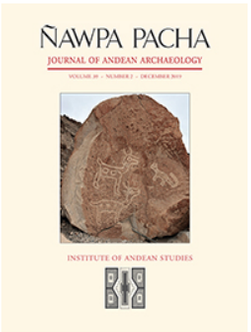

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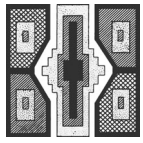

Stages, periods, epochs, and phases in Paracas and Nasca chronology: another look at John Rowe's Ica valley master sequence

Patrick H. Carmichael

Chronology on the south coast of Peru is adrift. Researchers have a choice of using developmental stages or historical periods. Increasingly, fuzzy thinking has led to the publication of chronologies employing both stages and periods in the same chart. Authors seem unaware that stages and periods are fundamentally different ways of organizing the past, underpinned by different sets of assumptions which ask different questions. The current work is specifically concerned with the relative chronologies for the south coast Paracas and Nasca cultures, but it also reviews the fundamental principles of stages and periods, examines the workings of John Rowe's Master Sequence, and provides clear definitions for terminology. In conclusion, an updated chronology for the south coast Early Horizon and Early Intermediate Period is introduced.

La cronología en la costa sur de Perú no tiene sentido. Los investigadores tienen la opción de usar etapas de desarrollo o períodos históricos. Cada vez más, el pensamiento difuso ha llevado a la publicación de cronologías que emplean etapas y períodos en la misma tabla. Los autores parecen desconocer que las etapas y los períodos son formas fundamentalmente diferentes de organizar el pasado, respaldadas por diferentes conjuntos de suposiciones que hacen preguntas diferentes. El trabajo actual está específicamente relacionado con las cronologías relativas para las culturas Paracas y Nasca en la costa sur, pero también revisa los principios fundamentales de etapas y períodos, examina el funcionamiento de la Secuencia Maestra de John Rowe y proporciona definiciones claras para la terminología. En conclusión, se introduce una cronología actualizada para el Horizonte Temprano y el Período Intermedio Temprano de la costa sur.

Archaeological narratives are structured by the temporal sequences they employ. The criteria used to establish a chronology reflects the types of questions being asked. In the Andes, researchers have employed one of two systems: developmental stages or historical periods. Both have their adherents. Dissatisfaction with one or the other in local settings has led to compromise chronologies, which blend the terminology of both. Born of frustration, these are chronologies of convenience, added as an afterthought to structure the results of a particular study. But they also measure the extent to which we have drifted away from the

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foundational concepts behind our choice of terms – concepts which, in fact, shape our research and interpretations. It is time for a refresher, to consciously think through our terminology and its implications. This paper is offered as a contribution toward the ongoing debate surrounding issues of chronology in the Central Andes, but its conclusions are modestly focused on the south coast Paracas and Nasca cultures.

As a starting point, I examine the differences between stages and periods. The intent is not to present a literature review and critique of each system, nor argue the efficacy of one over the other, but rather to state clearly what is implied when we use the terms 'stages' and 'periods' in chronology building. The Rowe chronology is then examined with its reasoning and terminology defined. His system is tied to the sequence of the Ica Valley on the south coast of Peru, which brings us to the neighborhood of the Paracas and Nasca cultures (Figure 1). Over the last 60 years, south coast archaeology has uncovered much new data that requires adjustments in our thinking about, and use of, Rowe's Master Sequence. Finally, a revised Paracas and Nasca chronology for the Ica Valley is presented, its concepts explained, and units defined.

The recent volume on Andean chronology entitled Constructions of Time and History in the Pre-Columbian Andes, edited by Edward Swenson and Andrew Roddick (2018), provides an excellent retrospect and prospect on the subject. The well-researched chapters in this sterling contribution dissect the pros and cons of stage and period

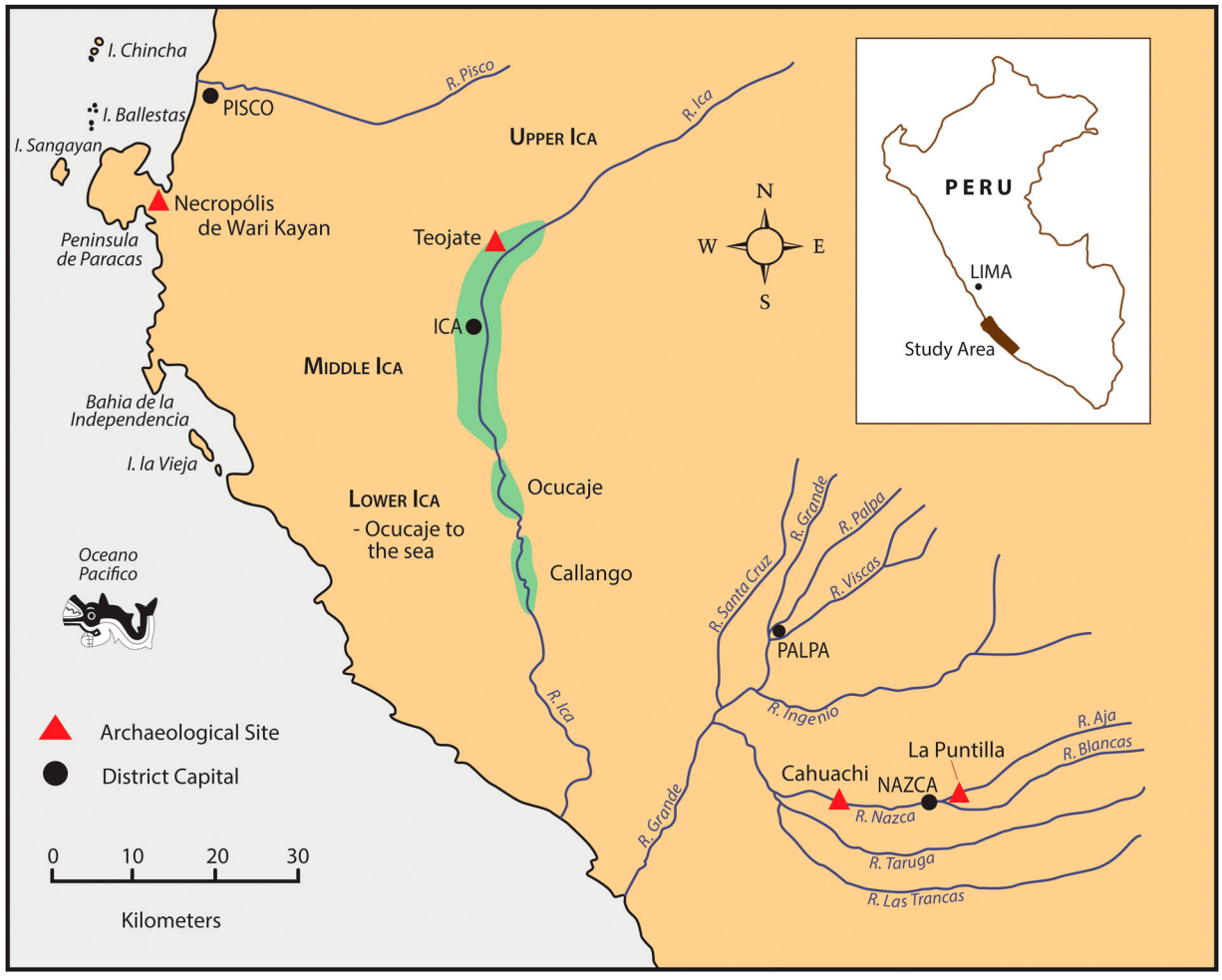


Figure 1. South Coast of Peru showing the regions and sites mentioned in the text.

constructs in different regions of the Central Andes. However, the clearest statement on the fundamental difference between stages and periods is still found in the seminal work of John Rowe:

> *The difference is that stages are units of cultural similarity, while periods are units of time, or, more specifically, units of contemporaneity.* (Rowe 1962: 40)

Stages can be based on a single trait related to technology, economy, or political organization, but they are most often defined by constellations of co-occurring traits (e.g. villages, farming, pottery, household storage; or, cities, large-scale irrigation, craft specialists, centralized administration). Societies that share comparable traits are at a similar stage of cultural development. Accordingly, they are placed in the same stage or unit of cultural similarity. However, because stages are arranged vertically like the rungs on a ladder, with some cultures on the lower rungs and others above, they are inherently evolutionary, focused on documenting simple to increasingly larger and complex cultural configurations. In this system, change is driven by technology and institutions, which then become the focus of study. The vertical arrangement of stages also gives them a chronological appearance, though two cultures occupying the same stage are not necessarily contemporary, but rather are classified together because of shared traits (they could be thousands of years apart). Stages can be defined for culture areas or include entire continents.

Table 1 shows a classic stage chronology for all of the Americas advanced by Gordon Willey and Philip Phillips in 1958. In the following passage the authors summarize their criteria for stages:

> *The criteria for dividing pre-agricultural stages are essentially technological. They refer to artifact types and traditions in technology. The criteria for dividing stages above the threshold of agriculture take reference in much more complex data. They pertain to social and political organization, religion, aesthetics – the whole of what Redfield has termed the "moral order."* (1958: 72–73)

Willey and Phillips classified all archaeological and ethnographic Native American cultures into a five-stage evolutionary scheme. In their book we encounter statements such as, "Most of the ethnographic cultures of the peripheral areas of North and South America could be classified as belated Archaic" (1958: 75). The concept of stages in cultural development seduces some into regarding non-western cultures as stuck on a lower rung while Euro-American culture is, of course, at the apex.

Today, the basic principles of archaeological stages – that sets of traits can be used to define steps in human development – are not so different from those that guided the nineteenth century evolutionists Edward B. Tylor (1871) and Lewis Henry Morgan (1877). However, modern neo-evolutionists are more self-conscious and nuanced in their constructs, eschew the racial overtones that plagued their predecessors, take a multi-linear approach to evolutionary trajectories, and are equally interested in charting the tides of both formation and dissolution in socio-cultural evolution. Ultimately, their focus is on the development of political organization leading to the state. Other classic examples of Andean chronologies based on stages are shown in Tables 2 and 3.

On the other hand, periods are units of contemporaneity. They are defined simply by time, not by collections of traits, and are neutral regarding what should or should not be present or the direction of complexity. Chronologies based on units of contemporaneity usually have both periods and horizons (which are a type of period). Horizons are times when a particular style is widespread over many

Table 1. The "historical-developmental stages" of the Americas according to Willey and Phillips (1958: 73)

Postclassic stage
Classic stage
Formative stage
Archaic stage
Lithic stage

Table 2. Peruvian Chronology proposed by Bennet and Bird (1949: 12) showing their seven major periods. These 'periods' are defined by the criteria of stages, and their purpose is to show steps in the historical development of Central Andean culture (1949: 113).

Period		
VII	Imperialists	Inca
VI	City Builders	Late Ica, Chimu, Decadent Tiahuanaco
V	Expansionists	Wari
IV	Master Craftsmen	Nazca B, Early Lima, Mochica B, Recuay B
III	Experimenters	Cavernas/Necropolis/Nazca A, Mochica A, Recuay A
II	Cultists	Early Ancon, Cupisnique, Chavin de Huantar
I	Early Farmers	

regions, while periods are times of regional diversity. The pertinent example is John Rowe's period system for the Peruvian Andes, which will be treated in some detail presently. The basic idea is that horizon styles (Chavin, Wari/Tiwanaku, Inca) are widely dispersed and, wherever each occurs, the remains are approximately contemporaneous with the same material in distant regions, while between the horizons are intermediate periods when local styles developed independently. Moche, Recuay, and Nasca all belong to the Early Intermediate Period. Placing these three cultures in the same period does not require us to make assumptions about their economies, technology, or political organization. We are not comparing traits; rather we are simply saying these cultures are approximately contemporary within the same band of time. Thus, periods are neutral on cultural content, and simply represent a sequence through time with no assumptions about technology, subsistence patterns, social configurations, or interactions between cultures that occupy the same block of time. We can certainly speak of the constellation of traits which characterize each culture within the period/horizon framework, however, the criteria for inclusion in a given period is still strictly temporal. "In historical terms, terminal native culture in Tasmania belonged to the same period as early Victorian culture in England, in spite of the differences between the two cultures" (Rowe 1962: 44).

The confusion between stages and periods is in part due to the fact that in the literature 'stages' are often referred to as 'periods'. For example, Table 2 shows the sequence of seven principal 'periods' advanced by Bennett and Bird (1949: 12). In fairness, this scheme from the middle of the last century (before radiocarbon dating) is more nuanced than indicated here and includes the use of horizons. Nonetheless, we are informed that "Each time period is selected to represent a significant step in the historical development of the Central Andean culture" (Bennett and Bird 1949: 113). In effect, these 'periods' are

Table 3. Chronology proposed by Lumbreras 1974: vii. Definitions in the text make it clear these 'periods' are evolutionary stages.

