sup>8</sup>Goldman, Tarsus, Vol. III, p. 57, No. 168.

<sup>9</sup>Gjerstad, S.C.E. IV:2, Fig. XXXIX: 18.

B.1 BLACK-ON-RED DEEP BOWL WITH RING BASE

Pl. X:2; XI:1

A characteristic Phoenician type is a bowl of fine reddish ware which is well and evenly fired, and covered with a well burnished red slip verging in some cases from orange to pinkish gray and on which are painted horizontal bands in dull black colour. Sometimes two or more groups of concentric circles also in black dull colour decorate the bowl below the rim. The bowl has gentle curving sides provided with two loop handles horizontally applied below the rim.

Although never found complete, yet by far it was the commonest form at Tell Abu Hawam III.<sup>1</sup> It also occurs at Megiddo V-III,<sup>2</sup> Samaria Period VI (750-722 B.C.),<sup>3</sup> Tell el Fara (Tirzah) in level III,<sup>4</sup> Lachish,<sup>5</sup> Tell Qasile Stratum IX (tenth century B.C.)<sup>6</sup> and al-Mina level VIII,<sup>7</sup> and in substantial quantity at Khaldeh.

In Cyprus it appears during the Cypro-Geometric III period on Black-on-Red I(III) ware. For its distribution in Cyprus, cf. AJA, (1963), p. 33.

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<sup>1</sup>Hamilton, Q.D.A.P. IV, (1935), p. 6-7, fig. 8.

<sup>2</sup>Lamon and Shipton, Megiddo I, Pl. 29:107.  
Loud, Megiddo II, Pl. 90:2,3.

<sup>3</sup>Crowfoot and Kenyon, Samaria-Sebaste, Vol. III, p. 195, No. 2 (C1125) in E 207, fig. 33. Samaria, Vol. II, p. 281-2, No. 3a(4625)S8-818 deep, fig. 157.

<sup>4</sup>Rev. Bibl. (1952), Vol. LIX, fig. 6:16.

<sup>5</sup>Tufnell, Lachish, Vol. III, Pl. 80:66, 67.

<sup>6</sup>I.E.J., Vol. I (1950-1951), p. 194, No. 7373.

<sup>7</sup>Iraq, Vol. XXI (1959), p. 75-76, Fig. 5:1.

B.2 BLACK-ON-RED STANDARD BOWL WITH RING BASE

Pl. X:1

Associated with B.1 is a shallower and wider type of bowl treated with the same red slip and decorated in dull black horizontal bands. It has a ring base and two loop handles horizontally applied below the rim.

This bowl occurs at Megiddo, level V,<sup>1</sup> al-Mina , level VIII,<sup>2</sup> and in substantial numbers at Khaldeh. In Cyprus, it does not make its appearance before Cypro-Geometric III.<sup>3</sup> For its distribution in Cyprus, see A.J.A. (1963), p. 33.

Both bowls types B.1 and B.2 range between 1000-720 B.C.

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<sup>1</sup>Lamon and Shipton, Megiddo, Vol. I, p. 163, Pl. 30:140.

<sup>2</sup>Taylor, Iraq, Vol. XXI (1959), Fig. 5:4.

<sup>3</sup>Gjerstad, S.C.E., IV:2, Black-on-Red II: Fig. XXXVII:23-26.

B.3 BOWL WITH ROUND BASE AND RIM BENT IN

Pl. VIII:2

This type is most probably influenced by metal prototypes. It is of yellow or reddish-brown ware, covered with a dark red slip irregularly burnished inside and outside. The type is represented in Khirbet Silim, grotto level III, and at Khaldeh. In Palestine it appears at Megiddo V and continues through Strata IV-II, with the red slip covering the inside and upper part of the body just below the rim on the outside.<sup>1</sup> It also appears at al-Mina level VIII,<sup>2</sup> at Beth-Pelet,<sup>3</sup> and at Samaria Periods III-VI (850-722 B.C.).<sup>4</sup> The bowl is sometimes painted in dull black horizontal bands over a cream or a red slip.

A date ranging between 1000 B.C. and 650 B.C. is quite likely for this type of bowl, although it was most commonly used during the ninth and the eighth centuries.

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<sup>1</sup>Lamon and Shipton, Megiddo I, Pl. 24:53 and 55; also Megiddo II, Pl. 89:11

<sup>2</sup>Taylor, Iraq, XXI, fig. 6, p. 80.

<sup>3</sup>Petrie, Beth-Pelet I, Pl. XXXIX:23A<sup>2</sup>

<sup>4</sup>Crowfoot and Kenyon, Samaria, Vol. III, p. 122, fig. 10:7.

B.4 BOWL WITH SHARPLY RISING SIDES,  
CONVEX BASE WITH A SHALLOW DISC  
("SAMARIA" LIKE WARE), Pl. XIV:3

This is a bowl of fine reddish-buff ware with a highly burnished red or cream yellow slip. At Tell Abu Hawam it is the characteristic bowl of Stratum III, where together with type B.1, is the commonest form. It was made of a fine reddish-brown ware, and covered all over with a dark red slip and burnished horizontally.<sup>1</sup> At Khaldeh similar bowls have been found but with a flat small base or with an umbilical small base.

Sometimes such bowls are yellow on the inside and red on the outside. On the most delicate fragments, red and yellow are occasionally combined in alternate bands.<sup>2</sup> This two-tone technique is also represented at Khaldeh where one of the bowls which is provided with a very wide disc base, is decorated in addition with very faint grooves. Another bowl which is similarly decorated has a round base identical with that on Pl. XIV:1. Pl. XIII:2 gives an idea of the type of decoration applied on such bowls.

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<sup>1</sup>Hamilton, Q.D.A.P. IV (1935), p. 7 and 21, Nos. 68 and 69; and fig. 9.

<sup>2</sup>Some specimens have been compared by Dr. Ben Dor who noted resemblances but also some differences with the "Samaria ware" Pls. XIII and XIV considering the latter to be the finer. (Crowfoot and Kenyon, Samaria-Sebaste, Vol. III, p. 158).

A two-tone technique used in Tarsus<sup>1</sup> is also found represented at Khaldeh on a bowl which has a very small disc base and gently flaring sides. It is covered with an intense and highly burnished dark red slip which covers the outside including the base, while the inner side is left in its original buff-to-brown colour of the clay. In Tarsus this technique occurs only sporadically in the Early Iron Age, and flourishes in the Assyrian Period (700-600 B.C.), when the profile shows an increase in elegance. But in contrast with Tarsian ware, the example at Khaldeh is made of a fine and well levigated ware.



It cannot be stated with certainty what technique of burnishing on bowls was practised by the Phoenicians during the Early Iron Age. The evidence from Tell Abu Hawam is that they used mostly horizontal burnishing over a red or cream slip. That they used irregular hand burnishing as was current in Palestine<sup>1</sup> is possible. It is also likely that both wheel and close hand

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<sup>1</sup> During the Early Iron Age, hand burnishing whether in irregular criss-cross, horizontal, continuous or chordal was characteristic of the period. This hand burnishing on bowls was applied both on the inside and the outside over a dark red slip (Albright, A.A.S.O.R. XII, 1930-31, p. 67-68, Pl. 51:17). Chordal burnishing consisted of wide bands of parallel burnished strokes with the centre of each stroke as a rule at right angle to the radius of the bowl (Pl. 51:13; 23:4). Cf. Albright, Gibeah II (Tell el Fūl) in A.A.S.O.R., IV, p. 9-17; also Sinclaire's refinement on Albright's Tell el Fūl in A.A.S.O.R. Vol. XXXIV-XXXV for 1954-1956 (1960); Tell Beit Mirsim, Strata B<sub>2</sub>-B<sub>3</sub>, Ibid., vol. XII, p. 64-68; Wright, B.A.S.O.R., 155, 1959, p. 155 ff.; Tufnell, Lachish III, Fig. 33.

At Megiddo, irregular hand burnish on a dark red slip both inside and outside characterized Stratum V. Wheel burnish was restricted to a few types of bowls, where it usually occurred in combination with hand burnishing. It is only in Stratum IV that there began the wide use of the wheel as a burnishing factor on a lighter red slip - a practice which continued uninterruptedly in into Stratum I.

Period III at Samaria (850-800 B.C.) represents the transitional period between Early Iron forms which were burnished by hand and Middle Iron forms which were wheel burnished. In the earlier periods I-II (880-850 B.C.), the ware was distinctly harder and browner than the later vessels, and the core was often black. The coarse ware had comparatively large white grits. The slip of the burnished vessels was red brown, very distinctively browner than that of the later period. The most important point in the technique was that most of the burnished vessels and sherds showed a combination of hand and wheel burnish (like Megiddo V). No examples of completely wheel burnished vessels appeared during this period.

