

A NEW CHRONOLOGY OF THE VALDIVIA CERAMIC COMPLEX FROM
THE COASTAL ZONE OF GUAYAS PROVINCE, ECUADOR

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A proposed new seriation of Valdivia pottery from coastal sites in Guayas Province, Ecuador, is supported by stratigraphic evidence and radiocarbon determinations. This sequence of eight phases differs importantly from the four period sequence proposed by Meggers, Evans, and Estrada (1965, henceforth cited as MEE). One phase that is earlier than their Period A assemblage has been isolated. The stylistic order within their Period C has been reversed, and a new interpretation of the radiocarbon measurements associated with their Period C pottery is proposed. The eight phase sequence outlined below fails to support the hypothesis of a Japanese origin for pottery in the New World, or the hypothesis that Machalilla and Valdivia ceramics were manufactured on the Guayas coast contemporaneously at settlements located in closed proximity to each other.¹

Background and Sample

In 1964, Dr. Edward P. Lanning and a group of graduate students from Columbia University made a survey of the Santa Elena Peninsula in Guayas Province, Ecuador. They collected Valdivia sherds from the surface of previously unknown Valdivia sites on the peninsula, and, in addition, collected sherds imbedded in the surface of known sites to the north of the Santa Elena area (fig. 1). These collections were studied with the objective of establishing a more precise internal chronology for the Valdivia ceramic complex than the four periods defined by Meggers, Evans, and Estrada. Because sites on the peninsula were small, and the range of decoration represented in each collection was limited to a few patterns, it was possible to treat each site as a contemporary unit and to employ the qualitative method of seriation by patterns and themes described by Rowe (1961). Sherds from an area near the coastal village of Palmar and others from the surfaces of old trenches in the vicinity of the village of Buena Vista on the Valdivia River were also treated as contemporary units. The Valdivia and San Pablo sites, on the other hand, were occupied through several phases; sherds from these sites enlarged the sample and helped to fill obvious stylistic gaps in the smaller collections.

Meggers, Evans, and Estrada's detailed description of their material from Valdivia (G-31), Buena Vista (G-54), Palmar (G-88), and Punta Arenas (G-25) provided useful illustrations, descriptions, radiocarbon age determinations, and data on the distribution of some critical shapes and motifs. Indeed, although the conclusions reached in this paper differ from theirs, this seriation would be less complete without the help their exhaustive description of Valdivia pottery provided. Meggers, Evans, and Estrada used a Type Frequency method of seriation (Ford, 1954). Because type categories, except for a few types made for very limited periods of time, are not applicable to the method of seriation used here, it is not always possible to correlate Meggers, Evans, and Estrada's data with ours, or to employ their typological terminology. Nevertheless, their publication, "Early Formative Period of coastal Ecuador" has been invaluable.

In 1967, working with Lanning at Columbia University, I was able to refine my earlier seriation and define eight phases within the Valdivia style. Then, in 1968, I went to work in Ecuador with Eugene J. McDougle, a member of the 1964 Columbia expedition, to seek stratigraphic evidence that would verify, expand, or correct the sequence worked out from the surface collections. The results of this work were in some respects gratifying, in others, disappointing. In addition to our work, in 1970 Karen E. Stothert excavated at two sites (SE 42 and SE 62C)² and recovered sherds that increased the stratigraphically controlled sample (Stothert, ms.) and, in 1971, Henning Bischof and Julio Viteri made a small but meticulously excavated extension of Meggers, Evans, and Estrada's trench J at Valdivia (Bischof and Viteri, 1972; Bischof, 1973). In 1972, at the invitation of Presley Norton, I had the opportunity to study the Valdivia sherds that he had recently recovered from the Phase I site of Punta Concepción (SE 42) and a collection of approximately 33,000 early Valdivia sherds from units J-I, J-II:1-8, J-II:10 and J-II:12 at the site of Loma Alta located near the village of Loma Alta in the Colonche Hills (Norton, ms. b). Since that time, Norton has made new and important excavations at Loma Alta. The results of this work have not been reported, but Norton has been kind enough to give me some preliminary information about what he found as well as the series of radiocarbon determinations from the more recently opened section of the site.

Because space does not permit a full description of every feature or form included in each phase, and also because the complete range of pottery manufactured in any particular phase is not entirely clear, only those shapes and decorations that have special chronological importance will be described in this paper.

The Sequence

Valdivia I

Valdivia I is defined by the pottery from Punta Concepción (SE 42). The site, composed of three low and eroded mounds, lies on a wind-swept headland that juts into the sea just beyond the village of Santa Rosa on the Santa Elena Peninsula. The first collection from the site was made in 1964. Lanning recognized the sherds as distinctive from the Period A assemblage from Cut A, Valdivia, described by Evans, Meggers, and Estrada in 1959 and felt confident that most of them represented an earlier phase of the ceramic complex. Even after the earlier pottery from Cut J at Valdivia was described (MEE), the Punta Concepción collection still seemed uniquely different. Subsequent work was done at SE 42 by Hill, Stothert, McDougle, and Norton. Most sherds came from the surface but some were recovered from shallow deposits. Everyone who labored to find sherds there was conscious of how few sherds there were relative to the size of the site and Lanning, in his 1964 field notes, recorded the unusually small proportion of sherds to lithic artifacts.

An outstanding feature of Punta Concepción pottery is the high frequency of thick, friable, crudely finished body sherds often broken along coil lines. Furthermore, many of these sherds have a dirty whitish surface that, although occasionally present at other sites, is here a conspicuous feature of the assemblage. The rims that have this same surface color are crudely smoothed with a thick lower wall tapered to a thin lip. Some are decorated with scrawled lines (fig. 4). These unformulated designs and unevenly smoothed surfaces should not be confused with poorly made pottery of later phases where it is obvious that the potters were simply doing a bad job of copying established designs.

Absent, without exception, are folded rims, and the "Valdivia Modeled" Type jars with shoulder bosses that are the dominant decorated Type in Period A (MEE, Table 6, pp. 190-205). Direct unmodified rims are slightly everted and considerably varied in size. Some are probably portions of wide mouthed bowls, others, of narrower necked jars. There is a high frequency of designs cut through red slip on shallow bowls or on the necks of wide mouthed bowls or jars. Crosshatched zones and wavy or unevenly parallel lines are the basic components of poorly formulated designs. Less frequently, the same patterns are used on unslipped but polished surfaces (figs. 5-15).

The differences between the pottery from the three mounds at SE 42 was not consistent enough to warrant subdivision of Valdivia I. Now, it looks as if Bischof may have found just such a division at the site of Valdivia (until he worked there it was extremely difficult to determine from Meggers, Evans, and Estrada's Period A typology whether Valdivia I even existed at that site). When Bischof worked with Viteri to extend Cut J, he took care to observe any natural strata that could have been missed in the course of the earlier excavations. He was rewarded by the clearly visible outlines of several erosion channels as well as other changes in the soil profile. Of particular interest to Bischof were 27 sherds he sifted out of a meter of deposit approximately 230 cm. below the original surface. He believes these to be the refuse of a hitherto unrecognized ceramic complex and chose the name of the neighboring village, San Pedro, for the cultural phase that these materials represent (Bischof and Viteri, 1972; Bischof, 1973). Bischof has described to me in considerable detail the Valdivia sherds he recovered from the stratigraphically isolated sections overlying the San Pedro deposit. He sent me photographs of those sherds that have identifying features, and the results of radiocarbon determinations made on charcoal recovered from the Bischof-Viteri trench. In addition, Bischof recovered Valdivia sherds immediately above sterile soil from the side wall of a deep pot hunter's pit about 40 cm. east of the trench. He dubbed this location the "Tank" site because he was told the pit had been dug to collect rain water. Sherds from the Tank site include fragments of extremely crude thick bottomed vessels, and on some he noticed the same dirty white color that had attracted Lanning's attention at Punta Concepción. Other pieces were better made and there was some combed decoration. In the trench, in the E6 section (fig. 2) that overlies the San Pedro midden (which in turn overlies midden that included charcoal, stone flakes, and shellwork but no sherds), he found a variety of

Valdivia I sherds. There are pieces of two or more jars decorated with combed lines arranged in overlapping diamond crosshatch, a design that is a combed variant of the incised diagonal crossed lines illustrated from Punta Concepción (fig. 9). The undecorated rims are unevenly smoothed, and on two the lip has been pressed back signifying, perhaps, an initial effort to produce a folded rim. Another sherd has "two small impressions made from the back, one of them surrounded in the front by a curious patch of clay" (Bischof, personal communication). This may also be an incipient form, in this instance of the Valdivia II "Valdivia Modeled" Type. The rest of the sherds are pieces of red slipped bowls with the same sort of carelessly applied patterns one recognizes at Punta Concepción.

Bischof thinks the Tank site pottery may be earlier than the pottery from E6. If so, Valdivia I might be divided somewhat as follows:

- IA. Plain thick walled pots, some with everted necks, with dirty white surface color.

Scratchy incision in unformulated patterns.

Simple combed decoration.

Plain bowls.

- IB. In addition to the features listed above, incising on everted necks or the upper side walls of bowls, usually through red slip.

Improved technology in firing and more skillfully applied incised or combed patterns.

Standardized patterns that are antecedents of "Valdivia Fine Line Incised."

Valdivia II

Valdivia II materials, with some exceptions, fall within the range of those Types included by Meggers, Evans, and Estrada in Period A. Even the twelve diagnostic pieces collected near Palmar in 1964 were sufficient for Lanning to recognize a Valdivia II assemblage: a shoulder boss, folded rims, a "Valdivia Fine Line Incised" bowl (fig. 18), and a red slipped thick flat rim characteristic of this period (see MEE, pl. 61b). From a series of pits identified as J-I and J-II, at Loma Alta, Norton recovered an abundance and great variety of Valdivia II pottery. In these pits the II sherds are mixed through one to two meters of deposit with Valdivia I fragments including many of the dirty whitish body sherds notable at Punta Concepción and Bischof's Tank site (Norton, personal communication). No Valdivia II assemblage has been found on the Santa Elena Peninsula.

Folded rims are a prominent feature of Valdivia II, and in most

cases in which both the rim and shoulder area of the vessel have been preserved, the shoulder has a row of low knobs or bosses made by pressing a finger into the interior wall (fig. 16). On jars, combing (MEE, pls. 48-50) seems to be the favored decorative technique, finger grooving (MEE, pl. 65) is less so. In addition, there is some crosshatched incision on jar necks, and a motif of closely spaced parallel lines cut into damp paste that horizontally band the neck zone (MEE, fig. 35, no. 1, p. 64). Most jars with shoulder bosses lack additional decoration.

Bowls are more uniformly shaped and better finished than jars. The dominant kind of decoration is the "Valdivia Fine Line Incised" Type with antecedents in Valdivia I (fig. 18; MEE, pls. 61-64). Thin lines are engraved into red slip in triangular or trapezoidal zones filled with crosshatch in combination with horizontal or slanted lines. The design field does not extend below the shoulder. A secondary, but characteristic feature is the expanded flat lip on some of these bowls as well as on plain bowls of similar size and shape (MEE, pl. 61b).

"Valdivia Red Incised" is a second Type category of bowls that are usually slipped red and incised with somewhat wider lines than bowls in the "Fine Line Incised" Type. Motifs are composed of interlocking fret bands, irregularly sized blocks (fig. 21; MEE, pl. 102a-g), rows of circles or squares punctuated by a central dot (fig. 19; MEE, pl. 104). Some "Red Incised" bowls have four short thick flat feet (MEE, pl. 103c).

Meggers, Evans, and Estrada describe a third class of Period A bowls as the "Cut and Beveled Rim" Type. Examples that fall within this Type category at Loma Alta are slipped beveled rim sherds with a single rounded lobe, or a group of two or three rounded lobes (fig. 17); and a beveled rim in combination with sections of nicked rim (MEE, pl. 55a-j). Bowls with the variation of "Cut and Beveled" rim illustrated in MEE plate 55k and l are transitional in style and probably fit better into phase III of the sequence proposed here. The inference from the limited distribution and few examples of "Red Incised" motifs and "Cut and Beveled Rim" bowls in comparison to the wider distribution and more abundant quantity of "Valdivia Fine Line Incised" is that both Types were made for comparatively short periods of time immediately prior to Valdivia III and were restricted to the "fanciest" bowls.

Valdivia II might be subdivided as follows:

IIA. Jars with folded rims and shoulder bosses.

A preference for combed and finger applied decoration on jar necks.

Incision with thin lines on red slipped bowls in conventional patterns.

IIB. In addition to the above kinds of ornamentation the introduction of:

"Red Incised" motifs.

Lobed, cut out, nicked, and beveled rims.

Feet of tetrapod vessels, thick and flat, or conical in form.

The chronological evidence for Valdivia I and II

The stylistic links that bind Valdivia I and II are clear enough. In both phases, thin line incision was cut through hardened red slip, in I on both bowls and necked vessels in poorly formulated patterns, in II exclusively on neckless bowls in established designs. Combing and finger grooved decoration occur in both phases. One example of a bowl with combed decoration was found at Punta Concepcion (fig. 20), possibly another indication that separate conventions for decorating necked vessels as opposed to neckless bowls were not established until Valdivia II.

