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Politics of a Sacred Landscape: An Archaeological Study of the Inca Zeqe System in the Cuenca de Inkilltambo

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by

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ABSTRACT OF THE THESIS

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Empires use monumentality in order to control conquered populations and maintain political stability among the elite in the core. The Inca Empire, an Andean state in power during the 15th and early 16th centuries, used the *zeqe* system, a network of ritual pathways connecting *wakas*, or sacred places, as a tool to keep the elite and others tied to the state. The locations of these wakas were recorded by colonial writers in the late 16th and 17th centuries. In my thesis, I argue that there are wakas and perhaps zeqes that were not recorded by the Spanish that pertained to the zeqe system and examine what may define a zeqe line using visual and cluster analysis through GIS software.

The thesis of Adrienne Levesque Bryan is approved.

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I. Introduction

In order to gain legitimacy and maintain stability in their societies, elites within cultures construct and manipulate monuments related to themselves, their ancestors, and other rulers. Evidence of change of past rulers' monuments and the creation of new ones can be subtle in its iconography or take the form of the outright destruction of the physical site or the memory of it. Models of elite performance can be found in ancient Rome. The Forum of Augustus, for instance, associated with the Emperor Augustus in ancient Rome, provides us a general model to understand this cross-cultural process. Likewise, the erection of new stelae to document the deeds and legacies of Maya leaders and their subsequent destruction in times of chaos is another model (Stuart 1996: 158, 163-164, Just 2005: 75-80, Iannone 2005: 32). Monumentality is used in these and countless other examples around the ancient and modern world to centralize power and support the ruling elite. In parts of South America, monuments were manipulated to achieve such stability by the Inca Empire.

The Inca Empire, a powerful state based in the central Andes in the 15th and early 16th centuries, was challenged by the need to incorporate many indigenous cultures within its imperial borders. As it expanded, it had to control not only the incoming populations of the conquered, but the growing number of royal families and lineages, or *panacas*[1]. With each incoming Inca, a different political/kin group,

[1] All Quechua spellings are from the 1995 edition of the Academia Mayor de la Lengua Quechua dictionary.

known in Quechua as a "panaca" was formed. The political intrigues and power struggles permeated these attempts to project power and control. As a result, the Inca had to develop ways to control these panacas and integrate conquered populations into their framework.

One of the Incas' strategies for political stability was the use of a ceremonial network of lines or pathways, known in Quechua as *zeqes* (Santo Tomas [1560] 1951: 159, 196, 259, Zuidema 1964: 1, Rowe 1979: 3, Bauer 1998: 5-6, Niles 1999: 51-56, Gullberg 2009:26). These lines emanated from the center of the capital city and connected holy places, known as *wakas*. In this project, a zeqe is defined as a multitude of pathways that physically and visually connect wakas and other sacred sites of significance. Wakas are distinctive natural or human made formations on the landscape. They could be caves, bodies of water, rocks, and other features that are distinguished (Bauer 1998: 5).

My definition of wakas is not limited to those in the existing colonial documents. While other archaeologists such as Brian Bauer have focused on finding wakas in the chronicles as a line of evidence, I use the definition of a waka in these documents to determine how wakas can be identified without the same documentation.

Wakas were dynamic entities that played a role in how the empire formed and maintained its power. The Spaniards valued appearances of grandeur in religious structures over essence (Dean 2010: 61-64), and were confused by the ordinary appearance of wakas and other religious objects and places. They often compared wakas to temples or mosques, tropes familiar to them, instead of placing them

within their own context. Appearance is probably one of the reasons why some wakas are left out of the Spanish chronicles.

Figure 1: Waka 025 identified in this survey. It is a shallow cave that overlooks the valley on the slope of a hill in the Cuenca de Inkilltambo.

Throughout the year, the Inca brought representatives of foreign provinces to the capital in order to participate in the elaborate rituals associated with the zeqes. These zeqes recreated the mythic past of the Inca that legitimated their presence in Cuzco, since each waka was tied to a specific legend in the Inca's cultural history (MacCormack 1991: 187-188).

Since the zeqe system was tied to a ritual landscape, and landscape is a nebulous term, I define how it will be used in this thesis here. I will be using the cultural geography definition of cultural landscape, or the idea that landscape is an entity that is designed by groups of people. In other words, "culture is the agent, the natural area is the medium, the cultural landscape is the result" (Sauer 1925: 6). This definition makes the society as the agent, allowing for a stronger connection between the elite historical record and permanent entities that can survive individuals. Since my thesis focuses on shrines with imperial narratives closely linked to them, how their meaning changed over time if possible, and the spatial relationships between shrines, pathways, and viewscapes, I need to have a definition that includes the functional and symbolic elements of the wakas and a holistic picture of the landscape being studied. This perspective will be crucial as it not only draws this study of the zeqe system away from a site-specific analysis but also emphasizes the fact that these wakas were not just physical landmarks, but also mnemonic devices in an active landscape made up of many different parts that were created by an active and changing society. As the narratives tied to the wakas rose and fell in importance, the monuments are crucial for marking, tracking, and analyzing these changes.

What archaeological proof is there to evidence political and social changes on the landscape? Were there other *zeqe* lines and wakas? In order to understand how the Incas' relationship with the ritual landscape outside of Cuzco changed over time, it is necessary to understand not only the wakas that formed a part of the Inca ritual landscape according to the documents we have, but also those outside of the

chronicles. My research analyzes how we can track changes in political landscapes by examining the Inca's relationship with the ritual landscape outside of Cuzco through archaeological survey fieldwork and viewshed and cluster analyses using ArcGIS 10.2.

II. Theoretical Approaches

The *zeqe* system is intimately bound to the shifting nature of political relationships tied to demi-god rulers, although the empire lasted for approximately a century. With each of the four rulers, the landscape probably changed to reflect the complex relationships between that ruler, his family, and the families of past rulers and other elite members. As a result, it is necessary to delve into these relationships in order to see how they influenced Inca spatial practices. Complex polities like the Inca are dynamic entities that are composed of constantly changing relationships between elites, commoners, and outsiders (D'Altroy 2002: 86-109, Kosiba 2010). These relationships are expressed in the landscape, an entity that can be studied and accessed by archaeology. While some past investigations have focused on the polity as a static entity, as something that expands and collapses at a static rate, Adam T. Smith (2003) argues for a dynamic model that reflects the sometimes-unpredictable cycle of expansion and recession of state boundaries and territories. Central to his argument are the constantly changing relationships between commoners and the elite, members of the elite and others in the same class, and those belonging to the polity and outsiders. Landscape manipulation is

one product of the battle for control. The construction of monuments and inscriptions are two examples of the demonstration of authority in the landscape. Naturally, the social production of space and landscape is dependent upon both the elites' and their subjects' connection with the landscape. These built landscapes change over time depending on how these relationships change (Deetz 1990, Tilley 1994, Bender 1998, Bradley 2000, Johnson 2012). This social production is dynamic, and when the ruling class changes, it is natural that the landscape changes as well.

Built landscapes are the product of ideological manipulation by rulers (Alcock 2009: 326-327, Brumfiel 2009: 295-301). In order to build a successful empire, it is necessary to effectively communicate certain ideas about the political and social realities of the present and past, as well as promote certain norms and values to elite and commoners within the core and in the provinces. It is important to understand that ideology was not a one stable entity; oftentimes states used multiple ideologies depending on status, gender, and other factors as these messages changed over time. There are multiple ways of accomplishing this; ruler cults, accentuating differences between the center and periphery, and manipulating and creating imperial and local memory are ancient strategies that have been employed in order to maintain stability. Ruler worship, such as the cult of Augustus, materializes through buildings dedicated to that person and the portrayal of the individual as a deity. If anyone disobeyed him/her, they were going against natural order and the heavens, justifying extreme punishment (Woolf 2009: 319). Imperial dialogue focusing on "The Other" is also effective. The idea of the barbarian is an

appropriate example that shows how the empire distinguishes between its subjects and those on the outside.

