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# From warless to warlike times in the Central Andes: the origins of institutional war between Moche and Casma Valleys, northern coast of Peru

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The issue of the origins and modalities of war in prehistoric societies is an old and controversial debate. In this article, we focus on the beginning of institutionalized war on the northern coast of Peru at the Pre-Hispanic period using several signifiers of warfare (types and localization of fortresses, specific settlement patterns, type of weapons, among others) through archaeological and iconographic data. We noted that the modalities of institutionalized war vary according the region (between valleys) and the periods (between the Early Horizon and the Early Intermediate Period). Summarizing an significant set of field data (survey of fortresses), chronological markers (ceramics, architecture, etc.) and dates (397 dates), we propose the following scenario: the invasion by an ethnic group bearing a new culture (the so-called "White-on-Red" ceramic tradition) evidenced by innovative cultural features. This intrusion took place during an "Overlap Period" (400 BC-AD 0 depending on the valley) that corresponds to the end of the Early Horizon and the beginning of the Early Intermediate Period. This group provoked confrontation with the ethnics groups already living on the coast, progressively acculturated these populations, and established a "war state."

Keywords: war, fortification, Early Horizon, Early Intermediate Period, northern coast of Peru.

## De la paz a la guerra en los Andes centrales: los orígenes de la guerra institucional entre los valles de Moche y de Casma, costa norte del Perú

*La pregunta de los orígenes y las modalidades de la guerra en las sociedades prehistóricas es un antiguo y polémico debate. En este artículo, nos enfocamos en el inicio de la guerra institucionalizada en la costa norte del Perú a la época prehispánica utilizando diferentes marcadores de la guerra (tipos y localización de las fortalezas, patrones de asentamientos específicos, tipos de armas, entre otros) a partir de datos arqueológicos e iconográficos. Constatamos que las modalidades de la guerra institucionalizada varían según la región estudiada (entre valles), y los periodos (entre El Horizonte Temprano y el Periodo Intermedio Temprano). Sintetizando un importante corpus de datos de campo (prospecciones y reconocimientos pedestres de fortalezas), de marcadores cronológicos (cerámica, arquitectura, etc.) y dataciones (397 dataciones), proponemos el escenario siguiente: la invasión de un grupo étnico vinculado a una nueva cultura caracterizada por la tradición cerámica "Blanco sobre rojo" y a varios nuevos rasgos culturales, durante un período de traslapo (400 a. C.-0 d. C. dependiendo del valle) que corresponde al final del Horizonte Temprano y al inicio del Período Intermedio Temprano. Ese grupo provocó confrontaciones con las populaciones que vivían ya en la costa, luego su aculturación y estableció un "estado de guerra".*

Palabras claves: *guerra, fortificación, Horizonte Temprano, Periodo Intermedio Temprano, costa norte del Perú.*

## De la paix à la guerre dans les Andes centrales : les origines de la guerre institutionnelle entre les vallées de Moche et de Casma, côte nord du Pérou

*La question des origines et des modalités de la guerre dans les sociétés préhistoriques est un débat ancien et controversé. Dans cet article, nous nous sommes focalisés sur les débuts de la guerre institutionnalisée sur la côte nord du Pérou à la période préhispanique en utilisant différents marqueurs de la guerre (types et localisation des forteresses, schéma d'occupation spécifique, types d'armes, entre autres) à partir de données archéologiques et iconographiques. Nous constatons que les modalités de la guerre institutionnalisée variaient en fonction de la région étudiée (entre les vallées) et des périodes (entre l'Horizon Ancien et la période Intermédiaire Ancienne). En synthétisant un important corpus de données de terrain (prospections pédestres des forteresses), de marqueurs chronologiques (céramique, architecture, etc.) et de datations (397 datations), nous proposons un scénario unique : l'invasion d'un groupe ethnique porteur d'une nouvelle culture associée à la tradition céramique « Rouge sur blanc » et à de nouveaux traits culturels pendant une période de recouvrement (400 av. J.C.-0, selon la vallée) qui correspond à la fin de l'Horizon Ancien et début de la période Intermédiaire Ancienne. L'arrivée de ce groupe entraîna une confrontation avec les populations déjà installées sur la côte, puis l'acculturation progressive des groupes anciennement installés, et conduit à l'installation d'un « état de guerre ».*

Mots-clés : *guerre, fortification, Horizon Ancien, période Intermédiaire Ancienne, côte nord du Pérou.*

The origin of war is an old and controversial debate amongst scholars. One common model proposes a systemic relationship between the rise of war, complex societies, and inequality (Arkush and Allen 2006; Arkush and Stanish 2005; Arkush and Tung 2013; Carneiro 1970; Ferguson 2006; Kelly 2000; Pathou-Mathis 2013; Stanish 2001; Stanish and Levine 2011). Others argue that war has always existed, whatever the degree of development of a society (Allen and Jones 2014; Gat 2017; Guilaine and Zammit 2005; Keeley 1996; Lambert 2002; Leblanc and Register 2003); for his part, Otterbein (2004) contends that war existed during the Palaeolithic, but disappeared during the Neolithic, reappearing later with the emergence of the first states. These differences are probably due to distinct definitions of the concepts of violence and war and, accordingly, distinct perceptions of the presence or absence of war in most prehistoric societies (Scherer and Verano 2014). It is thus important to address these differences and define what we mean here by "institutionalized war" and its difference with "primitive war" (Turney High 1991 [1949], among others).

We have focused our study on the northern coast of Peru, particularly the six valleys of Moche, Virú, Chao, Santa, Nepeña, and Casma, because some of the most well-known anthropological theses on war, such as those of Carneiro (1970) and Haas (1987), were partly based on Central Andean Area Prehistory and even specifically on some of these valleys. Most studies have been restricted to specific valleys (Billman 1999; Daggett 1984, 1987; Ikehara 2016; Topic and Topic 1978, 1987, 2009; Wilson 1988). There exist only a few macroregional studies concerning Peruvian Pre-Columbian wars: Lumbreras (1980), Rawls (1979) and Arkush and Tung (2013). For these reasons, we have tried to synthesize our predecessors' work and test their hypotheses, both through the documentation and in the field, filling in certain gaps and resolving some inconsistencies.

## RESEARCH QUESTIONS AND OBJECTIVES

In the Central Andean Area, the emergence of war has been dated to very different periods, depending on the different authors' definitions of war (Table 1). Existing models of pre-Columbian Andean war remain somewhat unsatisfactory, especially with regard to the distinctions made between ritual and real/total war, and their technological backgrounds (Arkush y Stanish 2005; Makowski 1997; Nielsen and Walker 2009; Verano 2014, for the general issues). Thus, a new conceptualization of Andean war is necessary. Beginning with the more

| | Chronological period | | | | |
|---|---|---|---|---|---|
| **Scholars** | **Preceramic** | **Initial Period** | **Early Horizon** | **Early Intermediate Period** | |
| | | | | **W/R tradition** | **Gallinazo/Mochica** |
| Aldenderfer 2005; Kaulicke 1999; Topic 1989; Topic and Topic 1987 | | | | | |
| Burger 1988; Otterbein 2004; Pozorski S. and T. Pozorski 1987; Rawls 1979 | | | | | |
| Daggett 1984, 1987; Lanning 1967; Lumbreras 1980; Moseley 2001; Stanish 2001; Wilson 1988 | | | | | |
| Burger 1992; Canziani Amico 1989; Collier 1955; Lanning 1967; Patterson 1971; Topic 1982; Willey 1953 | | | | | |
| Bonavia 1991; Haas 1987; Makowski 2002 | | | | | |

Table 1. The rise of warfare according to various scholars (© V. Chamussy).

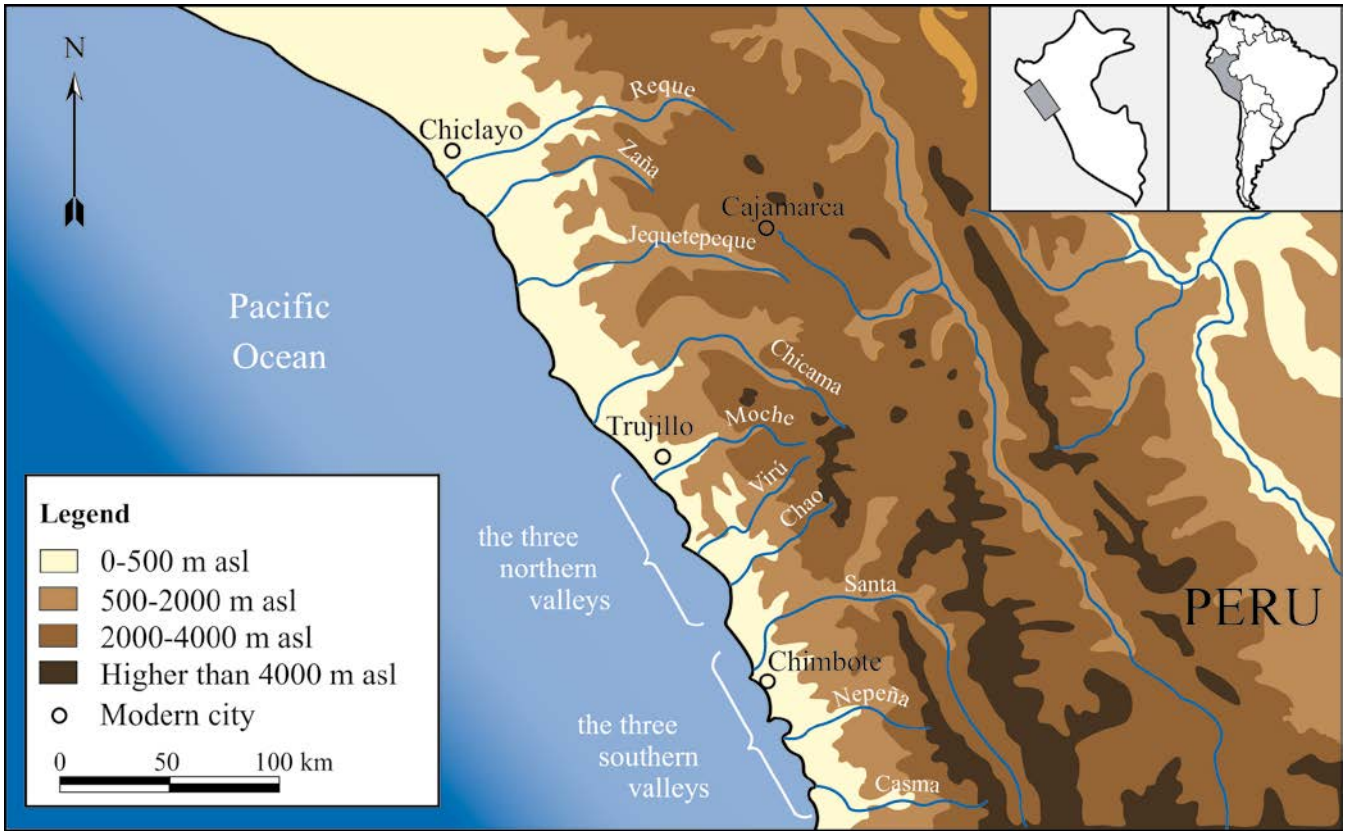



Figure 1. Map of the Peruvian northern coast with the locations of the six valleys studied from Moche to Casma (© N. Goepfert).

specific and detailed definition of institutionalized war presented below, we address how this process began on the north coast of Peru.