The relationship of "Fine Line Incised" to "Red Incised" bowls is exemplified by motifs borrowed from one class of bowl to be applied to a bowl of the other class, a "Fine Line Incised" bowl with a circle and dot motif, for example (MEE, pl. 62b), or a "Red Incised" fret in combination with a row of crosshatched pendent triangles (fig. 21; MEE, pl. 102e). There are no antecedent forms of "Cut and Beveled Rim" bowls.

Valdivia II is securely linked to III by continuations and variations of features that persisted for one or more phases: folded rims; lobed, cut out, and nicked rims; conical feet; and the adaptation of "Red Incised" frets for new motifs applied to unslipped polished bowls are some of the most obvious examples.

There is stratigraphic support for some of these stylistic relationships.

At Valdivia, combed and finger applied decorative techniques are found almost exclusively in Cut J and the majority of these are from the lower levels of the trench (MEE, Table 6, pp. 190-205). Bischof and Viteri's unit E4 that overlies E6 (fig. 2) includes both typical Valdivia II sherds and some fragments of incised neck sherds that are more typically III. A folded rim with finger impressions spaced at short intervals along the inferior edge is similar to but not exactly a typical Valdivia III piecrust rim (see description of Valdivia III). The deposit could be interpreted as a II-III transitional assemblage.

At Loma Alta J-I and J-II, Valdivia I and II styles seemed to be evenly mixed throughout the one to two meters of midden, but there do seem to be lateral changes in the distribution of certain features. In J-I, located a few meters east of the major trench (J-II:1-8), the number of folded and unmodified rims is approximately equal. The J-I trench sherds include 18 fragments of "Fine Line Incised" bowls and 3 good examples of the same thin line technique applied to everted necks. In J-II:10, to the west of the major trench, the ratio of folded to unmodified rims was approximately 2 to 1 and in J-II:12, where all the decorated

pottery was obviously Valdivia II, the ratio increased to 4 to 1. In the uppermost level of this same J-II:12 trench were 2 Valdivia III piecrust rims and an unmistakably later incised neck sherd.

When the excavations at J-I and J-II were completed, Norton began work in a new area of the Loma Alta site. In the upper level of this cut, Norton found Valdivia III pottery and below the III deposit, an assemblage of sherds similar to that found in J-II. Then, in the base clay of the cut, he uncovered 12 to 14 small mounds of stones, or "cairns," each of which contained one or more whole vessels, buried upside down, filled with bone and other organic matter (Norton, personal communication).

The cairn pottery poses a special problem. Six vessels are undecorated red slipped bowls. The remaining vessels are necked globular or semiglobular jars. Fourteen of the jars have unmodified direct rims; the remaining 7 have folded rims, and all except 1 of these has shoulder bosses. Simple decoration is composed of diagonal crosshatched lines, combed lines, or finger grooves. Any one of these shapes or decorations could be duplicated in sherds recovered from J-II: 1-8. Elements that are common at J-II but are missing from the cairns are Valdivia I poorly formulated patterns cut in thin line incision on slipped or unslipped surfaces of necks or the sidewalls of bowls, and Valdivia II "Fine Line Incised" bowls that are a hallmark of that phase. The absence of both elements makes it difficult to place the cairn vessels in the sequence. A series of extremely early radiocarbon determinations made on charcoal samples from the cairns further compounds the problem (see fig. 3).

The available radiocarbon determinations pertinent to the chronological placement of Valdivia I and II are diagrammed in figure 3. These determinations pose so many problems that it is not possible to offer a satisfactory interpretation on the basis of the facts that have been reported thus far. Some minor problems can be taken care of by questioning the acceptability or significance of a few individual measurements. The oldest measurement is M-1320 (5150 ± 150) from Valdivia, Cut J, Section E (MEE, Table G, p. 149). It is so out of order stratigraphically as to be clearly unacceptable. Not only does it overlie 4 more recent measurements (see table cited), but it also overlies Valdivia II "Valdivia Red Incised" and "Valdivia Cut and Beveled Rim" sherds (MEE, Table 6, p. 199). Moving down figure 3, the seventh measurement given is I-7069 (4685 ± 95) from a site on the peninsula designated SE 63 (see fig. 1). No Valdivia sherds were found on the surface of the site, but when Stothert excavated in 1970-71, she found a very few unpolished, undecorated, extremely crude sherds along with an abundance of lithic material. She states that the broken condition of the sherds defied positive identification, but the paste was heavily sand tempered and similar to the paste of the sherds from the Valdivia I site SE 42. The lithic artifacts from SE 63, however, were significantly different from those recovered at SE 42 and the nearby Valdivia site of SE 62C (Stothert, ms.). The significance of this measurement is thus not clear. The next measurement, L-1042D (4700 ± 100) from SE 42, is inconsistent with L-1042C

(4450 \pm 100) from the same site and with other measurements having Phase I associations; it is acceptable only in the second standard deviation. The significance of the last measurement on the chart is questionable. L-1232 (4250 \pm 100) is from an undisturbed layer of shell at SE 42 which contained only 4 plain Valdivia sherds not assignable to phase.

Interpretation of the remaining measurements involves major problems. Of the acceptable measurements from the cairns at Loma Alta only one out of five, ISGS-192 (4590 \pm 120), is late enough to overlap the measurements with Valdivia I associations from the coast. To make matters worse, the three measurements from the aceramic Level 20 in the Viteri trench at Valdivia, Hv-4839 (4535 \pm 55), Hv-4674 (4510 \pm 95), and Hv-4840 (4495 \pm 100), are well within one standard deviation of the measurements with Valdivia I associations. The determination most clearly associated with a Valdivia I deposit is I-7167 (4460 \pm 90) from a test pit Stothert dug in Mound A at SE 42. Although few in number, the associated sherds were undisturbed and exclusively Valdivia I. Another determination reasonably well associated with Valdivia I sherds is L-1042C (4450 \pm 100) from SE 42. Two of the measurements on samples from Cut J, Section D at Valdivia, G-31, fall within the same range, namely SI-22 (4450 \pm 90) and M-1317 (4480 \pm 140). SI-22 from the 300-330 cm. level is associated with Period A Types. The associations of M-1317 from the 270-300 cm. level is less certain since at least two Types that Meggers, Evans, and Estrada associate with Period B are mixed with the A Types. The two determinations on samples from Loma Alta J-II:1-8, SI-1055 (4370 \pm 65) and Hv-4673 (4335 \pm 100), are consistent with the measurements from the coast and could come from either the Valdivia I or the Valdivia II component of the mixed Loma Alta deposit. Hv-4838 (4260 \pm 100) from the Viteri trench is associated with pottery that is not earlier than II and is most probably transitional between II and III. On the evidence available, then, we can date neither the introduction of pottery on the coast nor the beginning of Valdivia II in radiocarbon years.

Valdivia III-V

Valdivia III-V were originally defined on the basis of material from four refuse areas (SE 62A, B, C, and D) in the oil fields about one kilometer from La Libertad on the Santa Elena Peninsula. When we returned to this area in 1968, only one mound, SE 62C, was sufficiently undisturbed and sufficiently deep to warrant stratigraphic excavation. Here, from a 1 by 3 meter trench, McDougle and I recovered Valdivia III and IV sherds. A surface collection from a previously bulldozed mound, SE 62A, was the basis for the definition of Phase V. Because the pottery seems to have changed gradually through this entire period without clear-cut breaks in the sequence, the divisions proposed here are somewhat arbitrary. Nevertheless, there appear to be sufficient changes in the design of both figurine and vessel forms to warrant a breakdown into three phases.

All the pottery of Valdivia III through V is associated with clay figurines. The exact form of the earliest clay figurines is not clear but, beginning in Valdivia III, figurine fragments are common in

refuse deposits. There is a remarkably great range of variation in figurine form, but only the forms that are most commonly found are discussed below. For a more complete description of clay figurines, see MEE, pp. 96-102. An even greater variety of figurines than that described by Meggers, Evans, and Estrada is to be found in the Norton collection in Guayaquil.

Interest in human representation is further manifest in the anthropomorphic faces that are placed at intervals along the upper side walls of low incurving bowls with rims that have curved or flattened lobes that follow the contour of the faces. Some of these faces are crudely and carelessly incised but others, expertly carved in low relief, are the work of skilled craftsmen. The faces show a considerable stylistic range (see for example, MEE, pls. 41 and 58a-m). Presumably, the earliest faces should be those most like the faces carved on stone figurines, with rectangular eyes, straight noses and mouths (fig. 30; MEE, pl. 118a, b, and g). Other faces have oval eyes and curved brows and seem stylistically closer to the clay figurine styles (figs. 31 and 32). The portions of the bowls between the faces may be filled with the same motifs that are used to decorate other low bowls. Common design elements are: a single line within concentric rectangles (figs. 26 and 27; MEE, pl. 32 h, i, pl. 58e); nested rectangles (fig. 28); arrangements of parallel lines (MEE, pl. 32b); and dogbone shaped figures (fig. 29; MEE, pl. 59j, k). The number of combinations of these basically simple motifs is so great that two pieces are seldom identical. Often the same kind of lobes that occur with faces on them are set between straight sections of rim, or the lobes are joined to form a continuously undulating rim. The design field on these bowls is customarily composed within a band located above the point of maximum diameter, but designs were gradually expanded to cover most of the exterior side wall.

Another feature commonly found in Valdivia III through V is a bowl with four short conical feet (MEE, fig. 43a, p. 78).

Bowls with complex incised or excised decoration are not common, and evidence is lacking to fit most of these "fancy" bowls into specific phases. Some less elaborate vessels, however, can be placed reliably within one, or at most two, phases.

Figurines

The earliest figurines are of stone and consist of elongated slabs or wedges, or of similarly shaped pieces with notched bases (MEE, pl. 117a-q, r-ee). One plain wedge and one notched figurine were found at SE 42, and an abundance of both kinds were found in the J-II section of Loma Alta (Norton, ms. a; ms. b). A more complex, and presumably later, stone figurine has a cylindrical shape with a face carved in low relief (MEE, pl. 118a-h). Norton stated that he had recovered 21 figurines in variations of this style, in his 1971 report on work in progress at J-II (ms. a), and additional such figurines were found as work progressed (personal communication). Usually cylindrical figurines terminate just below the waist but some have legs made by a short notch

bisecting the base (MEE, pl. 118b and j).

Figurines were made of clay as well as stone, and it is not yet clear whether any style is limited to a single medium. For example, from the Island of Puná, there is a clay head that perfectly reproduces the cylindrical stone figurine style (Porrás, 1973, fig. 46c). The clay figurines from Loma Alta are so varied in size, design, and technique that meaningful classification is extremely difficult. What does emerge clearly is the fact that the development of a relatively uniform figurine style was preceded by a period of experimentation that was still in progress at the beginning of Valdivia III.

By the time of the appearance of Valdivia IV, figurines that Meggers, Evans, and Estrada classify as the "Valdivia" Type had become firmly established, and the number of fragments of such figurines found at SE 62C and associated with Period B pottery at G-31 (MEE, p. 97, Table 13, p. 209) indicates the large numbers of them that must have been manufactured. The "Valdivia" Type figurine consists of a realistic feminine body constructed of two coils of clay. The head, seen face on, is essentially rectangular, the hair having a rounded crown and hanging straight to the shoulders. In profile, the back of the head is convex, and the face is obscured by the heavy fall of hair. The wide short face with no indication of a nose has eyes and mouth indicated by punching. The abundant hair that frames and often overshadows the face consists of an appliquéd layer of clay that is frequently decorated with fine incision. The figurine has arms, full breasts, and tapered legs without feet. Buttocks are indicated by an angular cut inward at the base of the lower back and a vertical incision (MEE, pls. 120-122).

Within Meggers, Evans, and Estrada's "Valdivia" Type, however, there can be distinguished a separable group that appears, on stylistic grounds, to be earlier than that described above. This group consists of figurines with small, wide faces framed by hair shaped like a mushroom cap hood pulled down to obscure the forehead. The body has the waistless shape of an adolescent girl with small breasts or none at all (MEE, pl. 123m and t; Evans, Meggers, and Estrada, 1959, fig. 60a, p. 115; Zevallos and Holm, 1960, lám. 17, middle row right, lám. 19, bottom row right, lám. 21, top row left and right). A well preserved figurine of this hooded style from SE 62C is broken below the waist, but the structure of the break shows that the figurine had some sort of legs.

Easily distinguished from the "Valdivia" and hooded figurines, are those associated with Valdivia V pottery and illustrated by Zevallos and Holm (1960, lám. 15, bottom row first and second from left, lám. 17, top row left and right, bottom row second and third from left, lám. 18, top row center, second row left, lám. 19, third row from top second from left). Such figurines are included within Meggers, Evans, and Estrada's "San Pablo" Type together with other kinds of figurines (MEE, pp. 97-98). These "San Pablo" figurines have a somewhat triangular shaped head seen face on, with the hair or headdress flattened on top and the sides slanting inward to the shoulders. In profile, the back of the head is concave, and the face is prominent. Either the nose is modeled on a flat face,

or it is indicated by modeling the face so that the vertical center line extends outward from the top of the head to the well defined chin (fig. 24). The eyes and eyebrows are shown by rather strongly curved lines which are either parallel or the eyes are slanted sharply downward toward the nose. Shoulders are strongly marked, but there are no arms. Breasts are either small or absent, hips are wide and buttocks are pronounced and rounded (fig. 25).