Re-interpretation and creation of memories is perhaps the most applicable idea to zeqe system studies, but it is productive to look at this phenomenon in other cultures first. One example is the use of literature. In order to contextualize their history with that of the Greeks while establishing a different heroic legacy at the same time, the Romans created their own narrative legacy (Alcock 2009: 346-348, Woolf 2009: 314-317). Built spaces are another way of expressing ideology and creating memory. Susan Alcock's idea of the memory theater is useful for studying imperial built spaces. Memory theaters are: "spaces which conjured up specific and controlled memories of the past through the use of monuments, images, and symbols" (Alcock 2009: 335). It is through these memories that the ruler can aid his/her subjects to remember or forgot certain historical events in the past while prioritizing other events. One example is that of the Aztecs' Eagle Room, a state sanctioned place in central Tenochtitlan where accomplished warriors could be in the presence of others of their rank (Brumfiel 2009: 300). These warriors were glorified, and memories of dead warriors would be depicted both in the room and in the most sacred part of the city. This space was exclusive and held iconography related to dead and living warriors, carrying on their legacy. Young warriors would act as carriers of the historical narratives of these heroic figures sanctioned by the state. Thus, imperial memories of people who supported the state were passed down, whereas perhaps defeated enemy warriors would soon fade in the memory of the populace. As a result, the empire can control memory through literature, space,

and oral tradition. While oral tradition is difficult for archaeologists to access and some empires did not leave written documents, it is possible to analyze built environments in order to make statements about imperial memory and manipulation.

In order to tie people to the landscape, natural or built monuments were constructed, manipulated, or destroyed depending what kind of memory was sanctioned by the state. Memorialization of the mythical past cues "memories of specific events that define a polity's role within a macropolitical order" (Smith 2003: 136). As a result, the polity is tied to the landscape, and the landscape can be seen as being controlled by that polity, giving the elite power and allowing them to "rearrange the relationship between the past and present" (Tate 1992, cited in Smith 2003: 136, Alcock 2009: 332-334, Woolf 2009: 317-319). These manipulations allow the ruler to tie certain official state narratives to permanent entities. These ties between the ruler, the mythical past, and landscape are a cross-cultural phenomenon; shrine networks in pre-Roman Greece to fit the previous elite Greek hierarchy in a Roman context (Alcock 1996) illustrate the relationship between imperial narrative and physical landmarks. As Rome readjusted its relations with its Greek neighbors, surely, the meaning of the shrines changed for the Greek inhabitants of the landscape and their Roman overlords.

The process of tying state mythology to physical monuments also facilitates identity formation. Monumental construction was a tool of power to glorify the deeds and habits of the current ruler and to connect him/her to a past imperial line and keep his/her deeds remembered, reinterpret past history, and perhaps even

erase histories of past states. Empires would go to great length to preserve monuments to evoke the glorious history connecting them to past emperors while building their own monuments to glorify their individual legacy. In his book, Smith (2003: 161-168) describes inscriptions from the Urartu kingdom in and around modern Armenia, as the ruler is seen as improving nature for his/her subjects. Signs of these improvements are written on the landscape; the ruler placed inscriptions and stelae in an ordered fashion around the landscape. This was his/her contribution to the state, and future subjects would be reminded of his/her great deeds through the stelae long after his/her death, if they were not touched. These physical reminders are active elements of society, often glorifying the ruling class, reinforcing inequalities, and legitimizing imperial presence. This is probably why, when one polity conquered another, there was a great effort to either destroy or build on top of these monuments, effectively erasing the physical memory of the previous state. This was a method that the Spaniards commonly used in their empires in the Americas. As a result, change is built into the system. With each new ruler, the landscape was modified.

One case study on the Inca zeqe system is that of Antiturco, the origin place of the Goalla polity (Cobo [1653] 1990: Bk. 13, Capit. 14), a group of people living in the Cuzco Valley during the Late Intermediate Period (1000-1400 AD). Before the Inca took over the Cuzco Valley, Antiturco was most likely one of the most sacred shrines of the Goalla tribe. However, after the Inca conquest, it is probable that the Goalla still practiced their rituals, but in a different religious context, negotiating their traditional identity under a different imperial framework in other words. In

other words, the Goalla cave and its changed meaning from an origin place to an Inca waka in a much larger system that served to legitimate imperial presence.

With any landscape study, the experience of the viewer is an element that needs to be taken into account. This can be approached in various ways, but one approach is phenomenology. As it is understood in archaeology, phenomenology is the idea that sensory experience should play a large role in archaeological interpretation (Tilley 1994, Bradley 2000). This should be distinguished from the field of phenomenology, which is defined by the study of consciousness through experience from a first-person point of view (Sartre [1943] 1993, Heidegger [1927] 1962, Husserl [1913] 1963, Merleau-Ponty [1945] 2012). While it is foolish to assume that archaeologists can understand the complete sensory experience of the Inca by walking through the landscape due to cultural constraints, the idea of the lived experience is necessary (Tuan 1977). As monumental systems were built to impress upon the conquered that the state was everywhere, builders must have been aware of what kind of sensory experience they were creating for future pilgrims. Therefore, the visual impact of a natural formation that stuck out in the landscape was intentional. For example, Richard Bradley (2000, 2002) argues that monumental display oftentimes references the past, and by its distinctive nature, the waka serves even more of a potent reminder. While we cannot access past ways of thinking by walking pathways, the subjective human experience will help in waka identification as evidence. Phenomenology should not limit us to the idea that we can access a complete picture of Inca thought about the zeqe system, but give us the tools to begin to understand this subjective experience through intervisibility,

spatial relationships between monuments and large natural formations, and other types of sensory experiences.

What about the monuments themselves? For the Inca, essence was valued over visible appearance (Stone-Miller 2002: 186-187, Lechtman 2007, Dean 2010: 61-64). As a result, their monuments were not constructed in the grand architectural traditions of the Western world; they could have taken the form of an ovular rock in the middle of a field. One need only turn to the wawqi, or the physical representation of the Inca, to understand this concept. The wawqi could own lands, have caretakers, and even stand in place of that individual. These wawqi came in various forms, and sometimes included the fingernails or hair of the individual it represented (Dean 2010: 41-45). The most important element is its representational value, not necessarily its appearance. This differs the Inca from other societies, and complicates the theoretical approach the study of wakas. While this study analyzes the placement of wakas with obvious Inca ritual modification, it is necessary to understand that there were probably more wakas on the landscape outside of the scope of this thesis.

III. Background Information

Waka Identification

The principal body of information about the zeqe system is from the colonial documents. The first people to document the existence and importance of the zeqes

in detail were three colonial authors in the 16th and 17th centuries: Polo de Ondegardo, Father Bernabe Cobo, and Cristóbal de Molina (Cobo [1653] 1990, Molina 2008, Ondegardo [1575] 2011). All three made a conscious effort to detail the principal landmarks along each zeqe and document the number and ritual significance of the zeqes. These chroniclers however did not investigate the components of the zeqes in depth, nor did they mention the existence or placement of other wakas.

When using the Spanish chronicles as a source of information, the archaeologist has to deal with two levels of bias: that of the informant and the chronicler (Pease 2008: 17). At the level of the informant, he/she was probably politically biased; that person would talk more about his/her panaca or royal family, than deeds of the other Incas. It makes sense that accounts of certain Inca rulers would be relatively complete, while others lacking in information. For example, while the chronicles inform us about the military campaigns of Thupa Inca Yupanqui, the 10th Inca who oversaw the largest expansion of the Inca Empire during his reign, there is little information about wakas pertaining to him and his panaca on the zeqe system. One of the causes of this gap in our knowledge about this important Inca ruler was because of the fact that Atawallpa decimated the panaca of Thupa Inca Yupanqui for supporting his half-brother Waskar during the Inca Civil War. As a result, there were very few informants for the Spanish to interview from Thupa Inca's panaca that would have remembered what life was like under Thupa Inca Yupanqui in detail (Rowe 1985: 193, Dean 2010: 19). This is probably one of the factors as to why much of the stories related to the wakas come

from Pachacuteq, the ninth Inca ruler who oversaw the initial expansion of the Inca state and the re-organization of Cuzco, with very little mythology from the reign of Thupa Inca Yupanqui.