Periods			
Empire of Tawantinsuyu			A.D. 1430–1532
Regional States	Chimu, Chancay		A.D. 1100–1470
Wari Empire	Wari, "Tiahuanacoid" expansion		A.D. 700–1100
Regional Development Period	Moche, Lima, Nasca		100 B.C. – A.D. 700
Formative Period			1800 B.C. – 100 A.D.
	Upper Formative		
	Middle Formative	Chavin	
	Lower Formative		
Archaic Period			5000–1300 B.C.
	Upper Archaic	Village horticulturalists	
	Lower Archaic	Appearance of agriculture	
Lithic Period			21,000–4000 B.C.

intended to show the cultural evolutionary stages of the central Andes. In another landmark book of the era, Bushnell (1956: 24) provided a similar scheme for Peru using much the same nomenclature, with stages listed as periods.

Table 3 outlines the influential chronology advanced by Luis Lumbreras (1974), with the benefit of radiocarbon dates. Again, Lumbreras uses the term "periods" for his sequential units. However, he refers to his chronology as a "developmental scheme" in which the first three periods refer to hunter-gatherers, incipient agriculturalists, and early pottery making villages, and the last three to the consolidation of the state (Lumbreras 1974: 13). The text makes clear we are again dealing with increasingly complex evolutionary stages. Daniel llanos Jacinto (2016: 188 [2008]) provides a similar, updated chronology in which his developmental stages are also referred to as periods.

An inconsistency common to evolutionary charts is that the various stages are often defined by different criteria. In Tables 1–3, some stages are defined by subsistence strategies and others by religion, technology, or political systems.

Today it is not uncommon to encounter chronologies that employ classic developmental stage terminology like 'Archaic' and 'Formative', usually without comment, but occasionally with the qualifier that no evolutionary connotations are intended. These writers would have it both ways. One cannot disregard a century of anthropological tradition and expect readers to accept (or even notice) idiosyncratic usages. Words matter. In chronologies, terms like Archaic and Formative, well established in cultural evolutionary sequences (Tables 1–3), carry baggage that cannot be ignored.

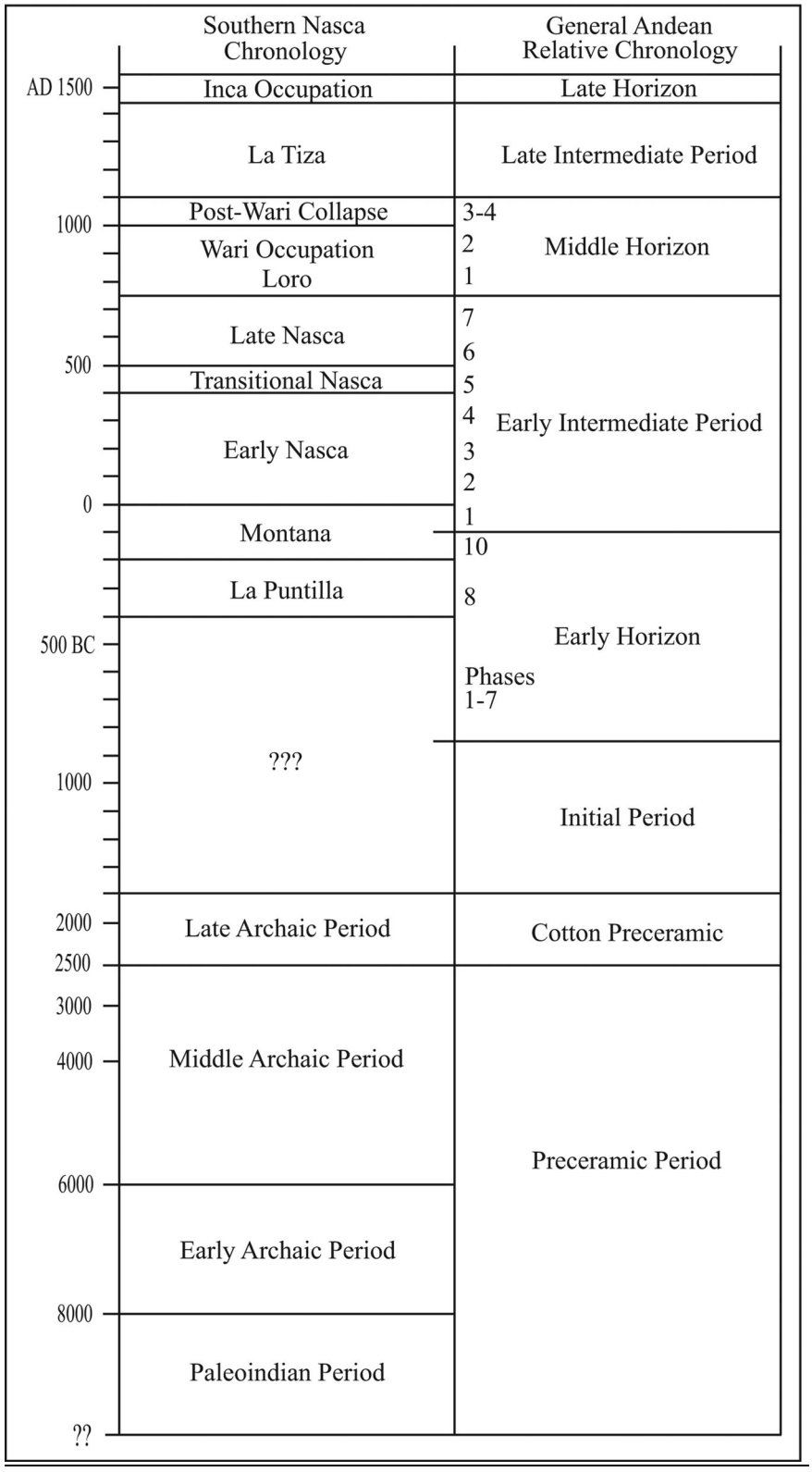
The Formative Period

At intervals, major volumes appear with contributed chapters detailing the shortcomings of Rowe's historical sequence (e.g. Rice 1993, Swenson and Roddick 2018). Often, authors complain that horizons – broad swaths of time – appear as homogeneous units which mask local variability. In particular, Rowe's Early Horizon, which is pegged to the appearance of Chavin-influenced ceramics in the Ica Valley on the south coast, is being replaced increasingly by the term 'Formative Period' (Kaulicke 1998, Kaulicke and Onuki 2008, 2009). Peter Kaulicke (1994) proposed a Formative Period sequence for the Central Andes, and while the dates for the subdivisions are frequently adjusted, the basic terminology remains in use (e.g. Fux 2013: 16).

In the Titicaca Basin, a region far outside Chavin influence, some researchers found Rowe's chronology an uncomfortable fit (Stanish 2009: 148–149). They state that developments in the altiplano happened at different times and at different rates than on the coast (though Rowe's system charts time, not cultural developments). Over the past few decades, studies in the Titicaca region have taken on an evolutionary focus primarily concerned with political complexity and state formation (Roddick 2018: 71–72). Accordingly, local chronologies, which include radiocarbon dates and pottery styles, reflect this interest. In the Titicaca nomenclature Early, Middle, and Late Formative periods precede the Tiwanaku periods, which are, in effect, cultural stages (alternatively referred to as periods or phases). Hastorf (2017: 139) provides a useful temporal chart for the Titicaca Basin which compares her scheme to Rowe's Central Andean chronology by placing them side-by-side; thus, allowing the reader to follow both simultaneously (and see Janusek 2008: 19 for another version). In Table 4, Schreiber and Lancho Rojas (2003) provide another example of side-by-side chronologies for the south coast.

The term 'Formative Period' has also replaced 'Early Horizon' at the type site of Chavin de Huantar where John Rick and his colleagues produced a site-specific chronology based on a suite of radiocarbon dates, their contexts, and the sequence of material culture (Rick et al 2009: 88–90). This scheme is closer to a true historical chronology; however, these authors note, as does Sayre (2018: 48), that the very term 'Formative' carries embedded assumptions about a stage of socio-political evolution.

Table 4. Chart by Schreiber and Lancho Rojas (2003: 9) showing Southern Nasca local chronology, and Rowe's Central Andean chronology, side-by-side for easy comparison.



The extent to which the Formative Period at Chavin de Huantar matches the Formative Period in the Titicaca Basin may be questioned. Nonetheless, local chronologies, regardless of what they are based on, tend to work very well locally, while pan-regional efforts, whether developmental or historical, inevitably face criticism for glossing over regional variations. However, Rowe's period framework, in spite of repeated criticisms over the last 60 years, is still widely referenced because it remains useful as a comparative heuristic device for the entire Central Andes.

For the south coast of Peru, home to Rowe's Master Sequence, Vaughn et al. (2016a: 115) have proposed a new chronology, shown in Table 5. This sequence also drops the Early Horizon in favor of a Formative period, which precedes a "Nasca period", followed by the Middle Horizon and Late Intermediate Period.

It is evident from the preceding examples that many researchers are abandoning Rowe's Early Horizon in favor of a Formative Period with its attendant evolutionary implications; although it is unclear whether Formative Period means the same thing in all these regions.

Stages and Periods

The difference between evolutionary stages and historical periods is the criteria upon which they are based. A system based strictly on units of time, whether these are established by carbon-14 dates (absolute time) or by style sequence (relative time), is called a period chronology. While a system that defines its units on the basis of clusters of traits which, moving from bottom to top, show increasing complexity, and then secondarily assigns dates to these developments, is an evolutionary stage system even when it uses the term 'period'. Stages and periods are constructed from different types of evidence, built on different assumptions, ask different questions, and serve different purposes. Either system can work, but hybrid chronologies that employ both stages and periods in the same chart are confusing. Apples and oranges do not grow on the same tree.

Table 5. A "compromise of chronologies" for the south coast of Peru proposed by Vaughn et al (2016a: 115).

Period	*Epoch*	*Approximate Calendar Years*
Late Horizon		A.D. 1450–1532
Late Intermediate period		A.D. 1000–1450
Middle Horizon		A.D. 650–1000
Nasca period	Late Nasca	A.D. 450–650
	Middle Nasca	A.D. 350(?) – 500
	Early Nasca	A.D. 100–450
Formative period	Late Formative	300 B.C. – A.D. 100
	Early Formative	800–300 B.C.
Initial period		1800–800 B.C.

The Rowe Chronology

John Rowe's relative chronology of periods is still used as a standard reference for the Central Andes (Table 6). Rowe traces the genealogy of his ideas from Flinders Petrie and Max Uhle to Alfred Kroeber, stating that his only original contribution was the concept of tying the whole chronology to the sequence in one valley, which then became the master sequence for the Central Andes (Rowe 1962: 44–49). The objective here is to summarize the original propositions on which this system is based and define its terminology. It is essential for the reader to understand Rowe's system in order to follow the reasoning of the revisions proposed in a later section.

Periods. At a 1956 conference, John Rowe proposed his period/horizon system for the Central Andes, although it was not published until 1960. Horizons are a type of period, and Rowe's sequence can simply be referred to as a period system. It is based on "units of time or, more specifically, on units of contemporaneity" (Rowe 1962: 40). The major divisions, marked by changes in pottery styles, are shown in Table 6. In order to provide a fixed point of reference for the entire Central Andes, Rowe tied his chronology to the sequence in one valley, choosing the Ica Valley on the south coast, because

Table 6. John Rowe's period system for the Central Andes and the Master Sequence for the Ica Valley. Adapted from Rowe and Menzel (1973 [1967]) and Menzel (1977 [1974]).

Master Sequence Ica (South Coast)			Relative Chronology
Style Phase		**Epoch**	**Period**
Ica 10			Colonial Period
Ica 9			Late Horizon
Ica Style	8	LIP 8	Late Intermediate Period
	7	LIP 7	
	6	LIP 6	
	5	LIP 5	
	4	LIP 4	
	3	LIP 3	
	2	LIP 2	
	1	LIP 1	
Ica Epigonal	4	MH 4	Middle Horizon
Pinella	3	MH 3	
Atarco/Pachacamac	2	MH 2	
Nasca 9	1	MH 1	
Nasca Style	8	EIP 8	Early Intermediate Period
	7	EIP 7	
	6	EIP 6	
	5	EIP 5	
	4	EIP 4	
	3	EIP 3	
	2	EIP 2	
	1	EIP 1	
Ocucaje (Paracas) Style	10	EH 10	Early Horizon
	9	EH 9	
	8	EH 8	
	7	EH 7	
	6	EH 6	
	5	EH 5	
	4	EH 4	
	3	EH 3	
	2	EH 2	
	1	EH 1	
			Initial Period
			Preceramic

at the time it had the most detailed ceramic seriation. The Initial Period is marked by the appearance of the first pottery in Ica followed by the Early Horizon (EH) when Chavin influence is seen on Paracas style ceramics. The Early Intermediate Period (EIP) begins with the development of Nasca pottery, and the Middle Horizon (MH) commences when Wari influenced wares are found in the region. The Late Intermediate Period (LIP) in Ica is marked by the appearance of Ica Style Phase 1 pottery, and the Late Horizon is the time when the Inca style influences the pottery of Ica (Rowe 1960: 627–628, 1962: 49). Because the current article focuses on the Early Horizon (EH) and Early Intermediate Period (EIP) the earlier and later periods will not be included in this discussion.