After carefully scrutinizing the existing documentation for the Central Andean Area, we argue for the strong likelihood that institutionalized war began on the northern coast of Peru (Figure 1) during a specific Overlap Period that spanned the late Early Horizon and the beginning of the Early Intermediate Period. This model implies there is no artificial break between two periods. Indeed, the investment implied by the construction of numerous massive fortifications in inaccessible places indicates a population's perception of a threat from potential aggressors (Brown Vega 2016: 158-163; Vencl 1999: 67). The subsequent reoccupation of these fortifications implies an attack by the aggressors and a defeat of the aggressed who had built these fortresses. This process has been previously proposed by various scholars (Collier 1955; Ghezzi 2006; Topic and Topic 1997; Willey 1953; Wilson 1988, among others). Nevertheless these authors have exclusively assumed it was the result of internal wars between local groups of the same culture.

We test this hypothesis by carrying out a comparative and diachronic overall survey of six valleys (2004-2006): the three valleys of Moche, Virú and Chao, hereafter called "the three northern Valleys," and the three valleys of Santa, Nepeña and Casma, "the three southern Valleys" (Figure 1). Our work entails comparing isolated and sometimes divergent data from each of the six valleys by reviewing the fortresses and other significant sites and assessing the information given by our predecessors.

This work suggested to us an additional issue that which we endeavor to demonstrates: the warfare detected in these valleys was caused by the arrival of new ethnic groups from the north, bearers of the so-called "White-on-Red" culture-style (hereafter called W/R; Willey 1945, 1948; Bennett 1946). This culture-style includes Cajamarca 1 and 2, Layzón, Salinar, Puerto Moorin, Patazca, Huaráz, San Blas, Baños de Boza, which gradually replaced the former Early Horizon traditions. This arrival is concomitant with a cultural shift, highly visible in ceramic morphology and decoration, iconography, architecture, funerary practices, metal work, etc. To sum up, we try in this article to present a unique scenario for the rise of institutionalized war on the northern coast of Peru, a process that emerged in this region before the development of state level societies, and which is linked to the spread of a new cultural tradition during our proposed Overlap Period.

## METHODOLOGICAL APPROACH

### Primitive vs. institutionalized war

To define such polysemous concepts as violence and war is a complicated task (Castro-Martínez et al. 2016;

Garcia-Piquer and Vila-Mitjá 2016: ix-xv; Tantaleán and Gonzales Panta 2013). We will not list the countless different definitions of war and their implications, discussed elsewhere (Chamussy 2009: 35-47). Violence and warfare are often justified by reasons seen as vital by the societies who carry them out: human sacrifice to avoid the gods' anger and/or to gain their goodwill, and warfare to increase living space and/or defend territory. First, we would like to emphasize that the difference between violence and war is not only semantic but also ontological: warfare always implies violence, but violence is not war; they do not imply the same dynamics or the same logic (Semelin 1983: 25; Warburton 2006: 38, 50, 52). For instance Kelly (2000: 75) demonstrates that there is no covariance between interpersonal violence and war, and that the development of the latter entails the institutionalization of practices governed by a distinctive social logic. According to Descola (2005), ceaseless "Jivaro" warfare was not proof of intrinsic violence, but was a social mechanism necessary to preserve solidarity. The same concept is conveyed by Clastres (1997 [1977]: 62) and Héritier (2005 [1996], t. 1: 32). Bischof (2005: 67) defines violence as the use of physical strength against persons, whatever its modalities and motives, and war as the institutional framework in which violence is organized to benefit the strategic interests of a political entity. He considers that the aim of war is the conquest of arable lands, and not ritual fights between interethnic groups (ibid.: 68). For his part, Ferguson (1984: 5) clearly distinguishes between the formal aspect of violence and the institutional aspect of war.

According to another often quoted definition, societies are divided between "warless societies" and "warlike societies" (Fry 2006; Kelly 2000), a difference which prompted the title of our article. Incidentally, Otterbein (2004), quoting Kelly, substitutes "warless societies" with "peaceful societies," but there is a significant distinction between "peaceful societies," ideal societies where violence does not exist, and "warless societies" where interpersonal or internecine violence does exist, but without resulting in warfare.

The conceptualization of what we call the "institutionalization of war" underscores the difference between individual and collective violence on one hand and warfare on the other. We contend that individual violence attested to by injury to a single body, and intra/inter-group violence such as taking heads as trophies, human sacrifices, raids to seize booty or women (Ferguson 1997; Keeley 1996), blood feuds (Carneiro 1994: 6; Helbling 2006: 115), or individual and/or collective revenge (Otterbein 1996), do not epitomize institutionalized war. This does not imply that these kinds of violence do not exist in parallel with institutionalized war. Two anthropologists, Reyna (1994) and Sponsel (2000), respectively specialists in war and peace, contend that collective violence carried out by egalitarian societies should be conceptually considered as different from warfare carried out by centralized political entities such as complex chiefdoms (Ferguson 2006). Indeed the rise of war depends on where one places the cursor: if one excludes intra-group and inter-group violence such as murders, raids, skirmishes and feuds, and relies on Kelly's seven criteria defining war (2000: 4-7, tab. 1), warfare was probably absent among hunter-gatherers and in early farming and fishing groups.

Thus we argue that the difference between warless and warlike states is not one of degree, but a conceptual and ontological difference between intra and inter-personal conflict and collective violence on one hand, and institutionalized war on the other hand (Sponsel 1998: 106-108). The latter was already defined more than fifty years ago by Malinowski (1964), who made the distinction between "fighting" among primitive groups, and modern war leading to conquests and resulting in the rise of military and political structures.

The three main characteristics of institutionalized war, which give it an ontologically different status from primitive war are: a political act, a military organization, and a combination of strategy and tactics.

It is a political act—conquest or defence of territory (Carneiro 1994: 12)—, i.e. an action carried out in the name of a common interest by organized hierarchical political entities, and not an individual act carried out for individual reasons: prestige, revenge, jealousy, plunder and the abduction of women.

It is performed by a "military organization" (Otterbein 2004: 4) specific to a political entity (Ferrill 1997), which does not exist in "egalitarian groups." This does not imply the existence of a permanent army or of professional soldiers, although some scholars emphasize the necessarily professional aspect of institutionalized war, but it does imply trained warriors. Nevertheless the setting up of a professional army may have an effect on the rise of complex societies, in so far as it increases the need to create a surplus to feed and fit out these warriors. Although it is not a prerequisite, it implies at least a strong leadership able to impose tribute demands, to fund the inevitable logistical requirements of institutionalized war: infrastructure, finance, food and weapons stocks, munitions, and so on (Arkush and Allen 2006).

It is a combination of strategy and tactics, using some forms of primitive war: raids, ambushes and pitched battles, but under no circumstances can institutionalized war be limited to these tactics. To recap, institutionalized war is not more developed primitive war but is something else altogether. In the Andes, it is also customary to oppose "actual war" to "ritual war" (Arkush and Stanish 2005: 10; Brown Vega 2016; Redmond 1994) on the basis of two models, the so called "tinku" known by Inca times and still practised in some places (Alencastre and Dumézil 1953; Gorbak, Lischetti and Muñoz 1962; Molinié Fioraventi 1988; Platt 1977), and Mochica warfare represented on numerous vases, as well as the recurrent iconography of the Great Priest being offered the blood of the defeated warrior (Donnan 1976).

Among the issues we address, two are of particular importance for the Andinists. We argue that institutionalized war was absent from the Central Andes for thousands of years, up to the end of the Early Horizon, although we do not contend that this phenomenon is universal and applies in other parts or periods of the world. Furthermore the beginning of complexity and the rise of inegalitarian societies may be dated to the rise of a theocratic society in the Late Preceramic and eventually in the Initial Period and the Early Horizon. Thus emergence of war is not the outcome of the rise of complex society, and reciprocally, the rise of war did not lead to or facilitate the creation of the state. Finally, as Ferguson (2006: 504) writes: "war as regular practice, war as social institution, had a beginning." Indeed it is that beginning that we will endeavor to find through archaeological evidence on the northern coast of Peru.

## Signifiers of warfare

For this study, we used a hermeneutic and semiological approach (Foucault 2000) that aims to point out the signifiers of warfare through archaeological and iconographic data. The signs of warfare most frequently quoted by anthropologists and archaeologists (Chamussy 2009: tab. 4) are the following fifteen types: defensive structures such as fortresses and strongholds, "great walls," walls obstructing access to dry ravines, palisades, look-outs, dry moats and ditches; strategic locations (hilltops, ridge tops, centers of communication and exchange); line-of-sight connections; offensive or defensive weapons (munitions, throwing or thrusting weapons, armor and helmets, shields, rams, banners, musical instruments); settlement patterns (clusters of residential sites, buffer zones); short-lived site occupation; traces of violence-related injuries (Pacheco, Retamal and Méndez-Quirós 2016); battlefields; warrior tombs; traces of massacres; deliberate destruction or burning of sites; human sacrifice, severed heads or trophy heads; cannibalism; arms caches; iconography of war representing one or several of the previous features.

Among these fifteen signifiers of warfare, we retained those found more frequently in the period and region studied: defensive structures, settlement patterns, strategic locations and clear lines of sight, weapons and iconography. Among those, defensive structures and settlement patterns are our primary archaeological evidence and are also considered the most significant by several scholars (Arkush and Allen 2006; Rawls 1979; Topic and Topic 1987: 48). Weapons are taken into account when found, but they are scant in the archaeological record, given the almost total lack of stratigraphic excavations of fortresses and their surroundings. Furthermore there always exists a doubt as to their purpose: war, hunting or tools (Chamussy 2012, 2014). The other signifiers did not exist in sufficient numbers to be significant. In short, one of our major tasks has been to identify, interpret and date the fortifications and defensive networks (fortresses, protected residential sites, minor fortresses, lookouts and walls protecting the valleys), settlement patterns, weapons and warfare iconography.

## Chronological markers

The duration of the specific Overlap Period has been estimated on the basis of the settlement pattern shift, architecture, ceramic decoration. For this, we use eleven selected Phase-markers which are summed up in Table 2.

Circle and Dot decoration (hereafter called C&D; Daggett 1984: fig. 5.1; Wilson 1988: 369), with its incised or stamped variants—with one or two concentric circles, often together with a double S sign—is an indisputable marker of the end of the Late Early Horizon in the North Central Area (Burger 1988: 107). Cross Hatch Pattern Burnished decoration (hereafter called CHPB; Wilson 1988: 373-374), characterized by a group of hatched lines made with a blunt instrument on the clay while still wet, and corresponding to Ancón Fine Line Incised, is assigned to the Late Guañape Period (Collier 1955; Strong and Evans 1952) and thus indisputably to the Late Early Horizon. The CHPB is found on Early Horizon bowls pretty well all over the Andes.

| **Chronological markers** | **Early Horizon (EH)** | **White-on-Red (EIP)** |
|---|---|---|
| Megalithic architecture | | |
| Circle and Dot (C&D) | | |
| Cross Datch Pattern Burnished (CHPB) | | |
| Irregular field stone architecture | | |
| White on Red paint (W/R) | | |
| Pattern Burnished (PB) | | |
| Fabric impressions | | |
| Polished stone points | | |
| Ceramic flute *(antaras)* | | |
| Straight-necked jars with large handles | | |
| Large jars *(tinajas)* | | |

Table 2. Chronological markers of the Early Horizon and Early Intermediate Period (© V. Chamussy).

| | Valleys | | | | | | Northern Highlands | |
|---|---|---|---|---|---|---|---|---|
| **Chronological periods** | Moche | Virú | Chao | Santa | Nepeña | Casma | Ancash region | Cajamarca region |
| Early Intermediate Period (EIP) | Salinar | Puerto Moorin | – | Vinzos | White-on-Red | Patazca | Huarás | Layzón |
| Early Horizon (EH) | Late Guañape | Late Guañape | – | Cayhuamarca | Samanco Nepeña | Pallka | Janabarriu | Huacaloma Tardio |
| Initial Period (IP) | Early and Middle Guañape | Early and Middle Guañape | – | – | Cerro Blanco Huambacoyan | Moxeque | Urubarriu | Huacaloma Medio |

Table 3. Correspondence of ceramic styles for the valleys and periods studied (© V. Chamussy).