The Spanish chroniclers came from a different worldview and had distinct agendas and biases. Naturally, some fit what they saw within their Iberian framework of thinking, whereas others attempted to reconcile Spanish and Inca ways of thinking with limited success. In particular, while Bernabe Cobo was raised in Spain, he spent most of his life in Peru teaching at Jesuit schools in the early 17th century. Most of the information about the zeqe lines in Cobo's account is from the lost work of Ondegardo, and is the most complete. He is considered one of the most accurate chroniclers in Andean studies since he used nearly all of the written sources available to him in order to compile a thorough account of the Inca way of life (Pillsbury 2008: Vol. II: 152-153). Ondegardo, a predecessor of Cobo, was a man of the law and served as a government official that reported about Inca customs and idolatry during the Spanish rebellion in the mid-16th century, and as a jurist in Lima and Cuzco. Although it is lost to us today, his account was the first manuscript about the zeqe system. He searched for Inca mummies as part of his position as Corregidor of Cuzco from 1559 until 1560, and probably wrote his account of the zeqe system in order to aid those who were responsible for attempting to find and destroy wakas (Pillsbury 2008: Vol. III: 529-531). In contrast, Molina is mestizo, the son of a Spaniard and an indigenous person and was active in the late 16th century. He was asked to write his chronicle by Sebastián de Lartaún, the bishop of Cuzco at the time. In contrast to the detailed writings that Cobo and Ondegardo produce, Molina's

account focuses on Inca ritual, and attempts to establish the similarities between Inca belief with those of Christianity (Pillsbury 2008: Vol. III: 427). Much of these chroniclers' bias is derived from the duality of their worldview. While in awe of the Inca culture, many of the Spanish chroniclers attempted to justify or criticize their invasion, and as a result either emphasized the barbarity or the grandeur and just nature of the Inca Empire (Pease 2008: 13). Another motivation to destroy existing wakas and idols was that the majority of the chroniclers saw wakas as entities that the devil used for communicating to his worshippers (MacCormack 1991: 57) and leading potential Christians astray. These accounts are biased and probably leave out significant pieces of information, and while helpful, should not be used to define how we perceive the zeqe system.

Social Organization

Before reviewing the literature on the zeqe system, it is necessary to have a basic set of terms in how the Inca social system was structured. The fundamental social unit in the Inca Empire was the ayllu, or kin group. While the most common definition of the ayllu is that of Conrad and Demarest, which is "a kin group tracing its descent from a common ancestor" (Conrad and Demarest 1984:97), I will be using Salomon's definition that is more inclusive, while still giving us a concrete way of thinking about this Andean group of people. According to Salomon, an ayllu is made up of individuals tied by genealogical, religious, physical, or social factors with a common ancestor (Salomon 1991: 22). This definition allows us to think outside of

a pure genealogical context, while tying the individual to a larger group with a unified past. This definition also emphasizes the importance of the common ancestor as the bond between people, and sets the stage for understanding the importance of ancestor worship, since these concepts was fundamental for understanding how wakas were perceived by Inca society.

While the term "panaca" has been introduced above, it bears going into more depth due to the importance of this type of kin group in my investigation. A panaca is an ayllu of royal lineage that occupied a higher place in the Inca hierarchical system and owned lands on royal estates (D'Altroy 2002:156). The definition of a panaca and how its descent is characterized through time is nebulous; while the panaca is based on matrilineal descent, as the base of the word, *pana* is the sister of the male in Quechua (Firbas 2009: 43), it is viewed in the documents as being started by the male Inca ruler (Zuidema 1964: 184, Jenkins 2001: 169). Since the panaca is a royal ayllu, the same ambiguities that plague a precise definition of an ayllu apply to that of the panaca. Panaca members paid homage to their deceased royal ancestor. Many of the wakas on the zeqe system housed mummies of deceased ancestors belonging to a panaca. Members of these families brought food, drink, and material and human offerings to their familial mummy in order to placate it at appropriate times in the Inca calendar (Conrad and Demarest 1984:113). Each panaca controlled a group of zeqe lines, possibly co-owning it with a nonroyal ayllu (Zuidema 1964:12). The owners were responsible for the appropriate offerings and rituals to wakas along their zeqe lines at certain times of the year (Zuidema 1964: 1).

Organizing these social hierarchies at the panaca level was crucial for the Inca; there was much competition over political power within the elite classes. In his comparative study of Chimu and Inca funerary spaces, Jerry Moore argues that Inca shrines "provided a metaphor for inclusion and a justification for hierarchy…a recalculable matrix of relatedness in the calculations of kin groups' statuses" (Moore 2004:105; see also Zuidema 1964, Rowe 1979, Niles 1999, Bauer 2002). The zeqe system was one way the Inca provided a network of "relatedness" and defined the social position of every ayllu and panaca**.** Ethnohistoric legal documents about land claims outside of Cuzco based on historical ownership under the Inca could shed light on who owned certain zeqe lines, and therefore, who owned certain tracts of land outside of Cuzco. Jeanette Sherbondy attempted to recreate the panaca list and assign them to specific zeqes, and I will use these lists to attempt to identify the wakas identified in my study (Sherbondy 1982).

Wakas

A waka is defined as a sacred site that is in the form of a natural or human made entity or idol (Acosta [1590] 2002: 255). A more encompassing definition of a waka is that of Salomon, who argues that it is "any material thing that manifested the superhuman" (Salomon 1991: 17). In other words, it is the essence of the object or site that is the most important instead of the appearance. Thus, it is no surprise that a quarry or outcrop could be a waka, because it is the essence of the site that matters. This definition allows us to free ourselves from the Western idea of the

sacred and instead focus on the material itself and its context. "Waka" comes from the verb wakay, or "to cry" in Quechua, a joyful action during ceremonies performed at these sacred sites. Wakas are not an Inca phenomenon; they can be traced back to the Wari in the Cuzco region, and earlier elsewhere in Peru (Glowacki 2003: 439).

In the Spanish chronicles, Inca wakas are described as animate beings. It is well documented in the chronicles that the Inca spoke to the wakas to gain information (Ayala [1615] 1978:201). The Inca often consulted wakas before making important decisions, such as going to war (Ayala [1615] 1978: 201). Wakas could also be destroyed and rose and fell in power based on their predictions and ability to communicate with the Inca. For example, Huamachuco, a waka in northern Peru, wrongfully predicted that Waskar would win the civil war against his brother, Atawallpa. However, when Atawallpa won, he attempted to destroy the waka, punishing it for its untruthfulness (MacCormack 1991: 143). Other wakas were used as mouthpieces of the panacas; it allowed the other royal families an avenue to disagree with the Inca without overtly doing so (Cobo [1653] 1990: Bk. 12 Capit. 4). In other words, for every decision that he consulted the wakas on, the Inca virtually spoke to the panacas and other families that mattered about important decisions he had to make.

Zeqe System

The zeqe system was a network of ritual pathways, containing 41 or 42 paths with 328 wakas (Cobo [1653] 1990: Bk. 13, Capit. 13, Zuidema 1964: 1, Bauer 1998:

5-6). These pathways were located in the four quadrants, or *suyus*, of the Inca world (D'Altroy 2002: 87-89). This investigation is based in Antisuyu, depicted as the yellow section in the map below. Antisuyu is a region that includes the Amazon jungle and the eastern part of the Inca Empire. The picture below illustrates the suyus, the zeqe lines, and the chronicled wakas.

Figure 2: An artistic interpretation of the zeqe system. It is currently on display at the Qoricancha. While there was not a central point nor were the zeqe lines straight, this interpretation is useful for visualizing how the Inca saw the zeqe system. (Artist unknown)

Figure 3: A map of the survey area adapted from Google Earth. The survey area was approximately 7.5 km^2 in size.