During the same period on the site in question, the ware was more like period IV (800-750 B.C.) but the slip was nearer the brownish red of the earlier ware than the bright red of the

burnishing were applied on the same vessel as was done in Tarsus.<sup>1</sup> The ware of the Early Iron might have been harder and browner with perhaps even a black core on large jars and vessels; the slip had probably a darker red which sometimes was mellowed with a brownish tinge. During the later period the slip tends to brighten in colour into a lighter red. The forms of the Early period have a gentle angular profile, simple rims sometimes inverted, flat or disc bases and less often ring bases (Pl. VII:1,2,4,5,6; and VIII:1,3). The bar handle is a characteristic of the period (Pl. VII:3). Grooves are sometimes applied below the rim—a technique which continues through the Middle Iron Age as well (Pl. IX:7).

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later. The technique of burnishing is interesting. Some hand burnishing still occurred, but the majority of the bowls were wheel burnished. Inside, they were so continuously burnished that it is hard to see any burnishing lines or to establish the technique, but three quarters of an inch below the rim, the rings of the wheel burnishing could be seen, while in some examples the same technique was just visible in the lower part; it is probable therefore that all were wheel burnished. On the exterior, the burnishing was also very good, but the rings of the wheel burnish were visible, and these continued even on the interior of the foot ring. (Crowfoot and Kenyon, Samaria, Vol. III, p. 94-95.)

Exterior ring burnishing on bowls which appears in Tell Beit Mirsim B<sub>3</sub> and which is characteristic of B<sub>3</sub> and A<sub>1</sub> disappears in Stratum A<sub>2</sub> during the Middle Iron Age ca. 800 B.C.<sup>1</sup> Albright, A.A.S.O.R., XII, p. 85 and p. 79. Kenyon on the other hand believes that exterior ring burnishing on bowls continued somewhat later (Crowfoot and Kenyon, op. cit., p. 96.)

During the Middle Iron Age, many saucers and small bowls had their exterior surfaces decorated with bands of red or brown slip. (Albright, A.A.S.O.R., XII, Pl. 63-64). Bowls without burnishing were also common. However, wheel and ring burnishing on bowls and plates, which according to Albright (A.A.S.O.R. XII, p. 86) were excessively common in all parts of Palestine and southern Syria during the Early and Middle Iron Age, went out of general use in the sixth century B.C. (Ibid., p. 85-86).

<sup>1</sup>Goldman, Tarsus, Vol. III, p. 63.

A burnished cream but most often red slip covers both the inside and the outside of the bowl including the base.

With the Middle Iron Age, bowls tend to become shallower; the ring and the round base predominate. The gentle curves of the early period become accentuated into more sharply angular profiles (Pl. VIII:6); the rims become flat and flanged (Pl. IX:1,2) or thickened and everted (Pl. VIII:4; and Pl. IX: 2,4,6). The red slip covers the inside of the bowl only and sometimes the upper part of the body below the rim outside (Pl. VIII:5). Wheel and spiral burnishing characterize the Palestinian bowls.<sup>1</sup> The flanged rim is most common in level VIII at al-Mina (ninth century B.C.), where the fabric was of good quality, slipped all over and burnished. In level VII the bowls are not provided with a slip on the outside, and the colour is more of a plum red.<sup>2</sup> All were wheel burnished. The everted rim started at Samaria with Period IV (800-750 B.C.), while the thickened rims became very common during the Assyrian Period, Samaria VII (722-650 B.C.). At Tell Beit Mirsim and Beth-Shemesh, the thickened rims are characteristic of the seventh century B.C.<sup>3</sup>

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<sup>1</sup>Van Beek, B.A.S.O.R., No. 138 (1955), p. 36.

<sup>2</sup>Taylor, Iraq, XXI (1959), p. 79-83

<sup>3</sup>Crowfoot and Kenyon, Samaria, Vol. III, p. 97; Fig. 11: 1-7, (thickened rims) and Fig. 7:1 (everted rims).

J. 20 RED SLIP JUG WITH GLOBULAR BODY, WIDE  
TAPERING NECK AND RIM PINCHED INTO TREFOIL

Pl. II: 1.

A jug of light reddish or buff ware with thin walls and very fine in texture appears in Khaldeh and Khirbet Silim. It is provided with a small ring base, globular body, flat or double strand loop handle from the rim to the shoulder, a wide tapering neck narrowing upwards and a trefoil pinched rim. It is covered with a red slip which is highly burnished vertically on the neck and horizontally on the body. Sometimes the whole surface was vertically burnished. In certain cases, very fine grooves are noticed on the shoulder. Often a knob was apparent at the base of the handle, as though in imitation of a metal proto-type.

One complete jug was found at al Mina, levels VII-VI,<sup>1</sup> fragment of a neck at 'Atlit,<sup>2</sup> and also at Lachish Tomb 218 (1000-900 B.C. Kenyon),<sup>3</sup> Tell Reshidiyeh in the cremation burial tombs,<sup>4</sup> Mount Carmel in Tomb VII,<sup>5</sup> Samaria Period II,<sup>6</sup> and Tell Beit Mirsim.<sup>7</sup> At Khirbet Silim, it was found in grotto level III and fosse levels II and I.

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<sup>1</sup>Taylor, Iraq, XXI (1959), p. 83-84, Fig. 7:7.

<sup>2</sup>Johns, Q.D.A.P., VI, (1936-1937), p. 134, 141, 142: Fig. 6:1.

<sup>3</sup>Tufnell, Lachish III, p. 203 ff., Pl. 86:244.

<sup>4</sup>Macridy-Bey, Rev. Bibl., 1904, Pl. VI:2.

<sup>5</sup>Guy, Bull. Brit. Sch. Arch. Jerus., No. 5 (1924), p. 52, Pl. III:31.

<sup>6</sup>Crowfoot and Kenyon, op. cit., p. 112, Fig. 3:5.

<sup>7</sup>Albright, A.A.S.O.R., XII, p. 83, Pl. 38(A): 14,15,16.

The type was transferred by the Phoenicians to their western colonies. It is very common at Carthage<sup>1</sup> and Motya.<sup>2</sup>

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<sup>1</sup>Cintas, Ceramique Punique, (Paris, 1950), CL.XII, Type 151 and 160; Gauckler, Necropoles puniques de Carthage, I, (Paris, 1915), Pl. XX, LXXIX, C, CLII, CLXIII, CLXXII, CCIX-CCXI;

Harden, "Punic Urns from the Precinct of Tanit at Carthage," A.J.A., XXXI (1927), p. 309, Fig. 20.

<sup>2</sup>Whitaker, Motya: A Phoenician Colony in Sicily (London, 1921), p. 297, Fig. 73.

J. 21 RED SLIP JUG WITH BICONICAL BODY, WIDE  
TAPERING NECK AND RIM PINCHED INTO TREFOIL

Pl. XVII: 4

This is a jug of light red ware, with low foot and almost biconical body, wide tapering neck narrowing upwards, with a pinched rim into trefoil, and a raised handle from rim to shoulder. Two knobs are to be found beside the handle, one on the rim and one below the handle on the body. The vessel is covered with a red slip which is highly burnished.

The type appears at Khirbet Silim, grotto level II. In grotto level IV the type appears with a more piriform body on both Red Slip and Black Slip wares. It also occurs at Lachish in Tomb 224 (860-820 B.C.), Tomb 116 (875 B.C. terminal date) where it was burnished vertically and thus pointing to an early series.<sup>1</sup> Several fragments of it occur also at al-Mina, in levels VII-VI.<sup>2</sup>

The type was transferred by the Phoenicians to Cyprus during Cypro-Geometric III where it appears at Amathus in Tomb 13 No. 38, and where it continues through Red Slip II(IV).<sup>3</sup> For its distribution in Cyprus, cf. A.J.A., No. 1, Vol. 67 (1963), p. 26.

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<sup>1</sup>Tufnell, Lachish, III, p. 191, Pl. 86:241.

<sup>2</sup>Taylor, Iraq, XXI (1959), p. 83.

<sup>3</sup>Gjerstad, S.C.E. IV:2, Fig. XXVII:6; XXXV:3,4; XLI:14; XLIII:3; and S.C.E. II, p. 82, Pl. CXXVI:2.

J.22 RED SLIP JUG WITH GLOBULAR BODY,  
NARROW CONCAVE NECK, RIM PINCHED  
INTO TREFOIL

Pl. XVIII:2

Appearing in various sizes this jug is made of very fine buff or light red ware, with thin walls and evenly and well fired. It has a ring base, globular body, narrow concave neck, rim pinched into trefoil, and a strap handle from the rim to the base of the neck. It is covered with a red slip which is highly burnished and distinguished by three or more faint grooves encircling the shoulder. The burnish is applied vertically on the neck and horizontally on the body.

The type is represented at Megiddo, Strata IV through II. Those that come from Strata IV-III have usually a gray core, with green brown black grits, and are covered with a light red slip which is vertically burnished on the neck and with close wheel burnish on the body. The examples that continue through Stratum II are covered with a yellow light red wash.<sup>1</sup> According to the excavators,<sup>2</sup> No. 83 has an unusually handsome shape for the degenerate workmanship of the Middle Iron period in Palestine. They are well made and therefore could have been imported from Phoenicia.

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<sup>1</sup>Lamon and Shipton, Megiddo, I, Pl. 3:85; 83, 84.

<sup>2</sup>Ibid., p. 162.