According to Rowe, there are several methods for establishing the contemporaneity of cultures within each period: (1) strictly on the basis of radiocarbon dates; (2) the presence of a particular trade pottery consistently appearing in association with a particular local style; (3) when two styles exhibit the same patterned combination of features indicating co-influence. In this last method, archaisms and heirlooms are potential complications, but these can usually be teased out by the careful researcher. While any one of these three methods can be used to establish contemporaneity, in practice several types of evidence are often considered concurrently (Rowe 1962: 49–50).

Ceramic Phases. Each period in Rowe's system is divided into ceramic phases by means of similiary seriation which tracks ceramic features (details of design) that make up design themes (Rowe 1959, 1961). For example, a painted hummingbird is a theme composed of features such as the shape of the beak, eyes, head, wings, and tail. The theme (hummingbird) continues over several phases, but the individual features change over time through stylistic drift. When sufficient change is observed in a given theme, and in conjunction with changes in other themes, a new style phase is arbitrarily established. The greater Paracas and Nasca ceramic styles are then conceived to be continuously developing streams arbitrarily divided into smaller style units (phases) that mark the passage of time. The assumptions are that change is gradual and due to stylistic drift over time, that phases are sequential and develop at a more or less uniform rate over broad areas, and there is no significant regional variation (Rowe 2010: 238 [1960], 1961: 326–327). Under Rowe's guidance, Lawrence Dawson worked out the ceramic phases for EH Paracas and EIP Nasca, while Dorothy Menzel did the same for the MH and LIP. The temporal length of each phase is another variable, and while it was fully acknowledged in the original scheme that phases differed in the length of their popularity; nonetheless, when phases are presented in charts, they appear to be of uniform durations. These principles are reviewed below.

Each ceramic phase can be further subdivided into 'a' and 'b' for early and advanced forms. Proulx (1968) subdivided N3 into a, b, c, and d. For N7, Menzel (1971) recognized a, b, and c subdivisions. Whether these finer distinctions are useful depends on the questions being asked and the size of the available sample. They are difficult to distinguish from potsherds.

Epochs. Epochs are finer divisions of time within periods. They are defined by the ceramic phases. The ten style phases of the Early Horizon are used to demarcate ten numbered epochs referred to as EH 1, 2, 3 etc., and the eight phases of the Early Intermediate Period correspond to EIP 1-8. For example, the period of time in which Nasca Phase 5 pottery occurs is called EIP 5 (Rowe 1962: 50). Epochs are especially useful divisions in providing reference points for non-ceramic phenomena, and they are essential for cross-dating ceramics from outside the Ica Valley (a point examined below). Nonetheless, they are dependent for their definition on the pottery phases and the set of assumptions used to establish them. The amount of time represented by an epoch depends on the estimated length of the style phase by which it is defined, which, in theory, can vary from 25 to over 100 years (Rowe 1959: 317). However, on chronological charts

the epochs, like the style phases, tend to be visually represented as equal units.

Rowe's chronology for the Ica Valley is the Master Sequence against which all other regions are compared. Referring to Table 6, each period from the EH to the LIP contains from four to ten style phases (many with 'a' and 'b' subdivisions) and as many epochs. The style phases in the Master Sequence are not expected to be duplicated in exactly the same way outside of Ica (Menzel et al. 1964: 2), either on the south coast or anywhere in the Central Andes. The key to applying the Master Sequence outside of the Ica Valley lies in understanding how cross-dating works. When the local ceramics in another region are shown to be similar to a specific Ica Valley phase, that region can be tied into a point on the Master Sequence by reference to the epochs. For example, Paracas pottery from Chincha which is similar to Ocucaje 8 ceramics of the Ica Valley is not identified as Ocucaje 8, which is a form of Paracas pottery found only in Ica, but rather as cross-dating to EH 8. Of course, trade pieces from a distant locale turning up in association with a particular Ica Valley phase are excellent markers, or conversely, Ica vessels appearing with a local style in a distant location. Establishing the contemporaneity of two cultures was discussed above. Here, the point to be made is that the Ica Valley Master Sequence is a reference point for cross-dating, not a mandate for what should be found outside of Ica, even in neighboring valley systems. Each region requires a local chronology with its own nomenclature and numbering system, which is then compared to the Master Sequence. Visually, this is most effectively represented by two columns showing the local chronology and the Master Sequence side by side.

The most oft repeated criticism of Rowe's chronology is that the period system fails to explain historical developments or culture processes (e.g. Swenson and Roddick 2018: 8). In this case, the period system is being discredited for not doing what it was never intended to do. Long ago, Rowe pointed out the confusion between time, style, and cultural process. "Cultural process should be the goal of our investigations, not something we assume at the moment we try to put pottery styles in chronological order" (Rowe 1960: 627). So for Rowe there were three separate issues to be examined: time, style, and cultural process. They do not conflict, in that one does not negate the others. Rather, they are complementary and sequential pursuits in an evolving study. Understanding cultural process is our ultimate objective, but it begins with control of the time factor because chronology is the basic foundation of all archaeological inquiry (Rowe 1959). The types of questions we ask and the data sets we choose to examine are dependant in the first instance on whether we are attempting to establish a historical sequence or explain cultural processes.

Within Rowe's period chronology, the finer divisions of ceramic phases and the epochs defined by them depend on similiary seriation and the use of gravelots, both of which have advantages and drawbacks (Rowe 1961, 1962). A full critique is beyond the scope of this paper, but see Moseley (2013) for a thoughtful review. The system outlined above describes the framework of a historical chronology based on periods of relative time established by ceramic seriation. It may not be suited to the special interests of individual researchers in localized areas, but that does not make it fundamentally wrong. When we consider the historical context in which it was developed – the early 1950s, before electric typewriters and photocopiers, let alone computers, when the infrastructure of Peru was rural and distances far – we respect the intellect that conceived of ordering time on such a vast scale. The horizon/period framework, still in use today, is one of Rowe's most enduring legacies.

Problems With Pottery

Traditionally, archaeological chronologies in the Andes have relied heavily, if not exclusively, on ceramic styles. Recent calls for basing chronologies on several industries in addition to pottery (Roddick 2018: 83), or simultaneously on reconstructions of plant and fuel management, food consumption, gender roles, and craft production (Sayre 2018: 56–57)

may well suit the "*political, cultural, or academic purposes*" of individual researchers (Bray 2018: 270), but it remains to be seen if sequences so derived will be useful outside of particular settings.

Another criticism of chronologies based on ceramic styles is that it is inevitably the fancy pottery or 'elite wares' which receive all of the attention, rendering mute the common masses with their simple domestic pottery. There is also an over reliance on museum quality specimens and 'elite' gravelots, which effectively ignores the fact that over 90% of the ceramic inventory from a domestic site usually consists of undecorated pot sherds. Thus, a huge block of evidence is ignored in favor of tracing only what the elites were doing (Roddick 2018: 78–79). These are valid concerns. But again, what we choose to base our chronologies on depends on the questions being asked. Uceda Castillo et al. (2009: 121) argue that " … *the only way to study the Gallinazo polities that developed along the north coast of Peru is through a careful study of elite ceramic styles*." This is because the elite styles changed and were influenced by socio-political developments, while the utilitarian wares of the commoners remained practically unchanged for long periods of time (Uceda Castillo et al. 2009: 107). Nonetheless, we do well to remember that the pottery of the elites reflects elite aesthetics and concerns, whereas the lived experiences of the common people – the vast majority of humanity – are often voiceless in our reconstructions.

On the Peruvian south coast, the Paracas and Nasca ceramic seriations worked out by Lawrence Dawson relied mainly on complete vessels in public and private collections, although sherds were used to confirm the sequence in Rowe's site surveys. Were Dawson's seriations based on elite wares? The core data for Dawson's Paracas and Nasca seriations came from excavated gravelots with site provenience and purchased vessels with valley provenience. A review of the gravelots reveals that few of them would be classified as elite. It has been demonstrated that Nasca residential sites typically yield 60% fineware (polychrome) and 40% coarseware (Van Gijseghem and Vaughn 2008: 124, Table 2; Vaughn 2004: 123, 2010: 164; Vaughn and Linares Grados 2006: 606; Vaughn and Van Gijseghem 2007: 815), so that the simple presence of polychrome iconography does not itself imply a high social strata. Furthermore, high quality vessels are just as likely to be present in relatively simple burials as in high ranking interments (Carmichael 2017). This seems counter-intuitive, and forces us to ask whether pottery and other grave goods in a tomb belonged to the deceased, or do they reflect familial bonds and status-duty relationships? The Nasca ceramic complex was an open system in which everyone had access to high quality pieces, the entire repertoire of vessel shapes, and the full range of decorative motifs including the creatures of the Nasca pantheon (Carmichael 1995: 171, 1988: 395–398). The same holds true for Paracas gravelots in the Rubini Collection from Ocucaje (Dawson 1959-1960). The criticism that ceramic seriations rely almost exclusively on elite wares may be valid in some situations, but this is not the case for Dawson's seriations of Paracas and Nasca pottery.

Chronographics and Ghostly Monoliths

How do we apply Rowe's Master Sequence in the twenty-first century? To reiterate, the following discussion is not concerned with the broader issues of Central Andean chronology: rather, it focuses on the EH and EIP on the Peruvian south coast, and specifically the Ica Valley, which provides the Master Sequence. The segment of the Master Sequence under consideration is shown in Table 6. The system is far more intricate in its application than this simple chart implies. Rowe and Menzel trusted their readers to actually read the text that explained the chronology with all of its qualifications. Of course, what stuck with us as students was the chart, and we forgot the nuances. The problem here, and one which bedevils archaeologists in all fields, is the issue of 'chronographics' – how to construct charts representing time (Roddick 2018: 67). We build them as abstract heuristic devices, and then we come to believe them as they metamorphose

into 'facts' used to structure our narratives. Archaeology has always struggled with this chronographic conundrum, and there is no easy solution. The best we can do is to remain alert to the seductions and try to avoid them. Here is a passage from Alfred Kroeber's *Peruvian Archaeology in 1942* which introduces his "Chronological Tabulation of Peruvian Cultures" chart, written in Kroeber's verbose prose but revealing of an archaeologist's struggle.

> *At the cost of overcoming some internal resistances, I add an endeavor to present tabularly* [*sic*] *the probable intrinsic and synchronic relations of the several pre-Spanish developments of Peruvian cultures. The reluctance is due to the knowledge of how a schematic presentation of this sort, tentative as its intended effect may be, quickly crystallizes into dogma, even in the mind of its author; of how it gives a sense of achievement approximating finality, and may end up being reproduced and persisting in manuals, compilations, textbooks, and educational charts long after it has been essentially modified or superseded by the labors of actively productive scholars.* (Kroeber 1944: 111)

The lesson is to remain open and flexible, and realize that we are all engaged in a common, iterative process that will outlive us. While John Rowe was confident in the periods of his chronology, I believe he considered the finer divisions of phases and epochs open to further refinement. In The Paracas Pottery of Ica volume (Menzel, Rowe, and Dawson 1964), a landmark tome, which details the diagnostics of ten ceramic phases, the last sentence reads, "Our study should not be read as the last word in an argument but as the first" (1964: 262). The authors fully expected and welcomed future revisions. Lawrence Dawson, its principal architect, never considered the seriation finished (Dorothy Menzel, personal communication, 2018). Elsewhere, in her classic study of Middle Horizon pottery styles, Menzel (1964: 66) concluded,

> *The evidence is still fragmentary, and it is obvious that new information may make necessary drastic changes in the reconstruction attempted here, but a statement of the apparent implications of what is known may at least call attention to important problems for further investigations*.

These are the words of a mature scholar, humbly presenting her findings but aware and accepting of the potential need for later modifications. The Menzel, Rowe, and Dawson team saw themselves not as erecting timeless chronological monoliths, but rather as framing a structure to guide research, leaving flexibility to fill in details, modify, and even alter the basic design depending on future findings. Subsequently, students of this trio are often more militant in defense of the original system than the authors themselves. Nonetheless, there is general agreement that updates to the Master Sequence are required to make it more accessible and functional in the twenty-first century. Over the years, several researchers have proposed regroupings of the epochs and phases (Cook 1999: 70, 74; DeLeonardis 2005: 29; Massey 1991: 378), or suggested new terminologies (Garcia Soto and Pinilla Blanke 1995: 46–58; Sawyer 1997: 30), but these efforts remain anomalous because each was presented in the context of a particular study, and none has gained wide currency.