Pattern Burnish decoration (hereafter called PB) is a light pressure burnishing or line lustring that leaves small irregular groves. It is one of the diagnostic characteristics of the Early Intermediate Period's first Phase (W/R) (Brennan 1978; Collier 1955; Ford and Willey 1949; Wilson 1988). It is often difficult to see the difference between Guañape Red Plain, specific of the Guañape Period, on the one hand, and Huacapongo Polish Plain (hereafter called HPP), and Pattern Burnish on the other, both specific of the W/R Phase. Furthermore, among several archaeologists, there is a very common confusion between Cross Hatch Pattern Burnishing (CHPB) and Pattern Burnished (PB). As they belong to two different chronological periods this confusion leads to chronological errors, as will be pointed out in the part dedicated to the Nepeña Valley.

Fabric impression decoration achieved by applying a textile on the clay, while still wet, is also a specific marker for the beginning of the Early Intermediate Period (Bischof 2009; Conklin 1978).

Polished stone points (daggers or hafted onto javelins or thrusting spears) are a strong diagnostic marker of the W/R Phase, although disputed by some scholars due to their ignorance of the Overlap Period. There are recorded from the Huamacucho highland to the Lurín Valley (Brennan 1978; Giersz and Prządka 2009; Ikehara and Chicoine 2011; Matos and Ravines 1980; Mujíca 1975, 1984; Pérez Calderón 1998, among others).

Ceramic panpipes with four or five tubes *(antara)* are also a strong diagnostic marker of the W/R Phase on the northern coast. Everywhere ceramic panpipes replace bone or wooden *antaras* (Chicoine 2006; Daggett 1984; Pozorski S. and T. Pozorski 1987).

Straight-necked jars with vertical or horizontal handles, and large buried jars or storage jars called *tinajas* in the Andes, are also characteristic of this period. One example is the huge Huacapongo Polish Plain *tinaja* (height = 1-1.2 m, diameter = 60 cm) found in Puerto Moorin levels at the site V-272B (Collier 1955: 83-84).

## Radiocarbon dates

After classifying the data according to the eleven selected Phase-markers defined above, we have tried to crosscheck them with absolute dates. We have not taken any new samples for radiocarbon analysis but have calibrated all the available radiocarbon dates published by the scholars (see Appendix 1) with Calib Rev 7.0.0 software (Stuiver and Reimer 1993). The synthesis per period and valley allows us to discuss the period at the beginning of institutionalized war and the problem linked to the Overlap Periods.

## Ceramic styles among the six valleys

We are studying a process based on a century of archaeological surveys and excavations and using a very diverse ceramic terminology. In order to discuss and compare these variations at a regional level, we provide a table which synthetizes the different ceramic styles names per period and valley (Table 3).

## Description of the various types of fortification

Three very different types of fortresses are present in the study area. The first type is the Megalithic fortresses (Figure 2). They are all located in a high position, between 100 and 700 m above the valley floor (average 300 m) and between 0.5 and 3.5 km from the valley floor, of difficult and restricted access. They provide an excellent viewshed and are generally in line of sight with one another, enabling rapid communication when the enemy is approaching. The outer walls, 1 to 2 m wide and 2 to 4 m high, are built of large rough-edged stones, fitted together with smaller chinking stones. In the center of the structure, a second enclosure (sometimes divided into cells) is present, likely serving as a residence for the elite and/or a ceremonial or religious centre and/or stores for weapons, food and valuables. Large bastions of about 2 x 4 m, as high as the walls, flank them on the outer corners or on the sides of the outer wall. Few gates, with restrictive access, often of the baffled or staggered type, were once fitted with stone or wooden lintels, today lying on the ground.

Outstanding examples are the Chankillo fortress (Casma Valley), which retains in place its stone-covered *algarrobo* lintels (a specie of carob, *Prosopis pallida*), and the Paredones megalithic compound (Nepeña

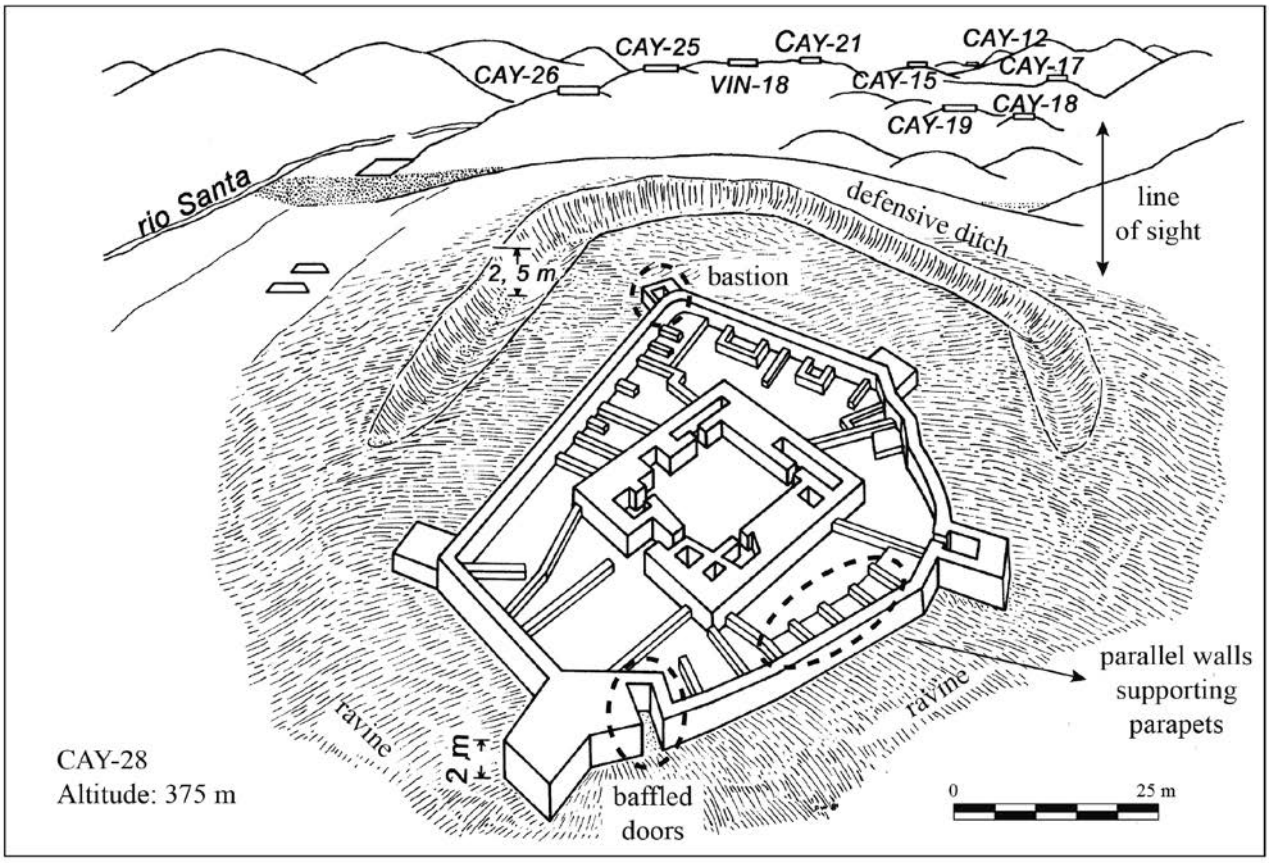



Figure 2. Early Horizon Fortress (CAY-28) in the Santa Valley (modified after Wilson 1988: fig. 41).

Valley), which retains one large stone lintel in place. Parapets are not commonly found today, but the inner area often includes walls perpendicular to the external wall, which could have supported a guard walk made of perishable material, thereby creating a parapet (with the exception of Chankillo, whose parapet and access stairs are made of stone). One or more dry moats defend the gently sloping and more easily climbed ridges that give access to the fortresses. On the fortress side, these dry moats are completed by stone and earth walls (probably the infill from the dry moat). These fortresses could shelter between 50 and 350 people and thus did not provide refuge for the whole population. We have found evidence of residential areas close to the fortresses, but they are usually located on the valley floor near the agricultural fields. The distance from the valley floor and the absence of nearby springs do not, intrinsically, pose a problem, as the distance from the valley is not great enough to prevent supplies of water, wood and food being brought in by able-bodied carriers. Moreover, strategies of the period probably did not include the protracted siege of a fortress.

The second type of fortress (Figure 3, following page) is quite different and corresponds to the so-called "fortified strongholds or places of refuge" described by Willey (1953). They are often positioned higher up—sometimes 1000 m above the valley floor—and are somewhat more rudimentary, built with irregular field stones, and without parapet or baffled entrances. They are also much larger and able to provide refuge to entire villages—unlike those of the first type, which in ordinary times could only provide residence for the elite and a small garrison. This underlines a significant difference in strategies between the builders of the two different types of fortresses.

The third type is a minor fortress (Wilson 1999: 369), simple terraces surrounded by small walls and dry moats. They are characterized by their remote position on high ridges and by dry moats across slopes or ridges of easier access.

Lookouts are small one-room structures located on hilltops allowing observation of a wide area (Billman 1996: 98), sometimes without visible architecture, but with traces of occupation such are hearths or ceramics.

Protected residential sites are dwelling sites located in a defensive setting and with some form of defensive architecture (Billman 1996: 96).

Strikingly, megalithic fortresses are a hallmark of the Late Early Horizon and are only present in the three southern valleys. The second type fortresses are a hallmark of the W/R Phase. Minor fortresses, lookouts and protected residential sites are present during both Phases.

## REAPPRAISAL AND RESULTS

### The Preceramic: a warless Period

During the Preceramic Period, although many preceramic sites are spread over the northern coast of Peru (Billman 1997; Bischof 2009; Cárdenas Martin 1999;



Figure 3. Fortified stronghold of Cerro de la Piña (PV-132) in the Virú Valley (© V. Chamussy).

Proulx 1968; Willey 1953; Wilson 1988, among others), we did not find any evidence of warfare. The sites are located either on the coast, or in the middle or the "piedmont" of the valleys. They are not defensive, or fortified: no fences, ditches or walls were found around them. There are no weapons, no clusters of residential sites, no buffer zones, no warfare iconography, only esoteric and hunting displays iconography. No evidence of lethal traumas was found in the numerous burials of this Period (Chamussy 2005). Indeed, Wilson (1988) Billman (1997) and Rawls (1979) stress the total lack of evidence for war during the Preceramic Period.

In the Moche Valley, among the lithic workshop of the Paiján phase (8000-6000 BC; Ossa 1973; Briceño Rosarío 2004), the only weapons are Paiján points referred to as harpoon heads (Chauchat et al. 1992) or hunting points (Gálvez Mora and Quiroz Moreno 2008). Alto Salaverry (Pozorski et Pozorski 1977, 1979) and Padre Alban (Pozorski S. 1976) are only modest fishing villages dating to the Final Preceramic (2500-1800 BC).

In the Virú Valley, the rather sparse sites such as V-71 (Huaca Prieta de Guañape), V-314 ou V-315 (Bird 1948; Willey 1953) revealed no weapons, fortifications or traces of trauma for the human remains.

In the Chao Valley, there are many preceramic sites, most of them located on the south bank of the river. The more important site is Salinas de Chao (2333 to 1132 cal. BC; Alva 1986; Cárdenas Martin 1995, 1999) showing no signifiers of warfare. It has to be noted that this site is clearly Preceramic, while radiocarbon dates assign it to the Initial Period (Appendix 1).