In Samaria<sup>1</sup> where it appears in Periods III-VI, the examples were probably of local made as the thick dark red slip which covered them was "unburnished".<sup>2</sup> Those from Lachish<sup>3</sup> are identified by Harding as local products,<sup>4</sup> whereas Miss Tufnell describes them as composing a small class of ware showing a high degree of finish and are in sharp contrast with the jugs in common use.<sup>5</sup> Parallels come from Tombs 109-110 of Adoni Nur<sup>6</sup> in Amman, dated by Harding to 668-625 B.C.,<sup>7</sup> Tomb A from Amman,<sup>8</sup> dated to 800-700 B.C., and the Sahab Tomb, dated also to the eighth century B.C.<sup>9</sup>

This jug appears in great quantity at Khaldeh and is represented in Khirbet Silim grotto levels III and I.

In Cyprus, this variety appears at Amathus and Kition.<sup>10</sup>

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<sup>1</sup>Crowfoot and Kenyon, Samaria, Vol. III, p. 95, 124: No. 15, 16, Fig. 10: 15, 16; p. 168, No. 7 C502 in Tomb E207 which contained many other jugs of this type but all fragmentary. Fig. 22:7.

<sup>2</sup>Tufnell, Lachish, Vol. III, p. 291.

<sup>3</sup>Ibid., Type 236 and 237, p. 290, Pl. 86; in Tomb 1002 (central layers) dated to 900-700 B.C.

<sup>4</sup>Ibid., p. 291.

<sup>5</sup>Ibid., p. 290.

<sup>6</sup>Harding, P.E.F. Annual VI (1953), p. 63, Fig. 22.

<sup>7</sup>Ibid., p. 49.

<sup>8</sup>Harding, Q.D.A.P., XI (1945), p. 72 and 79, No. 36, and Pl. XVII. also Henschel-Simon, Ibid., p. 75-80.

<sup>9</sup>Harding, Q.D.A.P., XIII (1948), p. 99, No. 48, 49, 50, 51.

<sup>10</sup>Gjerstad, S.C.E., Vol. II, Tomb 7ii: 173 (with strainer). Karageorghis, A.J.A., LX (1956), p. 352 and 358, Pl. 118(a).



J. 23 RED SLIP JUG WITH PIRIFORM BODY  
LONG TUBULAR NECK AND RIM  
PINCHED INTO TREFOIL

Pls. I:2; XVII:5;  
and XIX:1

A jug with a low foot (ogee or high ring base), piriform body, high tubular neck flaring upwards, rim pinched into trefoil, and a loop handle (either strap or double-strand) attached from the rim to the shoulder appears in Cyprus during the Cypro-Geometric III period.<sup>1</sup> It is treated with a dark red slip which is vertically burnished, and is sometimes provided with knobs at the sides of the end of the handle at the rim. Gjerstad believes that it is a metal imitating shape.

The type occurs at Khaldeh and Megiddo Stratum IV.<sup>2</sup> Fragments were found at al-Mina in levels VII-VI.<sup>3</sup> At Khirbet Silim, in grotto level IV, the form appears on bichrome ware. Over a buff cream slip, vertical lines in red and black drop from a band painted at the lower end of the neck to the horizontal bands encircling the shoulder, dividing thus the upper part of the body into panels.

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<sup>1</sup>Gjerstad, S.C.E., II, Pl. XCCVI:3; and Ibid., Vol. IV:2, Fig. XXVII:5.

<sup>2</sup>Loud, Megiddo, II, Pl. 91:3.

<sup>3</sup>Taylor, Iraq, XXI, p. 83-84; No. 55 . 1022.

J.24 RED SLIP JUG WITH MUSHROOM-LIKE RIM  
AND BELL-SHAPED BODY

Pls. I:1; XIX:2;

XVIII:1

A typical Phoenician jug is also represented at Khaldeh. It is made of a fine and well levigated buff ware, with a ring base, bell-shaped body, angular shoulder decorated with two faint grooves, swollen neck with a faint collar at the middle, a mushroom or disc-like rim, and a loop handle attached from the collar on the neck to the shoulder. The thin walls of the vessel are covered with a red slip which is vertically burnished on the neck and horizontally on the body. (Pl. I: 1).

A smaller variety of the same type is represented at the A.U.B. Archaeological Museum (No. 872). It has a more rounded profile with no grooves on either the body or the neck. A vestigial like loop handle is attached from the middle of the neck to the shoulder. It is treated with a red slip which is horizontally burnished all over in wide ring-like manner giving the effect of a lighter and a darker red.

At 'Ain Shems, the two "disk oenochoai" from Stratum II phase b (later part)<sup>1</sup> date the appearance of this type to 900 B.C. According to Grant, it continued to be current throughout the Middle Iron Age.

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<sup>1</sup>Grant, Ain Shems, Vol. V, p. 140; Vol. IV, Pl. XLIV:24 and 25; Vol. II, Pl. XXXIX:28 and 27.

At al Mina levels VII-VI<sup>1</sup> and at Beth-Pelet<sup>2</sup> the larger and the smaller varieties are represented.

According to Gjerstad, the type was introduced into Cyprus as Red Slip II.<sup>3</sup> During the Cypro-Archaic II period, the body loses its rounded outline, the sides are straightened and the shoulder becomes angular while the rim is evolved drooping.<sup>4</sup>

The same form is copied in other fabrics both in Cyprus<sup>5</sup> and on the mainland. The example from Megiddo Stratum IV<sup>6</sup> is treated with a cream slip with the upper part of the neck painted in black and red bands(Pl. XX: 1). The type continues through Strata III (Pl. XX: 2) and II.

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<sup>1</sup>Taylor, Iraq, XXI (1959), p. 84, Fig. 7: 5 and 6; and 7: 1 and 4.

<sup>2</sup>Duncan, Corpus of Palestinian Pottery (London, 1930), 83.

<sup>3</sup>Gjerstad, S.C.E. IV:2, Fig. XLIII: 5.

<sup>4</sup>Gjerstad, S.C.E. IV:2, Fig. LVI: 12, 13; also Opusc. Athen. III, (1960), p. 115, Fig. 8.

It should be noted that the bell-shaped jug illustrated by Gjerstad in S.C.E. IV:2, Fig. XLIII:6 and classified there as Type IV, should be classified as Type V in accordance with Gjerstad's present view.

<sup>5</sup>Ibid., Fig. XXXVIII:8 in Black-on-Red II(IV); XLI:4 in Bichrome Red I(IV); LIII:14 in Bichrome II(V); LVI:12, 13 in Grey and Black Burnished III(V) ware.

<sup>6</sup>Stratum IV: Megiddo II, Pl. 91:4.

" III: Megiddo I, Pl. 3:79.

" II: Megiddo I, Pl. 3:78.

For the distribution of J.24 in Cyprus, cf. A.J.A.,  
Vol. 67, No. 1 (1963), p. 25.

In the western Phoenician settlements such as Carthage and Motya, the type evolves and develops on different lines than those in Cyprus. The tendency is for the disk mouth to become larger at the expense of the body.<sup>1</sup> Like type J.20, this jug could not have appeared in either Motya or Carthage before 720 B.C.<sup>2</sup>

At the Achzīb cemetery, the type occurs in the earliest tomb groups alongside the Black-on-Red wares, but continues long after Black-on-Red wares have ceased to feature largely in the Achzīb tombs. According to Culican,<sup>3</sup> the type at the cemetery dates roughly 750-650 B.C. The lower date is suggested by the presence of a Rhodian cup in one of the Achzīb tombs containing a decadent form of one of these jugs. The earliest jugs of this type at Carthage are very close in burnish and profile to the Achzīb jugs, but none of them retains the three grooves on the upper body characteristic of jugs from graves where Black-on-Red ware is prominent.

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<sup>1</sup>Cintas, P., Ceramique punique, CL.VI, types 65 and 66;  
Gauckler, Necropoles puniques de Carthage, I, Pls. LXXXVII, C,  
CLIII, CLXXII, XXIX, CCX, CCXII; for other references cf.  
Gjerstad, S.C.E. IV:2, p. 295, Note 15.  
Whitaker, Motya: A Phoenician Colony in Sicily, (London, 1921),  
p. 297, Fig. 73.

<sup>2</sup>Culican, Abr-Nahrain, I, p. 54.

<sup>3</sup>Ibid., p. 43.

"It is natural to expect" writes Culican, "that the pottery of Carthage should, at least at its earliest, show a strict relation to that of Phoenicia itself or Cyprus. This, however, is not the case, and although there are proto-types and derivatives on either side, a lamentable lacuna exists between the Phoenician pottery of East and West Mediterranean. In Phoenicia and Cyprus in the period covering late tenth to mid-seventh centuries, one type of pottery, higher in standard than any in its period, is commonly found as a luxury. It is the Black-on-Red ware of Gjerstad's classification... In a Phoenician city of Carthage [supposedly] founded in the late ninth century,<sup>1</sup> one would naturally expect to find this Black-on-Red pottery, but in fact not a scrap of it has been found in the Western Mediterranean... The period of its vogue seems certainly to have been over when Carthage was founded..."<sup>2</sup>

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<sup>1</sup> Emil O. Forrer of Leipzig in his article on "Karthago wurde erst 673/663 gegründet" in Festschrift Franz DornsiEFF, Leipzig, 1953, suggests a date for the foundation of Carthage based purely on historical grounds to be early in the seventh century B.C. Culican in his article on "Aspects of Phoenician Settlement in the West Mediterranean," in Abr-Nahrain, I (1961), pp. 36-54, believes that Carthage could not have been founded before 720 B.C.