New Chronologies for the South Coast

On the south coast, frustrations with the Ica Valley Master Sequence began with new site surveys of the Nazca and Ica regions in the 1980s. Field workers making surface collections were often confronted with a handful of indeterminate pot sherds and a fine tuned seriation within which to fit their results (Paracas 1–10, Nasca 1–8). For both Paracas and Nasca sites, they quickly resorted to bundling the phases together into early, middle, and late groupings which, for the most part, could be identified in the absence of traits indicative of a specific phase. The individual phases were still referenced in publications but, increasingly over time, settlement patterns, geoglyphs, and irrigation systems were discussed in

terms of early, middle, and late designations. The ceramic phases, and the epochs based on the phases, made too fine a distinction for many categories of non-ceramic cultural remains. In Nasca studies, there is a long tradition of classifying the pottery into three groupings beginning with Alfred Kroeber's A, X, B divisions, referred to as sub-styles in 1927 and as style phases in 1956 (Gayton and Kroeber 1927: 13; Kroeber 1956: 337). Rowe (2010 [1960]) and Roark (1965) identified Monumental, Transitional, and Proliferous modes or sub-styles. Duncan Strong (1957: 7, 24) refers to Early, Middle, and Late Nasca culture phases based on stratigraphic and stylistic evidence. These designations remain popular today (Carmichael 2013: 227, 2016: 57; Conlee 2016: 5) and will be discussed further below.

In the case of the Nasca seriation, another difficulty for researchers was learning the system. Diagnostics of the style phases were never published in one place. Phases 3 and 4 were covered by Proulx (1968), and Phase 5 by Roark (1965), but the remaining phases have spotty coverage scattered in several publications, and nothing was published on Phase 2. Proulx's general overview of the Dawson Nasca seriation (2006: 30–46) still remains the best single source on the subject, and Hecht (2013: 29–49, 167–175) also provides a good summary from the Palpa perspective. The Paracas seriation, while presented by Menzel, Rowe, and Dawson in a single, masterful volume (1964), is dense reading. The reader must be determined to plough through 300 pages of description in this thorough but uninviting treatise. Researchers of the 1980s made pilgrimages to Berkeley to learn the seriations from Lawrence Dawson. They did their best to pass it on to their students, but for subsequent academic generations the immediacy, relevancy, and utility of the seriations dissipated. They continued to be referenced as a convenience, but not employed as research tools.

Other problems emerged with the Nasca phases. Whereas Rowe had conceived of the greater Nasca style as being relatively uniform over the south coast (Rowe 2010 [1960]: 238), significant regional differences began to accumulate (Hecht 2009: 209–210). For example, it was found that the features, which separated N4 and N5 in the Nazca region, often occurred together on the same vessel in the Palpa area. In addition, radiocarbon dates and excavations demonstrated that the first seven Nasca style phases were not strictly sequential as diagramed in the Master Sequence, but overlapped to varying degrees (Carmichael 2013). This meant that the epochs, which were dependant on the phases for their definitions, were not strictly sequential either. Finally, it was agreed by all researchers that Dawson's Nasca 8 (EIP 8) would be renamed 'Loro' and moved from the EIP to the MH.

In dealing with these challenges in the Nazca region, Schreiber and Lancho Rojas (2003: 9) presented the first regional chronology of the twenty-first century (Table 4). After three decades of research at the major Nasca center of Cahuachi, Giuseppe Orefici has developed a sensitive site chronology anchored by over 30 radiocarbon dates and detailed architectural observations (Orefici 2012: 481–483), but he relates most of his finds to Rowe's Master Sequence (Orefici 2016). In her recent book on the Nazca region, Christina Conlee (2016: 5) uses Rowe's period system as a standard reference. Carmichael (2013, 2016) developed a Nazca chronology that freed the ceramic phases from their traditional stacked sequence (discussed below), but confused epochs with culture phases, an error corrected in the current work. The new Palpa regional chronology is discussed in some detail below.

Table 5 shows the "compromise of chronologies" for the entire Ica-Palpa-Nazca area proposed by Vaughn et al (2016a: 115). In the Period column are found several of Rowe's named periods as well as a "Formative period", and the EIP has been changed to the "Nasca period". The center column lists the epochs of the Nasca and Formative periods. If the term 'epoch' was borrowed from Carmichael (2013) it would mean the same as what is herein defined as a culture phase (see below). The Vaughn et al. chronology is reflective of the authors' goals, which is to track changes in communal space and sociopolitical organization between 800 B.C. and A.D. 650 across the south coast from Ica to Nazca.

The chronological challenge was succinctly stated as follows:

> *In attempting to cover a relatively broad region over several time periods, we are bound to find discrepancies in our chronological schemes. Indeed, we have found many inconsistencies in the start and end of periods and phases when synthesizing these periods across the south coast. (2016a: 113)*

This passage neatly summarizes the struggles all researchers face when addressing questions of pan-regional scope. The work of this research group also highlights the need for an over-arching, pan-regional reference in addition to local chronologies. In this article, I argue we already have a datum in Rowe's Master Sequence, which works in all areas when cross-dating is applied.

In discussing chronologies on the south coast, the reader is again referred to the map in Figure 1. In Nasca studies, the south coast is divided into three principle style regions: the Southern Nasca Region (SNR), which covers the Nazca Valley and its southern neighbors; the Central Nasca Region (CNR), which refers to the Palpa Valley and area; and the Northern Nasca Region (NNR), which is the Ica Valley (Carmichael 2005, 2013: 218). Kevin Vaughn and his colleagues use the terms SNR, CNR, and NNR in reference to "geographic sub-regions" (Vaughn et al. 2016a: 113). However conceived, including the moniker 'Nasca' in the SNR, CNR, and NNR means they refer specifically to Nasca studies, and as this article is also concerned with Paracas and the EH, we can simply refer to them as archaeological regions named for their modern capitals, Ica, Palpa, and Nazca. There is stylistic variation within as well as between them, but for present purposes they serve as reference points. To be clear, I offer the following definition of 'archaeological region'.

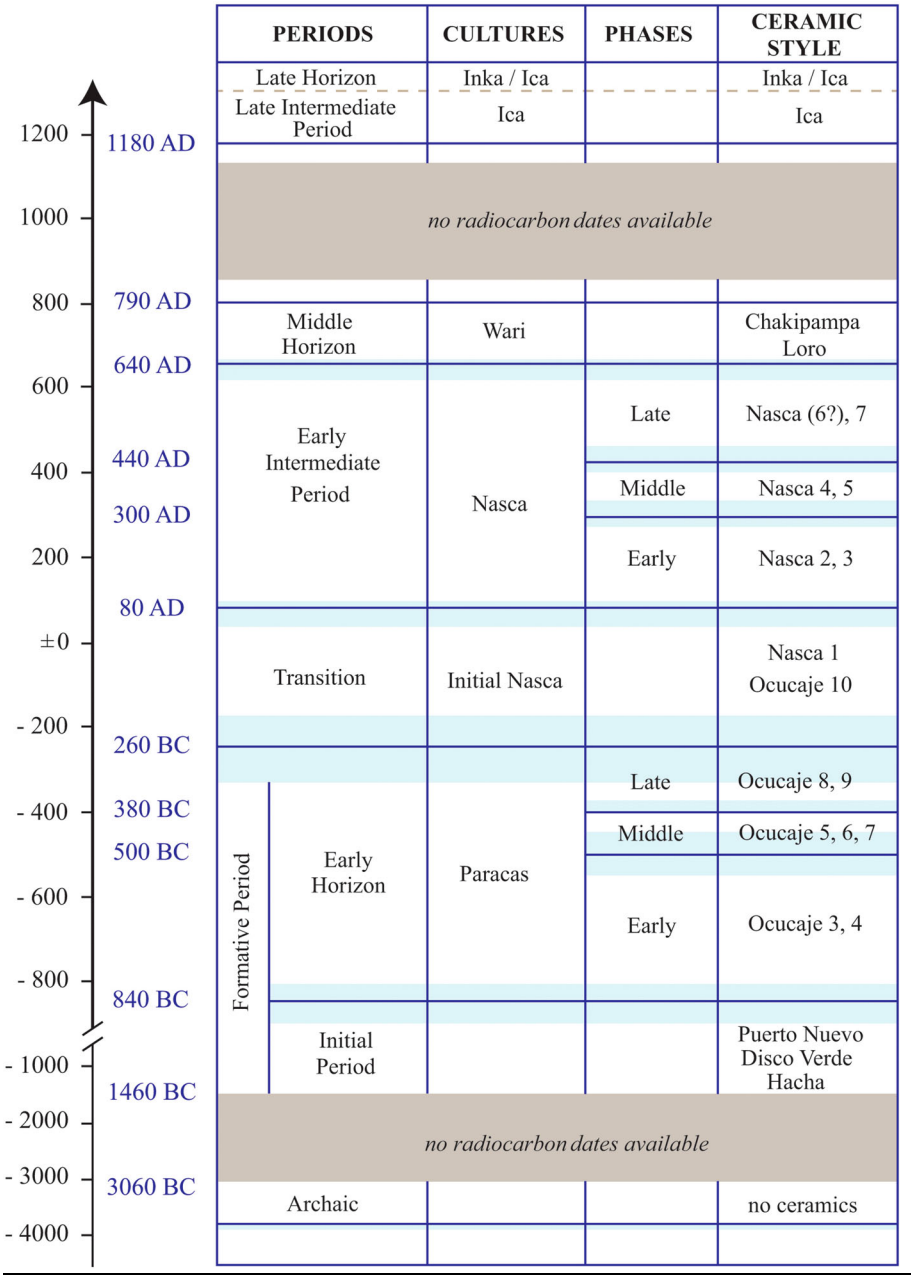
Archaeological Region. An archaeological region is a subdivision of a culture area,[1] in this case the south coast culture area (Silverman 1996: 96–98). The archaeological region is a limited geographical territory in which local expressions of archaeological cultures are found. For example, an archaeological region can be a single valley, a drainage basin, or a section of a drainage basin, which contains habitation and activity sites. With reference to Figure 1, the Chincha, Pisco, and Ica valleys can each be considered archaeological regions, while the Rio Grande Basin is divided into the Palpa and Nazca regions. The main criteria is that an archaeological region, while sharing in wider traditions (e.g. greater Paracas culture), evidences unique characteristics in its material culture. In theory, these could be related to settlement patterns, burial patterns, architecture, extractive technologies, artifact style, or a combination of factors (see Carmichael [2016: 82] on Ica, Palpa, and Nazca distinctions). The main point is that an archaeological region, while embedded within a culture area and sharing in its generalized traits, also exhibits unique features that set it apart from its neighbors.

Because this paper is primarily concerned with Paracas and Nasca chronology for the Ica, Palpa, and Nazca archaeological regions, I leave comment on the Pisco and Chincha valleys to my colleagues working there. Below, references to "regions" will be understood to mean archaeological regions.

The Palpa Regional Chronology. As shown in Table 7, Unkel et al. (2012) have produced a comprehensive chronology for the Palpa region based on over 150 radiocarbon dates. Grounded in absolute time, this is a true period system. It employs Rowe's terminology of named periods and horizons, and uses pottery phases from the Master Sequence (relative time) to assist with identifying periods and their subdivisions. Based on their work in the lower Ica Valley, Cadwallader et al. (2018: 13) conclude that this dating of the ceramic chronology in Palpa holds true for the entire south coast.

While following the Rowe chronology in many particulars, it is notable that the Palpa chronology drops the use of epochs. Presumably, this is because two or

Table 7. Absolute Chronology of the Palpa region based on over 150 C-14 dates. Blue shading indicates overlap of 68% probability intervals. For greater detail and explanations see Unkel et al. (2012: 2299).



three ceramic phases are presented as contemporary within each culture phase. It is left to the authors to elaborate on their rationale.

Table 7 is a simplified rendition of the chart in Unkel et al. (2012). For a detailed discussion of the science and nuances involved in its creation the reader is referred to the original source. However, for the purposes of this paper, Table 7 provides a summary of the important points. Under Periods, a 'Formative Period' is indicated beside the Initial Period and Early Horizon to orient those researchers who prefer this term. Also, a Transition Period is

inserted between the EH and EIP, which includes the ceramic styles of Ocucaje 10 and Nasca 1. I will return to this point below, as researchers in other regions of the south coast have also found it necessary to introduce a similar unit of time, although nomenclature varies.

Another noteworthy point in the Palpa chronology is the use of culture phases, with the Paracas and Nasca cultures divided into Early, Middle, and Late phases. Isla Cuadrado (2009) and Reindel (2009) provide good discussions of burial and settlement patterns through time in the Palpa region. These Early, Middle, and Late divisions are seen on other charts where they are sometimes referred to as "periods" or "epochs" (Schreiber and Lancho 2003: 9; Vaughn et al. 2016a). What is meant by a culture phase may vary by author, although no explanation is usually given as if the term is self explanatory. Below, I provide a definition of the culture phase concept.

The column in Table 7 showing the ceramic style phases follows the Ica Master Sequence in name and numerical designation.[2] It decouples the phases from a fixed, unilineal sequence by grouping two or three of them together corresponding to culture phases. Presumably, the ceramic phases so grouped are regarded as contemporary. There is still direction through time in style developments, but the phases appear more as units of style rather than strict units of time. The shaded blue areas in Table 7 correspond to transition zones where radiocarbon probability intervals overlap. Compared to the Master Sequence (Table 6) there is more flexibility in this chart. Its authors present it as a regional chronology for Palpa, and they continue to refine it as more dates become available. Without question, it is the most detailed absolute chronology on the south coast and stands as a valuable datum.