The figurines that Meggers, Evans, and Estrada illustrate in plate 125 as examples of the "San Pablo" Type, are significantly different from those described above. Their "Buena Vista" Type (MEE, pl. 126) is obviously composed of poorly made examples of their "San Pablo" Type which have been typologically segregated. I consider these two groups to fall within a single style contemporary with Valdivia VI pottery. This group of figurines is considerably simplified from the "San Pablo" figurines described above. The hair or headdress rarely extends to the shoulders, being frequently indicated only above the face, often simply by a horizontal line. The facial profile is extremely convex and beaklike with a smooth slope from the top of the head to about two thirds of the way down to the neck. There is never a separate nose indicated, the mouth is barely indicated, and there is no chin. Eyes and eyebrows are drawn as sharply slanted, often curved parallel lines of equal width (MEE, pls. 125 and 126; Zevallos and Holm, 1960, lám. 19, middle row left, lám. 21, middle row center, bottom row second from left). Bodies are stunted and small in proportion to the head and lack female characteristics.

Not all figurines conform to these descriptions, and some appear to be transitional in style. In addition, extremely crude, poorly executed figurines are difficult to place in the sequence (for example, see Zevallos and Holm, 1960, lám. 20, middle row). Therefore, it is impossible to assign all figurines to a particular phase. In general, however, they may be grouped as follows:

Valdivia II and early III: Experimental female figures.

Valdivia III: Hooded female figures.

Valdivia IV: "Valdivia" Type figurines.

Valdivia V: "San Pablo" Type figurines as illustrated by Zevallos and Holm.

Valdivia VI: "San Pablo" and "Buena Vista" Type figurines as illustrated by Meggers, Evans, and Estrada, plates 125 and 126.

I will henceforth refer to the clay figurine styles described above by phase number.

Valdivia III

The key vessel form for Valdivia III is a widemouthed jar with a folded rim that has a continuous row of finger impressions along the inferior edge of the rim that suggest the pinched edges of a pie (fig. 34; MEE, fig. 41, no. 2, p. 75, fig. 54, vessel shape 14, and pl. 95a, d, and l-q). These "piecrust" rim jars are the counterparts of the "Valdivia Modeled" Type with shoulder bosses which is absent after Valdivia II.

A second diagnostic feature but one less common than piecrust decoration is a rim with sections cut out at evenly spaced intervals (fig. 35). The more elaborately designed cut out rims on "Cut and Beveled Rim" Type bowls are quite probably the antecedent form that was simplified and adapted for use on more utilitarian ware (MEE, pl. 55j and k).

In addition to piecrust rim jars and cut out rims, two undecorated bowl forms are distinctive, even though it is possible that both forms occur in Valdivia IV as well as in III. The first is an open, moderately deep bowl with a convex, evenly thick wide, well defined channel below the rim. The channel is usually unpolished in contrast to the nicely polished rim and body wall (fig. 35). The second is an open moderately deep bowl with a thick folded rim (figs. 36 and 37).

Valdivia IV

Gradually, jars with folded rims of any type were displaced by jars with slightly flaring necks and incised decoration. We know that necked jars occur in Valdivia I and II, and they undoubtedly occur in III as well. Figure 38 is an example of a jar neck that could be found in a III assemblage. Two features that indicate this early placement are first, the cut rim and, second, the deep rim band proportioned and applied like a folded rim but partially smoothed into the surface of the neck. In Valdivia IV, the edge of the rim has been expanded with a narrower coil of clay so smoothly blended into the neck that the join is imperceptible unless a poorly made piece is broken to show the cross-section (fig. 39).

Carelessly applied motifs are composed of groups of parallel lines arranged so that horizontal or diagonal lines intersect vertical lines (figs. 40-42), diagonal crosshatched lines (MEE, pl. 73a and d-h), closely spaced horizontal lines (MEE, pl. 74h-l and 75), and nested chevrons oriented vertically (fig. 38), or horizontally to produce a kind of herringbone or zigzag pattern (MEE, pl. 67, 68, and 69a-o). Incision is limited to, but completely covers, the neck. The expanded rims are usually plain but are occasionally red slipped.

Valdivia IV refuse should include Valdivia IV figurines, a variety of incised patterns on jar necks with expanded rims, incised or excised motifs composed of straight lines or rectangles on bowls, anthropomorphic faces and dogbone shaped figures.

Valdivia V

A collection of about 200 sherds from the surface of a bulldozed mound located within a few hundred yards of SE 62C and designated as SE 62A, provided a unit of contemporaneity for Valdivia V. The collection includes a slant eyed Valdivia V figurine head (fig. 24) not unlike one of the heads illustrated from San Pablo (Zevallos and Holm, 1960, lam. 19, third row from top second from left).

This is a transitional phase. It marks the ending of old traditions: restriction of the design field for incised decoration to the neck and rim on necked jars, prominent rim lobes, anthropomorphic faces on bowls, patterns expertly made by cutting away sections of the design. New features are short incurving rims on deep bowls with decorated channels below the rim (fig. 43), punctations arranged in rows (fig. 44; Zevallos and Holm, 1960, lám. 12, fig. 6), stepped or rickrack lines (fig. 45; Zevallos and Holm, 1960, lám. 9, figs. 6 and 7), small rim lobes that may have nubbins placed on the exterior of the lobe (fig. 44; Zevallos and Holm, 1960, lám. 10, fig. 4), carinated rims on bowls, ripple polishing, and incised or brushed lines on the side walls of jars. All of these features, used experimentally in Valdivia V, were modified in VI and became conventional forms of decoration.

There are no notable differences between Valdivia IV and V utilitarian jars, but the only incised patterns carried over from IV are closely spaced horizontal parallel lines, herringbone bands, and occasionally a motif of crosshatched diagonal lines.

From SE 62A, there are sherds of a bowl shape that is unique in having a rim recessed from the body wall. On some examples of this shape the body wall is slipped red in contrast to a buff colored, polished rim (fig. 46; MEE, p. 78 and fig. 44, form 1, p. 79).

Even though a motif of excised pendent scallops encircling neckless bowls is not represented in the collection from SE 62A, it is probably a Valdivia V design (figs. 31 and 47; MEE, pl. 59d and e; Estrada, 1958, fig. 14, no. 3).

Chronological evidence for Valdivia III-V

There is no single piece of evidence to substantiate the division of Valdivia III through V and what evidence there is has been assembled like a jigsaw puzzle from which a good many of the pieces are missing. Yet some pieces of the puzzle do fit.

It is possible to say with confidence that cylindrical clay figures are one of the earliest ceramic figurine styles and that some clay figures are more or less contemporary with cylindrical stone figures. Two clay figures are associated with Valdivia III pottery. The first is the head that Porrás excavated at Puná where Valdivia II ceramic styles are absent (Porrás, 1973). The second is the back and side of a figurine from the lowest level of SE 62C (fig. 22). The

fragment has long hair indicated by scraping over an unpolished surface and a modeled arm that is bent forward at the elbow. The hips, below a waist that is slightly defined, are perfectly cylindrical, red slipped and polished. A short cleft at the base of the cylinder divides the buttocks. The section below the hips forms a smaller cylinder which is in turn divided to form short stumpy legs. This section is neither slipped nor polished, but the flat surface of the stump that has been preserved has a well polished surface. The rim sherd of a deep bowl from the same low level has incision through red slip in a pattern of roughly parallel ladders (fig. 33). The design and incised technique of the bowl could fit into Valdivia II but here occurs in a III context.

In addition to this figurine and sherd that could be considered transitional pieces, a second female figurine fragment from this same low level is constructed from a single coil of clay and has hair indicated only by incision and modeling. The arrangement of the hair is peculiar in that the hair falls away from the head leaving a circular space between hair, face and shoulder.

One hooded figurine was found on an upper level of the trench. All other figurines from SE 62C are Valdivia IV in style.

At SE 62C, there are piecrust rims but no jars with shoulder bosses. The situation is reversed at Loma Alta J-I and J-II where bossed jars are abundant, but where the only three piecrust rims recovered are from the upper level of J-II:12.

Meggers, Evans, and Estrada did not classify jars with piecrust rims as a Type but they did classify them as a distinctive vessel form (MEE, Table A, generalized form 14, p. 91) and recorded their distribution in Cuts A, F, and H at Valdivia (MEE, Table 14, pp. 210-212, Form 14).

In Cut A, where the first clay figurine was found between 220 and 240 cm. (Evans, Meggers, and Estrada, 1959, fig. 78), the quantity of piecrust rims increased sharply above 260 cm., reaching a frequency of 42.8% in the top level of the "Valdivia Phase" deposit. In contrast, the bossed "Valdivia Modeled" Type, quite evenly distributed from the base of the cut up to 200-220 cm., rapidly disappeared above that level (MEE, Table 6, pp. 191-193).

Except for some late Valdivia sherds in the upper levels, Cuts F and H contained only Period B refuse. "Valdivia Modeled" was absent except for six sherds in Cut H and one in the lowest level of Cut F (MEE, Table 6, pp. 193-195). Piecrust rim jars, on the other hand, make up a substantial proportion of the vessel forms in both cuts (MEE, Table 14, pp. 211-212, Form 14).

There are some obvious continuities between Valdivia II and III bowls, including rim lobes, feet, and some design motifs. The rectangles and fret bands, incised with moderately wide lines and sometimes with small sections of excision, that occur on Valdivia II bowls

are clearly antecedent to the incised and excised decoration found throughout the III-V material.

It was disappointing not to find stratigraphic evidence for distinctions between Valdivia III and IV at SE 62C. The sample was too small, the trench too shallow, and the deposit too disturbed through the middle levels. Although all but three of the figurines from SE 62C are Valdivia IV style, one head found within the top 5 cm. of the ceramic deposit is interesting as a probable IV-V transitional form, having a nose roughly modeled onto a head that is otherwise typically IV (fig. 23). In the same 0-5 cm. level we found one rim sherd of a Valdivia V recessed rim bowl.

The stylistic changes that occurred at this time are reflected in the distribution of "Valdivia Incised" pottery in Cuts A, F, and H. In Cut A, where the frequency of "Valdivia Incised" sherds below 180 cm. is minimal, the frequency increases dramatically above that level (MEE, Table 6, pp. 190-192). In Cut F, and even in the mixed refuse of Cut H, the greatest percentage concentration of piecrust rim jars is in the lower levels of both cuts (MEE, Table 14, p. 211-212) while the greatest concentration of "Valdivia Incised" is in the upper levels (MEE, Table 6, pp. 193-195).

There is no stratigraphic evidence for the placement of Valdivia V. Furthermore, the number of decorated or diagnostic sherds from SE 62A is too small to represent adequately the range of variation within the style. Nevertheless, without the material from SE 62A there would be a noticeable gap in the sequence, since this material obviously bridges the stylistic gap between Valdivia IV and VI.

The only Valdivia V figurines recovered from controlled excavations are from the site of San Pablo (G-117). Zevallos and Holm's preliminary report concentrates on the cultural implications of the artifacts they found. Beyond stating that the cultural deposit never exceeded a depth of 1.3 meters and that temporal changes were probably distributed horizontally, they provided no data on the distribution of either pottery or figurines (Zevallos and Holm, 1960, p. 6). Unfortunately, no subsequent report on the San Pablo excavations has been published, so in spite of the wealth of material excavated at the site, we do not know which pottery was associated with the Valdivia V figurines.

Meggers, Evans, and Estrada identify 6 figurines from Cut J, sections E and D, at G-31 as belonging to their "San Pablo" Type, and 1 from section D as "Buena Vista" Type. Of the figurines recovered from G-54, there are 9 classified as "San Pablo" and 16 as "Buena Vista" (MEE, Table 13, p. 209). Plate 125 illustrates 11 examples of their "San Pablo" Type, but nowhere is the provenience of these specimens given, and they are obviously different from the Valdivia V figurines from the site of San Pablo. Meggers, Evans, and Estrada comment on this fact, noting, "These [figurines from San Pablo] show variations not represented in the samples from G-31 and G-54, filling gaps in the evolutionary continuum on which the typology is based" (MEE, p. 22).

The evidence indicates a break in the ceramic sequence at Valdivia. One possible explanation of such a break may lie in the settlement pattern that seems to have been characteristic of the people who made Valdivia pottery. At Loma Alta, SE 62, and, if Zevallos and Holm are correct, at San Pablo, the inhabitants seem to have dumped their refuse in one area for a certain length of time, then moved to another area, nearby, where they accumulated new heaps of refuse. Valdivia is an extensive site and the area where Valdivia V refuse was discarded may not yet have been located. Certainly the material recovered by Meggers, Evans, and Estrada in their various excavations at the site indicate that there is horizontal stratigraphy at Valdivia (compare, for example, Cuts A and F).

No radiocarbon determinations have been made from SE 62C.

Up to this point, there are no major differences between the temporal order of ceramic development proposed here, and the Period sequence established by Meggers, Evans, and Estrada.