<sup>2</sup> Ibid., p. 38-39.

According to both Culican and Birmingham, the evidence from Palestine confirms that from Carthage, namely, that the Black-on-Red ware continued to the end of the eighth century, when as a result of the Assyrian onslaught on Phoenicia both the Red Slip and the Black-on-Red wares came to an end. In both Cyprus and Phoenicia the red slip gives way to a red wash. The cemetery at Achzib in Palestine demonstrates how the Black-on-Red ware slowly went out of fashion, while the Red Slip ware continued but in a modified red wash. The red slip jug represented alongside the Black-on-Red wares continues long after Black-on-Red have ceased to feature largely in the Achzib tombs; but as soon as the Black-on-Red ware begins to disappear from the graves, the piriform jug assumes a shape exactly like that of Carthage and the red slip and burnish give way to a dull red wash.<sup>1</sup>

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<sup>1</sup>Ibid., p. 38. Birmingham, A.J.A., No. 1, Vol. 67 (1963), p. 25. Taylor, Iraq, XXI (1959), p. 87.

CHAPTER V

C O N C L U S I O N

That the Phoenicians were a composite race is well attested in all aspects of their artistic expressions including their ceramic industry. Phoenician pottery was ushered in with the Iron Age. New traditions and new techniques were introduced which gave birth to a new "mixed" type of pottery in which the old was mellowed with the new and in which various techniques, forms and decorative designs existed and continued to be produced side by side in such a way that it has led many scholars in the past to exclude certain fabrics from the Phoenician repertoire. As a result, Cyprus has been accredited with too much and Phoenicia with too little. Recent excavations in Palestine and the Near East have necessitated a change in what was formerly thought to be Cypriote. The Geometric style on Bichrome ware, for example, which decorated amphorae and kraters was certainly a product of the Phoenician coast. The jugs with open strainer spouts bear eloquent testimony of the diversified motifs which the Phoenicians used to paint on their vessels, while the neck-ridge jugs with ring or round bases testify to another style in which the concentric circle ornament prevailed.

That certain Canaanite Late Bronze shapes survived, though in a modified form, throughout the Iron Age needs no verification. On the other hand, certain Mycenaean forms persisted side by side with new shapes quite alien to their Mycenaean counterparts. The Red Slip and Black-on-Red techniques, the coarse plain kitchen ware, and the luxuriously delicate "Samaria" like ware all point to the composite nature of Phoenician pottery which although varied and different never clashed. A Phoenician vessel, besides its excellence in execution often reflected harmony and proportion. The concentric circle motif, for example, even if it had been foreign in origin, when adopted by the Phoenicians, was reproduced by the Phoenician potter in such a way that the combination of form, finish and decoration reflected a harmonious whole.

In methods of manufacture, surface finish and decoration Phoenicia seems to have combined techniques and decorative designs current in both Palestine or Tarsus, not to mention Cyprus with which it had the strongest affinity.

Although it is premature to attempt any definite classification of Phoenician pottery, yet in view of all the facts presented in the foregoing study, the writer proposes to divide the Iron Age in Phoenicia into two main phases: (I) An early phase which starts about 1200 B.C. and ends ca. 800 B.C., and



(II) A later phase which covers the period from 800 - 600 B.C.

I. THE EARLY IRON AGE (1200-800 B.C.)

The Early Iron Age may itself be sub-divided into three

phases: Iron Age I: A : 1200-1100 B.C.  
Iron Age I: B : 1100-1050 B.C.  
Iron Age I: C : 1050-800 B. C.

IRON AGE I : A : 1200-1100 B.C.

During this period the cream hand-burnished slip makes its appearance. Wet-smoothing still occurs as a carry over from the Late Bronze Age tradition. Decoration in either red or bichrome black and red is painted over the cream slip or the wet-smoothed surface of the pot. Stylized realism though degenerate makes sporadic appearances; they also are a legacy from the Late Bronze Age. During this period, the "Sub-Mycenaean" culture became prevalent. The decoration on pottery consisted mainly of simple bands, wavy lines, vertical lines dropping on horizontal bands forming panel like metopes, twin triangle design, and wavy lines set between straight bands vertically or horizontally applied on the body. Jugs and juglets were provided with sloping shoulders and with rims pinched into trefoil. The open spouted jug with strainer and handle from rim to shoulder makes its appearance.

IRON AGE I : B : 1100 - 1050 B.C.

With 1100 B.C. a new style of pottery was ushered in, namely, the appearance of the Red Slip burnished ware and the Black-on-Red ware with the isolated concentric circle ornament decorating the shoulder of juglets.

IRON AGE I : C : 1050 - 800 B.C.

1050 B.C. marks the appearance of the Geometric style on Bichrome ware. The forms include amphorae, kraters, and jugs with open strainer spouts. The period is marked by a steady increase in the Red Slip and Black-on-Red wares. Vertical hand burnishing was applied on certain jugs, while on others a combination of hand and wheel burnishing occurred. A red slip covered both the inside and the outside of bowls. The burnishing was either done by hand or in combination with the wheel. The bowls have simple rims sometimes slightly inverted, and they are provided with a flat or disc base.

The barrel-shaped jugs and juglets, the jugs with open strainer spouts, and the neck-ridge jug with round base cease to appear after 800 B.C. The date marks the end of the Geometric period in Phoenicia, and the end of the appearance of the Black Slip on vessels.

## II. THE MIDDLE IRON AGE (800-600 B.C.)

The Middle Iron Age may also be divided into two sub-phases:

Iron Age II: A : 800-700 B.C. (Early Assyrian)  
Iron Age II: B : 700-600 B.C. (Late Assyrian)

### Iron Age II:A 800-700 B.C.

According to the evidence from Samaria the transition between Early and Middle Iron techniques of burnishing on bowls in Palestine takes place. By 800 B.C. ring burnishing on the wheel has replaced hand burnishing on bowls whose rims become everted and flanged, and on which the red slip starts to feature only on the inside and upper parts on the outside. The profiles of vessels take an angular form, and the ring base comes into prominence. The rims of certain jugs become more flattened and disk like, while the necks of others tend to elongate and lose their happy proportion with the rest of the body.

By 700 B.C., and as a result of the Assyrian onslaughts, the luxurious Black-on-Red ware in Phoenicia ceases to be produced, and the burnished red slip gives way to a dull red wash.

Iron Age II: B : 700-600 B.C.

When contrasted with the earlier phases, this last phase manifests a marked deterioration in the ceramic industry. The rich red slip is replaced by an inferior red wash. Ring burnishing on the exterior of bowls is abandoned. Profiles are more angular. The rims of bowls thicken and are everted, while those of some jugs are now more splayed.

With the fall of Nineveh and the final subjugation of the country by the Neo-Babylonian conquerors, the Iron Age culture in Phoenicia was gradually brought to an end.

<u>Periods</u>	<u>Gjerstad</u>	<u>Birmingham</u>
Late Cypriote IIIA	1200-1150 B.C.	1200-1100 B.C.
Late Cypriote IIIB	1150-1050 B.C.	1100-1050 B.C.
Cypro-Geometric I	1050-950 B.C.	1050-900 B.C.
Cypro-Geometric II	950-850 B.C.	
Cypro-Geometric III	850-700 B.C.	900-800 B.C.
Cypro-Archaic I	700-600 B.C.	800-700 B.C.
Cypro-Archaic II	600-475	700-600 B.C.