In the Santa Valley, a similar pattern is found with the circular court at Pampa Yolanda. The lay-out is clearly Preceramic, but with an Initial Period radiocarbon date (1634-1306 cal. BC). Wilson (1988: 91) notes that "no defensive works such as walls and ditches were found in or near preceramic sites in the region," and all the known data suggest the absence of external threat (ibid.: 98). Two exceptions would be the Ostra and Caleta Catalán preceramic sites, located on either side of the mouth of the Santa river: Topic (1989), and Chamussy (2009) found walls and round stones protecting preceramic villages that specialized in shellfish collection. Moseley (1975) suggests that the Preceramic groups exercised a kind of monopoly on the resources of their neighboring territory, and thus we assume that in both cases, the inhabitants were trying to protect their fishing areas against raids that were—as argued in the introduction—not institutionalized war.

In the Nepeña Valley, the fishing site of Los Chinos/Las Salinas PV-208 (Proulx 1968: 138; Proulx 1973: 12), is to date the only known preceramic site and does not show any defensive system. Although there are no radiocarbon dates, the two first phases of the ceremonial site of Punkuri are now dated to the Final Preceramic (Bischof 2009: 13). It appears to have served as a peaceful sanctuary dedicated to pilgrimages.

In the twin Casma/Sechín Valley, Malpass (1991) found four paijan sites (8000-5000 BC) close to the sea (Mongocillo and Campanario) and on the top of the Cordillera Negra (Huachanmachay and Tecliomachay). They yield numerous lithic tools but no hunting weapons.

Sechín Bajo (Bischof 2009; Fuchs et al. 2009), Las Haldas (Bischof 2009) sites are huge ceremonial sites without fences. The two first phases of Cerro Sechín (including the monoliths enclosure) are currently also dated to the Final Preceramic (Samaniego 1995; Bischof 2009), as is the Huaca Moxeque (Bazán Peréz 2010: 226).

In sum, the total lack of evidences for conflict (no weapons, no fortifications, no war iconography, etc.) in these six valleys during the Preceramic allows us to confirm the absence of war during this period as argued by the scholars who have excavated in these valleys or in other regions such as Caral and Norte Chico (Haas, Creamer and Ruiz 2004, 2005; Shady Solis 2006), and more generally in the Andes (Arkush and Tung 2013).

## Warless culture in the three northern valleys (Moche, Virú, Chao) during the Initial Period

In the Moche Valley during the Guañape Period (Initial Period and Early Horizon; Table 2, next pages) there are numerous ceremonial and residential sites, such as the Caballo Muerto complex and Huaca Los Chinos. Significantly, none of the signifiers of war listed above are found there. This leads us to assume that there were no conflicts between coastal and/or valley groups in the Moche Valley, as also stressed by scholars who surveyed this valley (Billman 1996; Pleasants 2009; Pozorski T. 1982).

The Virú Valley was the object—from 1946 to 1948—of the first settlement pattern study in Peru by a multi-disciplinary team (Bennett 1950; Bird 1948; Collier 1955; Ford and Willey 1949; Strong and Evans 1952; Willey 1953). For the Guañape period, the Virú Project members and their successors did not find any trace of conflict.

In the small Chao Valley, the two main Initial Period ceremonial sites, Tizal (Huapaya Manco 1977-1978) and Cerro Cabra (Cárdenas Martin 1998), both located on the north bank of the river, are neither fortified nor defensive.

We may thus conclude that the three northern valleys remained in the warless state of the previous Preceramic period. South of the Chao Valley, the situation is definitely more complex: the first fortifications, weapons, buffer zones and clusters of residential sites emerged during the Late Early Horizon in the Santa, Nepeña and Casma/Sechín Valleys.

## The rise of institutionalized war in the three southern valleys (Santa, Nepeña, Casma)

### The Santa Valley: inter-, intra-valley conflicts or invasion?

The coastal valleys of Peru having been used as an example by Carneiro (1970) in his well-known theory of war arising in circumscribed environments, Wilson (1987, 1988) wanted to test this theory in the Santa Valley. He carried out a very detailed settlement pattern survey in the lower and middle valley (Figures 1 and 4, following page), and argues repeatedly that he found no intra-valley (as it should be according to Carneiro's theory), but rather inter-valley warfare. He argues that the danger came from the south, and points to the Casma/Sechín Valley as the potential foe. To date none of the some forty existing fortresses surveyed by Wilson, has been *ex professo* excavated, a fortiori radiocarbon dated.

Wilson (1983, 1987, 1988, n.d.) strictly follows the Virú Project chronological definitions and ceramic ranking. He defines a Cayhuamaca (CAY) Period (1000-350 BC), covering the three Guañape Phases, followed by a Vinzos (VIN) Period (350 BC-AD 0) covering the Puerto Moorin Phase (Table 2, following pages).

In our survey, we found 17 fortresses of the first type of the CAY Phase (Figure 4 and Table 4, following pages) all located on the southern ridges of the middle valley. They are all in line of sight, and guard the dry ravines descending from the southeast highland. This is consistent with the concept termed "strategic defense" or "defense in depth" (Keegan 1993). Further downstream, the valley was neither occupied nor defended during the Early Horizon (Wilson 1988).

All these megalithic fortresses share the characteristics described above. Given their similarities, we shall only describe the fortress CAY-47 (Figure 5, following pages), among the most interesting and largest fortified sites of this period.

CAY-47 is situated 210 m above the valley floor, on the long summit ridge of an isolated massif between the Santa River and a broad *pampa* near the village of Vinzos. It is 240 m long and 70 m broad at its widest point, with a population estimated by Wilson at a maximum of 125. Two continuous parallel defensive walls constructed in large *wanka pachilla* (block and spall; Wilson 1988) surround the fortress itself. Passing the first wall, via a direct access from the east or another from the west, one penetrates inside the second enclosure, with a height varying from 2 to 4 m, through one of the two baffled doors respectively located at both ends. Above this second wall rises the fortress itself. It is entered in its western part through a single baffled door, while at the eastern end there is a bastion. The fortress itself is divided by low walls into three parts. The western part is divided into cells too small to be living quarters: they were probably food stores (we found several mortars and pestles nearby, as well as traces of hearths). Many small round stones were arranged in regular piles spaced a few meters apart along the ramparts (Figure 6, following pages). The fortress protected three villages located at the foot of the hill.

Protected residential sites such as CAY-38 and CAY-39 (located east of Vinzos on a crest 300 m above the valley), clearly have a defensive character (Figure 4). The residential structures are half buried, aligned along a flight of stairs leading to the top of the hill and interspersed with redoubts. A large wall on the hillside surrounds the

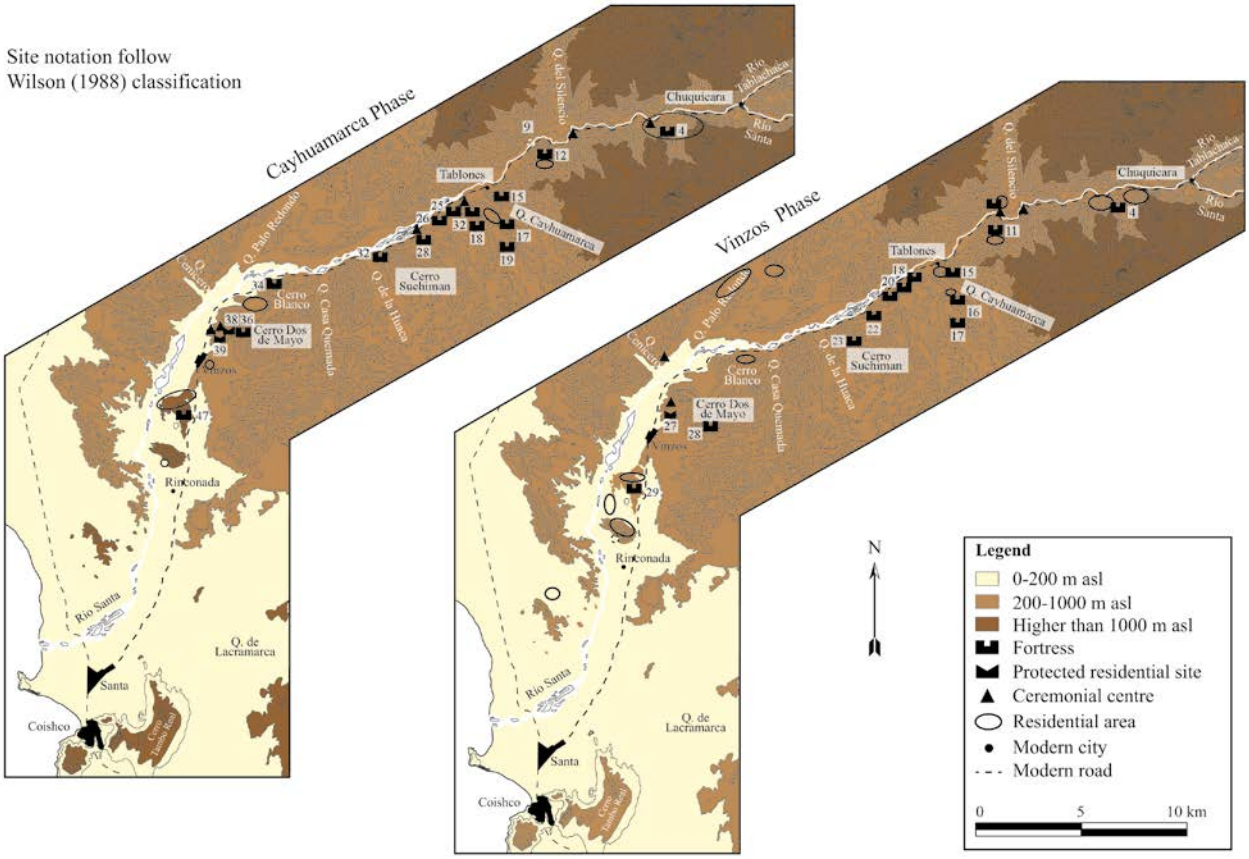



Figure 4. Locations of the fortresses in the Santa Valley at the Cayhuamarca and Vinzos Phases (© V. Chamussy and N. Goepfert).

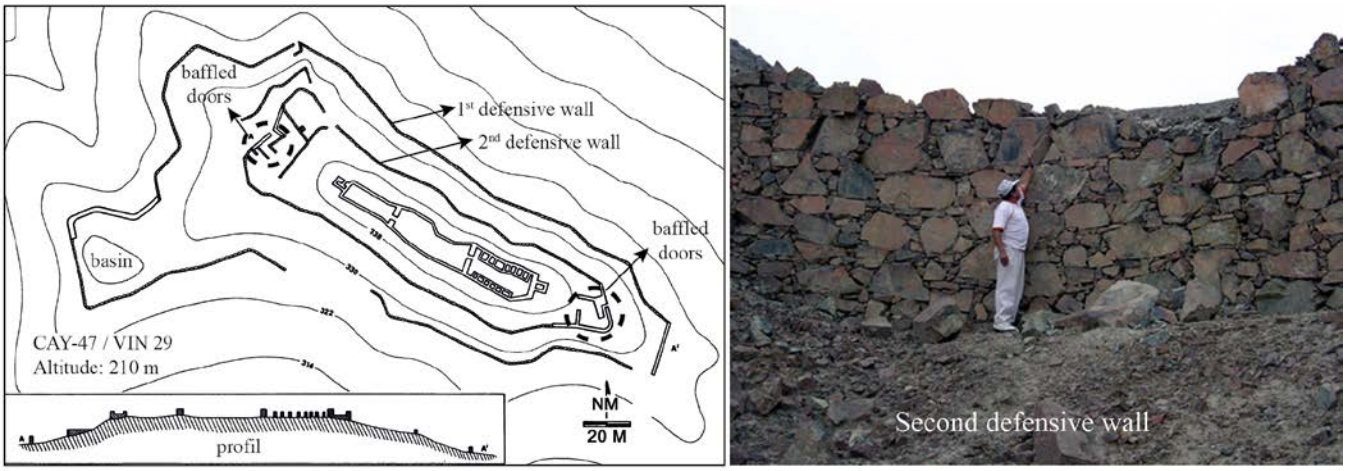



Figure 5. Fortress CAY-47 in the Santa Valley: (left) drawing of fortress (modified after Wilson 1988: fig. 49); (right) *Wanka pachilla* (block and spall) type wall (© photo by V. Chamussy).

