

Globalization without markets? Population movement and other integrative mechanisms in the Ancient Andes

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Abstract

In late pre-Hispanic periods much of modern Peru, Bolivia, Chile, Argentina and Ecuador was connected by a network of intense interactions through the long distance movement of people as well as goods and ideas. Rather than prioritising an analysis of the movement of goods as a measure of globalisation this article stresses the more limited role of market exchange in the Andes but that the movement of people, knowledge and skills is strongly expressed in the transfer of technologies and sharing of stylistic elements. It presents a broad description of cross-cultural and interregional contacts that were taking place in the Andean highlands and Pacific coast from around 500 CE till the period of European colonization around 1600 CE, including the Wari and Inka Empires. It reviews mechanisms of social and economic integration that shaped the globalizing tendencies in the Andes through a review of archaeological evidence as well as early historical records.

Integrative mechanisms in the Ancient Andes

Many of the behaviours that shape modern globalization were common to earlier periods and places (Feinman this volume). But, some of the primary economic structures and technologies that drove early globalization of ancient Eurasia were of less significance in the Ancient Andes. Latter pre-Hispanic Andean economies undoubtedly had a 'complex connectivity' (Jennings 2011: 2, citing Tomlinson 1999: 2) with a dense network of intense interactions and interdependencies that integrated disparate people through the long distance movement of goods, ideas, and individuals. The primary forms of connectivity (Jennings this volume) and networking (Knappet this volume) that shaped Andean societies are expressed in the transfer of technologies and the borrowing of stylistic elements as well as large-scale movement of people. Although the long-distance movement of artefacts reveals important aspects of cultural interaction in the Andes (Vaughn 2006), in comparison to Europe and Asia the range and quantity of goods moving long-distances is exceedingly limited. On a Roman period Villa in Britain we find significant quantities of heavy amphora from the Mediterranean, Samian dining wear from Gaul and probably some colour-coated drinking vessels from Germany as well as a wide range of forms from Romano-British pottery industries from 10 to 200km's away. In contrast, all the excavations of Inka period sites in the Mantaro valley, a region strongly re-organized under Inka rule, over 99% of the pottery, including Inka style pottery, was locally produced with only a few sherds from the Junín and Chimú and two plate fragments of possible Cuzco origin, shells from the Pacific coast and Bronze using tin from Bolivia were imported although still in very small quantities (Earle 2001). While some prestige materials moved long-distances there is little evidence that the economic systems of any period in the Andes facilitated the sequential trading of goods as seen along the Silk Road, and the quantity of artefacts that were being moved is minimal in comparison to what was happening in the Roman Empire. This is only partly due to the lack of navigable rivers and a 'Middle Sea' (Broodbank 2013) or the absence of traction animals and wheeled vehicles, in the Andes llama caravans and people were capable of regular long distance transport. When the Spanish arrived in South America they

remarked that the Inka Empire had no money or markets, although recent debate has emphasised the existence of barter as a component within Ancient Andean economies (Hirth and Pillsbury 2013) and speculated about the possibility of pre-Hispanic fairs (Stanish and Coben 2013). Ancient Andean economies cannot be described as market economies. But, there is strong evidence for the transfer of technical skills, styles, ideologies and languages to attest for strong social interactions across the Andean region. The Spanish reported how large parts of the Andean economies were structured through hierarchies of social obligations, where people gave their labour as a duty to kin groups, ethnic leaders and the state in return for feasting, some redistribution of goods and infrastructure. Although no individual in the Andes could comprehend the full scale of connectivity that was taking place, many connections were being made through networks of structured social relations. This presents a challenge for how we identify labour exchange in the archaeological record, but it is also a challenge if we characterize Globalization as a connectivity that is beyond the self-awareness of the individual. Within the wide region of the Pacific Coast and Andean highlands running from Chile and Argentina to Ecuador there were a range of social and economic systems in place, and these changed over time. Craft-specialization was most significant in the polities on the Pacific coast of Peru, and the region of modern Ecuador and Northern Peru was engaged with more trading activity, both of these areas were engaged with by the Andean highlands long before their incorporation into the Inka Empire forming an important part of Andean ‘complex connectivity’.