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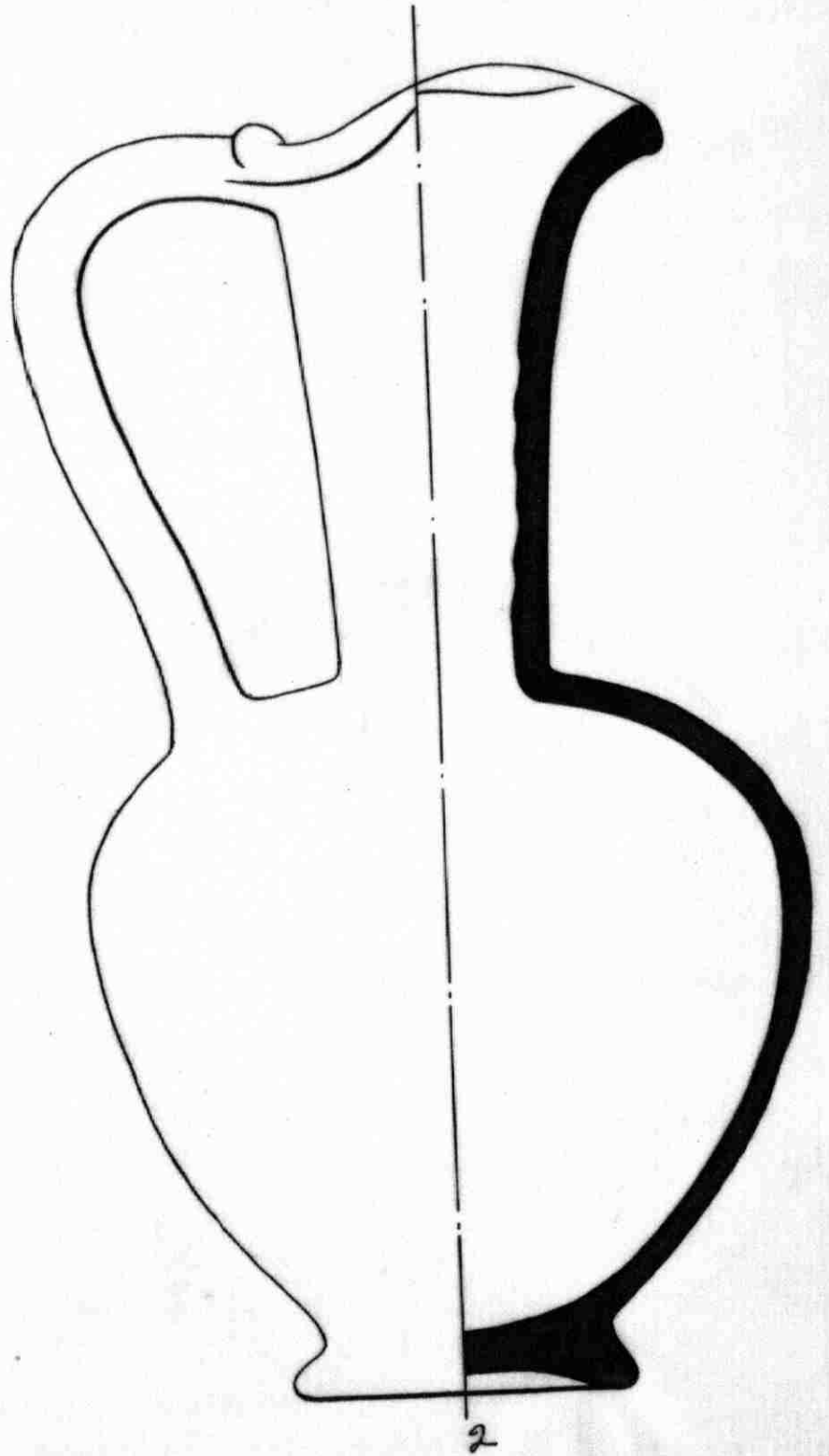
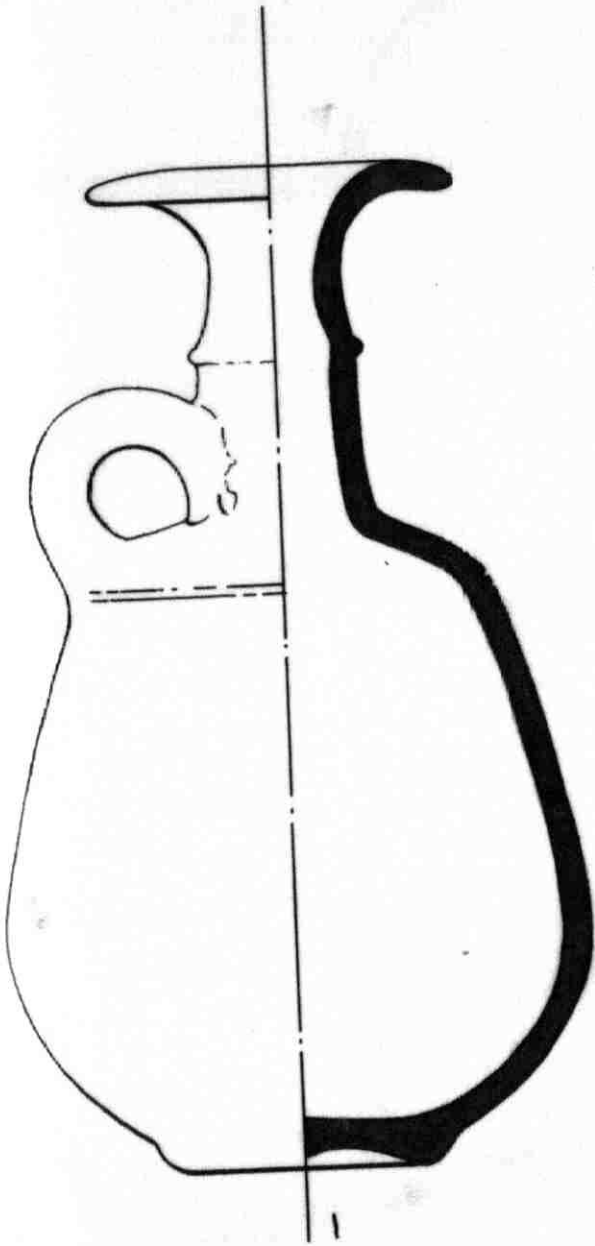
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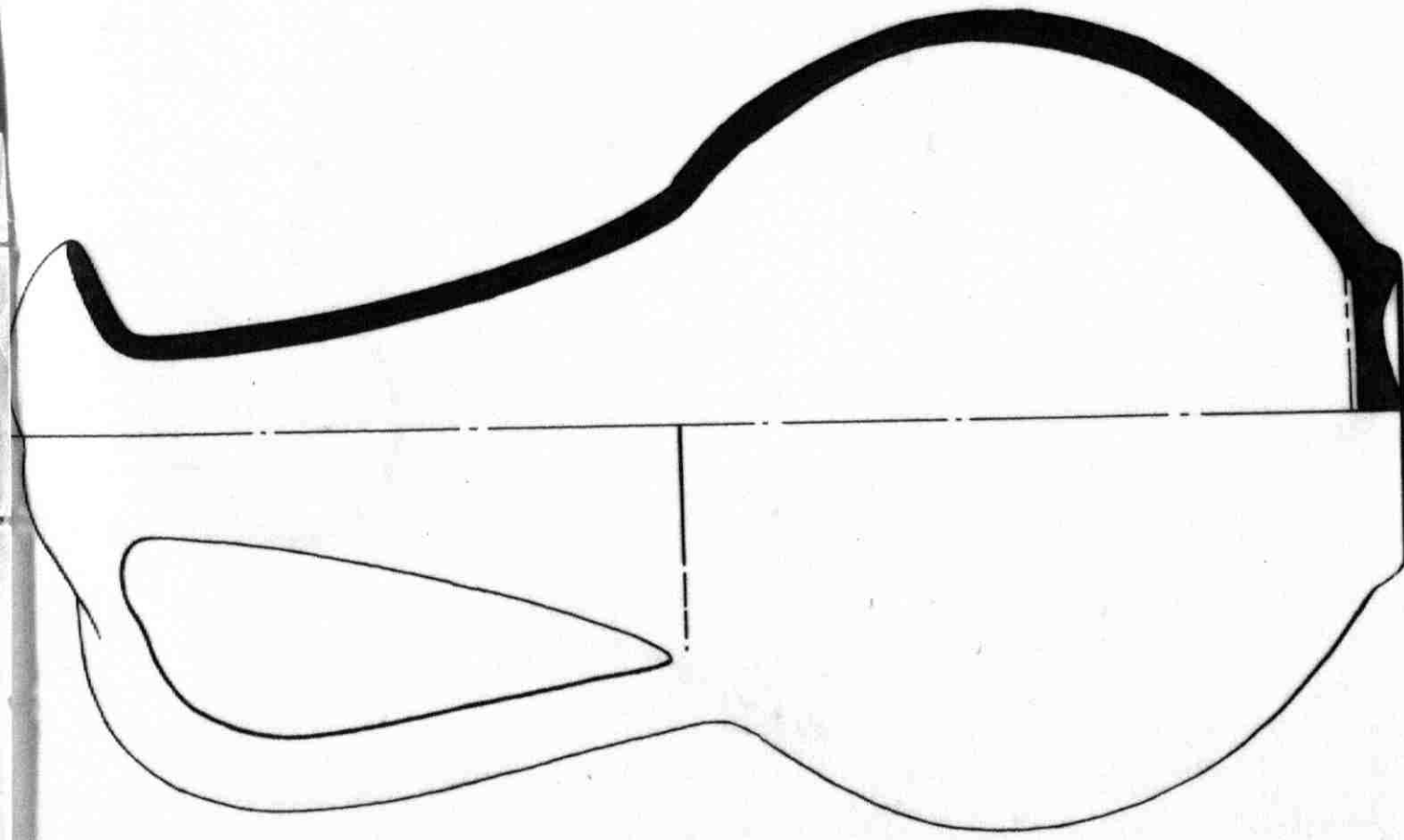
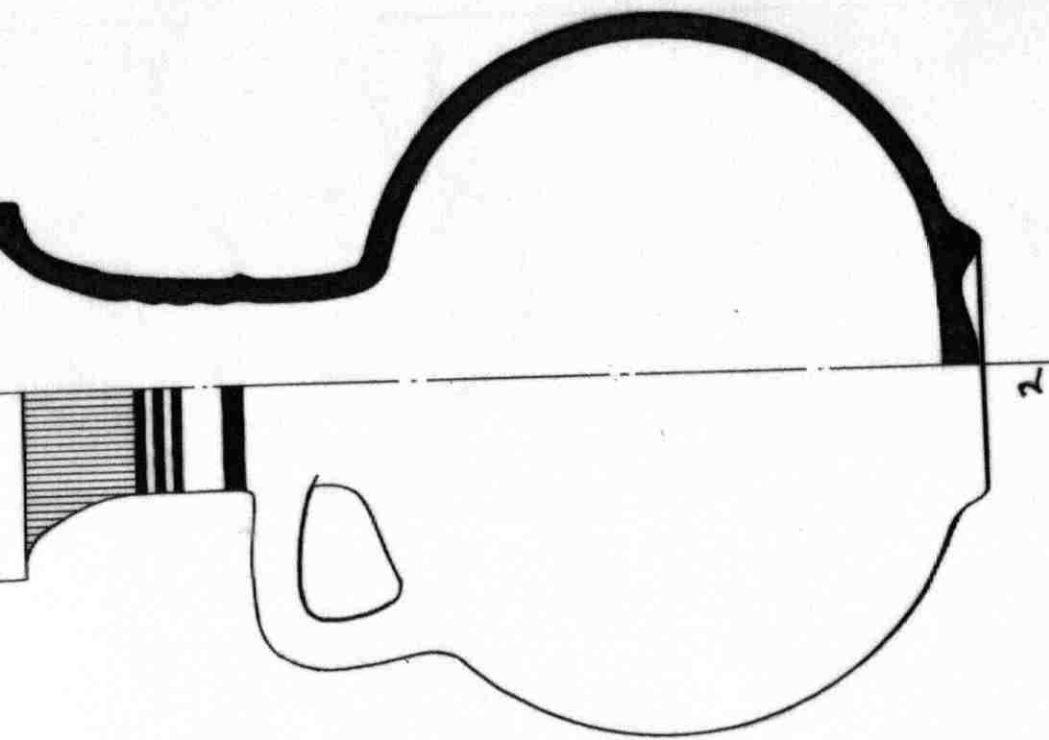