The Ica Valley Master Sequence Revised

Table 8 shows the adjustments to the Master Sequence I propose for the EH and EIP in the Ica Valley. The reader will see at a glance it maintains Rowe's periods, epochs, and ceramic phases, although it loosens the original stacked chronology, and introduces culture phases. Because we do not yet have the volume of radiocarbon dates for Nazca and Ica that have been generated for Palpa, Table 8 presents a relative chronology supplemented by C-14 dates. The dates in the column representing absolute time are estimates included as rough measures for comparison, but these dates are easily adjusted up or down by 50 years. Only radiocarbon dates can define the precise spans of time.

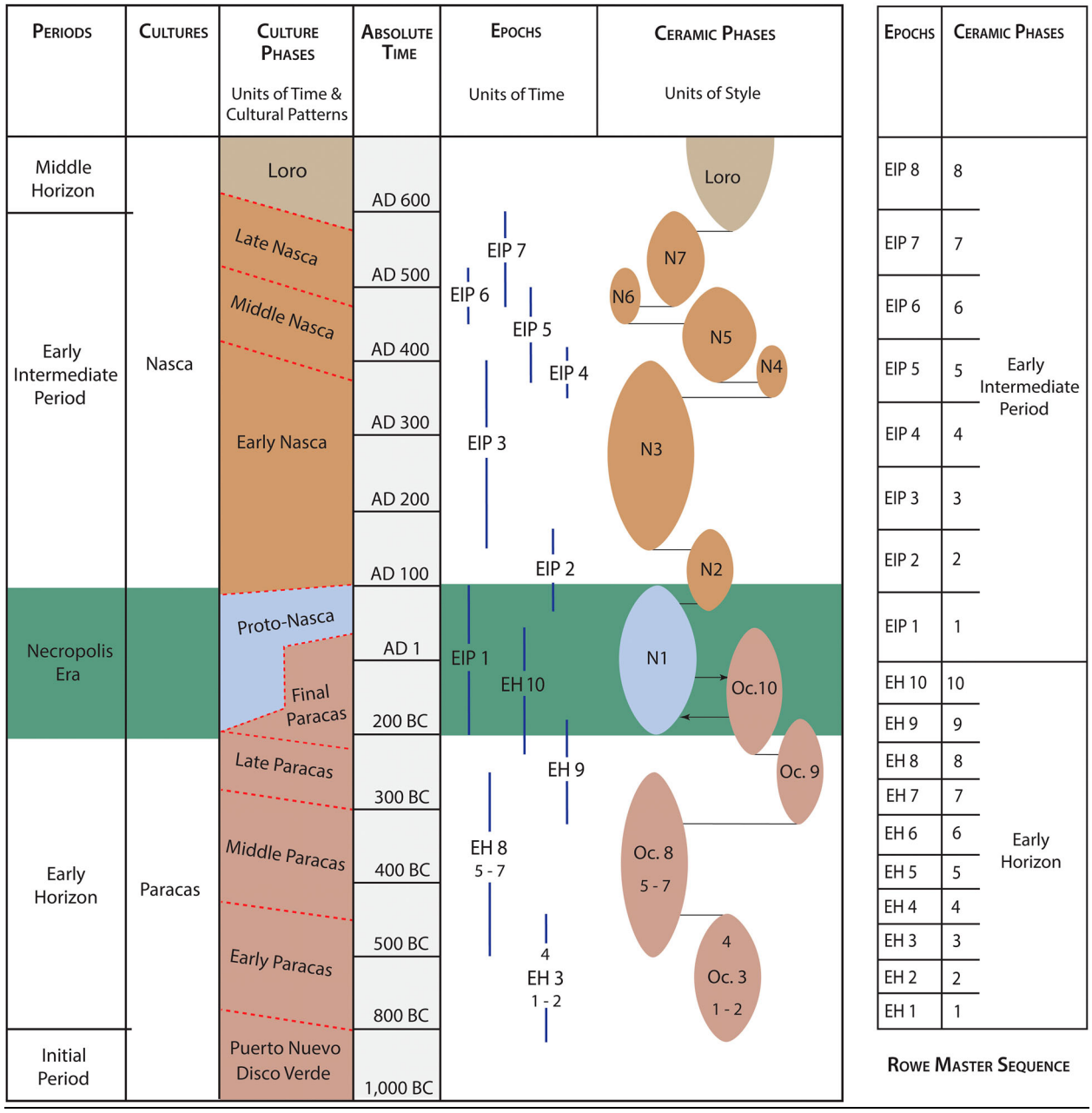
Over the last several years I have published similar chronologies for the Nazca region (Carmichael 2013, 2015, 2016; Carmichael et al. 2014), and circulated experimental versions among colleagues. Table 8, representing the Ica Valley, supersedes all previous iterations.

Much of this article centers on terminology and its definitions; therefore in examining this chronology I begin with definitions of the terms employed in Table 8. A discussion follows in which qualifications and limitations are noted.

Periods. As applied here, the periods and their nomenclature are taken directly from Rowe's system (see previous discussion under The Rowe Chronology), but with the addition of a Necropolis Era period, which will be discussed below. Periods are strictly units of time, or more precisely, units of contemporaneity.

Archaeological Culture. Within the south coast culture area the remains of many archaeological cultures are found stretching back thousands of years. An archaeological culture consists of " … a suite of artifacts and other remains that share a distinct style that existed in a geographical region for a length of time" (Quilter 2014: 23). As Quilter states, an archaeological culture is defined in terms of space (it exists within a defined area), time (within fixed temporal boundaries), and form (style of material remains). He goes on to remind us – and we need reminding – that archaeological cultures are not the same as ethnic or political

Table 8. Revised Early Horizon and Early Intermediate Period Master Sequence for the Ica Valley.



groups (2014: 24). The pertinent examples for the current work are the greater Paracas and Nasca cultures. Here the modifier 'greater' denotes a culture such as Paracas in its widest and most general sense, without concern for regional variation. The greater Paracas culture is found throughout the south coast culture area from Chincha to Nazca, with major centers in Chincha and Ica. On the other hand, the homeland of the greater Nasca culture was the Ica and Rio Grande river systems to the south.

Culture Phase. A culture phase is a temporally limited expression of a specific archaeological culture within an archaeological region, manifest at more than one site. A phase may be as short as 50

years in duration, but they usually span 100 to 300 years, seldom longer. As units of time, phases are sequential (early, middle, late), but as cultural constructs they can overlap, or begin and end at different times in different locales. A culture phase is defined by radiocarbon dates (absolute time) and style phases (relative time), but also by changing culture patterns. These patterns could relate to burial practices, religion, ceramic traditions, or any combination of cultural expressions that co-vary and show detectable change over a relatively short time within the territory of a regional culture. Basically, in time, space, and content, the culture phase is a unit clearly distinguishable from other units so conceived.

If the definition of a culture phase is not strictly chronological but includes cultural patterns, how is this different from a 'stage'? First, there is the order of magnitude. As we have seen, stages are not limited geographically, but can apply to entire continents, or greater culture areas. The culture phase, on the other hand, is spatially limited to a specific archaeological region. Second, stages group many cultures together, while phases pertain to one archaeological culture. Third, stages like periods typically cover broad expanses of time while culture phases are temporally discreet. Finally, unlike the stage, the criteria used to define a culture phase are unique to each case: they are not necessarily based on economy or political organization, but rather on whatever is expressed in the local record, which proves useful for distinguishing it from other phases within that particular archaeological culture.

As noted earlier, Strong used the concept of culture phases in his 1957 south coast chronology (1957: 9). Hendrik Van Gijseghem included Early, Middle, and Late Paracas, and Proto-Nasca culture phases in his Ica chronology (2006: 425), and Conlee (2016: 5) does the same for the Nasca culture. Markus Reindel and Johny Isla Cuadrado introduced culture phases into the Palpa region by dividing both Paracas and Nasca cultures into early, middle, and late phases (Reindel 2009; Unkel et al. 2012). In earlier versions of my Nasca chronology, I continued to use the term 'epoch' in deference to Rowe's Master Sequence, but my definition of an epoch was identical to what is herein defined as a culture phase (Carmichael 2013: 223). Upon reflection, the term epoch in English refers specifically to a span of time (which is why Rowe chose it). In this work, congruent with Van Gijseghem (2006), I apply the culture phase concept to the Ica sequence, and revert to using epoch as it was intended.

Ceramic Phases. A ceramic phase is a stylistic subdivision of a pottery tradition. For example, the Nasca pottery tradition found throughout the Nasca heartland is divided into seven style phases. However, while these phases are generally recognizable everywhere, they do not behave in exactly the same fashion in all regions. In my work, the Paracas and Nasca ceramic phases are those established by Lawrence Dawson (Table 8). Each phase represents a grouping of vessels based on similarity, with new phases arbitrarily established when sufficient change has accumulated to distinguish one phase from another.

Table 8 does not show the lettered subdivisions attached to some phases, such as Proulx's N3a, b, c, and d, or Menzel's N7a, b, and c. These subdivisions demonstrate that finer distinctions are possible, and in some cases can prove useful. However, for general purposes they are not required. Including them on this chart can lead researchers to think they are required to specify whether their material is N3b or N3c. When a sample is sufficient to make such distinctions, and it would be meaningful for analysis, then the subdivisions can be employed. But their use is not required in all studies, especially those dealing with sherds from excavations and surface survey. In studies of style it may be useful to distinguish between early ('a') and advanced ('b') expressions of a phase, but that is at the discretion of the individual researcher.

While I agree with the methodology for defining ceramic phases as previously discussed under The Rowe Chronology, and with Dawson's groupings into phases, it is time to reevaluate their meaning. First, I review the Nasca data. For Rowe and Dawson, the Nasca ceramic phases were strictly

chronological units which occurred in a relatively uniform fashion throughout the Nasca heartland. Change in the ceramics was due to stylistic drift over time. In an earlier work (Carmichael 2013) I demonstrated regional variation by noting that the diagnostic criteria for a given phase did not behave the same way everywhere. Dawson developed his seriation on the basis of Nazca Valley sites, and it works very well for the Nazca region, but not as well for Palpa. I defined three style regions; the SNR (Nazca), CNR (Palpa), and NNR (Ica), which also constitute three archaeological regions, and recommended an independent seriation for each.

I also found that the Nasca style phases were not temporally discrete units that followed one another in an orderly, stacked fashion, but rather the phases actually overlap. It is possible for as many as three phases to coexist at the same point in time. Rowe acknowledged the possibility of overlapping ceramic phases (1956: 147), but this qualification was not pursued in subsequent studies. Nonetheless, there is direction through time in style developments, and the ceramic phases are good indicators of relative time, although not as discreet, stacked units of time. Overlapping style phases have been well documented on the north coast of Peru (Swenson and Roddick 2018: 5–6).

In addition to being indicators of time, ceramic phases as units of style are also indicators of social practice. In the first instance, it is the individual potter who gives a vessel its shape and paints the design. Agency therefore plays a role. The artisan belongs to a community of potters who live within a defined territory and interact regularly, thereby influencing each other's work (Arnold 1993: 233; Carmichael 1998: 222). Change begins with individuals (Rowe 1962: 41). What archaeologist's identify as a new ceramic phase came into being when a creative individual experimented, and the result was adopted by his/her potting community. The social impetus which drove the individual, and the community, in style development is an intriguing question which points the way to understanding how style analysis provides a window on social process.

Epochs. The epochs in Table 8 are finer units of time within periods, defined by the ceramic phases. Their definition and use are the same as previously discussed under The Rowe Chronology. However, since they rely on the ceramic phases for their definition, and the phases have been decoupled from a strictly stacked sequence to allow overlap, the epochs are also granted movement. The Epochs column in Table 8 does not have horizontal lines between epochs to indicate the lack of firm boundaries, and a vertical line separating this column from the pottery phases is absent to further accentuate their fluidity. Epochs overlap in time to the same extent that phases overlap. Does this strip them of their utility? No, no less so than using the phases as temporal markers. They do show direction through time, but not as neatly chopped up, exclusive segments. As mentioned, epochs are especially useful when referring to non-ceramic remains, and essential for cross-dating finds from outside the Ica Valley. It should also be noted that, when comparing phenomena between the Ica, Palpa, and Nazca archaeological regions, epochs are the common point of reference.

The Early Horizon

In the Ica Valley, the Early Horizon begins when Chavin traits appear in the Paracas archaeological culture (Menzel et al. 1964: 18; on Chavin-Paracas interactions see Kaulicke 2013). Paracas pottery with Chavin features is cross-dated to the Janabarriu ceramic phase at Chavin de Huantar (Burger 1995: 195), which Rick et al. (2009: 88, 104) now date at 800–500 B.C. I have arbitrarily set 800 B.C. as the beginning of Early Paracas, but as with all other estimates I fully expect this date to be revised as more radiocarbon dates become available. The preceding Initial Period is included on this chart to frame the lower boundary of the EH, but I make no attempt to define this first period in which pottery appears, other than noting some of the recently excavated sites, which also lend their names to the pottery styles that precede and overlap with the early end of the EH (see Dulanto 2013, Dulanto and Accinelli 2013).