To understand interaction in the Andes some fundamental assumptions need to be questioned: skilled craft products are not necessarily made by full-time craft-specialists (craft goods may be made seasonally by agriculturalist or administrative elites), the economy may not have been structured through the exchange of finished goods (the Inka economy was structured primarily through labour obligations, markets and commodity values played a minimal role), the movement of artefacts does not adequately reflect the degree of interaction (people moving for short-term labour obligations and long-term colonisation were more significant than the movement of goods), urbanisation did not develop through the pull of market exchange (ritual and administrative centres were a more significant tier of settlement organisation). With these caveats, there is good evidence for large-scale interaction and a ‘globalizing tendency’ throughout the Andean world.

This article presents a broad description of cross-cultural and interregional contacts that were taking place in the Andean highlands and Pacific coast of modern Peru, Bolivia, Chile, Argentina and Ecuador from around 500 CE till the period of European colonization around 1600 CE. I review mechanisms of social and economic integration that shaped Andean globalizing tendencies through a review of archaeological evidence as well as early historical records. Within this process artefact form and decoration provide a medium that can express social interaction. Andean archaeologists (Willey 1945) have identified the wide-spread adoption of shared iconographic motifs as ‘horizon styles’. These have been used to define a chronological sequence, with three phases of regional integration referred to as the Early Horizon (EH, Chavin style: 9-200 BCE), the Middle Horizon (MH, Tiwanaku and Wari styles: 500-1000 CE) and Late Horizon (LH, Inka style: 1400-1532). The Early, Middle and Late Horizons, were periods of integration expressed in the spread of common iconographic motives and/or conquest and colonization by expansive states. The periods between the horizons, the Early and Late Intermediate Periods (EIP and LIP), have been characterised as a time of social collapse or

localized regional developments. This paper will consider the later part of this sequence where there is the greatest evidence for wide regional integration: the Middle Horizon (MH), Later Intermediate Period (LIP) and Late Horizon (LH).

The Landscape

Pre-Hispanic people developed a sophisticated range of techniques to produce and acquire resources. They grew crops (e.g. maize, cotton, potatoes, quinoa, beans, chili, gourds, coca) and invested much labour in the improvement of soil fertility and irrigation using raised fields, reservoirs, terraces and canals. Agricultural production takes place in association with llama and alpaca herding which not only provided meat, but also wool for warm clothing and blankets: an essential pre-requisite for large-scale occupation of cold high-altitude areas. Llamas are the only animal capable of transport, carrying a relatively small load (usually 25–40 kg) which has to be split evenly on either side of the animal's back. This is ideal for transporting grain or salt, but llamas are incapable of transporting awkward shaped, long or heavy object which had to be transported on peoples' backs.

The frozen heights of the Cordillera Real and Cordillera Blanca rise to altitudes exceeding 6000 meters. Above 4000 meters agricultural production is limited but an extensive area of *puna* provides grasslands for camelid grazing. Below 4000 meters there is extensive agricultural production concentrated around the rainy season from November to May, leaving much of the dry season for non-agricultural work, encouraging a distinct seasonal rhythm to many social and economic activities. The slopes dropping down to the warm and humid Amazonian rain forest to the east are the source of important resources of timber, fruit and exotic feathers. The Andean mountains pull all the rain out of the Atlantic air currents, leaving a rain shadow on the western side facing the Pacific so that the coastal plain of Chile and Peru includes the driest deserts on earth, yet the Pacific coast benefits from warm fertile river valleys and abundant marine resources. Environmental and social differences have led to major distinctions in the developments of these regions. To characterize (or stereotype) these: before the conquest some of the most densely populated areas of the Andes were the *puna* highlands, such as those around Lake Titicaca, which focused on llama herding; the highland valleys were characterized by agricultural communities; and the coastal valleys had agriculture alongside the exploitation of marine resources and a greater intensification of craft-production; the eastern slopes of the Amazon basin were less developed with more dispersed population practicing agriculture and exploiting forest resources.