Valdivia VI-VIII

There are several reasons why it is convenient to discuss Valdivia VI through VIII as a unit. Valdivia VI marks the last of the figurine tradition. Fewer figurines were made in Valdivia VI and those that were are poorly constructed and designed. No figurines at all have been found associated with VII and VIII pottery at La Libertad. On the other hand, stylistic changes occurred in Valdivia VI that, with modifications, continued through the remaining span of the Valdivia style. Finally, the significance of the radiocarbon age determinations that can be associated with pottery of Valdivia VI to VIII is clearer if the determinations can be discussed in relation to all three phases, rather than to each one separately.

No Valdivia VI diagnostic pottery has been found anywhere on the Santa Elena Peninsula. My sample is from a large site (G-54) near the village of Buena Vista a few kilometers inland from Valdivia.³ Refuse containing Valdivia VII and VIII pottery has been found scattered over a wide area within the outer limits of the peninsula town of La Libertad. Bushnell found Valdivia sherds there in the 1940's and was the first to report them as a hitherto unrecognized ceramic complex (Bushnell, 1951, pp. 123-124). They have been turning up ever since, mixed in the debris of a succession of later cultures. Our best diagnostic sample of VII and VIII sherds is from Cut SE 46B-1, excavated on high level ground only a few hundred meters from the shore.

Valdivia VI

Valdivia VI is notable for extremely simply decorated shallow bowls and extravagantly decorated deeper bowls and jars. The simply decorated bowls are standardized in size, shape, and decoration; the deep bowls and jars range in form from vessels no more than 3 or 4 cm. in diameter to fat globular vessels with rim diameters up to 20 cm. (MEE,

pl. 90). On any of these shapes, rims may be direct and flaring, carinated, incurving, or everted; there are even examples of a concave rim superimposed on another below it (fig. 49). Decoration consists of applique bands, pellets, long gashed ribs (fig. 50), nubbins, or handle-like lugs, on side walls incised with chevron-shaped or slanting parallel lines. Even utilitarian jars have side wall decoration (fig. 51). Except for the frequency of side wall decoration, Valdivia VI utilitarian jars are not noticeably different from those of Valdivia V. There is a tendency to shorter, narrower necks with quite everted rims, and the incised motifs are primarily composed of chevrons, sloppily applied either singly or in a herringbone pattern. Some jars have small handles or shoulder lugs that, in some instances, are crudely incised with Valdivia VI figurine faces (MEE, pls. 89b, f, h and 106g).

Because the simpler bowl forms are more uniform than the jars, they are the most reliable pieces for identification of a VI deposit. Six combinations of shape and decoration are distinctive:

- Bowl 1. A plain-surfaced polished bowl with nearly vertical to slightly incurving walls, the interior wall thickened along the edge of the lip to form an expanded rim (fig. 52).
- Bowl 2. A convex-walled or carinated bowl with a single or double wavy, rickrack, or scalloped line placed between, above, or below a straight line or lines generally placed between the rim and the shoulder angle (fig. 53; MEE, pls. 34 and 35, fig. 25, no. 7, p. 50).
- Bowl 3. A deeper incurving bowl with a single broad groove about a quarter inch below the rim. The groove is usually filled with nicks, gashes, stamping, or punctations. Below the groove, walls are plain or incised with moderately wide lines (fig. 54; MEE, fig. 27, no. 2, p. 53, fig. 38, no. 3, p. 69, fig. 46, no. 2, p. 83).
- Bowl 4. A shallow carinated bowl, polished, with a deep groove immediately below the angle of the rim (fig. 55; MEE, fig. 27, no. 4, p. 53).
- Bowl 5. A carinated or incurving bowl with a row or rows of scallops crudely gouged at the rim (fig. 56; MEE, pl. 60c-e).
- Bowl 6. A bowl with carinated or incurving rim decorated with a relief band formed by excising both edges in scallops (fig. 57; MEE, pl. 60f-j).

In addition to the above features, one form of decoration is so distinctive that Meggers, Evans, and Estrada gave it a Type classification, "Valdivia Red Zoned Punctate" (MEE, pls. 105 and 106). Some "Red Zoned Punctate" pottery decorated with parallel rows of round punctations may have been made as early as V (MEE, pl. 106d and e); but semicircular, rectangular, or free form zones outlined by incision and

filled with small punctations are found exclusively in Valdivia VI. The designs are usually put on the extremely carinated rims of small jars that are overall red slipped or have slip applied only to the decorated zones (figs. 58 and 59; Zevallos and Holm, 1960, lám. 13, no. 1).

Valdivia VII and VIII

Pottery in VII and VIII is less varied than in VI but equally well made. In almost any collection of Valdivia sherds from La Libertad there are likely to be unpolished fragments decorated with ribbonlike strips of appliqué clay (fig. 60; MEE, pls. 27 and 28); pieces of gray polished bowl walls or bases incised with combinations of parallel lines, stepped lines, or nested geometric figures (fig. 70; MEE, pls. 36 and 37); bits of the side walls of jars textured with brushed or shell-scraped lines (MEE, pls. 44-46); plain or ripple polished carinated bowl rims (MEE, pls. 91-93); and carinated or convex-curving jar rims with irregularly drawn or scraped lines and often embellished with small nubbins (fig. 61; MEE, pls. 29b, c, g-m and 44a-f). All of these forms and decorations are typical of any Valdivia VII or VIII assemblage and are well illustrated by Meggers, Evans, and Estrada.

Less common but characteristic features are: the incision of rectangular figures in combination with small crescents or punctations on the carinated rims of bowls or jars (figs. 62 and 63; MEE, pl. 26i); incision of simple geometric figures or parallel lines on the interiorly thickened insloping rims of open bowls (figs. 64 and 65); the placement of elongated nodes at intervals along the shoulder or the angle of bowls or jar rims (fig. 69; MEE, pl. 114u).

Distinctively different patterns on VII and VIII bowls are composed of symmetrically arranged zones filled with crosshatched lines. These "Valdivia Zoned Incised" bowls are characteristically small, gray, thin walled, and polished, and have convex-curving walls or low angular shoulders (figs. 64 and 69).

While there are no major differences between the pottery of Valdivia VII and VIII, minor ones are sufficient to establish the validity of the phase division. A rim edged with a deep band of brushing or ripple polishing is characteristic of VII but has not been found in any Valdivia VIII assemblage (fig. 66). In Valdivia VIII, four elements are diagnostic; two are vessel forms and two are decorative techniques:

1. A bowl with vertical to outsloping side walls that is the end product of a trend that begins in Valdivia VI toward lower and lower shoulders on bowls. Decoration is usually placed below the shoulder, so that very little of the incision is visible when the bowl is placed on a flat surface (MEE, fig. 48, no. 2). Figure 69 depicts a bowl of this shape with zoned decoration that completely covers the exterior surface.
2. An inconspicuous small jar with a constricted neck and a nearly

vertical rim, thickened on the exterior surface so that in cross section it forms a right triangle. Simple decoration is composed of four continuous or broken parallel lines around the rim (fig. 67; MEE, fig. 25, no. 10).

3. A variation of the zoned decoration, possibly made in Valdivia VII, but more commonly found in VIII, with wide grooves outlining crosshatched zones (fig. 71).
4. Somewhat haphazardly composed patterns that combine bands of diagonal parallel or crisscrossed lines with a series of parallel, horizontally oriented lines or grooves (fig. 68).

Chronological evidence for Valdivia VI-VIII

No figurines were found in Cut H at Buena Vista. All of the pottery from the cut is Valdivia VI except 4 intrusive Machalilla sherds, 2 fragments with appliqué strips ("Valdivia Applique Fillet") that are more typically VII, and one rim with a Valdivia V excised dogbone motif from the lowest level (fig. 48). However, Valdivia VI includes so many distinctive features that it seems as if it should be possible to subdivide the phase. It is regrettable that we did not have sufficient time at Buena Vista to clean the profile well enough to be completely sure that there were no natural stratigraphic layers within the refuse. Aside from the sterile overburden, the soil of the test pit walls appeared to be uniformly colored and the cultural contents evenly distributed; the refuse was therefore removed in 10 cm. levels. Even though the cultural deposit was only 50 cm. deep, the distribution of features may have some significance. For example, no fragments of bowls with rickrack lines (fig. 53) were found below the top 20 cm. of the cultural deposit, but a larger sample would be needed to be sure that the concentration of these bowls at the top of the refuse was not accidental.

Meggers, Evans, and Estrada report finding Valdivia VI figurines in Cuts 1 and 2 at G-54 and in Cut J at G-31 in levels of sections D and E that embrace such a mixture of ceramic periods that even Valdivia II material is included. One would expect to find VI figurines at G-54, but their occurrence in Cut J is puzzling. There are no VI diagnostic sherds in the surface collection from Valdivia and I am unable to detect any evidence of a Valdivia VI component in Cut J from Meggers, Evans, and Estrada's distribution tables. One possible explanation is that these figurines are the product of a transitional period during which Valdivia VII styles were emerging but had not yet become dominant. Some support for the existence of such a transitional period can be found in the quantity of "Applique Fillet" in Cut 1, G-54 (in contrast to the two sherds from my cut and the absence of any at all from Cut 2); and in the substantial number of "Broad Line Incised" motif 4 sherds from Cut 1 (MEE, motif 4, p. 49, see also Table 7, motif 4, p. 206), a motif absent from my cut and from the surface collection made at Buena Vista in 1964. I have assigned this motif to Valdivia VII.

Estrada illustrates Valdivia VI sherds from Cut B at Valdivia (e.g., Estrada, 1958, fig. 8 bottom row right, fig. 16, no. 3, fig. 17, nos. 4 and 6, fig. 22, nos. 1 and 3) but the figurines illustrated are all Valdivia IV. So, at Valdivia, on the basis of published data and illustrations, Cut J has Valdivia VI figurines but no VI pottery vessels, and Cut B has VI pottery vessels and no VI figurines.

To the south, on the Santa Elena peninsula, at the time when Valdivia VII ceramics were being made, a settlement of sizable proportions was established in a section of La Libertad (SE 46) where no traces of any earlier occupation have been found, although there is considerable refuse from later cultures. We were fortunate to find one deposit, in which we excavated Cut SE 46B-1, that contained only Valdivia refuse except for a few Machalilla sherds in the upper 10 cm. Furthermore, differently colored soils in the profile of the cut permitted excavation of three natural stratigraphic layers. The center layer, B, contained fewer sherds than either A or C and many of these were pieces of a single charred pot. Layer C, underlying B, yielded typical VII material. In layer A, the assemblage included Valdivia VIII jar rims (fig. 67) and bowls with grooves outlining zones of narrow incision (fig. 71). Unfortunately, no rims with brushed or ripple polished bands (fig. 66) were recovered from our cut at SE 46B-1, but they have been collected from other sections of the La Libertad site in association with VII, but not VIII, sherds.

There is no evidence for a Valdivia occupation of the areas of Cuts A, F, H and J at G-31 after the time that Valdivia VII ceramics were being made; that is, after Period C. Meggers, Evans, and Estrada's Period D is defined from the Type frequencies found at the sites of Punta Arenas (G-25) and Posorja (G-84). Their Period D Types include all of the Valdivia VIII diagnostic features and, in addition, a variation of the "Valdivia Carved" Type that has not been identified at La Libertad (MEE, pl. 47g-m). In addition to this minor difference between the VIII assemblages and those of Period D, pottery from Punta Arenas is described by Meggers, Evans, and Estrada as inferior in workmanship and design to pottery from either early or late Period C and they interpret this inferiority as evidence of ceramic deterioration that marked the end of the Valdivia tradition (MEE, pp. 90 and 172). An alternative explanation is that pottery from Punta Arenas is inferior work by unskilled potters living in a peripheral area. There is no notable difference between the quality of the pottery from La Libertad and Valdivia VI pottery from Buena Vista or VII pottery from Valdivia.

The fact is that the Santa Elena region, too, may have been out of the main stream of change, making only minor modifications in Valdivia VII, while more important changes were occurring further north. From looted sites in the neighboring province of Manabí and from unexcavated sections of the Valdivia site (G-31) local people have brought in thin-walled bowls with intricate incised designs and traces of postfired paint and crudely modeled figurines with feather headdresses and beaked noses (Norton collection, Guayaquil). These items represent a distinctive ceramic style that could be contemporary with Valdivia VIII from La

Libertad or with Punta Arenas Period D.

In addition to the stratigraphic and distributional evidence noted above, there is a stylistic continuum, a consistent flow of form and pattern through this entire period. A few of the numerous examples that could be cited are: the rim illustrated in figure 43 from SE 62A as an antecedent form of later incurving rims; rickrack bands as the basis of a preference for stepped lines used as single motifs or as the outlines of geometric figures in VII and VIII (fig. 70); and side wall brushing on jars, used sparingly in Valdivia V and VI, but common in VII and VIII.

Radiocarbon age determinations from three sites seem to confirm the sequence outlined above.

1. From Cut H, Valdivia (G-31). Associated with mixed pottery probably representing Valdivia IV, V (?), and VII (Meggers, Evans, and Estrada's Periods B and early C). (MEE, pp. 149 and 151)

20- 40 cm.	4140 \pm 60 B.P. (SI-80)
80-100 cm.	3970 \pm 65 B.P. (SI-78)
120-130 cm.	4050 \pm 200 B.P. (W-630)
120-130 cm.	4170 \pm 65 B.P. (SI-85).