In his initial sorting of Paracas pottery, Lawrence Dawson identified four ceramic phases (designated T1-4, with T standing for temporary), but he felt finer divisions could be made as he had done with the Nasca sequence. With Rowe's encouragement, he defined ten ceramic phases as detailed in Menzel, Rowe, and Dawson (1964), although he considered this work incomplete. To distinguish the Paracas pottery of Ica from Paracas wares found elsewhere, the variety found in Ica is referred to as the Ocucaje style (Menzel et al. 1964: 1–2). Dawson's ten phases are referred to as Ocucaje 1–10 (hereafter abbreviated as Oc. 1–10). Phases 1, 2, and 4 were defined by a small number of unassociated vessels, which later researchers in Ica were unable to isolate in their surface collections and excavations. Similarly, phases 5 and 6 were based on limited numbers of unassociated vessels, and Phase 7 pertained to unassociated pots from Teojate in the Upper Ica Valley (Menzel et al. 1964: 43, 55, 75). These ceramic phases have thus far not proven useful for field workers, although comparable material has been identified in Palpa (Unkel et al. 2012: 2299). However, there is universal agreement that Dawson's phases 3, 8, 9, and 10 are readily identifiable style units (Massey 1991: 378; Van Gijseghem 2010: Introduction), and these are the phases in which Menzel, Rowe, and Dawson had greatest confidence (1964: 2). Basically, they duplicate Dawson's original phases T1 (Oc. 3)[3], T2 (Oc. 8), T3 (Oc. 9), and T4 (Oc. 10). Dawson's Ocucaje phases are valid units of style, but they have not all been employed by field archaeologists. As defined by Menzel et al. (1964), Oc. 1–2, and 4 are logical style units in the sequence, and will prove useful in future style research. Similarly, Oc. 5–7 will be of service as units of style, although they may be largely contemporary. What is certain is that the ten Ocucaje phases are firmly embedded in the literature. Table 8 preserves the full numerical sequence, while reducing Oc. 1–2, 4 and 5–7 to subtexts. From this position they can be rejuvenated as required.

Table 8 also preserves the original ten epochs of the Early Horizon. As with the ceramic phases, these are now perceived to have overlapped in time. The original sequence is maintained so that individual epochs can be activated when required. Also, the epochs provide a useful means for cross-dating finds from outside of Ica.

Early Horizon Culture Phases. Table 8 proposes four culture phases for Paracas in Ica based on settlement patterns, iconography, and pottery phases, though it is beyond the scope of this paper to detail their content (see Bachir Bacha and Llanos Jacinto 2013; Cook 1994, 1999; DeLeonardis 1997, 2005; Llanos Jacinto 2017; Massey 1986, 1991). The pottery phases are grouped with the culture phases as follows:

- Early Paracas: Oc. 3 (plus 1–2, 4)
- Middle Paracas: Oc. 8 (plus 5–7)
- Late Paracas: Oc. 9
- Final Paracas: Oc.10

Other phase groupings can be found in the literature (e. g. Cook 1999: 70, 74; DeLeonardis 2005, DeLeonardis and Glascock 2013; García Soto and Pinilla Blenke 1995: 56–58), but I leave it to those writers to comment on their choices.

Ocucaje 9 and 10 sherds are found mixed on the surface of habitation sites (Cook 1999: 74; Menzel et al. 1964: 178), and they have been excavated in the same strata at the Ica Valley sites of Animas Altas in Callango and Cordova in Ocucaje (Llanos Jacinto 2017: 162). While some researchers argue they are contemporary styles, I regard them as separate and valid style units with some overlap in time, but with Oc. 9 ultimately appearing earlier in the sequence where it develops out of Oc. 8. The separation of EH 9 from its neighboring epochs is evidenced most directly by forms of burial, such as the Cavernas site on the Paracas Peninsula (Sotelo Sarmiento 2009) and Strong's Ocucaje II site, a pure Oc. 9 cemetery (Strong 1957: 12). Sarah Massey lists Ica Valley sites with Oc. 9 ceramics, along with vessel shapes and motifs, and provides a good overview of this phase (1991: 334–339, 347).

The Necropolis Era

The Necropolis Era is defined as the period of time when Nasca 1 pottery was in use on the south

coast.[4] The estimated span is 300 years, from 200 B.C. to A.D. 100. This is, of course, a best guess rounded off to convenient numbers, easily shifted up or down by 50 years. Regional variation in timing is fully expected, but for the purposes of the Ica Valley Master Sequence the dates in Table 8 provide a reasonable estimate. It should also be kept in mind that Table 8 presents a relative chronology based on pottery styles to which radiocarbon dates are an adjunct. However, the available radiocarbon dates support this range (Cadwallader et al. 2015: 769; Unkel et al. 2012; Vaughn et al. 2013: 168; Van Gijseghem 2006: 438).

Necropolis Era sites are those which evidence contemporaneity with N1 pottery, either through the presence of actual N1 wares (including blackware, pattern burnishing, and resist painting), or wares known to be contemporary with N1 (Ocucaje 10 and Topará-derived monochromes). Other categories of artifacts, such as pyroengraved gourds, bone carving, or textiles which, by their style and iconography are comparable to N1 or Oc. 10 and therefore approximately contemporary, can also be used to characterize the Necropolis Era. Of course, in the absence of pottery or other diagnostic forms of material culture, contemporaneity can be established strictly on the basis of C-14 dating.

The astonishing Necropolis of Wari Kayan on the Paracas Peninsula (Figure 1) is by far the greatest single accumulation of Necropolis Era material culture, mostly consisting of brilliant textiles and an array of organic artifacts. Surprisingly, N1 pottery is absent, but contemporary Topará-derived vessels are present, and the rich textile iconography compares well with N1 and Oc. 10 styles, though frequently it is far more complex than is seen on the pottery. The Necropolis of Wari Kayan is the quintessential site for non-ceramic material culture during the Necropolis Era (see Peters and Tomasto-Cagigao 2017 for a recent, detailed analysis of 44 mummy bundles).

The term 'Era' is chosen because, in English, an era refers only to a time period. The Necropolis Era and the Necropolis of Wari Kayan site (also called the Paracas Necropolis) should not be confused – one is a location and the other is a unit of time. Previously, I estimated the Necropolis Era to be approximately 200 years long (Carmichael 2015, 2016), but here I extend this estimate by a century to bring it in line with the work of other researchers.

The dating of the Necropolis Era is not dependent on the dating of the Paracas Necropolis site. The Necropolis Era is defined as the time of N1 pottery, and it is possible N1 wares were being produced before the Paracas Necropolis was established. Nonetheless, the Paracas Necropolis does span most of the time period of the Necropolis Era.

Ann Peters estimates the Paracas Necropolis was in use from approximately 150 B.C. to A.D. 200–250 (2012: 8, 2014). Based on a study of radiocarbon dates, Elmo León Canales concluded the earliest bundles were deposited sometime between the 1st and 2nd centuries B.C., and the last at some point in the 1st or 2nd centuries A.D. (2007: 38, 46). In Table 8, the Necropolis Era ends around 100 A.D., shortly after the appearance of the Nasca 2 style phase. While Nasca 2 is said to be present at the Paracas Necropolis, it has limited representation, mostly in bundles classified as transitional between EIP 1B and EIP 2[5]. Necropolis Bundle 451, long considered on stylistic grounds to be N2 and one of the last deposited, produced radiocarbon dates placing it in the 47 B.C. - A.D. 22 range, well within EIP 1B (León Canales 2007: 46).

During the Necropolis Era, three style traditions overlapped: Paracas, Topará, and Proto-Nasca (Carmichael 2015: 122–124). Archaeologists are still debating whether these three traditions represent separate ethnic groups (Frame 1995: 15), religions, polities, or as Ann Peters suggests "producer communities" (2012: 10, 2016: 29). That issue is beyond the scope of this work. What is important here is that these three traditions are demonstrably contemporaneous, as their remains are not only found together in the same sites (Carmichael 2015: 120), but even within the same mummy bundle (Peters 2012: 11). The two older styles are Paracas and Topará. Topará is subsumed under Final Paracas in Table 8, as Topará-derived vessels always appear as single additions to Oc. 10 graves or mixed with Oc. 10

sherds in refuse. Both contributed to the appearance of Proto-Nasca, which represents something qualitatively new, arguably not only an art style but also a new or re-invigorated religion. Proto-Nasca mummy bundles are amongst the earliest burials at the Necropolis of Wari Kayan (Peters 2012: 8). While the three traditions are found together in the first part of the Necropolis Era, Paracas and Topará eventually vanish and we encounter later sites that are pure Proto-Nasca (Schreiber and Lancho Rojas 2003: 14; Silverman 1994: 371). In every region, researchers have coined local terms for this time of overlap: in Ica it is called the La Peña Phase (Cook 1999: 69, 74), in Palpa the term Transition Period is used (Unkel et al. 2012: 2299), and in Nazca it is called the Montana Period (Schreiber and Lancho Rojas 2003: 13–14). In this work, the Necropolis Era is offered as an over-arching, pan-regional term to facilitate comparisons across the south coast.

Necropolis Era Culture Phases and Epochs. It is a curiosity of the Necropolis Era that we have two culture phases, Proto-Nasca and Final Paracas (including Topará), occurring in the same region at the same time. They share so many similarities in settlement and burial patterns, craft technologies, and the practice of a huayo cult (Carmichael 2016: 60–63) that we are surely dealing with a single population. Nonetheless, it was a population that chose to signal internal differences by employing two visually distinct styles. In terms of ceramic art, Oc. 10 and N1 clearly influenced one another. Still, this situation does not rest easy with a culture phase defined as a discreet entity in time and space. However, it would be an error to gloss over the differences between the two by crowding them into one culture phase, for in their differences lie the key to understanding this remarkable period of time. In the end, only Proto-Nasca remained. Whatever competition lay between the practitioners of these two distinctive styles, the Proto-Nasca group won. Then it, too, vanished along with a long list of decorative technologies, some burial patterns, and the old settlement pattern. Something changed again. This end point is an extinction that offers another clue to the nature of Necropolis Era society.

Another unique feature of the Necropolis Era is that it contains two contemporary epochs. Again, this seems counter-intuitive as an epoch is a unit of time. However, epochs are defined by ceramic phases, and when the phases overlap, so too must the epochs. The more difficult question regarding overlapping epochs in the Necropolis Era is how they affect the definition of periods. In maintaining the traditional numbering of epochs from Rowe's Master Sequence, EH 10 (originally the end of the Early Horizon) and EIP 1 (originally the beginning of the Early Intermediate Period) occur together in the Necropolis Era Period. Technically, this means that in Table 8 the Early Horizon ends with EH 9 and the Early Intermediate Period begins with EIP 2. For those familiar with the archaeology this makes good sense, as EH 9 is the mature outcome of the Paracas trajectory, and EIP 2 is the beginning of mature Nasca. Nonetheless, the original numerical system with EH 10 and EIP 1 is firmly embedded in the literature, and any attempt now at re-numbering is ill advised. Therefore, this anomaly must stand.

While the above understandings are important to the functioning of this chronology, here I wish to state that the Necropolis Era as a concept is about much more than endings and beginnings. The Necropolis Era was itself a time of astonishing innovation, which not only blended manufacturing techniques and art styles in ceramics and textiles, but saw the emergence of an entirely original iconography featuring never-before-seen deities such as the Head Taster, settlement pattern shifts, major population expansions and migrations, and new forms of burial (Carmichael 2015: 120–121). This all happened in a block of time between the EH and the EIP, which is often referred to as a 'transition period' between conventional Paracas and mature Nasca. I do not favor this term because it implies the entire era is but a whistle stop between two major destinations. On the contrary, the Necropolis Era warrants investigation in its own right, and is a major destination in itself. It produced some of the most iconic artworks in the Central Andes such as the fabulous 'Paracas' textiles from the

Necropolis of Wari Kayan, and the first Nazca Lines. What forces came together in this time and place to create one of the most strikingly original art styles in the ancient world? What does this artwork tell us about the society that produced it?

The Early Intermediate Period

The Early Intermediate Period proper – the time of mature Nasca culture – was some 500 years in length, from approximately 100 to 600 A.D. In Rowe's Master Sequence, the EIP began when N1 ceramics appeared in Ica. Traditionally, this is the point in the ceramic sequence when Paracas post-fire resin paints were replaced by Nasca pre-fire slip paints (Menzel et al. 1964: 251), though we may add the qualifier that, since Paracas potters used single-color, pre-fire slip paint from Oc. 3 onwards (Menzel et al. 1964: 31), the separation from Paracas is the point at which polychrome slip painting becomes common. As Menzel et al. note, the dividing line between the EH and the EIP is entirely arbitrary and based on a technological change, as Paracas and Nasca are parts of a single south coast tradition (1964: 251). However, now that the Necropolis Era Period has been inserted between the EH and EIP, what separates the Necropolis Era from the EIP proper (distinguishes N1 from N2) is not a technological change but rather the extinction of a series of traits. In terms of ceramics, these extinctions mark a shift in aesthetics and values. However, this is not the place to pursue the social meaning of these intriguing terminations.