The Middle Horizon

The description of this period as a 'Horizon' is justified by the vast areas that were dominated by the Wari Empire and Tiwanaku Culture, which shared some elements of their iconography. For instance the staff deity motif, a full-frontal figure standing on a raised platform holding a vertical staff in each hand (Cook 2012) first appears in the iconography of Early Horizon and became a central motif in the iconography of both Wari and Tiwanaku. Wari developed out of the Huarpa culture in Ayacucho, but also incorporated motifs and techniques derived from Nasca (Schreiber 2001, 2005) and from the Yaya Mama traditions, to develop the Southern Andean Iconographic Series (Isbell 2008). Thus cultural interaction is seen in the borrowing of motives and techniques to create new hybrid forms that expressed some combining of ideological and religious traditions. However, Wari and Tiwanaku had quite distinct social and economic structures

which are partly expressed in the architecture of their ceremonial centres (Janusek 2008; Isbell 2008). Tiwanaku has large open plazas that could accommodate hundreds of pilgrims and depicted their iconography on monumental stonework. In contrast, the Wari capital, Huari, had high walls that limited visibility rather than elaborating large gathering places (Isbell and Vranich 2006). Schreiber (1992: 280) suggests that Tiwanaku ‘brought people in’ to participate in large public ceremonies whereas Huari focused on smaller scale rituals for the Wari elite. Where the Tiwanaku sphere of influence appears to have been integrated primarily through the draw of its ceremonial centre, the Wari conquered an extensive territory and used large administrative centers to exploit the labour of conquered subjects.

Janusek (2004) argues that Tiwanaku was a multi-ethnic city, where distinct barrios maintained kinship links to more distant regions where some Tiwanaku style iconography is also reproduced in local material culture. The city of Tiwanaku supplemented its own *puna* area resources by establishing ‘colonies’ or diaspora communities in the maize growing area of Moquegua, Osmore river valley (Goldstein 2005). Analysis of the archaeological evidence of ceramics and textiles as well as burial patterns and housing to compare these colonies to their ‘parent communities’ in the Altiplano suggests a ‘reliance on socially embedded reciprocity and productive colonization for exchanging virtually all categories of goods and services’ (Goldstein 2014, 379).

While the elite of Tiwanaku seem to have relied on the fame of their impressive cult centre and diaspora communities to maintain extensive regional contacts, the Wari were an expansive empire with substantial parts of their economy shaped by conquest. The Wari Empire incorporated a vast territory from Cajamarca 800km north of Huari to Moquegua some 525 km south of Huari and lasted for approximately 4 centuries (600-1000 CE). In areas that already had significant social organisations Wari style grave goods suggest that local elites were sometimes co-opted into Wari state activities (Schreiber 2001: 87). The Wari territory is characterised by a wide distribution network of obsidian from the highlands, accessing arsenical bronze from the coast and tapping into supplies of *Spondylus* shells from Ecuador, all of which are likely to have been supported by llama caravans. In areas of limited prior development a phase of military conquest (c. 600-700 CE) and construction of preliminary administrative centres (such as Viracochapampa, Jincamocco) followed by investment in agricultural production and even larger-scale administrative facilities in locations such as Cerro Baúl and Azángaro (Schreiber 2001). In the Sondondo Valley the site of Jincamocco was enlarged, possibly as accommodation for imported labourers who helped to build and manage the new canals and terracing (Schreiber 1992; 2001). In the upper Nasca valley local populations were moved out and a new Wari site for highland labourers was established at Pataraya adjacent to agricultural fields suitable for coca growing (Edwards 2010), and an immigrant work force constructed households at Cerro Mejía adjacent to Cerro Baúl (Nash 2002). In the Vilcanota Valley the Wari constructed a vast administrative site at Pikillaqta and a smaller administrative site at Raqchi. At Pikillaqta 501 small conjoined buildings roughly 5 meters long with hearths, ash and occupation debris suggests living quarters (McEwan 1991: 117), similarly the 340 small rooms in the central sector of Azángaro and 152 adjoining rooms in Raqchi are all within large enclosure walls suggesting medium-term accommodation for a labour force (Sillar *et al* 2013). Each of these sites was associated with large scale aqueducts and terracing as the Wari exploited the labour of conquered groups for agricultural production (Schreiber’s 2001). There can be little doubt that the Wari had