The zeqe system was a way for Inca rulers to display might and to connect their historical narrative to permanent natural formations outside of Cuzco in order to place themselves in the larger Andean tradition of the worship of the natural world while creating their own legacy. One example of this connection between narrative and nature is the seventh waka on the first zeqe of Antisuyu, or Amarumarcawasi. This waka is comprised of a stunning carved outcrop with multiple shallow caves in the Amaru Valley just outside of Cuzco. According to the chronicles, Amarumarcawasi honored the legacy of Amaru Thupa Inca, the older brother of Inca Yupanqui, who made important contributions to the Inca agricultural system. As a result, the memory of his deeds would be commemorated

for the duration of Inca rule and beyond. Other wakas were assigned narratives in order to commemorate local history and origins, establishing their inferior position in the Inca social organization. For example, Antiturco, the fourth waka on the first zeqe of Antisuyu is tied to the mythical origin place of the Goallas (Cobo [1653] 1990: Bk. 14 Capit. 14), a pre-Inca polity living in the Cuzco Valley that the Inca then had to integrate into their framework. As a result, the zeqe system was an important tool for the establishment of Inca legitimization, and the structuring of their social organization as it changed over time.

Within the past 30 years, the academic community has recognized the importance of the zeqes' role in Inca statecraft. Studies of the zeqe system have intensively documented the wakas and paths (Bauer 1998, Niles 1999: 51-56). Bauer, for example, documented the 41/42 zeqes in great detail, recording all of the chronicled wakas along the chronicled network of ritual pathways to a degree of certainty. Niles analyzed the social significance of the zeqes by comparing the Spanish chroniclers' texts to the wakas on the zeqe corresponding with important events in the lives of the Incas. Both researchers describe and locate wakas in the modern landscape and prove they exist, and, in Bauer's case, used multiple lines of evidence (documents, archaeology, interviews) in order to persuasively argue that they do exist. My research builds off of this work; now that it has been proven that these wakas exist, this investigation identifies other potential wakas on the landscape using solely archaeological evidence.

Roads and Pathways

It is important to understand that the zeqe system was not comprised of a single pathway connecting 10 or 11 wakas; each zeqe line was made up of multiple roads and networks. In order to identify these networks, it is necessary to have a basic understanding of how Inca roads were constructed and how they can be distinguished from colonial and modern roads.

In order to identify Inca paths/roads, I use Hyslop's definition of a road as "any route, exhibiting formal elements of construction or not, which was used at the time of the empire and which was continually associated with structures and/or settlements whose function was related to the operation of the Inka state." (Hyslop 1985:3). The general characteristics of Inca paths/roads include high sidewalls (Hyslop 1985:229), narrow roads depending on the slope (1985:237), and retention walls. They ranged from simple footpaths to well-constructed thoroughfares, depending on the environmental context in which it was built. The location and characteristics of these roads and pathways depend on the natural and topographic conditions, the type of traffic, and the destination. The Inca were practical with their road constructions: "Where a simple path or a set of pathways served, there was no road built" (Hyslop 1985:257). Primary roads included the Qhapaq Ñan, which traversed the Inca Empire and ran from Ecuador to Chile to serve administrative and military officials (Qhapaq Ñan Project). Secondary roads were narrower, probably due to the less amount of foot traffic. While my project does not study or document the roads and pathways that might have been used, it is important to

understand the physical context the wakas were in and what they were once connected by in order to ground these monuments geographically.

Inca Religion

Wakas served political and ritual functions, and tied families and monuments back to the central state and the larger natural world. Inca religion was polytheistic and honored gods in the form of natural phenomena, features, and the ancestors. The most common sacred forces mentioned in the chronicles include Inti (the sun god), Killia (the moon goddess), Wiracocha (the creator god), and the apus (sacred mountaintops) (Cobo [1653] 1990: Bk. 13 Capit: 21, Acosta [1590] 2002: 255, D'Altroy 2002: 145-149, la Vega [1617] 2006: 67-69). Also sacred were the bodies of water; Mama Cocha, or the Pacific Ocean, was an important waka in the Inca Empire, and was seen as a source of life. Caves also were considered sacred. In Inca and pre-Inca narratives, caves were seen as origin places of polities in the Cuzco Valley (Cobo [1653] 1990: Bk. 13 Capit. 2, Moore 2004: 97, Dean 2010: 34).

Since the Inca Empire had a relatively large pantheon of ancestors and sacred forces, many studies have sought to analyze the large number of rituals that comprised the Inca calendar. Sabine MacCormack, among other scholars, traces the development of these ceremonies from the Inca period in Cuzco to the Spanish adaptations of it during the colonial and present times. One such statewide ceremony that she has analyzed is the Capacocha ritual, also mentioned in Cieza de Leon's account (MacCormack 1991: 1999-200). The Capacocha ritual used the zeqe

system in order to take material and human sacrifices to faraway *apus*, or mountaintops, that were considered to be some of the most sacred shrines in the empire. In this ceremony, children from diverse parts of the empire were paired and given fine clothing and goods, which often included gold, silver, and spondylus shells. State officiated priests led them along designated zeqe lines in route to the assigned mountaintops. These children were sacrificed once they arrived at the apu, and were buried with the valuable objects brought with them (McEwan 1992, MacCormack 1991: 199-200, Andrushko 2011: 323-324). This ritual was traditionally performed with the death or ascension of a new Inca and for other special occasions. It is an act that celebrates the achievements of the Inca and pays homage to the royal and general celebrants' ancestor and sacred forces. These kinds of actions determined the survival of the Inca Empire, and this network of wakas outside of Cuzco established and impressed the grandeur of the Inca Empire upon celebrants of the Capacocha and other rituals, tying the periphery to the imperial center. The zeqe lines are used to celebrate ayllu-centric ceremonies in addition to the state officiated rituals like the Capacocha ceremony, and these offerings would have been left at the wakas in the study area as well. The wakas identified in this survey would have not only have been associated with particular families; they would have also been used during state-officiated ceremonies, elevating their importance in the Inca ritual world.

The Inca were certainly no strangers to the practice of sacrifice, since the idea of offering valuable objects was an important concept in ceremonies enacted on the zeqe lines. Such sacrifices included children and llama blood, gold, silver,

spondylus shell offerings, coca leaves, cuys, and flowers (Murua [1616] 2001: 406-410, Acosta [1590] 2002:289). Molina describes this practice in more detail: "when they travel, they are wont to see onto the roads…old shoes and feathers and chewed coca" (Molina 2008:262). These offerings were necessary to placate the ancestors in order to bring water, a bountiful harvest, and success to that particular ayllu. Overall, this transfer of resources from the ayllu to the shrines around Cuzco through the act of sacrifice was one of the foundational beliefs of the religious system.

The Late Horizon Period (1475 -1534 CE)

The Late Horizon period is defined by the growth of the Inca Empire as they conquered Peru, Bolivia, Ecuador, and other surrounding countries. It was during this time period that the Inca integrated many foreign populations into their empire. They also re-organized their capital city of Cuzco, a development that gave rise to the zeqe system and other imperial instruments that indoctrinated foreigners about the Inca way of life and their place in it (Cobo [1653] 1990: Bk. 13 Capit. 13,). Also at this time, more non-local goods were traded in Cuzco. Evidence of this can be seen in offerings made to wakas already excavated, such as spondylus shell from Ecuador, silver from the mines in Potosi, Bolivia, and feathers from the Peruvian Amazon. Research today focuses on Inca impacts of settlements as far as Argentina (DeMarrais 1996, Schiappacasse 2002, Ceruti 2004, Jacob 2013) and Ecuador (Bray

1992, Ogburn 2004), but rarely do they focus on how the political landscape changed in Cuzco itself during the Imperial Period.