| Wilson's ordering chonology | | Chamussy's ordering chronology | | Characteristic | | |
|---|---|---|---|---|---|---|
| **CAY** | **VIN** | **CAY** | **VIN** | **Altitude (m asl)** | **Altitude/valley (m)** | **Shape/dimensions (m)** |
| CAY-4 | VIN-4 | CAY-4 | VIN-4 | 500 | | 50 x 20 |
| CAY-9 | VIN-9 | | VIN-9 | 435 | | 100 x 80 |
| CAY-12 | VIN-11 | CAY-12 | VIN-12 | 630 | | 93 x 72 |
| CAY-15 | VIN-15 | CAY-15 | VIN-15 | 680 | 380 | ellipse/200 x 50 |
| CAY-17 | VIN-16 | CAY-17 | VIN-16 | 590 | 175 | 90 x 68 |
| CAY-18 | | CAY-18 | | 570 | 155 | 25 x 12.5 |
| CAY-19 | VIN-17 | CAY-19 | VIN-17 | 510 | 250 | 80 x 80 |
| CAY-21 | | CAY-21 | | 610 | 300 | 86 x 40 |
| CAY-23 | VIN-18 | | VIN-18 | 540 | 250 | ellipse/210 x 72 |
| CAY-24 | | | | 350 | 50 | 50 x 47 |
| CAY-25 | VIN-20 | CAY-25 | VIN-20 | 540 | 250 | circular/57.5 x 56 |
| CAY-26 | | CAY-26 | | 460 | 150 | hexagon/84 x 71 |
| CAY-28 | VIN-22 | CAY-28 | VIN-22 | 375 | 100 | ellipse/68 x 23 |
| CAY-31 | VIN-23 | | VIN-23 | 855 | 560 | 105 x 65 |
| CAY-32 | | CAY-32 | | 425 | 185 | 150 x 60 |
| CAY-34 | | CAY-34 | | 580 | 380 | 200 x 25 |
| CAY-36 | | CAY-36 | | 530 | 350 | trapeze/65 x 28 |
| CAY-36 | | CAY-36 | | 530 | 350 | 85 x 25 |
| | | CAY-38 | VIN-27 | 400 | 300 | |
| | | CAY-39 | | 360 | 300 | |
| CAY-40 | VIN-28 | | VIN-28 | 850 | 700 | 238 x 130 |
| CAY-47 | VIN-29 | CAY-47 | VIN-29 | 340 | 210 | 240 x 70 |

Table 4. List and characteristics of Santa Valley fortresses and defensive sites (© V. Chamussy).



Figure 6. Accumulation of small round stones for slingshots at the CAY-38 site (© photo by V. Chamussy).

complex, and bastions are spaced out along the wall. We found a large pile of sling stones on the site CAY-38.

During the VIN Period corresponding to the W/R Phase, we found nine reoccupied fortresses of the first type and four new fortresses of the second type (Figure 4 and Table 3). We argue that the fortresses dated to the CAY were built by the local populations to defend themselves against newcomers from the east (Huarás) and were eventually occupied by the newcomers. For the first time, armed confrontation is clearly attested during the chrono-cultural Overlap Period (Figure 2).

Taking into account the very specific location of the fortresses, our preliminary conclusion is that there was neither intra-valley (Carneiro) nor inter-valley war (Wilson), but that the local polities wanted to protect themselves against threatening groups coming from the *sierra*, from the Callejón de Huaylas where the W/R culture was emerging. Indeed, of the thirteen known Huarás Phase radiocarbon dates in the Callejón de Huaylas (Lau 2002-2004: 180; Appendix 1), seven fall between 800 and 200 BC (Chavín, Chunta Ranra Punta, Guitarrero Cave and Queishah Alto), attesting that this group was settled in the Callejón de Huaylas and Conchucos (Mosna Valley) long before its arrival in the coastal valleys. The archaeological evidence of this process is even stronger in the Nepeña and Casma Valleys.

## The Nepeña Valley: warlike Chavín polity, intra-valley conflict or invasion scenario?

Proulx (1973) makes a strong case for a warlike and conquering Chavín Polity which would have invaded the Nepeña Valley during his Early Horizon (Chavín long chronology 1300-400 BC). For his part, Daggett (1987) assumes that, in his Phase 2 of the Early Horizon (Burger Chavín/Janabarriu chronology 390-200 BC), an intra-valley conflict developed between the Moro Pocket (a rich agricultural plain formed by the widening of the valley where the Loco, Jimbe, and Salitre rivers meet; Figure 7) and the upper valley (Salitre and Jimbe, that gives access to the Callejón de Huaylas), which would explain the rise of social complexity according to the Carneiro's theory.

All the fortresses surveyed (but not excavated so far) that dated to the Early Horizon (Figure 7 and Table 5) were protecting the Moro Pocket. They are also located at the valley entrances or higher up in the valleys leading to the highlands, with the exception of Quisque, located downstream. The upper valleys are likely to contain other fortresses, but because of the lack of exploration, this part of the valley remains *terra incognita*. Nevertheless Daggett (1984) reports the sites of Rocro Pan and Pumi Rumi. Gambini Escudero (1984), a schoolteacher in Jimbe, speaks of the fortresses of Tzaqanan (3.800 m asl) and Palacio Irca (2.650 m asl) allegedly of the megalithic

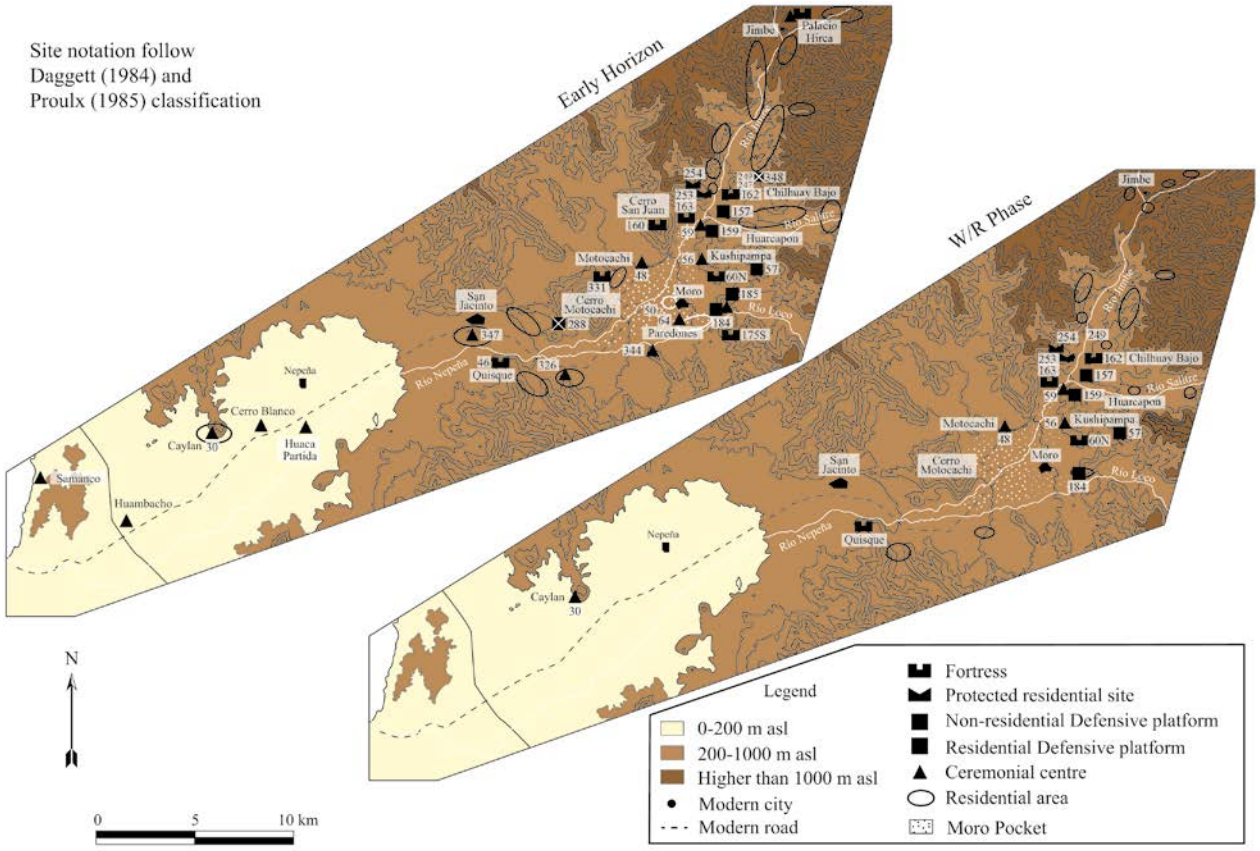



Figure 7. Locations of the fortresses in the Nepeña Valley during the Early Horizon and W/R Phase (© V. Chamussy and N. Goepfert).

type. He found C&D and CHPB decorated ceramics traced to the Early Horizon (Table 2).

Proulx (1968, 1973), Daggett (1984), and Proulx and Daggett (Proulx 1985) carried out similarity seriations on diagnostic sherds of surface ceramics. They make use respectively of two different chronologies, as we have seen earlier. As markers for their various Phases, they use the same ceramic decoration features as used by Wilson in the Santa Valley, i.e. the C&D, the CHPB and the PB. However, their chronological attributions differ from each other and from Wilson's, owing to a confusion between CHPB and PB. As a result, we could not use their chronological ranking and thus we carried out a new one by reassessing the ceramics, and particularly the three characteristic decorative features (C&D, CHPB, and PB), matching them with those of the Santa Valley, where Wilson did not confuse them (Chamussy 2009: appendix 2). Other important markers, such as polished stone points, ceramic flutes, fabric impression, large buried jars, and the position of handles on the vessels, were also taken into account in dating the fortifications.

Ikehara (2016) notes a sixfold increase in demographic growth and changes in the material culture in the middle valley at the onset of his Final Formative (W/R). He attributes this to the invasion of populations from the neighboring valleys and/or intra-valley strife that could explain the presence of the 37 fortresses and outposts.

The defensive sites can be divided into the three types described above: Megalithic fortresses PV-162 (Chilhuay Bajo), PV-163, PV-331 (Motocachy) and Quisque are assigned to the first type. We also assign the fortified complex PV-175S (Huarcos), divided in two large sectors separated by a very deep moat, to the first type, although the second larger sector is surrounded by a low wall of uncut stones, but includes a megalithic type platform in the upper part. The same type of ceramic decoration (C&D and CHPB) is found in both sectors. We assign fortresses PV-160 (Cerro San Juan), PV-348 and PV-60N as well as protected residential sites PV-252 and 253 (Captuy Bajo), and residential platforms PV-157 (Chilhuay Alto), PV-57, and PV-184 to the second type. Many ridgetop sites described by Daggett can be considered as of the third type.