a very large impact on the populations of all of these regions moving people about for labour projects. One potential route to evaluate the effects of Wari interventions is to consider language change. The Quechua language originated in Central Peru with Aymara originated in the South-Central coast, both languages are thought to have spread into the South-Central Highlands 1-2000 years ago and the most likely driver for this was Wari (Heggarty 2008). This degree of language change could not have been achieved without large scale integration through deep-seated interaction and the movement of people and Wari conquest and labour extraction are the only significant vector that has been identified for this process.

On the Peruvian coast, the major indicator of Wari influence are changes in local pottery styles where Wari iconographic motives and decorative features are combined with local features to create new hybrid pottery styles. This is a feature of the lower Nasca area around Ica, where the Atarco style incorporates Wari elements. Nievería style ceramics, which emerged following the demise of Lima culture also blends local and Wari elements, and Wari style textiles and pottery are found with the elite burials in Ancón and Supe Valley. The wide distribution of Wari-related iconography suggests a high degree of interaction, although it is noticeable that most of this high quality pottery was being made locally by, and for, the elite. While interaction is documented in the movement of some goods it is more strongly expressed in the borrowing of styles and lifeways that suggest deep cultural contact.

The Moche polity on the North Coast of Peru emerged around 1-200 CE, pre-dating the Wari by some 500 years. The strongest Moche 'kingdom' was located around the Huaca del Sol and Huaca de la Luna at Moche, but it was interacting with a series of 'kingdoms' to their North with sites like Sipan and San Jose de Moro which shared similar iconography. The building of huge mounds required a large *corvée* work force that impressed their makers' marks on millions of adobe bricks. The amount and quality of craft products suggest a much greater degree of craft specialisation than in the highlands at this time (Bawden 1996), and there is evidence for intensive metal working, weaving, and ceramic production at Moche (Chapdelaine 2002) and Pampa Grande (Shimada 2001: 200) where elites could control the production and access. Excavations in the tombs of Sipan have shown that the elite wore the ritual paraphernalia made in the metal workshops. But, rather than the elite depending on the import of prestige goods for their status, Uceda and Armas (1998) state that all the fineware pottery used for funerary and ritual purposes at Moche was probably made in the central Huaca de la Luna workshop. Indeed, fine-line pottery depictions of rituals (Donnan and McClelland 1999) suggest that the potters were intimately involved in ritual practices and may have been part of the elite. Moche society seems to have been largely internally focused, but it is likely that they were exchanging some arsenical bronze into the highlands and in the final phase (Moche V) they started copying Wari pottery designs (Castillo 2001) this was followed by the abandonment of the raised platform mounds and a change to seated and flexed burials which are more characteristic of South coast and Wari.

Wari's occupation of Pikillaqta came to an abrupt end around CE 1000, when the entrances were deliberately sealed and the site later burned (McEwan 1996: 83-84). Janusek (2008: 295) highlights the defacing of cult images at the time of Tiwanku abandonment around CE 1100, suggesting a major reaction against ceremonial activities at the heart of the city. Schreiber (2005: 250) suggests that hundreds of Wari pots at Pacheco may have been smashed by local

people rejecting Wari rule, this included jars depicting the staff god which were ‘killed’ by blows to the chest or face of the authority figure. Indeed the staff god image, which originates in the Early Horizon and had been used for over a thousand years, and other element of the Southern Andean Iconographic Series were no longer produced in any medium following the collapse of Wari and Tiwanaku, the religious understanding that had united a wide area and underpinned elite power was widely rejected.