IV. Methodology

Fieldwork and Data Analysis

In order to analyze the spatial distribution of wakas in a defined area outside of Cuzco, I designed an archaeological survey in the Cuenca de Inkilltambo (see figure 2) from June until September of 2013. The area for this study is approximately 7.5 km.^{2} I selected this region because it is protected by the Peruvian Government as a national archaeological park, it contains well-preserved features, and there is a minimal amount of modern illegal construction. For this thesis, my Peruvian co-director, Luis Guevara Carazas and I identified as many wakas as possible, given the presence of illegal construction. We differentiated between a rock outcrop and a possible waka based on evidence of Inca modification on the rock itself and its immediate environment. Although we recognized that it was important to gain as complete a picture as possible, it was difficult to set up defined transects due to the steep topography and vegetation in the survey area. As a result, our team of three walked along established Inca and modern pathways in areas with extreme topography and surveyed with 50 meters apart in areas with normal topography. Surface collections were not taken, as we did not have permission from the Ministerio de Cultura for such collections according to the survey permit we were given. There were decorated Inca and colonial pottery sherds on the surface

near many of these sites, and photographs of these sherds in context are in the appendix.

Because of the destruction of many sacred sites and the fact that some wakas took the form of quarries, individual boulders, and other forms recognizable only to those who were initiated, it is relatively challenging to identify these sites today. As a result, my study has a conservative definition of what a waka is. What is not included in this study are stone quarries, uncarved stones, portable shrines that were destroyed, and other natural features that were prominent on the Cuzco landscape that would not be recognizable to an untrained eye, although they were included as wakas in the chronicles.

In this study, a Garmin Oregon 450 Geographical Positioning System (GPS) was used in order to locate wakas on the landscape. One point was taken at each waka, since they are discrete sites ranging from 9 to 250 feet wide and 15 to 175 feet long; this point was taken at the summit of the site. GPS routes were also taken to mark primary, secondary, and tertiary Inca roads and paths and their associated features. These data composed the database for my spatial analysis.

Photography also played a key role in this study. The basic shape of the waka and the symbols and other ritual architecture carved into the waka were photographed. The photos gave me the detail I need in order to make conclusions about proving that these sites are wakas and were used for ritual functions during the Late Horizon. The photographs and forms used to identify wakas are in the appendix of this thesis.

Data Analysis

The data analysis stage consisted of testing two models in order to clarify waka spatial distribution and visual patterns in the absence of the documents:

1. Wakas are visually connected to other wakas or important natural features in the Inca sacred world.
2. Wakas are clustered together.

The goals of data analysis were to analyze spatial relationships between the wakas in my dataset, the chronicled wakas, and important natural features such as mountaintops, and to connect these religious sites to a larger system. For the first hypothesis, I used viewshed analysis. For the second test, I ran the average neighbor and Multi-Distance Spatial Cluster (Ripley's K Function) analyses on my data points. The results are discussed below. ArcMap 10.2 was used for these two analyses.

Visibility between ritual structures and other important religious sites and natural formations was crucial for the Inca to establish their harmonious relationship with nature and superiority to other cultures (Moore 1996, Dean 2010: 140). Thus, if the formations identified are wakas, they should be connected visually to an important natural formation. Viewshed analysis was used to look for these relationships. This type of analysis determines what an observer can see from where he/she is standing from one site (Jones 2006: 524-525). Four background rasters that cover the area of study was imported from explorer.gov. The analysis

was run on each waka, producing a raster of what can be seen. The observer height was set to four feet, reflecting the height of the average person living under the Inca Empire (D'Altroy 2002) and the feature height depended on the waka. The GPS points were tested with other wakas identified in the survey, Salkantay, Ausengate, and Huanacauri. These three mountain wakas are sacred in Inca mythology. As Dean argues, the apus were "owners of everything within their range of vision" (Dean 1999: 506, see also Acosta [1590] 2002: 262, D'Altroy 2002: 169-172, Jennings 2003: 143), thus establishing their importance in the Inca hierarchy of sacred forces. Spatial relationships were argued based on the results of this test.

The clustering analyses were performed to see if there are physical spatial relationships between identified wakas in the Cuenca. Multi-Distance Spatial Cluster (Ripley's K Function) is especially useful since it measures the spatial relationships between one set of features based on the K statistic, breaking the clusters into groups. Nearest neighbor analysis serves to reinforce the results of the Ripley's K Function. These analyses signal the presence of clusters, and, based on distance, how many clusters are present in the data. For both models, I grouped the wakas into one layer, and used the merged feature class for the input value and one for the distance band. The latter produced a table showing the ten distinct groups that the wakas were organized in, whereas the Nearest Neighbor gave a statistic. From these results, I was able to chart the clustering of wakas in my survey area.

IV. Results

Twenty-six potential wakas were identified in this survey. Criteria for waka identification, and descriptions and pictures of each data point are in Appendix A. After these potential wakas were identified, I compared the locations of these wakas to those that Brian Bauer identified as part of his survey to locate the chronicled wakas on the zeqe system. The principal differences between Bauer's survey and mine were in our scale and objective; while Bauer used Spanish chronicles to identify 328 wakas in the zeqe system, I focused intensively on a 7.5 km.^{2} area and looked for any formation that could resemble a waka. While it is probable that our survey areas overlapped, our research questions were different, and as a result, produced distinct conclusions. Only one waka (105) overlapped. This waka was not included in the viewshed or cluster analyses, but is included in the waka list in Appendix A as a point of comparison. Below is the spatial distribution of the likely wakas identified in this survey on the landscape.

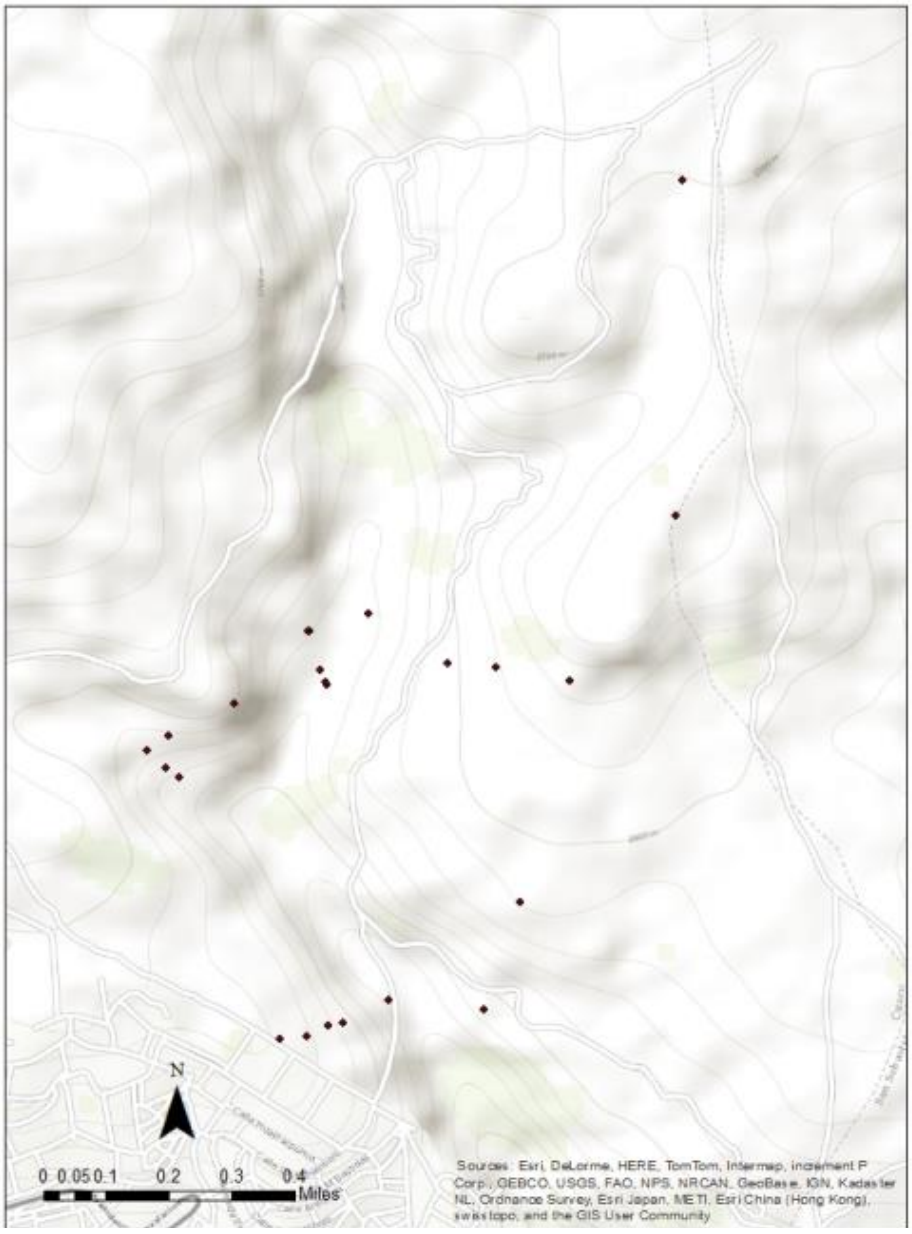

Figure 4: The spatial distribution of wakas in the survey area.