All these fortresses are contemporary with or following the collapse of the Chavín polity, which indicates that this polity did not invade the valley (Proulx's hypothesis).

| Site | Chronology | | Characteristic | | | | |
|---|---|---|---|---|---|---|---|
| | Early Horizon | W/R | Type | Altitude (m asl) | Altitude/ valley (m) | Shape/dimensions (m) | System of construction |
| PV-160 Cerro San Juan | X | | Fortress | 1000 | 500 | triangular | rough stones |
| PV-162 Chilhuay Bajo | X | X | Fortress | 775 | 100 | rectangular/80 x 40 | megalithic |
| PV-163 Captuy | X | X | Fortress | 611 | 30 | rectangular/50 x 30 | megalithic |
| PV-253 Captuay Bajo | X | X | Fortress | 820 | 220 | irregular | rough stones |
| PV-254 Captuay Alto | X | X | Fortress | 980 | 280 | irregular | rough stones |
| PV-175 S1 Cerro Huarcos | X | | Fortress | 685 | 150 | rectangular/40 x 20 | megalithic |
| PV-175 S2 Cerro Huarcos | X | | Fortress | 711 | 176 | ovoid/100 x 50 | rough stones |
| PV-60 N Siete Huacas | X | | Fortress | 600 | 120 | 40 x 20 | rough stones |
| PV-157 Chilhuay Alto | X | | Fortress | 750 | 100 | 1000 x 800 | rough stones |
| PV-57 Siete Huacas | X | X | Fortress | | | irregular | rough and cut-stones |
| PV-184 | X | | Fortress | | | | |
| PV-331 Sierra Motocachy | X | X | Fortress | 546 | | 20 x 15 | megalithic |
| PV-331 Sierra Motocachy | X | | Defensive wall | | | | Double face and *wanka pachilla* |
| PV-46 Quisque | X | X | Fortress | 450 | 150 | pentagonal/330 | megalithic |

Table 5. List and characteristics of Nepeña Valley fortresses and defensive sites (© V. Chamussy).

Our preliminary conclusion is that the fortresses were built in the Late Early Horizon to protect the existing polities against threatening groups coming from the highlands (such as the Santa Valley). Note that no new defensive sites have been dated to the following Phase (W/R) by Proulx and Daggett, but according to our own research, several former defensive sites were reoccupied, as attested by artifacts bearing diagnostic features of the W/R tradition (Table 2).

Recent excavations in the lower valley show that the two ceremonial pyramids and platforms of Cerro Blanco and Huaca Cortada (Shibata 2010) date to the end of the Initial Period and the beginning of the Ealy Horizon (Cerro Blanco and early Early Horizon) and there are no traces of warfare. The ceremonial enclosures of Huambacho, Caylán, Sute Bajo, and Samanco, whose principal phase of occupation dates to the end of the Early Horizon (end of Nepeña phase 800-450 cal. BC), were re-occupied during the Samanco phase (450-150 cal. BC) by the newcomers of the W/R tradition (Chicoine 2006; Cotrina et al. 2003; Ikehara and Chicoine 2011). This is evident through the study of the various chronological markers found in these sites. However, the collected radiocarbon data do not show a clear splitting between the two phases due to the two large 2σ intervals.

Taken together, all of these clues point to the presence of the W/R Phase in the Nepeña Valley, and more specifically the reoccupation of the principal fortresses (PV-162 and 163), the major defensive residential sites (PV-57, 157, 184, 254, 253), and the great ceremonial sites (PV-56, 59 and 48). To sum up, in the Nepeña Valley, just like in the Santa Valley, we see that the Early Horizon extends into the beginning of the Huarás Phase (W/R; Table 2). The end of the Nepeña and the beginning of the Samanco Phases was a period of combat around these fortresses, between the last populations of the Early Horizon and the invaders from the highland.

## The Casma/Sechin Valley: inter-valley conflict or external invasion?

This is the most complex case we address on the northern coast, for various reasons: the lack of publication of surveys carried out, together with a wealth of other disparate data, contradictory hypotheses about the rise of warfare and the modalities of the transition between the Initial Period and the Early Horizon, the Early Horizon and the Early Intermediate Period.

According to Pozorski S. and T. Pozorski (2011), two consecutive theocratic states existed: during the Initial Period: one centered on Pampa de Las Llamas-Moxeque (1800-1200 BC) in the Casma Valley, and the other on Sechín Alto (1200-900 BC) in the Sechín Valley. Towards the end of the Initial Period, the development of these states was abruptly interrupted. These scholars consecutively describe two possible scenarios: an invasion from the northeast (Pozorski S. and T. Pozorski 1987), and an intra-valley war between the two states (Pozorski S. and T. Pozorski 2011), both scenarios being based on the warriors depicted on the engraved slabs surrounding the ceremonial site of Cerro Sechín. These 249 engraved slabs have been very often considered as comemorating a military victory (Burger 1992: 78; Lumbreras 1980: 277; Pozorski S. and T. Pozorski 1987: 81-82, 2011; Tello 1956: 2). Other interpretations range from a shamanistic initiation (Cordy-Collins 1983), the first proven example of a *tinku* (Hill 2004), concept of dualism between moieties (Urton 1993: 137), to the representation of human sacrifice (Bischof 2005). Kaulicke (1998: 361-362, 553) sees a duality between the eastern wing of the precinct (solid, male) and the western wing (liquid, female) in a complex representation of the cosmic cycle of life and death. Alternately, we agree with Tung (2007: 487) and Bischof (1995) who contend that the allegory depicted on the slabs represents the quintessence of human sacrifice, performed on members of the community. Bischof (1995) writes: "spreading terror among the enemies." Accordingly Cerro Sechín does not present evidence of war, but—on the contrary—a prophylactic measure against any internal rebellion or social upheaval (Chamussy 2009).

For his part, Wilson carried out from 1989 to 1994 a settlement pattern study of the whole Casma/Sechín Basin, of which only very general results have been published (Wilson 1995b, 1999). Fortunately, thanks to D. Wilson, we had access to unpublished documents and various INC (now Ministry of Culture of Peru) reports, (1990a, b, c; 1991; 1994a, b; 1995a, b, c).

For the Moxeque Phase (Initial Period), Wilson argues that two clusters of minor fortresses, one located on a Sechín middle valley ridge (Cerro Olivera) and the other on a Casma middle valley ridge (Cerro Pan de Azúcar) fought against each other. But on the basis of our own survey, we argue that these structures (which are lookouts rather than fortresses) date to the Overlap Period between the Pallka (Early Horizon) and Patazca (W/R) Phases. An additional proof of a warless period during the Moxeque Phase is that the great ceremonial centers near the Casma/Sechín confluence were not protected as would be expected in case of threat of conflict. Finally, the following Pallka Phase should be a period of integration and alliance with the Nepeña polity against the Santa polity (Wilson 1995a: 196) but there are no fortresses or any markers of war whatsoever. Thus, we have no proof of conflict during the Moxeque and Pallka Phases.

Eventually, during the following Patazca Phase (Table 2), the number of sites increases fourfold. Indeed the ceramics (C&D, CHPB, fabric impression, but also PB decoration) and the other artifacts (polished stone points and ceramic flutes) found at the Pampa Rosario, San Diego, and Chankillo sites, as well as thirty minor fortresses spread over the two valleys, show a mixture of artifacts from the Early Horizon and the W/R Phase.




Figure 8. Chankillo fortress in the Casma Valley (© photo by V. Chamussy).

Chankillo (Figure 8) is one of the most imposing fortresses on the coast (Ghezzi 2006, 2007, 2008; Ghezzi and Ruggles 2007, 2011; Ghezzi and Rodriguez 2015). It meets all the criteria defined by Topic and Topic (1987): a defensive situation, triple walls, baffled entrances, parapet wall, moats, and numerous round stones behind the parapets and in the glacis around the fortress. Its defensive function is sometimes challenged because the bar holds are on the outside of the doors (Topic and Topic 1997), but Arkush and Stanish (2005: 21) give two counter-arguments: either a post-war transformation of the fortress into a pilgrimage site or that the doors may have had a type of shutters hinged at the top and swinging outwards and vertically. Radiocarbon dates from Chankillo are in a range of 370-70 cal. BC (Ghezzi and Ruggles 2011; Ghezzi and Rodriguez 2015).

Ghezzi shows that at the time of the fall of Chankillo, the rectangular ceremonial structure inside the three concentric walls was carefully leveled off and covered with sand: this could be the outcome of a successful siege, followed by a ritual entombment of the ceremonial structure (Arkush and Stanish 2005).

300 yards from the fortress, in a structure close to the 13 towers used as a solar observatory (Ghezzi and Ruggles 2007), excavations brought to light fragments of a clay vessel, decorated with white paint on a red background (W/R i.e. Patazca phase) showing modeled warriors armed with maces, spear throwers, slings, throwing spears (a weapon brought by the W/R bearers according to Chamussy 2012), and shields (Ghezzi 2006; Ghezzi and Rodriguez 2015: 137 and fig. 2; Ghezzi and Ruggles 2011: fig. 2).

The population increase at the end of the Early Horizon leads to the creation of new residential sites (such as Pampa Rosarío and San Diego in the lower valley) in areas with more arable lands. It is probably at this moment that Chankillo was built to allow a theocratic elite to use it as a haven in case of invasion (Ghezzi 2007, 2008). Thus, one can assume that the 33 small fortresses found by Wilson in the middle Sechín and Casma Valleys, just at the strategic points linking the Callejón de Huaylas to the valleys through the Cordillera Negra, were built to face that threat. Simultaneously, in the Sechín branch of the valley, the huge fortress of Cerro Sechín Alto would have been a haven for the inhabitants of Pampa Rosario and San Diego.

This process took place slowly with the gradual penetration of the Huarás populations. The Chankillo fortress had been conquered, partially levelled and buried as can be observed at the "Temple of the Pillars" (Ghezzi 2006: 78; Ghezzi 2007: 14, 15). This occupation would have been progressive—the upper and middle valley being

occupied rapidly by the first waves of invaders—whereas the lower valleys remained occupied by the previous polities until about 200 BC. Wilson (1995b: 200 and fig. 11) reports 23 sites with *chullpas* (funerary structures) associated with W/R ceramics (mainly bowls) that are characteristic of the Huarás populations. Above the middle Sechín Valley, Fung Pineda and Williams (1979: 147-148) also described *"pequeñas construciones con falsa boveda"* associated with W/R ceramics in the sites C3 (Rumipallana), C8 (Huanchuy), and C9 (Huampucoto). The upper valleys have still not been systematically surveyed, but the best evidence of this transition should be found there. We can also assume that cohabitation and confrontation evolved in the valley according to the balance of power existing at the time. What would have been at stake was control over and acculturation of the existing ethnic groups by a new group enforcing its own cultural references.

## Chronology of the Overlap Period

Several authors have denounced the "tyranny of the globalizing chronologies" (Kaulicke 2010; Marcone 2005; Ramón Joffré 2005) and recommended the establishing of a chronology by valley or region. As we will show later, we have recorded in our own research important chronological discrepancies between the different valleys and even within the same valley (for example the emergence of ceramics). We have therefore adopted a specific chronology whose Periods or Phases appear at different moments in each valley: the Late Preceramic (Lanning 1967, Phase 6) begins with the occurrence of the first ceremonial structures, the Initial Period begins with the occurrence of ceramics and U-Shapped ceremonial structures, the Early Horizon begins with the emergence of the Janabarriu (Chavín) type of ceramics as defined by Burger (1998), and the Early Intermediate Period begins with the emergence of the W/R culture-style (Bennett 1946; Willey 1945, 1948).