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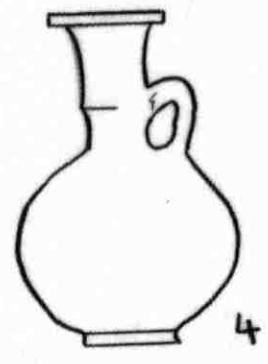
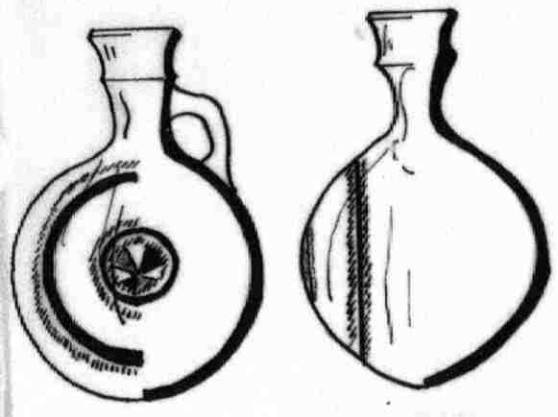
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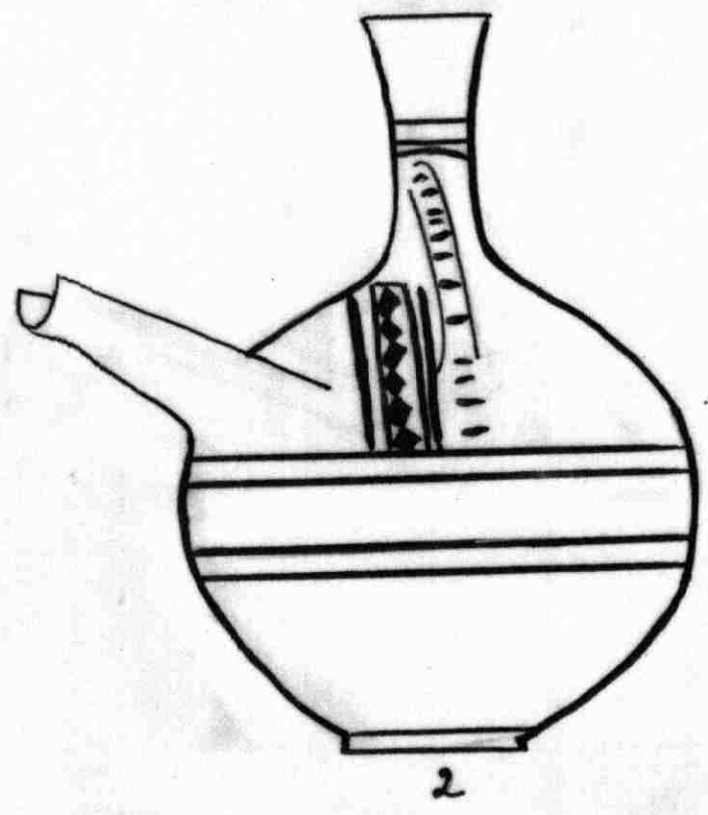
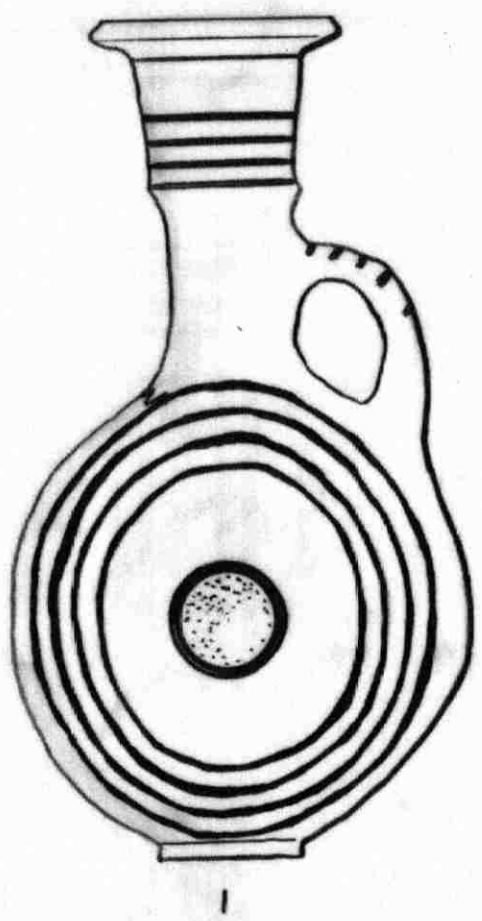