2. From Cut 1 at Buena Vista (G-54). Associated with Valdivia VI pottery (Meggers, Evans, and Estrada's late Period C). (MEE, pp. 149 and 151)

100-130 cm.	4040 \pm 55 B.P. (SI-71).
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3. From SE 46B-1, La Libertad. Associated with Valdivia VII pottery.⁴

Layer B	3900 \pm 150 B.P. (L-1232H)
Layer B	3750 \pm 150 B.P. (L-1232I).

The three oldest age determinations listed from Cut H, where the remains of at least three phases, or two Periods (B and C) are mixed, are all within one standard deviation of 4150 B.P. and could apply to a late IV or very early V occupation. The youngest figure, then, would presumably apply to the reoccupation of the site in Valdivia VII. The sequence would be approximately as follows:

Valdivia VI	4100-3950 B.P.
Valdivia VII	3950-after 3850 B.P.
Valdivia VIII	3850 B.P. - ?

There are important differences between this sequence and the sequence proposed by Meggers, Evans, and Estrada (MEE, pp. 147-151).

The new sequence questions the seriation of Period C sherds from G-54, Buena Vista, as later than Period C material from G-31, Valdivia (MEE, fig. 53). On stylistic grounds, the material from Buena Vista should be assigned to Valdivia VI and considered intermediate between V and VII sherds from Valdivia.

Meggers, Evans, and Estrada's seriation ordering of the material from Period C is predicated on two assumptions.

1. That a second measurement of 3450 ± 50 B.P. (SI-69) from the 60-80 cm. level of their Cut 1 at Buena Vista was determined from the shell deposit of a Valdivia occupation, and that, therefore, Buena Vista pottery is later than any of the pottery from their stratigraphic levels at Valdivia.
2. That Machalilla sherds from Valdivia sites like Buena Vista, and Valdivia sherds from Machalilla sites like La Cabuya, are the remains of pottery from two contemporary pottery making peoples (MEE, p. 171).

The result of these assumptions is that Period C is estimated to have begun before 3950 B.P. and to have continued for approximately 600 years. Period D, based on determinations from La Cabuya, is estimated to have persisted some 300 to 400 years (MEE, p. 150). Thus the total Period C-D time span is about 1000 years. If this chronology were accepted, Valdivia VII pottery from SE 46B-1, associated with material with a C-14 determination of approximately 3850 B.P., would necessarily be earlier than most of the pottery from Buena Vista, and the same would be true of the VII material from Cut H and other cuts at Valdivia.

However, Meggers, Evans, and Estrada's sequence presents some peculiar problems for the internal chronology of the complex. First, if one accepts the older measurement of 4040 ± 55 B.P. from Buena Vista, late Period C began some 4000 years ago and lasted until after 3450 ± 50 B.P. while early Period C could hardly have lasted 100 years. Even taking into consideration the fact that late Period C (Valdivia VI) includes an unusually wide range of stylistic variability, the disparity between the length of early and late Period C is unreasonably great.

Meggers, Evans, and Estrada recognize differences between early and late Period C, that is, between the pottery from Buena Vista and from their cuts at Valdivia. They state, for example, that "Valdivia Rocker Stamped" was "limited to Period C, particularly the latter half of the Period as exemplified at G-54 [Buena Vista] and G-115 [San Pablo]" (MEE, p. 84); or commenting on "Valdivia Carved," "although it appears rarely and sporadically in the latter part of C, this type is diagnostic of Period D" (MEE, p. 54).

Period C Types absent, or nearly so, at G-31 and present at G-54 are: "Valdivia Broad Line Incised," motif 3 (MEE, Table 7, motif 3, p. 206); "Valdivia Excised," motif 5 (MEE, Table 12, motif 5, p. 208); "Valdivia Rocker Stamped" and "Valdivia Red Zoned Incised" (MEE, Table 6,

pp. 191-202). On the other hand, only a small quantity of "Valdivia Applique Fillet" comes from G-54 and is concentrated in one cut, even though this is one of the most common decorated Types in any late Valdivia assemblage. Although Meggers, Evans, and Estrada were aware of the differences in the distribution of Types at G-54 and G-31, in setting up their final chronology they simply merged early and late Period C into one time slot with no further attention to the temporal implications of their own typological distributions.

Such merging of the Buena Vista and Valdivia Period C components explains discontinuities in the frequency curves for "Valdivia Brushed" (jars with brushed rims or side walls) and "Valdivia Applique Fillet." Both Types show an expectable occurrence, gradually increasing and then decreasing in frequency, if the material from G-54 is placed prior to Meggers, Evans, and Estrada's Period C material from Valdivia. When that order is reversed, there are unexplainable fluctuations in the popularity of both Types resulting from the fact that both were common at Valdivia and Punta Arenas, but neither was common at Buena Vista. There is a similar discontinuity in the occurrence of "Cambered Rim" jars (MEE, fig. 54, vessel shape 22). These rims are abundant in the upper levels of the Valdivia cuts and rare at Buena Vista; they turn up again in the Punta Arenas Period D refuse.

These problems disappear if one rejects the claim that the shells that yielded the measurement of 3450 ± 50 B.P. from Buena Vista were Valdivia garbage. There are sound reasons for thinking they were not. Meggers, Evans, and Estrada describe Cut 1 as a 3 m. square located on a sloping river terrace at the base of a steep hill, the kind of dumping ground where some of the sherds and other refuse on the hillside would inevitably wash down the bank and become mixed with earlier material. Excavating was done in artificial levels of 20 cm., even though it is stated that below a surface layer of near sterile talus, "...the soil became powdery in consistency, light tan to light gray in color and contained abundant sherds.... Granular medium gray clay appeared at a depth of 85 cm. at the north side, along a sloping surface that was 100 cm. below the original surface at the south side" (MEE, p. 19). It was not until Cut 1 and the two extensions to it had been excavated that the face of the north bank of the site, situated less than a meter from the north wall of the test trench abutting the extension of Cut 1, was "straightened and cleaned to reveal the distinct natural upper and lower layers and the refuse deposit..." (MEE, p. 19). No mention is made of a curious lens of yellow sand that cuts across two thirds of the profile a few centimeters above the junction of the two main strata mentioned in the description of the stratigraphy of Cut 1 (MEE, fig. 6, p. 20). There were no notable differences in the distribution of Valdivia Types in the artificial levels of the cut, with the exception of the northeast extension (MEE, Table 6, p. 202). Classification proceeded and Meggers, Evans, and Estrada gave no further attention to any significance the natural stratification might have had.

Of the approximately 9800 sherds counted from below 80 cm. in Cut 1 at G-54, only 21 are Machalilla fragments, a number that can be

reasonably accounted for by wash down the slope or from natural disturbances of the soil. In contrast to this negligible number of Machalilla sherds below the 80-100 cm. level (at which the soil coloration was stated to have changed), 432 Machalilla fragments were counted from the upper strata and 111 of these were from that 60-80 cm. level from which a shell sample yielded a radiocarbon age of 3450 ± 50 B.P. (MEE, Table 6, p. 199). Meggers, Evans, and Estrada explain this intrusion of a different ceramic style at Buena Vista (as well as numerous other Valdivia and Machalilla deposits) as trade ware from nearby villages. Their contention is that a group of people who made Machalilla pottery moved into Guayas Province sometime shortly after 3950 B.P., settled in close proximity to the local inhabitants, and produced a ceramic style which neither influenced nor was influenced by the local Valdivia style over a period of six or seven centuries (MEE, p. 171).

The pros and cons of whether people living side by side could maintain distinctively different artistic traditions over a long period of time are beyond the scope of this paper. However, there is a logical alternative explanation for the intrusive sherds, one that Lathrap made when he reviewed "Early Formative Period of coastal Ecuador" in 1967. He reasoned that a comparison of the description of the excavations and the published profile of the cut with the distribution of Machalilla sherds suggested not a Valdivia settlement receiving trade goods, but Valdivia midden buried under a more localized Machalilla settlement which was in turn buried under slopewash and redeposited Valdivia sherds (Lathrap, 1967, p. 97). All of the places where Machalilla and Valdivia pottery co-occur are advantageous places to live, and in many instances they include the remains not only of Valdivia and Machalilla occupations but of later pottery complexes as well. One does not conclude that Valdivia and Guangala pottery are contemporary because they are mixed in the same refuse heap. If at Buena Vista, specifically, we have the evidence of a long Valdivia occupation followed by a smaller Machalilla occupation in the course of which new refuse became mixed with the refuse of the earlier occupants, then the measurement of 3450 ± 50 could apply, not to the Valdivia component, but to the Machalilla component of the site. Accepting this conclusion, the age determinations from Valdivia, Buena Vista, and La Libertad all fall into place and bracket reasonable periods of time, and the stylistic changes that occurred are gradual and consistent.

Summary and Conclusions

The foregoing discussion has defined a sequence of eight phases for the Valdivia ceramic complex based on a study of stylistic features and stylistic changes that have been verified insofar as it has been possible to do so by stratigraphic, distributional, and radiocarbon evidence. Valdivia I and II comprise the pottery made before clay figurines became popular. Valdivia III through V are associated with clay figurines beginning with experimental styles made early in III to highly stylized Valdivia V. After V, fewer figurines were made and the quality of workmanship and design deteriorated. Valdivia VI has been shown to be a period when ceramic shapes and decoration initiated in V and, in some

instances even earlier, were elaborated and potters showed a preference for elaborate surface treatment. Valdivia VI, in turn is followed by the late phases during which flat surfaces and simple geometric motifs dominate the style. Pottery at the end of the sequence tends to be thinner walled and more uniformly fired than pottery of the earlier phases, but otherwise there are no important advances in technology or the quality of workmanship after Valdivia I.

The sequence presented here correlates with the Meggers, Evans, and Estrada sequence of four periods as follows: Valdivia I pottery is earlier than the pottery classified as Period A Types. Valdivia II material falls within Period A but does not include certain "Cut and Beveled Rim" bowls (MEE, pl. 55j and k) or General Form 14 (MEE, Table A, p. 91) both of which belong to Valdivia III. Valdivia IV and V, to whatever extent V is present at G-31, fall within Period B. Valdivia VI corresponds to the late portion of Period C, Valdivia VII to the early portion of Period C. Valdivia VIII is generally but not exactly equivalent to Period D.

The new sequence casts light on old problems and poses new ones. It denies the validity of Meggers, Evans, and Estrada's hypothesis of a Japanese origin for New World pottery based on similarities between Valdivia and Middle Jomon pottery from Kyushu. In view of the fact that a ceramic assemblage earlier than the Period A assemblage has been identified, it can no longer be assumed that Period A Types, including such sophisticated Types as "Fine Line Incised," "Red Incised," and "Cut and Beveled Rim," are contemporary pottery without local antecedent forms. On the contrary, the archaeological record that has been built up since Meggers, Evans, and Estrada worked at Valdivia presents a picture of gradual change from necked vessels with tapered rims or open bowls that were plain or decorated with poorly conceived unformulated designs, to folded rims and more complex motifs, and then, out of these antecedent forms the development of such typically Period A features as fine line incision on red slip in standardized patterns, footed bowls, lobed rims, and the well designed frets applied to "Red Incised" bowls.

The temporal priority of the pottery from Punta Concepción, initially placed as earlier than Period A pottery for stylistic reasons, is confirmed by the stratigraphic position of the Valdivia component at G-31 in the E6 section of the Viteri trench where it underlies Period A styles and overlies the San Pedro levels which in turn overlie aceramic refuse. Furthermore, the existence of Valdivia I pottery as far south of Valdivia as the Santa Elena Peninsula and as far inland as Loma Alta is a clear indication that Valdivia I cannot be regarded as either a regional or coastal assemblage. Finally, the earliest radio-carbon determinations directly associated with Valdivia I pottery are not from the coast, but from the Loma Alta cairns.

Meggers, Evans, and Estrada were hard pressed to find similarities between Period A and Middle Jomon pottery from Kyushu. There are no similarities whatsoever between Jomon and the earlier Valdivia I pottery.

How Valdivia ended is no clearer than how it began. The fact that Machalilla pottery as it is currently known on the Guayas coast is a later ceramic complex than Valdivia does not explain the relationship between the two complexes. Clearly, the relationship is more complex than the simple one postulated by Meggers, Evans, and Estrada to explain intrusive Machalilla and Valdivia sherds. Given the obvious similarities between late Valdivia and Machalilla, however, surely, the time available between the latest Valdivia VII radiocarbon age determinations and the earliest ones available for Machalilla material (including SI-69 from G-54) is ample for the observable changes to have taken place (see MEE, Table G, p. 149).

A sequence founded on limited knowledge of both the temporal and geographic limits of a cultural complex will inevitably require modification as new facts emerge. A broader range of samples from single phase sites or stratigraphic units is needed to establish a more complete, detailed and accurate internal chronology. For example, evidence is lacking to determine the temporal sequence of designs applied to "fancy" bowls. The stylistic development of figurines is poorly understood, even though literally thousands of fragments have been recovered from controlled excavations and hundreds of others looted by pothunters are in museums or private collections. Minor features of style that have not been included or have been overlooked in this paper may prove to be important timemarkers.