We have compiled a comprehensive inventory of the 381 currently available $^{14}$C dates for the Final Preceramic Period, Initial Period, Early Horizon and W/R Phase for the six valleys of our study (Appendix 1). We also sum two Thermoluminescence dates for Cerro Sechin and 14 W/R radiocarbon dates from de Callejon de Huaylas (Appendix 1). In total, we synthetised 397 dates. The number of dates per valleys is unbalanced: Moche (n = 48), Virú (n = 15), Chao (n = 22), Santa (n = 15), Nepeña (n = 50), and Casma (n = 233), Callejon de Huaylas (n = 14). The same problem exists among the different periods: Middle and Late Preceramic (n = 92), Initial Period (n = 144), Early Horizon (n = 119), and Early Intermediate Period-W/R phase (n = 42). Thus, the outcomes are dissimilar, and could be of limited interest in some aspects. The dates are furthermore of variable quality, depending on the type and period of sampling and the analysis laboratory. The oldest one presents an "Age Uncertainty" that is too great (100, 150

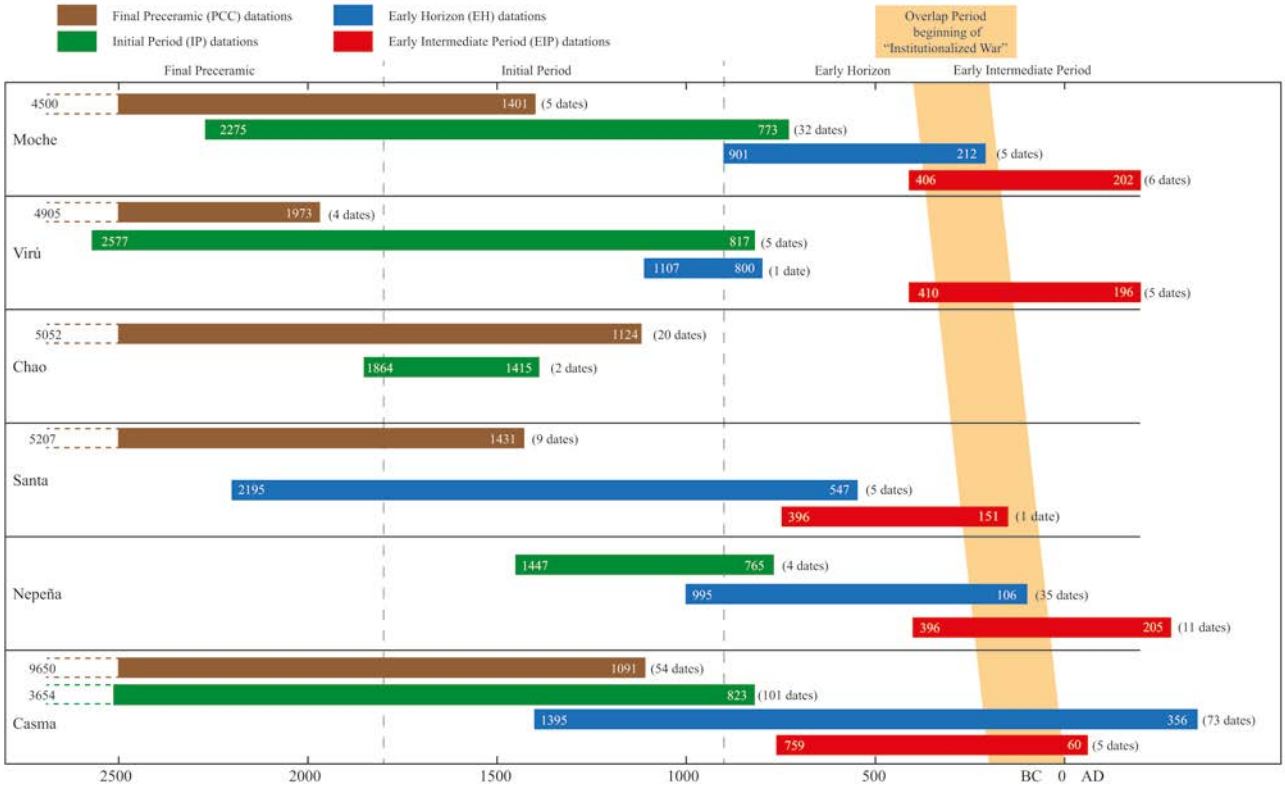



Figure 9. Chronology of Peruvian northern coast with the Overlap Chrono-cultural Period based on existing radiocarbon dates (© N. Goepfert).

to 250 years) that results in wide ranges. Moreover, the Early Horizon at the core of our study lies entirely in the Hallstatt plateau, which can give four calibrated dates for one non-calibrated date, statistically spanning up to a thousand years with 2σ calibration (see for example Rick et al. 2009: 110). The Bayesian statistics approach can provide an alternative option. However, to be properly applied, it is necessary to apply this protocol to each site, then to each valley. This work exceeds the aim of this paper, but should be carried out in the future to improve the accuracy of the dating.

The indiscriminate use of chronological tables often creates the illusion that the various phases abruptly follow each other, as if one shifts without transition from one society to another. Indeed, we observe the existence of several Overlap Periods (Figure 9) showing that cultures coexist for a certain period of time before the features of the earlier group fade away.

Overlap Periods can be observed for each period and each valley. For instance, the array of dates for the Final Preceramic in the Chao and Santa Valley is delayed and contemporaneous with the beginning of the appearance of pottery (Initial Period) in the Moche and Virú Valleys (Figure 2). In the same way, the final preceramic occupation of Bahia Seca, Tortugas (Pozorski S. and T. Pozorski 1990, 1992) and Huaynuná (Pozorski T. and S. Pozorski 1990) lasts until 1531 cal. BC, which suggests that the Preceramic extended into the beginning of the Initial Period (Pozorski S. and T. Pozorski call these sites "a-ceramic") in the Casma Valley. This process often leads to rapid changes in fine ceramics, whilst there is a marked continuity in domestic ceramics. Moreover the gradual occupation of the northern Peruvian coast by W/R groups during the Overlap Period is significantly illustrated by different chronological markers and confirmed by calibrated radiocarbon dates, in particular in the Nepeña and Casma Valleys. In the three southern valleys this period matches with the building of numerous and large fortifications in inaccessible places.

## DISCUSSION

This account clearly shows the complexity and variability of the state of affairs on the northern coast of Peru. Each valley had its own idiosyncrasy and scholars have given different explanations depending on the data known at the time of their research. The outcome of their various investigations has been, in the best cases, the outlining of a settlement pattern specific for each valley (Moche, Virú, Santa) or a simple description of the surveyed or excavated sites (Chao, Nepeña, and Casma). Nevertheless one common issue emphasized by all, is the emergence—for the first time—of defensive war or territorial conquest, but at different periods in time and with different modalities.

We have taken a different approach and tried to get an overall view at a macro-regional scale. This approach has allowed us to propose a unique scenario of the rise of institutionalized war in this region. This scenario should be used as a basis for more thorough research to explore the causes and origins of these conflicts and particularly their relation with the highlands.

During the Late Early Horizon, the polities of the Moche, Virú, and Chao Valleys were probably in a state of decline. No fortifications or weapons have been recorded and therefore these polities were apparently unable to offer any resistance to the new extremely warlike groups bearing the W/R tradition. Conversely, during the same period, in the Santa, Nepeña and Casma/Sechín Valleys, cultures and ideologies of the Initial Period and the Early Horizon would have taken longer to establish themselves, with an increasing chronological time lag from north to south. Accordingly, we assume that these societies were at their climax when the newcomers arrived, and their socio-political dynamics were still vibrant. Moreover they were aware of the invasion of the sierra and northern valleys and had time to prepare their own defence by constructing defensive networks: large fortresses, look-outs, walls at strategic points, interconnecting roads, protection of residential sites and the setting up of clusters of villages and buffer zones.

## TACTICS AND STRATEGY

We do not have enough data to describe the nature of the military organization (training, warriors or soldiers, standing armies, etc.), nor of the detailed tactics and strategy, as it is possible to do with the Incas, thanks to the Chronicles. Nevertheless, in the Vicús, Virú and Mochica societies the iconography conspicuously shows warriors with weapons and fighting, a tradition was rooted in the W/R tradition. We have emphasized that the defenders adopted a strategic "defence in depth" (Keegan 1993). It cannot be proven that their strategy did not include protracted sieges given the lack of adequate logistics, draft animals, heavy wheeled armaments, rams, ladders, etc. As for the tactics, we have emphasized the new weapons of the invaders (spear throwers, polished stone points on throwing spears, javelins, etc.), which would have given them a competitive edge on the defenders, whose main weapons were the sling—which necessitates the stockpiling in advance of a number of round stones—and the club, which is useless in case of a siege. In their approach to this lack of armaments, Andean scholars seem sometimes to have a eurocentric position (Arkush and Stanish 2005: 7).

Among the warfare signifiers, fortresses obviously played an important role. The first type, megalithic fortresses, is present only in the three southern valleys (Santa, Nepeña and Casma), and is characteristic of the Late Early Horizon. They were clearly built in prevision

of the arrival of a potential enemy. Fortresses of the second type characterize the W/R Phase.

On the settlement pattern maps, we observe two different settlement strategies. The first type fortresses are all located on low ridges (50 to 300 m above the valley floor), protecting the ceremonial and/or residential sites of the lower valleys and rich farmland. Conversely, the new fortresses built by the W/R incomers have no preferred location, but are usually built much further away from the valleys and much higher up (up to one thousand meters above the valley floor).

## NEW CULTURE-STYLE, NEW ETHNIC GROUP AND ETHNOGENESIS

The transition from a warless to a warlike state corresponds to the emergence of a new culture-style. There are many definitions of culture (Bourdieu 2000 [1972]). The one we choose is coming from Godelier (2004: 45) who defined culture as "the whole representation of the Universe, principles of Society organization, values and behavioural norms positive or negative, referred to by individuals and groups making up the society […]." We also use the concept of culture-style as recently assigned to characterize the Virú-Gallinazo ethnic group (Uceda Castillo, Gayoso Rullier and Gamarra Carranza 2009). But can we infer the arrival of a new ethnic group from a new culture-style? We must remember some clues about style, culture-style and ethnic group. According to Auger et al. (1987), Reycraft (2005) and Makowski (2009, 2010), an ethnic group is constituted not by its race (genetics) but by its feeling of belonging to one community (we-feeling, we and them), its investment in one ethos and one culture-style (Willey 1951). One can point out that for Makowski (2009) the ethnic identity of an ethnic group is characterized by its culture-style (Makowski 2010) and its technological identity, what Bourdieu (2000 [1972]) calls *"chaîne opératoire."*

Indeed, if we follow the definition of the Horizon Style given by Willey (1951), the ethnic group of the W/R Horizon has none of the three traits that characterize the Chavín or Cupisnique Horizon Styles: not in its technology *("chaîne opératoire")*, not in its representations, not in its configuration. So the W/R Horizon Style cannot be an offspring of the Early Horizon Style. Eventually, when one ethnic group blends with and rules over another, there is ethnogenesis (creation of a new ethnic group) and the adoption of the culture-style of the stronger group after a period of acculturation. In our study, we assume that the new ethnic group, characterized by its culture-style, gradually invaded the north coast of Peru during the Overlap Period and slowly imposed its culture-style, while new ethnic groups (Vicús, Layzón, Salinar, Puerto Moorin, and Huarás inter alia) were shaped by the integration of the former inhabitants.

Was there a total breakdown, as Silva Santisteban (1994) argues? Onuki (1985: 64) tells us of violent destruction and new concepts of life. Drastic changes were observed in settlement patterns and the orientation of sites, such as the Layzón site (Seki 1993), and a new architectonic pattern: abandonment of the great ceremonial centers with central axis and/or U-shape and sunken circular or rectangular courtyard, the end of the megalithic and *wanka-pachilla* (block and spall) construction, replaced by small, uncut and irregular stones.

Funerary practices and modes of inhumation completely shifted (Elera 1998; Larco Hoyle 1944): the body is now stretched out on its side and inhumation in cists appears. According to Binford (1971) and Tainter (1975), a change in burial practices often means an ethnic change.

New weapons made their appearance: cactus-shaped clubs with finely polished blades and points, daggers and darts with polished stone points. The spear-thrower, totally absent in the Early Horizon, is part of the W/R warrior's weapon kit and becomes a very common weapon in the following Virú and Moche periods (Chamussy 2012).