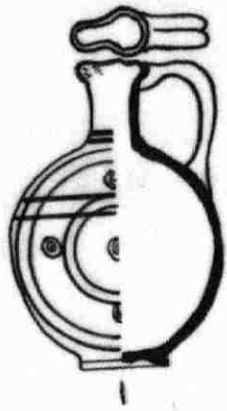
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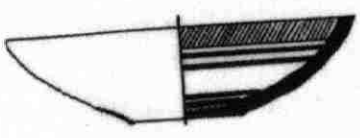




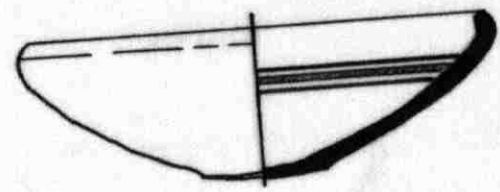








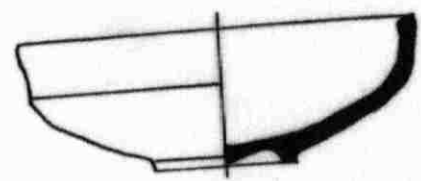
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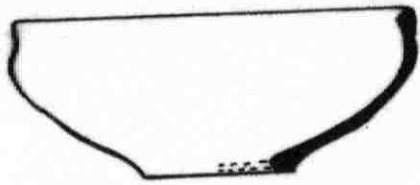
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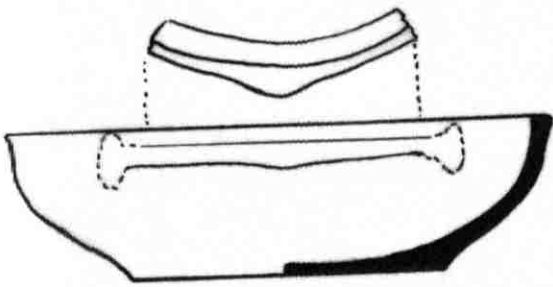
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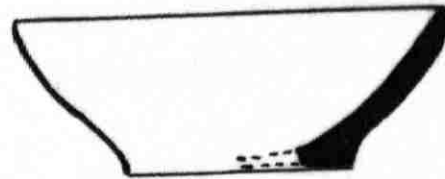
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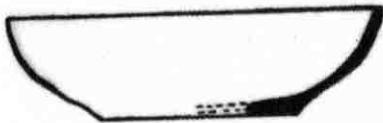
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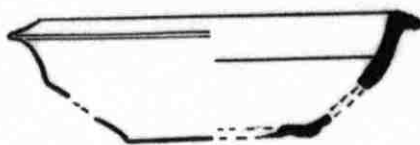
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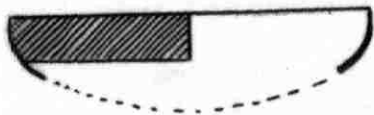
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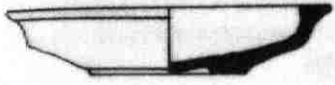
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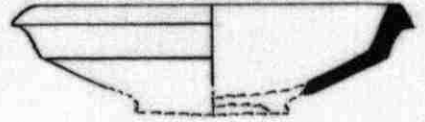
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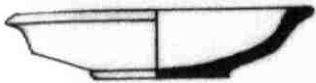
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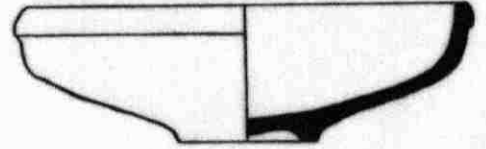
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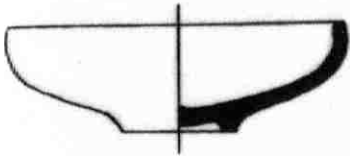
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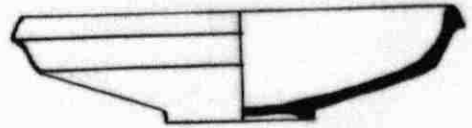
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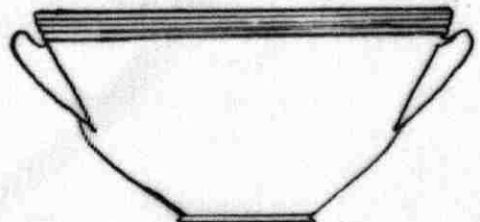
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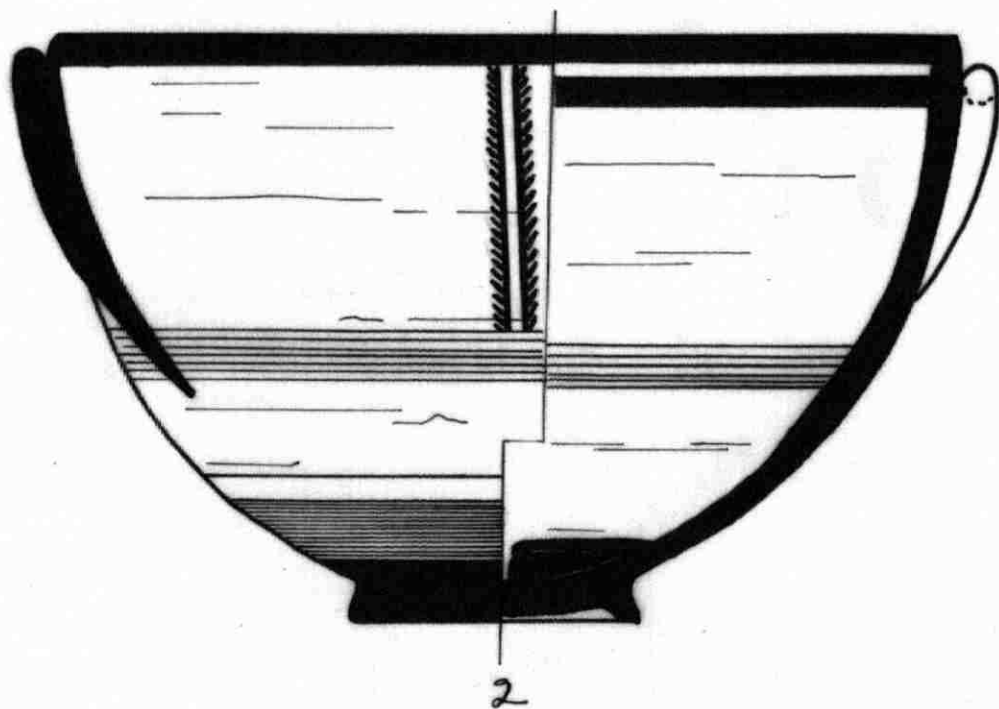
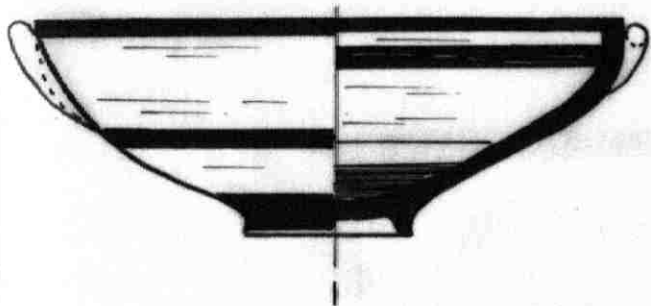
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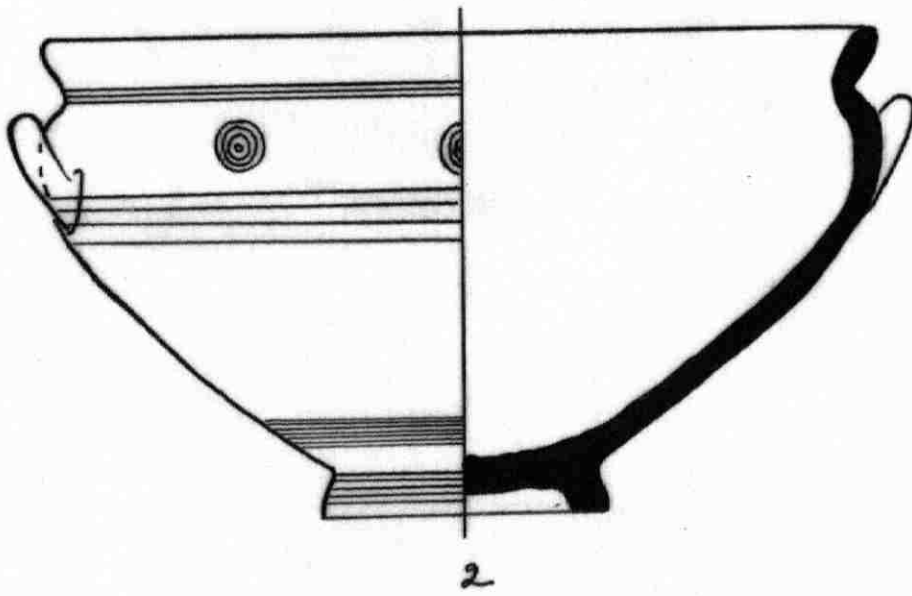
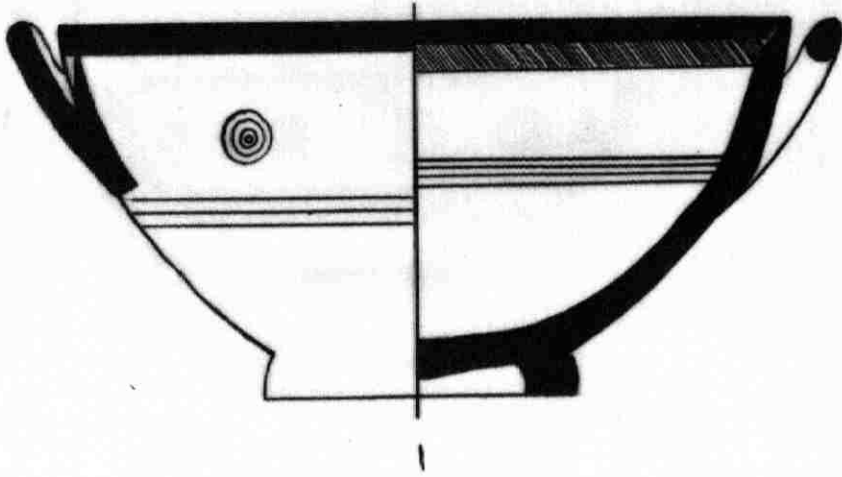