With these and other reservations of a similar kind, the foregoing sequence is presented as a more detailed and precise chronology that accomodates the currently known facts better than the four period sequence that has hitherto been the accepted one for Valdivia pottery.⁵

Acknowledgements

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I would like to express my gratitude to the persons who have made this work possible: to Edward Lanning who was initially responsible for working out the phase sequence, to Eugene J. McDougle who supervised the field work in Ecuador in 1968, to Presley Norton for the opportunity he gave me to study his collections from Loma Alta J-I and J-II, and to Donald Lathrap for his continued interest and helpful criticism. I particularly appreciate the privilege extended me by Henning Bischof and Presley Norton in allowing me to utilize photographs and the yet unpublished results of their own recent field work in Ecuador as well as unpublished radiocarbon determinations from the Viteri trench and the Loma Alta cairns. Karen Stothert was most gracious in allowing me to use her as yet unpublished materials.

An earlier version of this paper was read by Patricia J. Lyon, Catherine J. Julien, and John H. Rowe, all of whom provided helpful criticism.

NOTES

¹This study comprises a substantially revised version of an earlier work submitted in 1966 as a Master's Essay at Columbia University, New York, under the title "A ceramic sequence for the Valdivia Complex, Guayas Province, Ecuador."

²In this study I propose to use two different site designation systems. In order to avoid unnecessary confusion, I am retaining Meggers, Evans, and Estrada's site numbers for those sites to which they refer (e.g., G-31, G-54, etc.). For those sites unknown to or unnumbered by Meggers, Evans, and Estrada, I am using an abbreviated version of Lanning's site designation system. All site numbers with the prefix SE fall into this category.

³Our test pit at the site of Buena Vista was located in the yard of the house that is shown in Meggers, Evans, and Estrada's figure 5, page 18, less than 10 meters from their Cut 1. Our cut will be henceforth referred to as Cut H.

⁴Determination number L-1232I is a rerun of L-1232H. The shell sample was collected by Hill and submitted by E. P. Lanning.

⁵A detailed report on the stratigraphic excavations carried out by Hill and McDougale in 1968 is now being prepared for publication.

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KEY TO ILLUSTRATIONS

All vessel shapes on plates IV-VII are reconstructed from sherds except fig. 37 (pl. V) which is the only whole specimen recovered in our excavations, and figs. 59 and 64 (pl. VII) which are whole specimens in the Norton collection, Guayaquil. All specimens are drawn to the same scale with the following exceptions, which are drawn to twice the scale of the others: plate IV, fig. 21; plate V, figs. 22-26, 30-32, 37, 39; plate VII, figs. 69-71.

Plate I

Fig. 1, the map is based on MEE, figure 2, page 12, for ease of comparison.

Plate III

All measurements labeled "Vald. G-31, Cut J..." are taken from MEE, Table G, p. 149.

Measurements I-7069 and I-7167 are based on samples collected by Stothert and are discussed more fully in her work in press (Stothert, ms.).

Measurements L-1042C and L-1042D were collected and submitted by Lanning. The samples come from a test pit, and have not been published previously.

All measurements labeled "Vald. Viteri trench..." were collected and submitted by Henning Bischof (see Bischof and Viteri, 1972; Bischof, 1973), and have not been previously published. See figure 2 for location of levels from which samples came.

All measurements labeled "L.A...." come from the site of Loma Alta and were collected by Presley Norton. These measurements were run on samples from two different areas of Loma Alta, Cut J-II:1-8, and the cairns area underlying Cut J-III. Of the measurements from J-II:1-8, SI-1055 was submitted by Clifford Evans, and Hv-4673 by Bischof (personal communications, Norton and Bischof). Donald W. Lathrap submitted the samples for measurements ISGS-142, -146, -190, and -192. ISGS-142 and -146 were published in Radiocarbon, 1974, vol. 16, no. 1, and ISGS-190 and -192 were published in Radiocarbon, 1975, vol. 17, no. 2.

Plate IV

Fig. 4. Phase I, "dirty white" jar neck with interior red slip and exterior incision, SE 42.

Fig. 5. Phase I, red slipped jar neck with rough incision, SE 42.

Fig. 6. Phase I, incised deep jar neck, Loma Alta J-II:1-8.

Fig. 7. Phase I, jar neck decorated with incision, SE 42.

Fig. 8. Phase I, polished gray jar neck with incised design, Loma Alta J-II:10.

- Fig. 9. Phase I, red slipped jar neck with roughly incised crossed diagonal lines, SE 42.
- Fig. 10. Phase I, red slipped incised bowl with slightly flaring rim, SE 42.
- Fig. 11. Phase I, red slipped incurving bowl with incised design, SE 42.
- Fig. 12. Phase I, red slipped incurving bowl with incised design, Loma Alta J-II.
- Fig. 13. Phase I, red slipped incurving bowl with incised design, SE 42.
- Fig. 14. Phase I, incised bowl with upturned rim, Loma Alta J-II:1-8.
- Fig. 15. Phase I, red slipped incurving bowl with incised design, SE 42.
- Fig. 16. Phase II, jar with folded rim and shoulder bosses, Loma Alta J-II:1-8.
- Fig. 17. Phase II, red slipped open bowl with small rounded lobes, Loma Alta J-II:12.
- Fig. 18. Phase II, "Valdivia Fine Line Incised" bowl, Palmar (G-88).
- Fig. 19. Phase II, "Valdivia Red Incised" pattern bowl, Valdivia (G-31) surface.
- Fig. 20. Phase II, "dirty white" incurving bowl with combed decoration, SE 42.
- Fig. 21. Phase II, "Valdivia Red Incised" Type fret with "Valdivia Fine Line Incised" Type triangular zones, Loma Alta J-II:1-8.
- Fig. 22. Phase III, early, figurine with cylindrical cross section, SE 62C, base level.
- Fig. 23. Phase IV, figurine head with some modeling of the nose, SE 62C, 0-10 cm.
- Fig. 24. Phase V, slant eyed "San Pablo" Type figurine head, SE 62A.
- Fig. 25. Phase V, "San Pablo" Type figurine fragment, provenience unknown.
- Fig. 26. Phases III-IV, band of rectangles with center line, SE 62C.
- Fig. 27. Phases III-IV, polished open bowl with band of nested rectangles, SE 62C.
- Fig. 28. Phases III-IV, V (?), polished open bowl with large nested rectangles, SE 62C.
- Fig. 29. Phases III-IV, V (?), small jar with red slipped zones and "dog bone" motif, SE 62C.
- Fig. 30. Phases III-IV, bowl rim with anthropomorphic face incised on and below broad flattish lobe, SE 62C.
- Fig. 31. Phase V (?), bowl rim with stylized anthropomorphic face incised below very low lobe, provenience unknown.
- Fig. 32. Phases III-IV, bowl rim with anthropomorphic face incised below very slight lobe, SE 62C.
- Fig. 33. Phase II-III transition, red slipped deep bowl incised in "Fine Line" technique, SE 62C.
- Fig. 34. Phase III, "piecrust" rim jar, SE 62C.
- Fig. 35. Phase III, large open bowl with polished rim and body and unpolished channel below rim, long low flat topped lobes, SE 62C.
- Fig. 36. Phase III, polished open bowl with thick folded rim,

SE 62C.

Fig. 37. Phase III, small open bowl with thick folded rim, roughly finished, SE 62C.

Fig. 38. Phase III, polished buff jar neck with incised vertical nested chevrons and low flat topped lobes, San Pablo (G-115) surface.

Fig. 39. Phase IV, broken rim showing applied coil, SE 62C.

Plate VI

Fig. 40. Phase IV, short jar neck with expanded rim and red slipped interior, exterior design incised and bounded by single row of punctations, SE 62C.

Fig. 41. Phase IV, jar neck with expanded rim and variation of incised motif, SE 62C.

Fig. 42. Phase IV, jar neck with expanded rim and variation of incised motif, SE 62C.

Fig. 43. Phase V, open bowl with sharply incurving rim and incised design in channel, SE 62A.

Fig. 44. Phase V, open bowl with lobes and nubbins on rim and three rows of punctation below the rim, SE 62A.

Fig. 45. Phase V, incurving bowl with low relief design of narrow band at point of maximum diameter with rickrack band below it, SE 62A.

Fig. 46. Phase V, slightly incurving bowl with recessed polished buff rim, red slipped body, SE 62A.

Fig. 47. Phase V, open bowl with band of excised scallops, San Pablo (G-115) surface.

Fig. 48. Phase VI, typical VI carinated jar rim with phase V excised design, G-54, Cut H, 40-50 cm. (base level).

Fig. 49. Phase VI, "double rim" jar neck, San Pablo (G-115) surface.

Fig. 50. Phase VI, incurving bowl with roughly applied gashed ribs, G-54, Cut H.

Fig. 51. Phase VI, short constricted jar neck, with incised horizontal nested chevrons on neck, vertical chevrons on body, separated by single row of punctations at base of neck and with vertically oriented slashed lug on top of shoulder, G-54, Cut H.

Fig. 52. Phase VI, Bowl 1, G-54, Cut H.

Fig. 53. Phase VI, Bowl 2, with narrow single rickrack design, G-54, Cut H.

Fig. 54. Phase VI, Bowl 3, groove is decorated with punctations, body with incision, G-54, Cut H.

Fig. 55. Phase VI, Bowl 4, G-54, Cut H.

Fig. 56. Phase VI, Bowl 5, with three rows of gouged scallops, G-54, Cut H.

Plate VII

Fig. 57. Phase VI, Bowl 6, G-54, Cut H.

Fig. 58. Phase VI, carinated jar neck with "Valdivia Red Zoned Punctate" decoration on rim, San Pablo (G-115) surface.

Fig. 59. Phase VI, small carinated jar with "Valdivia Red Zoned Punctate" decoration, Norton collection, Guayaquil.

Fig. 60. Phases VII-VIII, large sharply flaring, convex curving jar

neck with ribbonlike appliqué strips, drawn from large sherd, Valdivia (G-31) surface.

Fig. 61. Phases VII-VIII, small jar neck with flattened nubbins, brushed surface, and red slipped lip, SE 46B-1.

Fig. 62. Phases VII-VIII, carinated jar rim with incised design, SE 46B-1, Layer A.

Fig. 63. Phases VII-VIII, typical late Valdivia carinated rim with incised elongated figure with stepped sides and small square figures, SE 46C.

Fig. 64. Phases VII, VIII (?), open bowl with zoned incising on exterior and incised decoration on slanting interior rim, Norton collection, Guayaquil.

Fig. 65. Phase VII, open bowl with decorated slanting rim, Valdivia (G-31) surface.

Fig. 66. Phase VII, flaring jar neck with deep band of brushing at rim, SE 46J, La Libertad.

Fig. 67. Phase VIII, small jar neck with near vertical thickened rim, SE 46B-1, Layer A.

Fig. 68. Phase VIII, incised convex sided bowl, SE 46.

Fig. 69. Phase VIII, shallow open bowl with zoned decoration on entire exterior surface and elongated nodes along shoulder, SE 46.

Fig. 70. Phase VII-VIII, sherd from side wall of shallow bowl with incised stepsided design, SE 46B-1.

Fig. 71. Phase VIII, bowl fragment with design composed of broad line incision and broad line incision outlining zones of thin line incision, SE 46B-1, Layer A.