In terms of clustering, the Average Nearest Neighbor Analysis identified wakas with a z-score of -2.97 and a p-value of 0.002977. The observed mean distance was 0.001141 and the expected mean distance was 0.001627, and the nearest neighbor ratio was 0.701210. The null hypothesis was that they were

randomly distributed. Both the z-score and p-value indicated that the wakas were not randomly distributed. The observed mean distance divided by the expected distance gives us the nearest neighbor index. In this case, the index is 0.70129. Since the index is less than 1, I can conclude that there is clustering present in the waka data.

The Multi-Distance Spatial Cluster Analysis using the Ripley's K statistic reinforces the findings from the Average Nearest Neighbor Analysis, and separated the 26 waka data points into 10 groups. It reinforces that these wakas were clustered in 10 different groups, as the differential K statistics were below 1. Below are the results of the Multi-Distance Spatial Cluster Analysis on ArcMap 10.2.

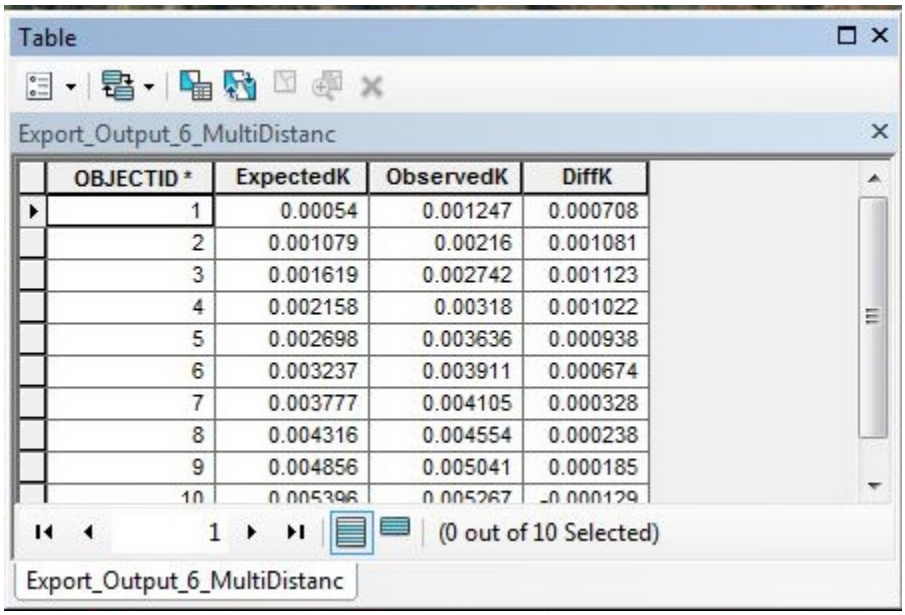

Figure 5: Multi-Distance Spatial Cluster Analysis Results

Viewshed analysis produced the following results: 44% of wakas are in the viewshed of Ausengate, 15% are in the viewshed of more than 50% of other wakas, and 52% have a view of Huanacauri. Ausengate is a sacred mountain, and Huanacauri is the place where Manco Qhapaq, the founder of the Inca State first beheld the Cuzco Valley, making the mountain a site of ritual and historical importance. All of the viewsheds are in Appendix B.

V. Discussion

What were the patterns in the analyses and how can they be interpreted within the context of the zeqe system? Both Average Nearest Neighbor and Multi-Distance Spatial Cluster analyses indicate that it is statistically significant that the wakas are organized in clusters. However, there were many clusters, with approximately three wakas in each one. This could be a sign that the wakas were selected based not only on their appearance and uniqueness, but also that they had to be relatively close to one another, perhaps to ease the journey of ritual practitioners, but far enough away so as not to be confused with others. Most wakas on the zeqe lines radiate outwards and do not appear in clusters. Thus, it is a positive signal that the wakas identified in this survey are grouped together in smaller groups relatively spread out on the landscape.

As predicted, visibility is a significant factor and correlate in terms of the establishment of visual relationships between wakas and important ritual entities.

While all of the wakas identified in this survey did not share viewsheds to one common entity, over 50% had sightlines to Huanacauri, the mythical site where the founder of the Inca Empire first beheld the Cuzco Valley. In addition, 44% had viewsheds of Ausengate, an important apu at least 40 kilometers away from Cuzco. However, there was little intervisibility between the wakas themselves. These results suggest that there was probably a focus on a local phenomenon. By visually connecting the wakas to Ausengate or Huanacauri, the Inca probably selected these sites to connect them to a larger ritual dynamic in the Cuzco Valley and beyond. At least 50% of the wakas are already part of a visual hierarchy as evidenced by their viewsheds; they lack formal and physical connections, which is the purpose of the zeqe lines. Since more than half is associated with these two viewsheds, one can argue that while these wakas might not have been part of a physical system, there was a visual hierarchy that connected these wakas to a larger ritual network.

Another source of evidence that should be considered are the chronicles and other ethnohistoric documents that could contextualize the data and perhaps help clarify the function of the wakas in this Cuenca. In Cobo's account of the zeqe system, while 14 wakas, or 4% pertain to Pachacuteq and 4, or 1.2%, belong to Wayna Qhapaq's panaca, one waka, or 0.03% relates to Thupa Inca Yupanqui. These statistics are strange because Thupa Inca Yupanqui was the ruler who expanded the empire over a larger amount of area than the other two rulers. A waka "pertained" to a specific ruler in the above statistics if it was catalogued as a site of life events, deeds, and places of habit of that ruler. Wakas that were put in place by a specific ruler without relating to a life event or a place of habit were not counted as

"pertaining" to an Inca. Indeed, as Pachacuteq mythically established the zeqe system, it makes sense that he would be represented by the most wakas. However, one would think that Thupa Inca Yupanqui's deeds and places of habit would be represented to a larger degree.

Why is Thupa Inca Yupanqui so important in relation to this investigation? First, according to ethnohistoric documents and property records from colonial times, the Cuenca belonged to the panaca of Inca Thupa Yupanqui (Niles 1999: 51-56). It can be assumed that the majority of the wakas on that property pertained to Thupa Inca Yupanqui, his family members, and his deeds. Second, Thupa Inca Yupanqui is not represented well in the waka list probably because Atawallpa desecrated his panaca. According to Rowe (1985), ten testifiers from the Thupa Inca's panaca and conquered regions presented their account in order to claim inheritance of land that once belonged to Thupa Inca Yupanqui. In this account, there are few details about Thupa Inca's monuments on the zeqe system. While there were no details about who owned which waka, it appears from what was left that Thupa Inca Yupanqui's panaca were active participants on the zeqe system. Thus, a large amount of information about his reign and monuments guarded by the panaca's recordkeepers, or the quipukamayocs, and other members was not recorded by the Spanish chroniclers. Furthermore, the idea that Thupa Inca's zeqe lines fell out of power after his panaca was desecrated by Atawallpa makes sense since there were fewer people to bring offerings to the wakas and preserve their memory.