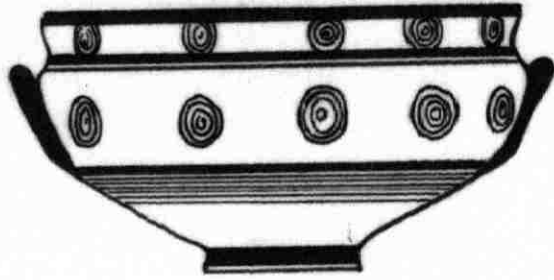
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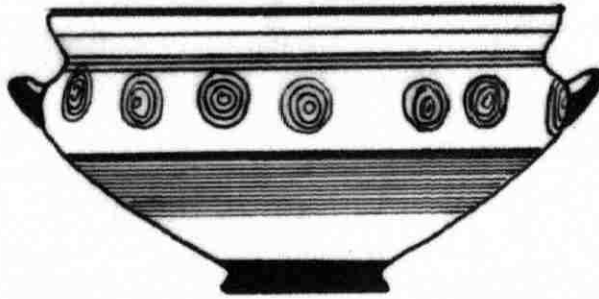
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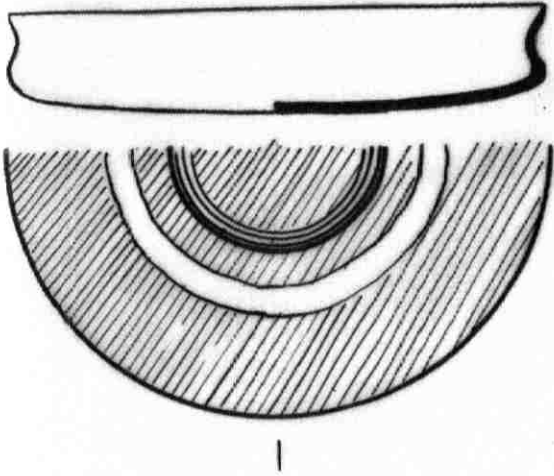




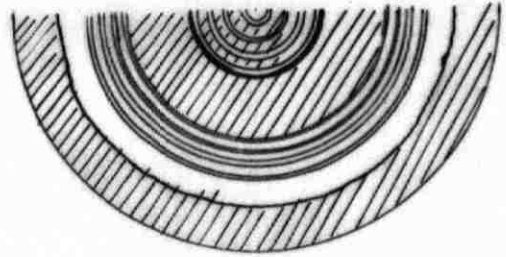
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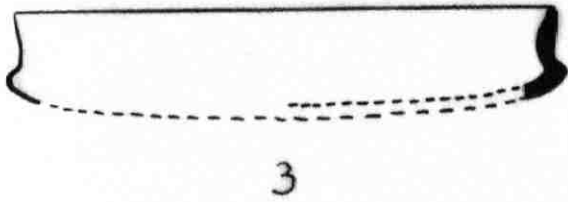
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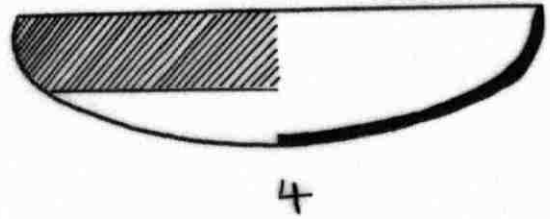
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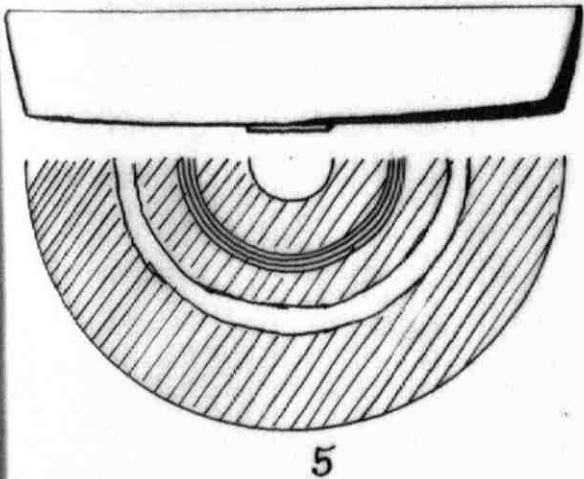
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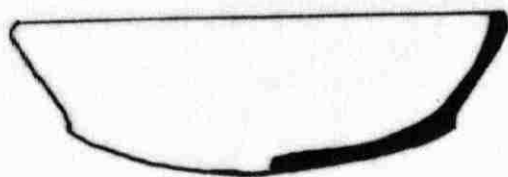


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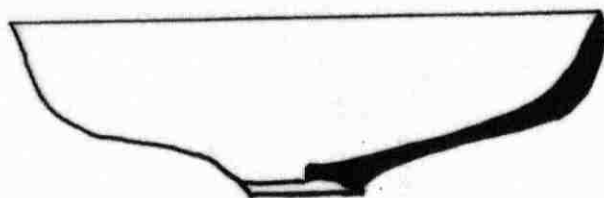




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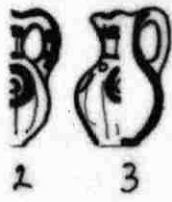


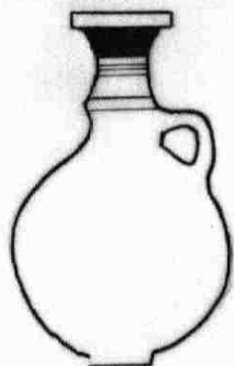
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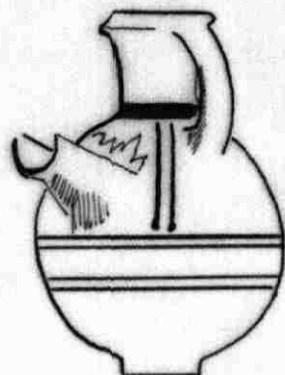
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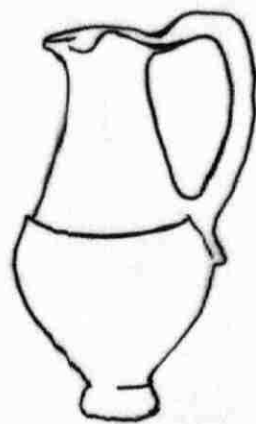
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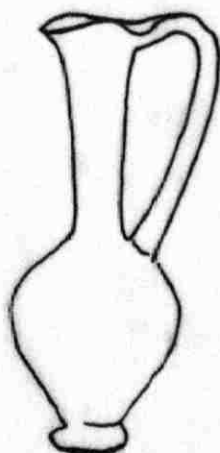
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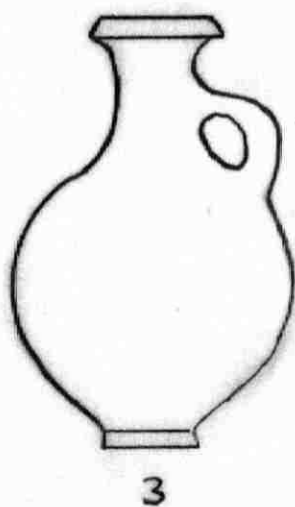
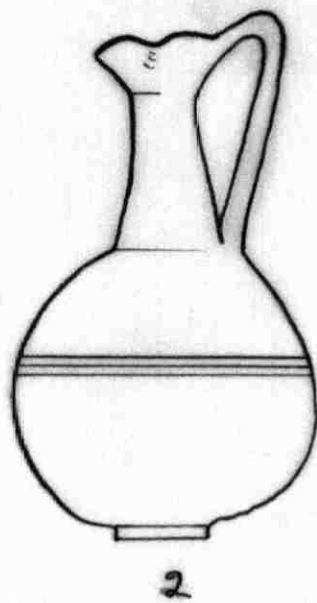
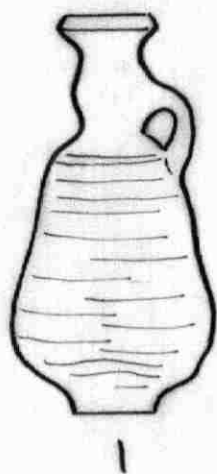
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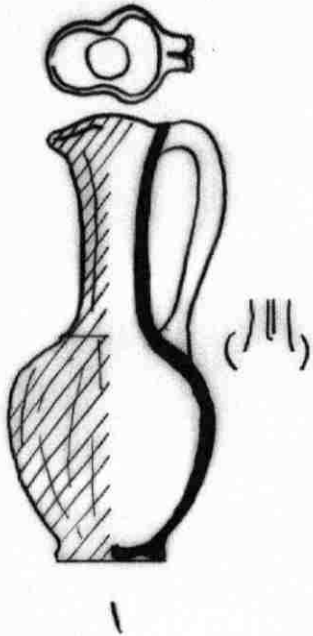


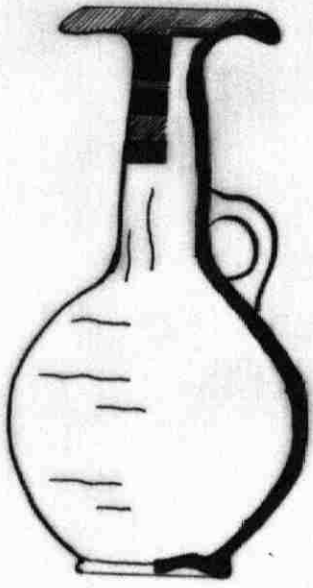
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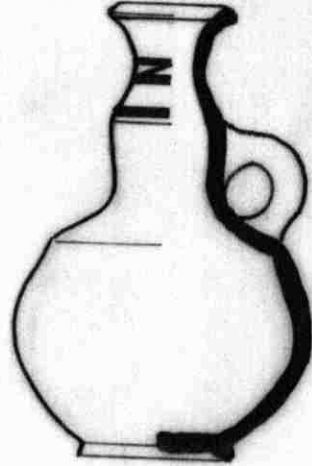
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