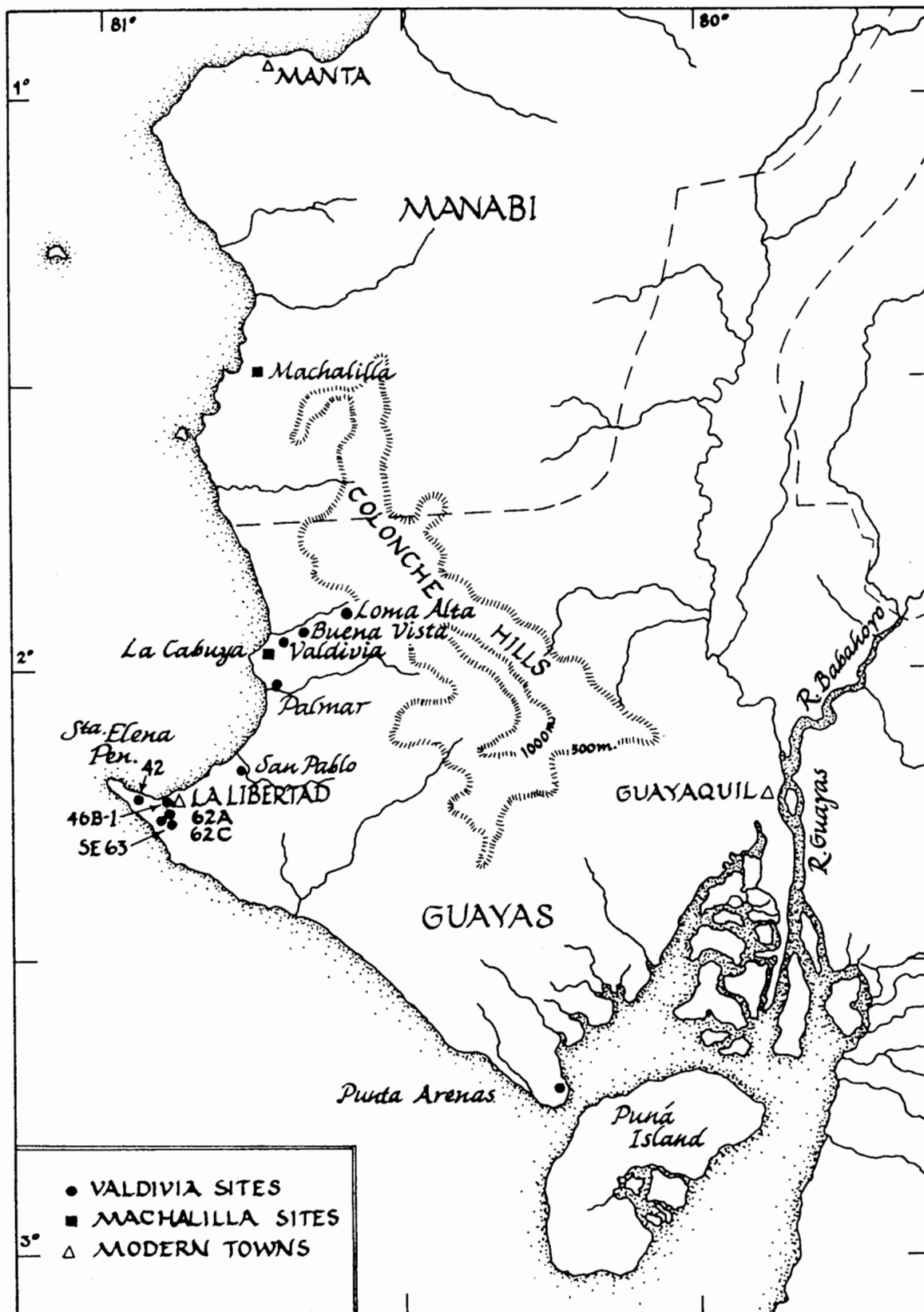


Plate I. Fig. 1, map of southwestern Ecuador indicating Valdivia sites.

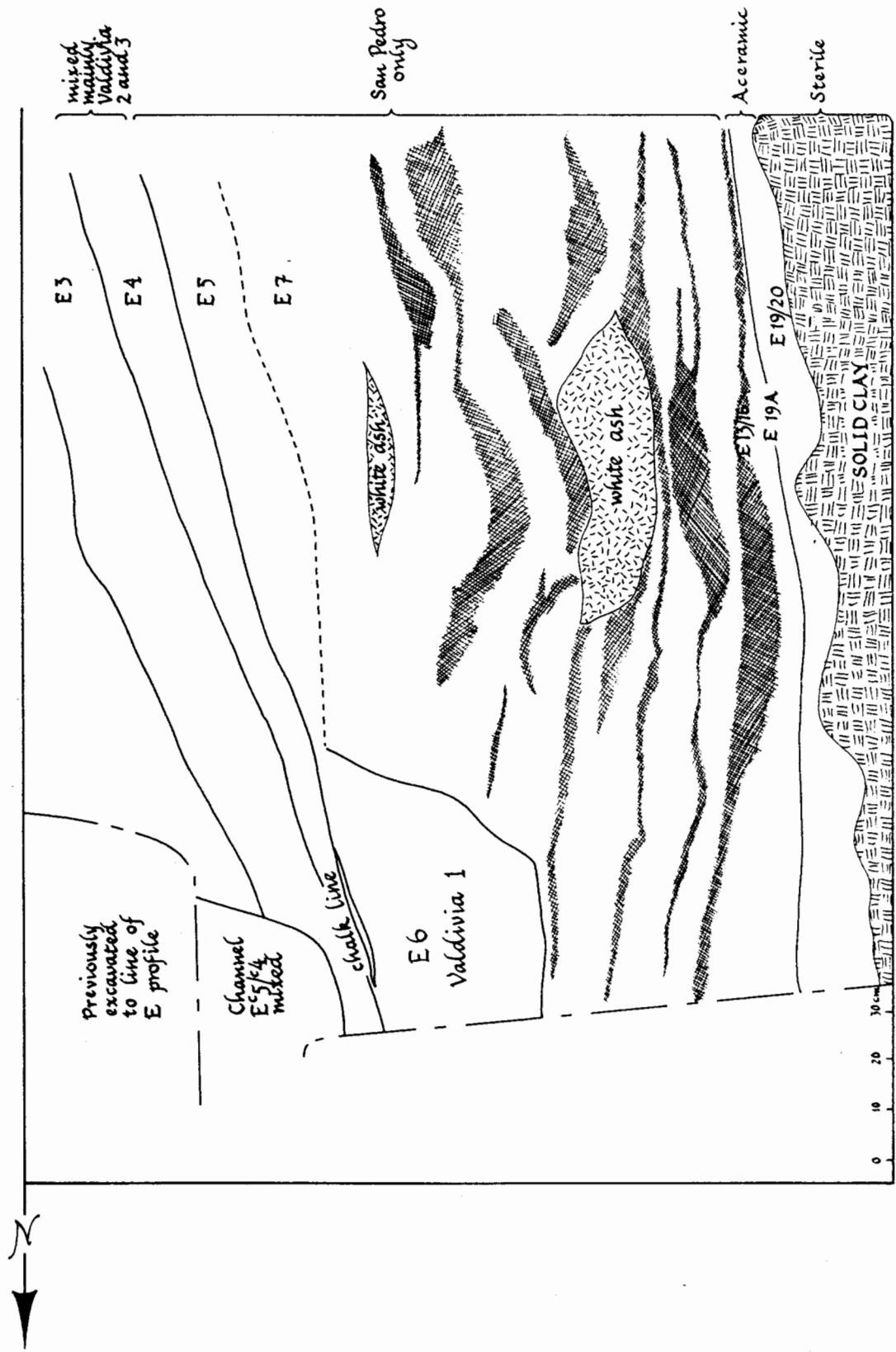


Plate II. Fig. 2, east profile of the Viteri cut of 1971 at Valdivia (G-31), based on sketch taken from detailed scale drawing by Henning Bischof and Viteri, 1972, fig. 1, p. 549; Bischof, 1973, fig. 1, p. 165).

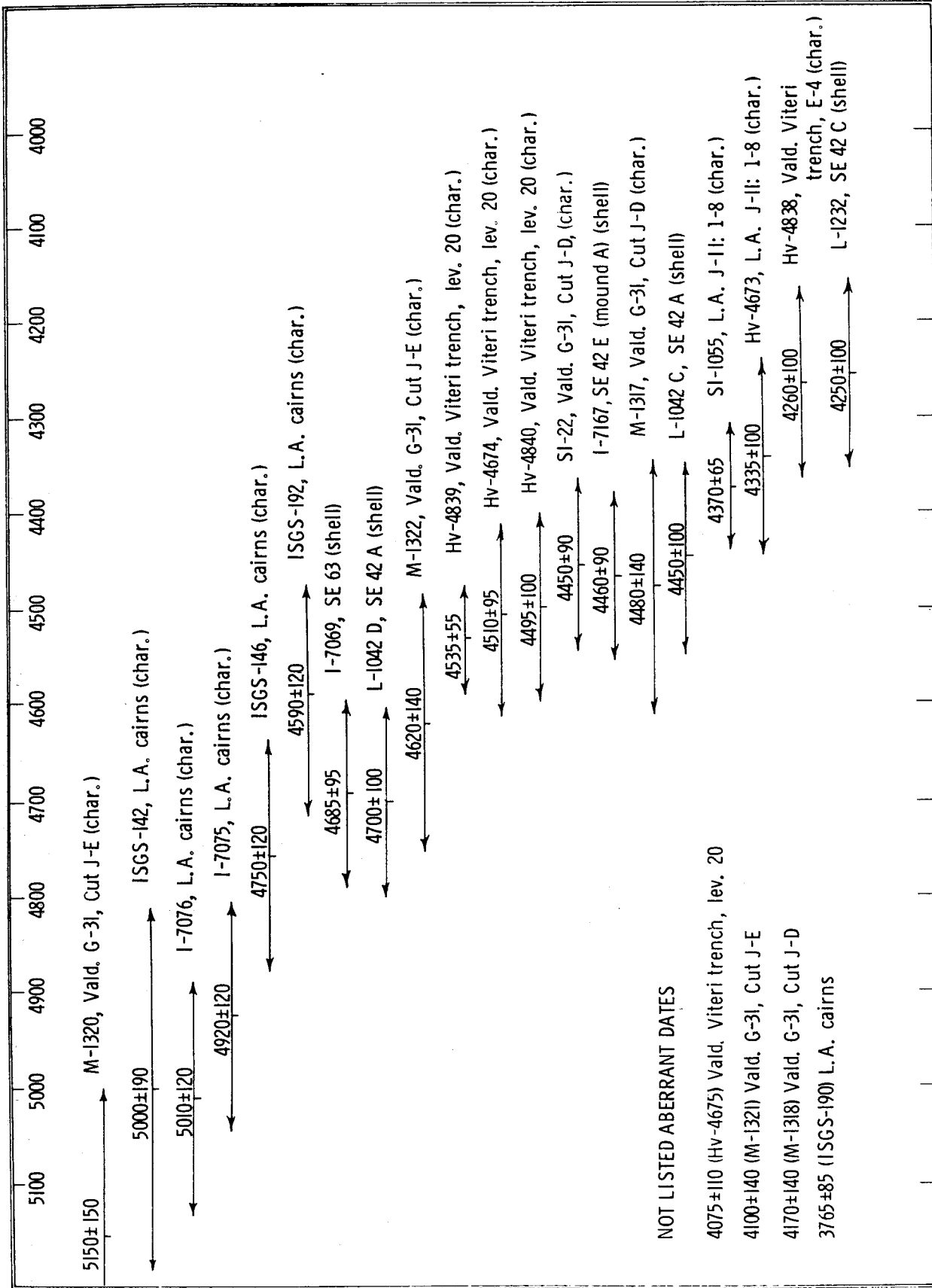


Plate III. Fig. 3, chart of C-14 measurements relating to Valdivia I and II. See Key to Illustrations.

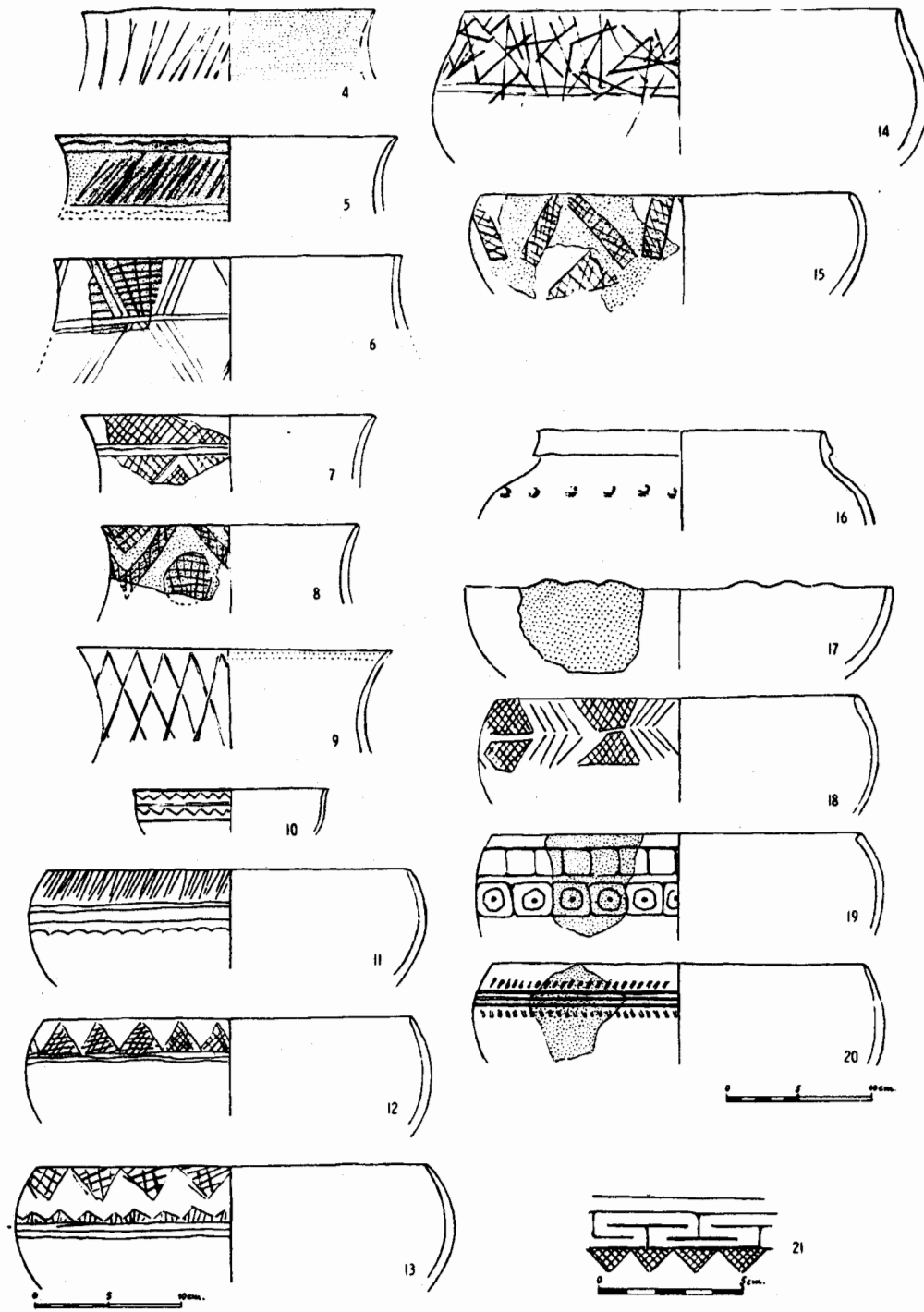


Plate IV. Valdivia I-II: Phase I (figs. 4-15); Phase II (figs. 16-21).
 See Key to Illustrations.