The zeqe system was probably tied to the idea of renewal in the Inca Empire in relation to the ascension of a new ruler and ordering the landscape. When a new Inca took the throne, he was responsible for conquering new lands, and constructing a new palace for himself in Cuzco to accommodate for his mummy and his panaca. There was a constant guardianship of Incas' properties by their panacas, causing the new Inca to build his own palaces and create his own legacy. In this idea of constant monument building, change and exertion of a new ruler's power over the surrounding landscape was necessary in order to control an expanding empire and the elite factions in the capital. The Inca wanted to order and tame the landscape (Dean 2006), and each ruler probably wanted to have his share in doing so close to the capital. Inca practices further evidence the creation of new wakas and zeqe lines.

While it is difficult to say whether these wakas formed a zeqe line(s) given the lack of documentary evidence and overt patterns in the archaeological record, it is clear that there was a spatial distribution of sacred sites in the Cuenca de Inkilltambo. Another potential supposition that could be made is that the wakas were placed on the landscape before the zeqe lines. This was not unheard of; most indigenous wakas were incorporated into the zeqe system long after they had been considered sacred as part of a colonized landscape. One example is Antiturco, a sacred place for the Goalla tribe, was incorporated into the fourth zeqe of Antisuyu (Cobo [1653] 1990: Bk. XIV, Capit. XIV). Perhaps these wakas were not fully integrated into the zeqe system.

VI. Conclusion

This investigation attempted to identify wakas and zeqe lines outside of the chronicles in the Cuenca de Inkilltambo and put the findings in a larger political context. Naturally, challenges such as zeqe and waka identification were significant for this project due to the lack of standard categories, unclear idea of the makeup of a zeqe and waka, and sometimes subtle or nonexistent Inca modifications to rock formations that could have been wakas. As a result, it is difficult to establish what a zeqe is outside of the historical documentation.

This project began with three possible conclusions about the ritual importance of the objects in the Cuenca de Inkilltambo: first, that there could be zeqe lines. This would mean identifying archaeological evidence in the form of intervisibility between wakas and other sacred sites, clusters. Second, there could be evidence of wakas with no associated ritual lines. Third, there could be no evidence of anything related to the zeqe system. Due to the lack of evidence, it is not possible to conclude that there were zeqes in the Cuenca, but there are enough monuments to hypothesize that the Cuenca was a ritually charged area and perhaps once connected to a larger ritual system. Based on the evidence from GIS analysis, waka identifications, and documentary citations, it is reasonable to hypothesize that the data fit most closely to the second model.

What does this research project say about tracing change on political and sacred landscapes through archaeology? There are different scales of how to analyze the nature of change in an empire over a long period of time. On one

extreme is the overt evidence is the defacing of previous monuments. However, as this study evidences, perhaps changes to a ritual network of pathways were subtler. Thus, different models need to be tested other than looking at clusters and visual relationships. The zeqe system is not the only ritual set of pathways; the elite in other ancient and modern societies use shrine networks to establish legitimacy and honor their interpretation of the culture's past. These pathways are oftentimes recorded by documents. The documentary approach leaves archaeologists with an unclear idea of how these kinds of systems have changed over time (Alcock 1996: 6-7, 34, 73). Thus, this problem is not just limited to the Inca in Peru. Unless another model is found, or there is a clear historical documental trail, changes in ritual architecture in the landscape will continue to challenge our interpretations of changes in ritual monumentality.

Future research about shrine networks could include identifying spatial and physical similarities using ArcGIS and comparative data cross-culturally. More specific to this project, perhaps future research questions should focus on developing other models that could signal change in ritual landscapes such as network analysis when there is strong road and path preservation in Peru and elsewhere, or viewshed analyses focusing on other points. While there is much work that is left to be done to understand how the zeqe system and other similar ritual pathway systems changed over time, this investigation has taken significant step in using GIS to analyze ritual built landscapes.

Appendix A: Waka Classifications and Data Points

Waka identification is challenging; chroniclers wrote that wakas could include but are not limited to: springs, manmade constructions, mountains, lakes, caves, rocks, and other significant natural landmarks associated with Inca mythology (Dean 2010: 2-3, 11-12). As a result, for the purposes of this project, I defined a waka narrowly; instead of looking for distinctive features on the landscape, I focus on features that have been modified by the Inca or are in distinctive forms already considered sacred such as caves and lakes. There were probably unmodified wakas in the Cuenca de Inkilltambo that were not identified in this survey; I identified carved features to make sure that my argument had a strong foundation, since I have an untrained eye for recognizing wakas. It is difficult to differentiate between un-carved regular and sacred stones on the landscape without the specialized training that the practitioners would have had, so I decided to record just carved stones and features. Below are the categories used for the process of identifying likely wakas:

Caves

In the Andes, cave worship is a ritual component of many Andean cultures (Moore 2004: 97, Dean 2010: 34). When they came into power, the Inca re-appropriated many of these sites and incorporated this pan-Andean concept of the sacredness of

caves into their own origin myth. According to the Hermanos Ayar interpretation of this myth, the Inca entered the world through Tambo Toco, a cave approximately 40 kilometers south of Cuzco (Cieza de Leon [1553] 1959: 32-33). Naturally, caves are included as wakas in this survey.

Water

For a state that depended on agriculture, large bodies of water were necessary for irrigation. As a result, it was necessary to keep these resources flowing. Water worship was a pan-Andean phenomenon; local sources of water were controlled, oftentimes in a ritual manner or special construction. The Andean view of water was based in cycle of death and regeneration before and during the Inca Empire (Gose 1993: 481, D'Altroy 2002: 149, Glowacki 2003). To the Inca, water was an animate substance (Dean 2010: 32-34), and bodies of water were sacred and sites of offerings, a trade for the life-giving substance necessary for their survival. Lakes were sacred for the Inca, and were seen as being connected to the Pacific Ocean and Lake Titicaca, two significant wakas in their own right (Cobo [1653] 1990: Bk. 13 Chapt. 18). Springs make up 29% of the chronicled wakas in the Cuzco zeqe system (Bauer 1998: 23). I included lakes and sites along rivers and springs with evidence of Inca worship in this survey.

Manipulated Stone

Stone manipulation was one way the Inca expressed the ritual importance of a site. Carolyn Dean categorizes these rock modifications as framing, carving, distancing, or contouring (Dean 2010: 27-35). Manipulated stone was included as a sign of a waka in this survey.

Other Significant Natural Landmarks

What is not included in this study are stone quarries, uncarved stones, portable shrines that were destroyed, and other natural features that were prominent on the Cuzco landscape that would not be recognizable to an untrained eye. For example, the seventh waka on the second zeqe of Chinchasuyu was a stone quarry (Cobo [1653] 1990: Bk. 13 Capit. 13). While quarries are considered ordinary utilitarian sites, some were considered sacred by the Inca, making it difficult to distinguish between the ordinary and sacred sites with no overt modifications. As a result, it is difficult to identify wakas on the landscape because a formation that might have been important during the Late Horizon might be overlooked by archaeologists today because of the lack of visual characteristics that we would expect.

Human-made Constructions

Some buildings either used by the Inca ruler or constructed to commemorate royalty are recorded as being wakas on the zeqe system. Characteristics of ritual manmade constructions include ashlar or polygonal architecture, niches,

trapezoidal doorways with single, double, or triple jambs, and kancha structures (Gasparini and Margolies 1984: 201-313, Protzen 1993: 220-237, Niles 1999: 266-269). Patallaqta, the second waka on the first zeqe of Chinchasuyu, was such a construction; it was a house that Pachacuteq directed to have sacrifices offered to it (Cobo [1653] 1990 Bk. 13, Capit. 13). These are virtually impossible to distinguish from ritual sites with other purposes not on the zeqe lines. Due to the difficulty of site vs. waka identification and the scarcity of sites in the survey area, none were included in this waka list.