The decorative techniques employed in N1, which are absent in N2, are listed below.

Fineware Decorative Methods and Aesthetics Confined to Nasca 1:

(1) Plain fineware, undecorated beyond the natural buff surface, no paint or incisions.
(2) Plain fineware incised, unpainted.
(3) Plain fineware with simple vertical or diagonal lines of white or red slip on the buff ground.
(4) Resist painted.
(5) False resist (in which slip imitates the look of resist designs).
(6) Blackware: (a) plain; (b) incised; (c) pattern burnished; both smoked black and reduced black firings were employed.
(7) Red and cream ware, slip painted with either vertical cream lines paired against a red ground, or red verticals on a cream ground, also monochrome red or cream.
(8) Incised polychrome slip painted, with the major motif completely incised.
(9) White on resin post-fire outlining, consisting of a white chalk on a resin base inside incisions (Carmichael 2015: 151).

The point at which these decorative techniques are dropped from the ceramic repertoire marks the beginning of the EIP proper. From N2 onwards, all vessels are fired in an oxidizing atmosphere and polychrome slip painting is the only method of decoration. The polychrome of N2 sometimes has minor details incised (e.g. the face on a diadem), but the major motif is not outlined with incisions as in N1. After N2, incisions virtually disappear with rare exceptions. Some vessel shapes such as the 'waisted, neckless jar' (Menzel et al. 1964: 341, g), which is common in Oc. 10 and N1, also vanish.

The polychromes of N2 mark the beginning of the Monumental sub-style in the Nasca ceramic sequence (Roark 1965; Rowe 2010 [1960]). Motifs are large in relation to the space they occupy, sinuous, and sometimes have overlapping elements suggesting depth, while the design field is uncluttered leaving much open space. The appearance of this pottery heralds the beginning of the EIP proper and the Early Nasca culture phase.

Early Intermediate Period Culture Phases and Ceramic Phases. The Nasca culture phases in Ica are each marked by changes in the ceramic complex in vessel shapes and iconography, as well as by settlement and burial patterns, and use of communal spaces. Vaughn et al. (2016a) provide an overview of Early, Middle, and Late Nasca, referred to as epochs in their study[6] (Table 5). Site survey results are found in Cook (1994), Menzel (1971), Massey (1986), and Williams León and Pazos

Rivera (1974). Recently, Kevin Vaughn with Alicia Gorman and colleagues have been excavating at the large Nasca center of Cerro Tortolita in the upper Ica Valley (Vaughn et al. 2016b), a project that Gorman continues for her Ph. D. dissertation. Results are eagerly awaited. In addition to Anita Cook's work in the lower valley, contributions bearing on the Nasca culture phases include Beresford-Jones (2011) and Cadwallader et al. (2015, 2018).

The ceramic phases are grouped with the culture phases as follows:

- Early Nasca: N2-4
- Middle Nasca: N5
- Late Nasca: N6-7

In Rowe's Master Sequence (Table 6), the Nasca ceramic phases were assumed to be relatively uniform over the south coast. It is indeed true that phases 1–7 are present in all three regions (Ica, Palpa, Nazca), however regional variations are evident, and it remains to be determined whether they begin and end at the same time everywhere. It is ironic that the Nasca sequence for Ica was actually worked out by Dawson on material from the Nazca Valley (Carmichael 2013: 217), and this is what appears in Table 8. Nasca gravelots from the oasis of Ocucaje in Ica essentially confirm the same sequence is present, at least in lower Ica (see Proulx 1970 on the Uhle gravelots and Dawson 1959-1960 on the Rubini gravelots).

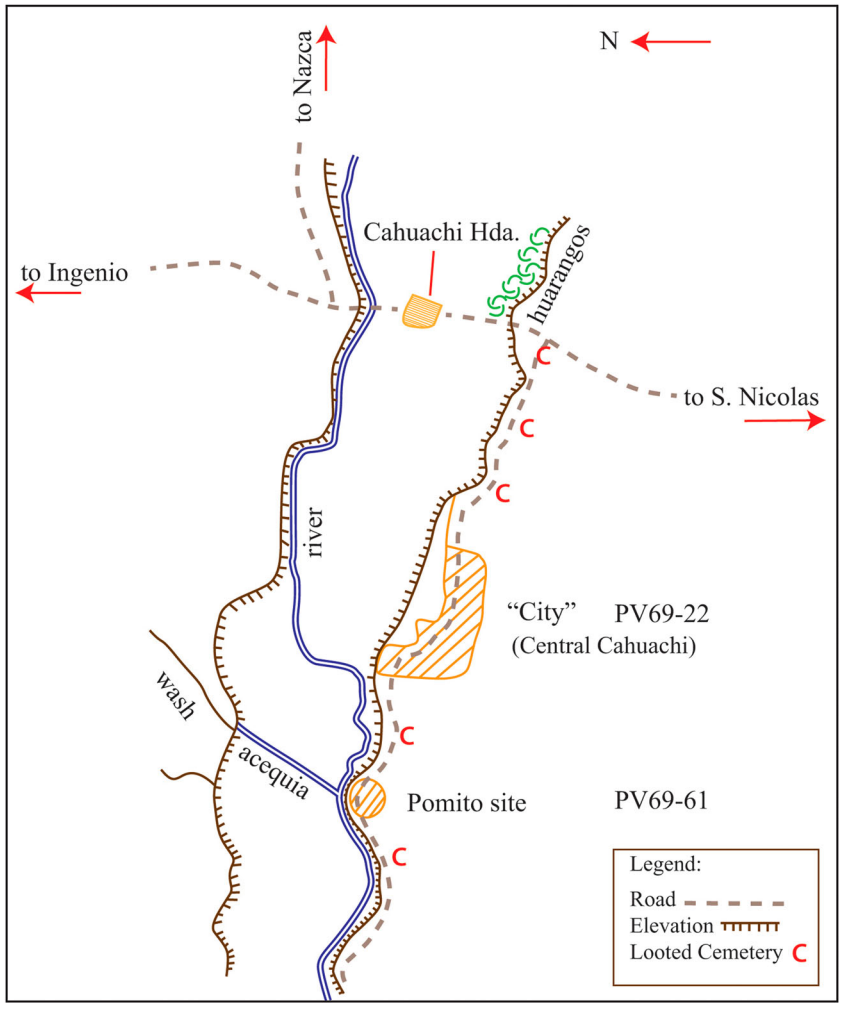


Figure 2. Location of the Pomito Site within greater Cahuachi. Sketch map after John Rowe, 1961, Note Book 2, page 102. Rowe Archive, courtesy Patricia Lyon.

It has long been noted that the Ocucaje material is very similar to Nazca Valley finds (Gayton and Kroeber 1927: 11–13; Kroeber 1956: 336). In a formal study, Proulx found relatively small differences between phases 3 and 4 in Nazca and Ocucaje, although enough to say that the two locations were not identical (1968: 92–100). On the basis of stylistic evidence, I have argued that migrants from the oasis of Ocucaje founded Cahuachi on the Nazca River and developed the religion that became the leitmotif of Nasca culture. Thereafter, they continued to interact directly with their homeland (Carmichael 2016: 58, 74–75). Llanos Jacinto (2017: 185–187) uses his excavation results to argue for an ongoing relationship between Ocucaje and Cahuachi during Early Nasca in which elites residing at Cerro Cordova in the Ocucaje oasis derived their status from a special bond with Cahuachi. Nasca pottery found in the oases along the Ica River to the south of Ocucaje is again very similar. The central and northern sections of the Ica Valley may have their own EIP peculiarities, just as they did during the EH. In these areas, more influence can be expected from Ica's northern neighbors in Pisco and Chincha with their EIP Campana, Carmen, and Estrella ceramics. However, these materials can be cross-dated to the Ica chronology in Table 8. While a closer examination of Nasca in Ica will no doubt document additional (and significant) regional distinctions, for now it is possible to offer the Nazca Valley Nasca seriation as a reasonable approximation of the Ica EIP sequence.

The initial Middle Horizon in Ica is represented by the Loro culture phase. In Table 8 it is included as a book end to the EIP. As a subject beyond the limitations of this article, it is not treated in any detail here. The ceramic phases listed in Table 6 are still very much in use, but I leave comment on them to MH experts.

The Nazca Regional Chronology

Early Horizon in Nazca

The EH in the Nazca region presents a different configuration from that shown in Table 8. Pottery corresponding to Early Paracas is limited, and no habitation sites have been identified to date. Silverman (1991: 372) illustrates a bowl cross-dating to EH 3 said to have been found just outside the city of Nazca. Menzel et al. (1964: 9, 12) describe another bowl said to be from Nazca as " … *contemporary with Phase 1 or a slightly later date.*"[7] An EH 1 necked bottle in the Ica Museum is said to be from either Ica or Nazca (Menzel et al. 1964: 11–12, Plate 1b). Better evidence is provided by John Rowe,[8] who identified two EH 1 pots found at sites in the Pomito area of greater Cahuachi. As these finds are important for establishing EH 1 in Nazca, but have not previously been published, I include here Rowe's sketch maps of the site location (Figures 2, 3), a 1961 photo of the temple at

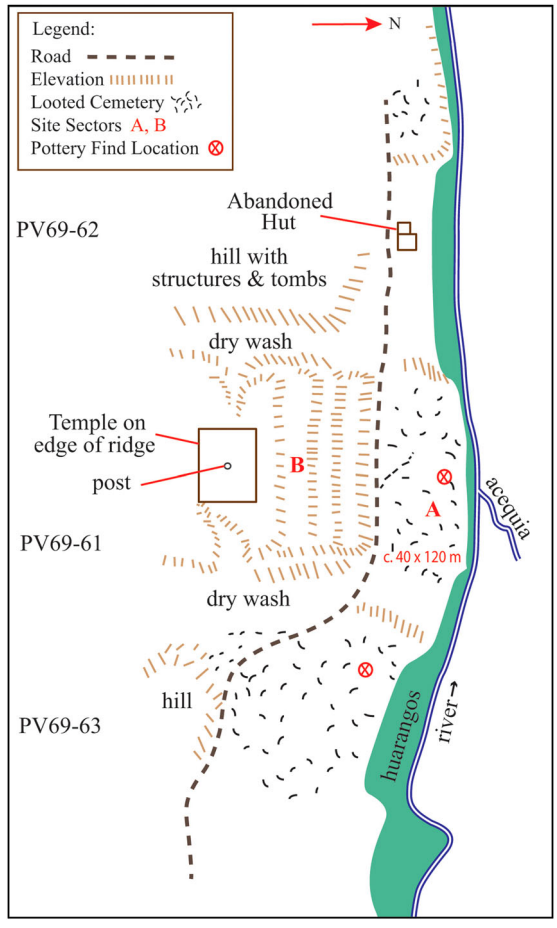


Figure 3. Sketch map of Pomito Site after John Rowe, with location of EH 1 pottery marked for PV69-61 and PV69-63. Field notes 1961, Note Book 2, page 106. Rowe Archive, courtesy Patricia Lyon.

Pomito (Figure 4), and a photo of one of these EH 1 pots (Figure 5).

The first vessel, from PV 69-61, is described as an early plate with a ring base, and a "triangular-teeth motif" pendant from the rim, executed as a negative design with black organic pigment. The second vessel, featured here in Figure 5, was found a few hundred meters away at PV69-63 (located on Figure 3). It has a flat base, nearly vertical sides, and a Chavin-like feather motif. More detail is provided in Endnote 8. While there was no significant occupation of the Nazca region until EH 8 (Conlee 2016: 67), the cumulative evidence strongly indicates some residence during EH 1-3. The early end of the Early Horizon is present in Nazca.

Extensive field surveys have demonstrated that major EH occupation of this southern region did not occur prior to EH 8 (Middle Paracas in Ica). Schreiber and Lancho Rojas (2003: 13) identify this time in the local chronology as the Puntilla Phase, during which the "initial colonization" of the region took place, with substantial villages suggesting it was a planned migration (Table 4). Based on style analysis, researchers identify the Callango Basin in the Ica Valley as the colonist's homeland (Massey 1991: 341; Menzel et al. 1964: 102, 148, 150, 261; Van Gijseghem 2006: 426–427).

Figure 5. EH 1 vessel from Pomito site PV69-63 (see Figure 3). Glessner Collection. Height 10.5 cm, Diameter 13 cm. Rowe Archive.