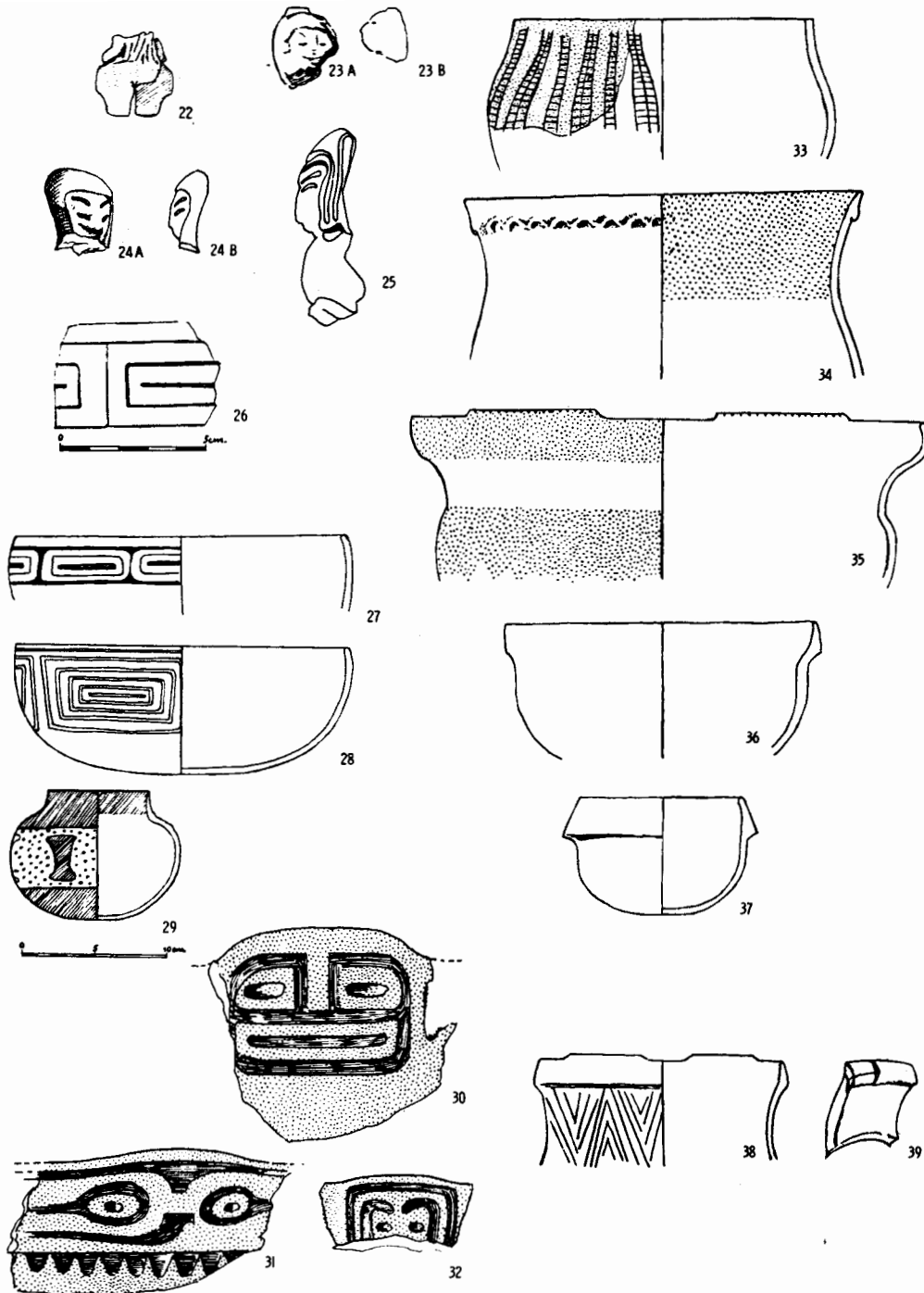


Plate V. Valdivia III-V: Phase III (figs. 22, 33-38); Phase IV (figs. 23, 39); Phases III-IV (figs. 26, 27, 30, 32); Phase V (figs. 24, 25, 31); Phases III-V (figs. 28, 29). See Key to Illustrations.

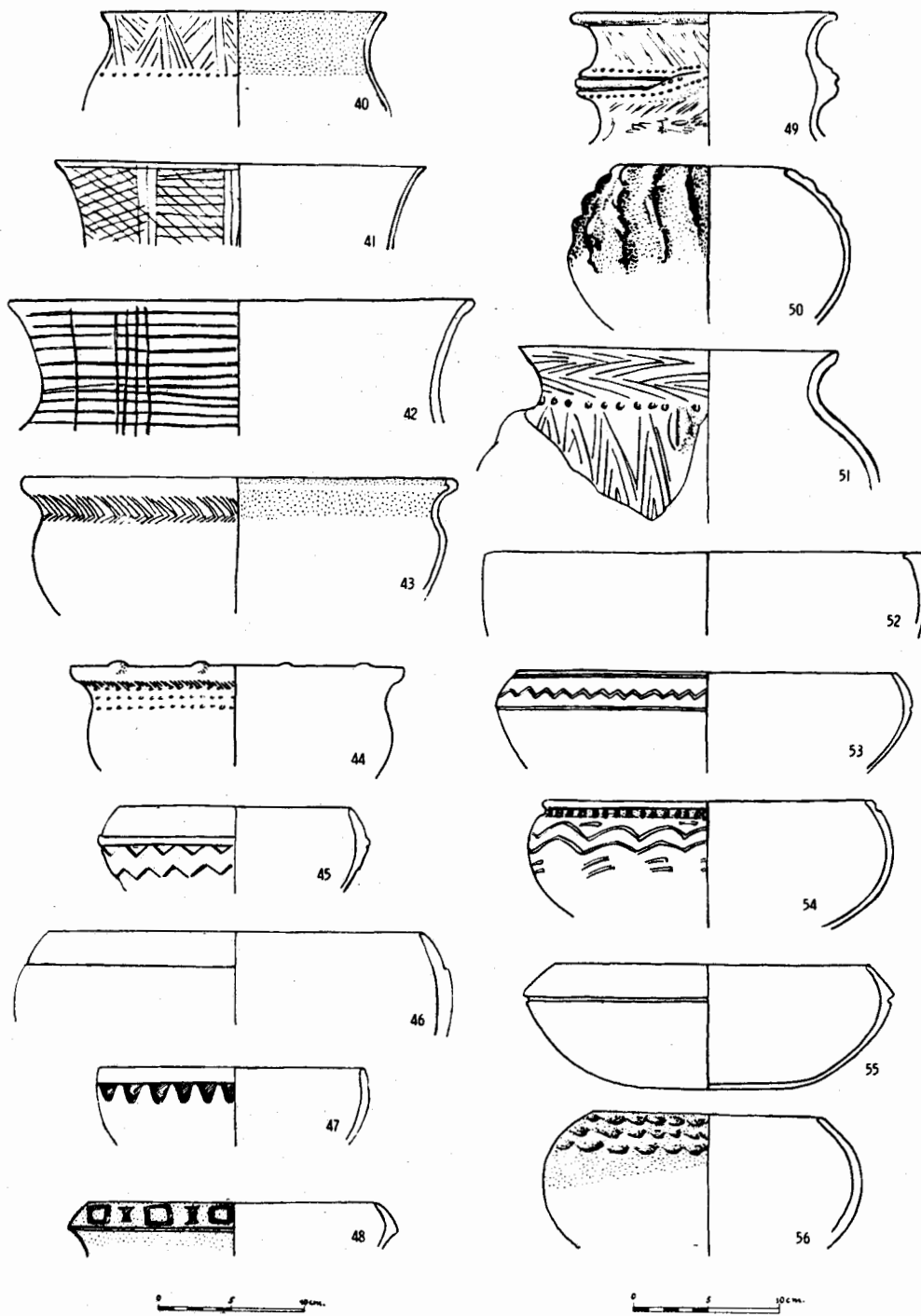


Plate VI. Valdivia IV-VI: Phase IV (figs. 40-42); Phase V (figs. 43-47); Phase VI (figs. 48-56). See Key to Illustrations.

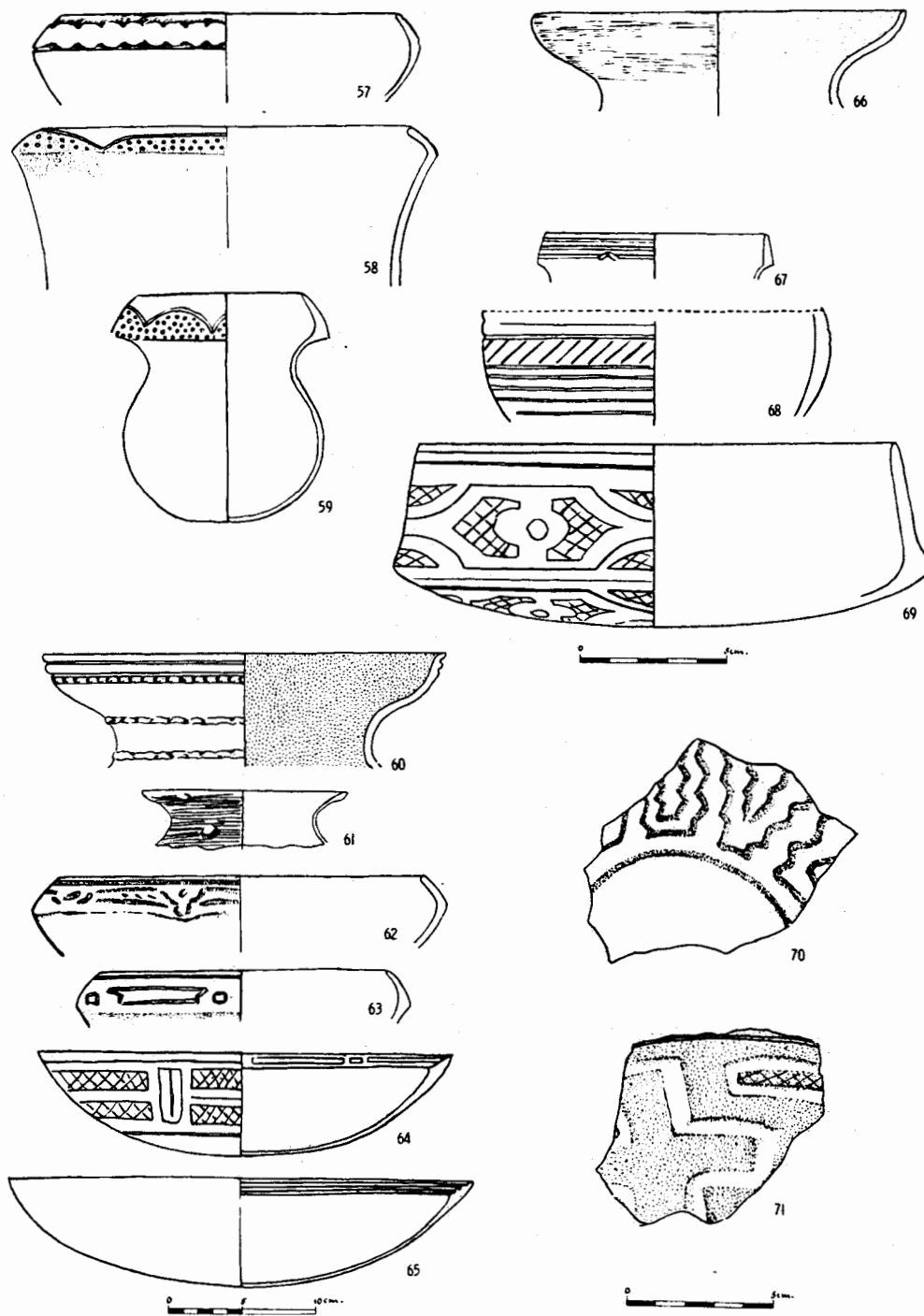


Plate VII. Valdivia VI-VIII: Phase VI (figs. 57-59); Phase VII (figs. 65-66); Phase VIII (figs. 67-69, 71); Phases VII-VIII (figs. 60-64, 70). See Key to Illustrations.