Idols

The zeqe system was also comprised of wakas in the form of portable idols. For example, the third waka on the second zeqe of Chinchasuyu was an idol made of gold and forming the essence of the brother, or wawqi, of Pachakuteq (Cobo [1653] 1990: Bk. 13, Capit. 13). To my knowledge, there are no idols left in their original contexts on the zeqe system; most of them were destroyed by the Spaniards or hidden by the Inca after the Spanish conquest.

Mountains

The worship of mountaintops, or apus, is an ancient pan-Andean tradition **(**Cobo [1653] 1990: Bk. 12 Chapt. 21, Acosta [1590] 2002: 262, Dean 2010: 8-9, 140, Reinhard 2010). Like cave worship, the Inca integrated important apus into their

ritual framework, and some of them became important wakas. For example, the capa cocha ceremony was not only a way for the capital to tie in the provinces, but also to honor the local apus with the finest sacrifices (Reinhard 2010: 82-85). No apus were identified in this survey, but two apus were used in the viewshed analysis.

The question of waka identification in a modern context is central to this study. It is challenging because essence mattered over appearance to the Inca, as evidenced by the forms of many of the wakas included in Cobo's account of the zeqe system (Dean 2010: 61-64). For this study, European categories were utilized, but in reality, there were probably more wakas that cannot be accessed through appearance alone. This study should not be taken as an all-conclusive account of wakas in the Cuenca de Inkilltambo; there were probably many more. All of the waka entries below include elevation, approximate size of the site, notable features, and location.

Waka 003

Elevation: 11898 feet

Location: 13 30.27' S, 071 57.816' W, next to a river, along the Antisuyu branch of the Qhapaq Ñan

Approximate Size: 105 long x 60 ft. wide

Distinctive Features: Multiple stone seats, serpent carvings, polygonal architecture

Waka 004

Elevation: 11888 ft.

Location: 13 50.284’ S, 071 57.782’ W, on the valley floor

Approximate Size: 15 x 9 ft.

Distinctive features: Bench-like structure, offerings still left there, hole for offerings, overlooking ridgetop and Amarumarcawasi

Waka 007 (?)

Elevation: 11910 ft.

Location: 13 30.250’ S 71 52.735’ W (Base) 71 52.739’ W (Summit)

Approximate Size: 105 ft. x 80 ft.

Distinctive Features: Possible stone seat, 1.5 x 1” metal cross, rock outcrop, distinctive, modern offerings found, view of Salkantay and valley, along Qhapaq Ñan

Waka 010

Elevation: 12141 ft.

Location: 13 29.339’ S 71 56.446’ W

Approximate Size: ?

Distinctive Features: Rock outcrop, canal

Waka 011

Elevation: 12148 ft.

Location: 13 30.0174’ S 71 56.4512’ W

Approximate Size: ?

Distinctive Features: rock outcrop, shallow cave, on a slope

Waka 012

Elevation: 12008 ft.

Location: 13 30.256’ S 71 56.894’ W

Approximate Size: 100 x 70 ft.

Distinctive Features: rock outcrop with shallow cave, possibly carved stone, evidence of pago and wooden cross, views overlooking Cuzco and Inkilltambo Valley

Waka 013

Elevation: 11881 ft.

Location: 13 30.238’ S 71 57.001’ W

Approximate Size: 60 x 10 ft.

Distinctive Features: Rock outcrop, lots of vegetation, u-shaped natural rock structure, on a hilltop

Waka 014

Elevation: 11808 ft.

Location: 13 30.233’ S 71 57.067’ W

Approximate Size: 20 x 15 ft.

Distinctive Features: Shallow caves, rock outcrop, on a slope

Waka 017

Elevation: 11563 (base) ft. 11589 (summit) ft.

Location: 13 30.733’ S 71 57.212’ W (base), 13 30.733’ S 71 57.233’ W (summit)

Approximate Size: 20 x 24 ft. (base), 30 x 33 ft. (summit)

Distinctive Features: Stone seat, stairs, canal, polygonal architecture, associated with Inca large decorated ceramics, view of part of Cuzco, associated with terracing, rock structure

Waka 019

Elevation: 11630 ft.

Location: 13 30.747’ S 71 57.263’ W

Approximate Size: 39 x 15 ft. (lower sector), 74 x 24 ft. (upper sector)

Distinctive Features: On a slope/hilltop, associated rustic wall, distinctive rock forms, caves, road leading through site

Waka 020

Elevation: 11684 ft.

Location: 13 30.752’ S 71 57.299’ W

Approximate Size: 9 x 11 ft.

Distinctive Features: Drainage pit? Distinctive rock structure – located at head of tertiary/ritual road, associated with finely painted Inca pottery

Waka 022

Elevation: 11682 ft.

Location: 13 30.377’ S 71 57.458’ W

Approximate Size: ?

Distinctive Features: ushnu like structure, right by river

Waka 023

Elevation: 11659 ft.

Location: 13 30.389’ S 71 57.440’ W

Approximate Size: 108 x 250 ft.

Distinctive Features: 3 cavelike passageways, caves, associated polygonal wall, built-in steps, on a hilltop

Waka 024

Elevation: 11729 ft.

Location: 13 30.353’ S 71 57.482’ W

Approximate Size: 70 x 40 ft.

Distinctive Features: 2 stone seats, rock outcrop, steps?, overlooking river

Waka 025

Elevation: 11753 ft.

Location: 13 30.332’ S 71 57.451’ E

Approximate Size: ?

Distinctive Features: Cave, on a slope

Waka 026

Elevation: 11959 ft.

Location: 13 30.287’ S 71 57.362’ W

Approximate Size: 120 x 150 ft.

Distinctive Features: On a mountaintop, rock outcrop, cave

Waka 027

Elevation: 11747 ft.

Location: 13 30.187’ S 71 57.258’ W

Approximate Size: 150 x 75 ft.

Distinctive Features: stone seat, rock outcrop, on a hilltop

Waka 028

Elevation: 11853 ft.

Location: 13 30.698’ S 71 57.150’ W

Approximate Size: 12 x 12 ft.

Distinctive Features: Possible stone seat, distinctive rock feature, cross grafatti, on a slope

Waka 029

Elevation: 11660 ft.

Location: 13 30.187’ S 71 57.260’ W

Approximate Size: 18 x 18 ft.

Distinctive Features: Fountain, Inca wall

Waka 030 - Inkilltambo

Elevation: 11614 ft.

Location: 13 30.164’ S 71 57.177’ W

Approximate Size: 175 x 90 ft.

Distinctive Features: Carved stone, niches, ceremonial buildings, polygonal architecture, covered passageways, contouring stonework

Waka 031

Elevation: 11577 ft.

Location: 13 30.261’ S 71 57.235’ W

Approximate Size: 30 x 100 ft.

Distinctive Features: carved Inca wall, polygonal wall, river, on valley floor

Waka 032

Elevation: 11576 ft.

Location: 13 30.258’ S 71 57.236’ W

Approximate Size: 25 x 40 ft.

Distinctive Features: waterfall, associated shallow cave, carved rock, associated polygonal Inca wall, part of river

Waka 033

Elevation: 11571 ft.

Location: 13 30.220’ S 71 57.236’ W

Approximate Size: 50 x 15 ft.

Distinctive Features: Overgrown – associated buildings, cave, round stone?, on the valley floor

Waka 091

Elevation: 11585 ft.

Location: 13.30.241’ S 71 57.245’ W

Approximate Size: ?

Distinctive Features: Associated ritual canal, rock outcrop

Waka 104

Elevation: 11752 ft.

Location: 13 30.563’ S 71 56.968’ W

Approximate Size: ?

Distinctive Features: Caves, modern cross and offerings, possible platform with supporting walls

Waka 105

Elevation: 11335 ft.

Location: 13 30.710’ S 71 57.018’ W

Approximate Size: ?

Distinctive Features: Polygonal architecture, trapezoidal doorway leading to the site, carved rock, circular terracing

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