A second migration into the Nasca region took place during the Necropolis Era, but this time the colonists appear to have come directly from Ocucaje in the Ica Valley (Carmichael 2016: 57, 74–76). Fancy pottery cross-dating to EH 10 has been found at several sites in the Nazca region (Carmichael 2016: 58), although only plain wares

Figure 4. Cemetery and temple at Pomito, Cahuachi, 27 August 1961. Lawrence Dawson Slide Archive, courtesy Patricia Lyon.

are reported at the major Necropolis Era site of La Puntilla near the city of Nazca (Van Gijseghem 2006: 436). Interestingly, there is no fancy EH 9 pottery reported anywhere in Nazca (Carmichael 2016: 58). As Van Gijseghem suggests, this implies that the EH 8 colonists did not stay in touch with their homeland, or at least did not continue to participate in its prestige hierarchy. Oddly, at La Puntilla, Van Gijseghem found pottery corresponding to Oc. 8 mixed with N1 wares (Van Gijseghem 2004: 287, 2006: 432), thus suggesting that, in Nazca, the local Oc. 8 equivalent lasted much longer than in Ica. Perhaps Nasca 1 developed elsewhere and arrived when EH 8 pottery was still in use.

Early Intermediate Period in Nazca

With a few caveats, the EIP chronology for the Ica Valley shown in Table 8 also works in the Nazca region, at least for the time being. It has been noted that the Nasca ceramic phases in Table 8 were actually identified using Nazca Valley data; therefore the relative sequence of ceramic phases and their epochs are well established for Nazca. Still, future adjustments are fully anticipated, especially for the Ica Valley, as field work and style analysis progress. Temporarily using a single chronology for both regions should not be taken to imply cultural uniformity. There are regional differences in the ceramics, and the culture phases also show variation in their content. As more C-14 dates become available, it is expected that culture phases, ceramic phases, and their epochs in these two regions will vary in their beginning and end dates.

In the Nazca region, Nasca culture phases are identified by changes in settlement patterns (Proulx 2007; Schreiber 1999; Van Gijseghem 2006; Van Gijseghem and Vaughn 2008; Vaughn 2005), ceremonial centers (Orefici 2012, Silverman 1993), irrigation (Schreiber and Lancho Rojas 2003), hematite mining (Vaughn et al. 2013) and in the use of communal space (Vaughn et al. 2016a). Conlee (2016) provides an excellent overview of each phase.

Conclusions

Developmental (evolutionary) stages, even when they are called 'periods', are inherently different constructs based on different criteria and assumptions from historical periods. Overarching chronologies developed for the entire Central Andes, whether based on cultural stages or on time periods, seldom fit comfortably with local sequences. Local chronologies, developed to meet the needs of specific archaeological regions, work best locally. Nonetheless, there is a need for a Central Andean chronology that allows comparison of findings from all areas and times. The position expressed here is that researchers can use either developmental stages or historical periods, but not both at the same time, which happens when terminologies are mixed in hybrid chronologies. Words carry weight and, as others have pointed out, a term like 'Formative', established in the literature for nearly a century, comes with embedded assumptions about a stage of sociopolitical evolution (Rick et al. 2009: 88–90; Sayre 2018: 48). It does not sit well in a column with, for example, an Early Intermediate Period, which is strictly a unit of time.

When thinking about chronologies in the Andes there are two issues which must be kept separate, but are too often confused: (1) the working out of local chronologies using local terms, and (2) a pan-regional chronology for the entire Central Andes. Rowe encouraged the development of local chronologies using local terms: his point was that such a chronology can then be cross-dated to points on the Master Sequence. Some researchers have tried to apply the Ica Valley Sequence *en toto* to their area, expecting to find all of the sequentially numbered ceramic phases and epochs, and when these did not appear, blithely concluded Rowe's chronology was wrong. This thinking represents a fundamental misunderstanding of how cross-dating works. It was never anticipated that all of the pottery phases and epochs would be present outside of Ica (as if every region must have 10 EH epochs); only that distant material would find similarities with certain points on the Master Sequence, and thereby be tied into the Central Andean chronology.

The issue of keeping local and pan-regional chronologies separate is easily resolved by showing them side by side. Hastorf (2017: 139) and Janusek (2008: 19) provide good examples from the altiplano of how local chronologies using local terms can be shown beside the more widely known Rowe period system to keep the general reader oriented. Schreiber and Lancho Rojas (2003: 9) offer another example for the Nazca region (Table 4).

In my own work, I prefer to use Rowe's period system. This is logical as my area of interest is the south coast of Peru, home to Rowe's Master Sequence. Chronology on the south coast has been adrift because it lost its anchor. Actually, the anchor was never lost; researchers forgot how to use it (I include myself in this observation). Rowe proposed the Ica Master Sequence in the first place as an anchor, a common datum for the south coast and the entire Central Andes. I leave it to my colleagues working in other parts of the Andes to continue debating the usefulness of Rowe's system in their regions, but I maintain that it works very well on the south coast when properly applied. Rowe's Master Sequence receives much criticism for not doing what it was never intended to do – explain culture process and change. Rowe's point was that, while understanding culture process is the ultimate objective of our research, it cannot be approached before the time factor is controlled. Establishing chronology is the first step in any archaeological investigation. Interpretations of process are only as detailed as the chronology allows.

The revised chronology in Table 8 for Early Horizon and Early Intermediate Period Ica preserves, and builds on, Rowe's original Master Sequence. All of the numbered ceramic phases and their epochs are present, but they have been freed from their stacked positions. There is still direction through time, but the phases now overlap, with two or three occurring at a single point in time. None are entirely contemporary. In the Ica Valley, as in Nazca, the N5 phase could not have developed directly from N3; rather it required the style developments of N4, just as N4 required the innovations of N3 (Palpa is a separate matter). As with ceramic phases, the epochs must be allowed to overlap also.

Culture phases have been added. They are not original to this chronology; rather they have a long history on the south coast (Strong 1957; Van Gijseghem 2006; Conlee 2016). In this work I have sought to define and formalize them.

The major change to Rowe's Master Sequence is the introduction of the Necropolis Era as a new time period between the Early Horizon proper (EH 1-9), and the Early Intermediate Period proper (EIP 2-7). The need for this is evidenced by the variety of terms researchers have coined to deal with the mixture of EH 10 and EIP 1 materials in surveys and excavations. In Nazca it is called the Montana Period (Schreiber and Lancho Rojas 2003: 12–13), in Palpa, the Transition Period (Unkel et al. 2012: 2299), and in Ica the La Peña Phase (Cook 1999: 64, 74). Others have referred to Necropolis culture (Bennett and Bird 1949: 140) or the Necropolis phase (García Soto and Pinilla Blenke 1995: 58). While I am in favor of maintaining local nomenclature in regional chronologies, I introduced the term Necropolis Era as an overarching reference to broad patterns evident all over the south coast at this time (Carmichael 2015: 122). In this article I emphasize that the Necropolis Era is strictly a period of time determined by the duration of Nasca 1 pottery. Included in this band of time are local finds which represent any of the N1 wares, cross-date to N1 by similarity or by association, or can be shown to be contemporary with N1 by radiocarbon dating. In the current work, the time span has been increased from 200 to 300 years, with the proviso of a 50 year plus or minus factor.

This article provides a set of definitions for the nomenclature in Table 8. It is not necessary to reference all these terms in every work, only those pertinent to a given topic. In providing definitions I have sought to reintroduce some rigor in our thinking about chronologies. Researchers with differing opinions are urged to clarify their positions in print. The desired outcome is not that we all necessarily agree, but that we all understand what is meant by the terms we use.

Chronology building is an iterative process that outlives its practitioners. The updated Ica chronology offered in Table 8 will surely require adjustments as knowledge increases. For now, its contribution is to provide a means of loosening the original stacked epochs and style phases, while maintaining both. Although this chronology only applies to the Early Horizon and Early Intermediate Period in Rowe's Master Sequence, it provides a model for new ways of envisioning the Middle Horizon and Late Intermediate Period phases and epochs. This article also renews the principles of Rowe's period system, the Ica Master Sequence, and the method of cross-dating, all of which, when properly applied, provide an anchor and framework for our archaeological narratives.

Acknowledgements

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Notes

1 **Culture Area**. A culture area is a spatial entity within which the cultures, like the geography, are by no means uniform, but still have more in common with each other than with groups outside its boundaries. The entire Central Andes can be envisioned as a greater culture area, roughly equivalent to the domains of the Inca Empire, though as Charles Stanish has pointed out, within it are found as much geographic, environmental and cultural variation as one encounters between London and Baghdad (Quilter 2014: 24). With such variety, we can enlist the term in a nested fashion to refer to subdivisions within the greater culture area (e. g. Peruvian north coast, central coast, south coast, far south coast, Titicaca/ altiplano). Our concern here is with the south coast. While there are various definitions, the south coast as a culture area can be said to cover the modern Department of Ica, from the Chincha Valley down through the Basin of the Rio Grande de Nazca (Figure 1). In environmental terms, the northern boundary of the area begins approximately where the extensive fog banks of the central coast end, and sunlight increases dramatically, while at the southern end is a broad expanse of desert separating it from the next cluster of valleys (Silverman 1996: 96). The ancient cultures within this area shared many traits, especially regarding subsistence economies, but were not uniform. Though they maintained trading networks to the north, south, and east, they interacted more with one another within their sphere than with outside groups.

2 Technically, Ocucaje 3–10 only refers to the Paracas pottery in the Ica Valley. This is where the retention of 'epochs' would have been useful (EH 3-10). Presumably, the authors are saying that pottery similar to Oc. 3–10 is found in the Palpa region, not that Ica Valley manufactured pottery is present there.

3 Originally, Dawson used the Teojate (Juan Pablo) site in the upper Ica Valley as his baseline for T1, but later T1 became more closely identified with the early Paracas phases in the lower Ica Valley.

4 Previously, I defined the Necropolis Era as the span of time the Necropolis of Wari Kayan was in use (Carmichael 2015: 121–122). However, while the Necropolis of Wari Kayan is clearly contemporary with N1 pottery through cross-dating, curiously no N1 ceramics are found there, while N1 wares are present in all regions of the south coast. For this reason N1 wares are a better marker for the Necropolis Era.

5 The presence of N2 at the Necropolis of Wari Kayan is dependent on the textile iconography, as there is no N2 pottery at this site. Beginning with the work of Jane Dwyer (1971, 1979), the iconography has always been dated according to Lawrence Dawson's Nasca pottery seriation. Recently, it has been demonstrated that the diagnostic features Dawson used to distinguish N2 also occur in N1 pottery (Carmichael 2015: 144–146). The fancy pottery of N1 and N2 are easily separated by the presence of incisions on N1 and their absence on N2 (in terms of outlining the principal figure). For textiles, the question is how do we separate N1 from N2 in the absence of incisions? I leave that issue to the textile specialists.

6 Their use of 'epoch' in this context was to some extent influenced by my own previous, and ill-advised, use of the term (Carmichael 2013). In the current work, I return to the traditional use of 'epoch' strictly as a unit of time, and add culture phases, which appear to be what Vaughn et al. (2016a) are referring to.

7 Menzel et al. (1964: 9) reference this example to the collection of Lorenzo Rosselló Truel. Rosselló Truel published it in his 1960 monograph, where he attributes it to Ica, by which he is presumably referring to the Department of Ica (Rosselló 1960: 75, 88–89, Lamina XII). The Nazca attribution must have been a personal communication from Rosselló to Menzel and her colleagues.

8 The record is found in Rowe's field notes for 1961 (Notebook 2), on pages 61–65, 99–147. These early pots come from a low area "facing the section of the [Cahuachi] hacienda called Pomito", approximately .5–1 km west of Strong's (1957:14) Great Temple, "where the river is on the south side of the valley". Rowe provides a couple of sketch maps (Figures 2, 3). A small temple or shrine tops the end of a ridge, with four terraces down the front (Figure 4). One of the EH 1 pots was found in a looted cemetery on the lowest flat area in front of this shrine (marked 'A' on Figure 3).

The vessels were found by Duncan Masson and G. Glessner. Rowe saw the pots on 14 July 1961, and two weeks later Duncan Masson guided him to where they were found. Duncan Masson was an educated amateur archaeologist. All of the North American researchers working around Ica in the 1950s and 1960s spoke highly of him, his vast library, and cheerful sharing of information. John Rowe often spent entire days in the field with Masson traveling throughout the Department of Ica. While the discovery of these EH 1 vessels was not under ideal circumstances (no professional archaeologists were present); nonetheless, Rowe had confidence in Masson's reported provenience. Rowe spent a full day with Masson looking over the sites (27 July 1961), which he designated PV69-61 (Masson's ring-based plate), and PV69-63 (Glessner's Chavin-influenced pot). Regarding Masson's ring-based plate Rowe writes, "The ring-base is non-functional on a hard surface, since the base of the plate extends below the level of the ring." The ring had vertical incisions set 2–3 mm apart. Glessner's Chavin-influenced piece (Fig. 5) had "incisions 2 mm wide by .5 mm deep … a pronounced bevel to the rim … and a wall thickness near the base of 4 mm".

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