Pots are not people, but a brutal and simultaneous shift of technology, morphology, and style usually signals a shift of population (Burger 1992: 228) while Meggers, Evans and Estrada (1965) calculate a time lag of between 400 and 800 years for a ceramic culture within the same society to change by 50% (Valdivia). Dramatic changes in ceramic morphology, iconography and firing occur during the Overlap Period: double spout and bridge bottles with figure, spout and bridge bottles, naturalistic anthropomorphic or zoomorphic bottles, bottles with single spout and vertical or horizontal handle, large buried *tinajas* (jars); the abandonment of reduction firing for firing in an open kiln; introduction of the White-on-Red painting, clear slip, Pattern Burnishing, and Negative painting; disappearance of the feline/snake/condor triad and of threatening supernatural beings with prominent claws and fangs which had prevailed for 1500 years, first occurrence of the crested animal figure (Cruz Mostacero, Gálvez Pérez and Moncada Aponte 2005), geometric motifs, scenes of daily life and naturalistic depictions of the animal world, occurrence of sexual scenes modeled on ceramics (Larco Hoyle 1944). There is also a marked change in the iconography/style/manufacture of pottery figurines (Morgan 2009).

There is also a rise in new technological processes in metallurgy with the invention of new metal alloys (copper/gold or *tumbaga*) and application of these to the weapons (Alva 1992).

Finally, new musical instruments emerge with the ceramic *antara* (multi-tube panpipe) in place of the reed, animal or bird bone one.

To be sure, the only way to prove definitely the difference between the former ethnic groups and the new one would be through the study of the Mt DNA, DNA or non-metric and dental traits, despite the *caveat* raised by

Williams (2005). Unfortunately this comparison has not yet been carried out between Early Horizon Populations and the W/R population.

To summarize, the different features listed and described above reveal changes of the utmost importance: new ideological values, funerary practices, architectonic forms, metallurgy, new ceramic techniques and decoration, evidencing a new culture-style and thus a new ethnic group.

## Origins, chronology and access routes of the W/R new ethnical group

Early Horizon polities were confronted with successive waves of small groups or tribes coming from the north and east, with their new weapons, technology and ideology. Today we can only sketch out these events. Future research will be necessary to understand them in greater detail. Many scholars assume that these groups were coming from current Ecuador (Amat Olazábal 2003; Idrovo Urigüen 2009). There are three possible historic routes of communication between Ecuador and Peru: one from the Amazonian basin via the Mayo-Chinchipe rivers, a second one from the *sierra*, via the Catamayo-Chira Valley and the coast (Narrio and Jambeli cultures: Estrada, Meggers and Evans 1964), and the third one from the central and south Ecuadorian coast (Machallila and Chorrera cultures).

In Peru itself there are many clues regarding the possible routes. The Mayo Chinchipe route leads to Jaen and Bagua in the middle Marañon basin, and then to the Cajamarca basin, where Reichlen and Reichlen (1949) describe a W/R style in their Cajamarca 1 and 2, and then to Huamachuco where Thatcher (1972-1974: 112) describe a comparable vessel in the Puercala Phase; there are numerous W/R remains in the region of the Santiago de Chuco sites (Pérez Calderón 1998) which links—on the one hand—the upper basins of the Chicama, Moche, Virú and Chao rivers, where Briceño Rosarío and Bilman (2012) point out several sites with Salinar ceramics, and-on the other hand-the north slope of the Tablachaca river and then the *callejones* de Huaylas and Conchuco (Huarás style) via the Pallazca plateau (Pashah site).

Both the second and third routes (the sierra and the coastal ones) lead to the Alto Piura area, which seems to be an important stage on their southward route. The ceramic styles of Garbanzal in the Tumbes Valley (Izumi and Terada 1966), the earliest phases of the Sechura Period (Lanning 1963; Richardson et al. 1990) and the Vicús-Vicús style in the Piura Valley (Lumbreras 1978), are regional expressions of the W/R tradition. South of the Alto Piura the corridor of Chulucanas, Olmos, Lambayeque has not yet been properly explored but traces of the W/R style are found at Batán Grande (Lambayeque), where some ceramics from the cemetery of Huaca Corte (Cholope complex) have Salinar features: coffee-bean eyes, whistling bottles and white paint (Shimada 1981).

The capacity to resist the newcomers was different in each valley. The invaders initially settled in the Moche, Virú and Chao Valleys, and easily acculturated the local population. Conversely, the earliest archaeological evidence of institutionalized war comes from the Nepeña, Santa and Casma/Sechín Valleys and would date to the Overlap Period as defined earlier. This Overlap Period is the landmark of institutionalized war, which had its root not in an internal struggle (Carneiros's thesis), nor in external conflicts between adjacent valleys (Wilson, Pozorski S. and T. Pozorski's theses), but in an invasion from the north and/or the highlands. Therefore, rather than an endogenic or diffusionist model, we suggest an expansionist model (although we do not mean to extend that model to other periods of the Central Andean Area). In a way, we can follow the gradual penetration from the north and east to the south and west, from the Cajamarca Basin and Callejon de Huaylas to the three northern valleys and then to the three southern valleys (Figure 10, following page). This scenario is in accordance with the progressive time lags observed in the development of some processes between the northern and southern valleys, and in our case, with the building and reoccupation of the fortresses and the presence of W/R cultural traits.

## More at the South?

Did the same process take place further south? Although we can only refer briefly to that point in the context of this article, at least some valleys present the same types of fortresses at the end of the Early Horizon. In the Culebras Valley Prządka and Giersz (2003: 56-58; Giersz and Prządka 2009) have identified three fortified sites dating to the Early Horizon: Fortaleza Pantheon III (PV-34-118), PV-34-120 and PV-34-91 (Giersz and Prządka 2009: 6 and fig. 8). Three other forts are dated to their Ampanú phase (ca. 350 BC-AD 50), one of them, Castillo de Ampanú (PV-34-54) (Makowski, Giersz and Prządka-Giersz 2011) reminding of Chankillo (Giersz and Prządka 2009: 6, 7 and fig. 9, 10). Ceramic with Circle and Dot, Pattern Burnish, and polished slate points suggest that the fort was eventually conquered during the Overlap Period we studied. As a reminder, the presence of several defensive sites at the narrowing of the valley (Makowski 2003: 7) resembles the settlement pattern observed in the valleys of Santa, Nepeña, and Casma.

In the Huarmey Valley, despite the lack of recent excavations, Cerro Alguay PV-3568 (Bonavia 1982: 434-435) is a fortified hilltop dating probably of the end of the Early Horizon, and the eponymous Huarmey site is an actual fortress contemporary of Algay (Thompson 1966).

Further south in the Huaura Valley, the Acaray fortress whose first phase dates from the Overlap Period was in line of sight with four other fortresses securing the valley upwards (Brown Vega 2009, 2010; Brown Vega et al. 2013). It had possibly been besieged by the Huaraz.

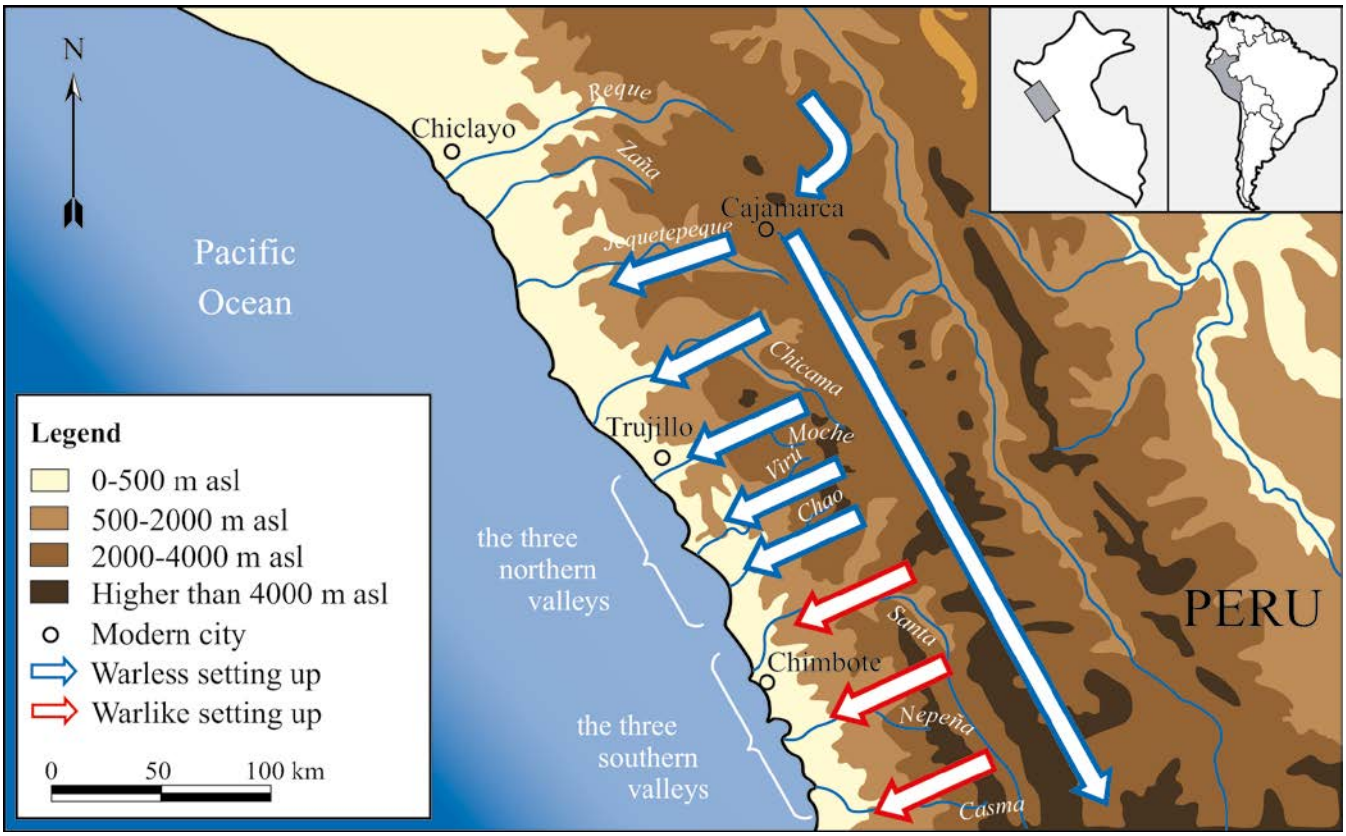



Figure 10. Scenario of gradual penetration of the Peruvian northern coast by W/R groups (© V. Chamussy and N. Goepfert).

Indeed numerous sling stones polished slate points and ceramic antaras specific of the W/R phase were found there. In sum, the different evidence from valleys south of our area show the same process of the arrival of W/R cultural traits during an Overlap Period which matches to the conquest and reoccupation of the Early Horizon Fortress by the newcomers.

## CONCLUSION

In the this article we have addressed the following unique scenario: the invasion by a group, bearing of a new culture, increasingly brought confrontation and warfare into the middle valleys frontier area with the ethnic group of the Early Horizon living on the coast and resulting in the acculturation of these populations. Throughout this account, we have highlighted the question of the chronology of the region under study, and how warfare manifested itself in different ways on the northern coast. The various polities were at different stages of development and accordingly showed different approaches to the same situation and to the process of invasion.

This regional overview synthesizes the latest thinking about the beginnings of war in the Andes, and offers a new heuristic vision for this debate. Cross-checking the data from fieldwork against published data—architecture, settlement patterns, ceramics, weapons, datings, etc.—has given support to the hypothesis that the first territorial conflicts actually occurred during an Overlap Period of about two centuries. The fights that then took place may be classified as institutionalized wars, according to the definition we gave of that concept in the first part of this article (two different ethnic groups waging war that entails tactics and strategy and not skirmish or raid for plunder or retaliation, but for acquisition of territory in the name of one particular polity). This turning point marked the end of a warless period on the north and central coasts of the Peruvian Andes, and was succeeded by the first institutionalized wars during the Pre-Hispanic period.

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