The Late Intermediate Period

The demise of Wari and Tiwanaku sees a fundamental change in social organisation throughout the Andean highlands. The period, stretching from the collapse of Wari (c.1000 CE) to the expansion of the Inka Empire (c.1400 CE), is understood as one of regional differentiation and referred to as the Late Intermediate Period (LIP). In the highlands the abandonment of ceremonial and administrative centers was replaced by the construction of new hilltop settlements with circular houses that show little hierarchical differentiation. There is also a wide-spread adoption of above-ground burial towers, *chullpas*, for collective burials some of these are elaborate structures with carved stone, but many are simpler structures that provided a familial focus for ritual practice (Sillar 2012). On the South Coast (Menzel 1976) and Nasca drainage (Rowe 1986) there is a contemporary change to collective burials. This suggests a rejection of the focus on individual burial, and the pomp and splendour of state religious practice, in favour of a more community or family orientated social organization. Isbell (1997) argues that above ground sepulchures were first developed around CE 200 in or near the Huamachuco area, and adopted in Ayacucho around 7-800 CE so that it is probable that this change in burial practice found its way into both the Vilcanota Valley as a part of the Wari phenomena (similar to the spread of Christianity within the Roman world), but it continued as an even more dominant feature within the LIP. The retreat to the hills and adoption of circular houses and simpler *chullpas* was a surprisingly ‘global’ change that expresses a shared rejection of the previous world view from Lake Titicaca to Junín (Stanish 2003; Arkush 2011; Wernke 2006; Sillar and Dean 2004; Parsons *et al* 2000).

Andean households must always have engaged in some small-scale barter to gain access to crafts and produce they did not make or grow themselves, and camelid caravans would have played a significant role in coordinating the movement of goods. Along the central Andes many high altitude herders and valley agriculturalists developed dualistic social structures with distinctions in language and dress used to maintain separate identities while having interdependent economies that relied on exchange of produce across the two zones (Duviols 1973). Archaeological survey work in Junín (Parsons *et al* 2000) and the Colca Canyon (Wernke 2006) suggests that this highland/valley inter-dependent duality emerged around 1000AD. This was probably a direct response to the collapse of the Wari economy: the intensification in both valley agriculture and highland herding which had relied on Wari redistribution required new mechanisms of exchange between highland herders and valley farmers. By the Late Horizon, several large ethnic groups included both highland pasture and irrigated agricultural land within their territories, with ethnic leaders sponsoring the internal exchange of goods and labour (Murra 1972). Ethnic groups also sent people to colonise small areas beyond their core territory, these 'archipelagos' were worked by temporary residents who remained loyal to the leaders and grew resources such as coca, cotton and chilli to send back home. Far from being a time of social collapse the Late Intermediate Period in the highlands must have seen a good level of social

interaction in the spread of similar life styles and mortuary rituals, with highland-valley exchange and small scale colonisation being coordinated through the social obligations within ethnic groups. The supply of wool and textiles remained an important component within this exchange which helps explain the economic power of highland pastoralists who were supplying both the Andean valleys and coastal communities, including the Chimú, with fine camelid wool (Rowe 1980, 85-6) and no doubt returning to the highlands with coastal products.

The Chimú state emerged around 1000 CE, after the end of Wari. The Chimú first consolidated their base in the Moche, Chicama and Virú valleys of the Peruvian North Coast, and then expanded out to build administrative centres at Farfán, Manchán and Túcume from around 1300 CE. The capital of the Chimú state was Chan Chan and McEwan (1990) suggests that the architecture at Chan Chan borrowed extensively from Wari imperial architecture to develop the large royal enclosures (*ciudadela*). The *ciudadelas* had large scale storage, acting as palaces where the rulers could accumulate raw materials, staple goods, and luxury items, with large plazas for ritual celebrations. At the height of its power Chan Chan had a population of around 30,000 (Topic 1990) and was probably the largest example of 'urbanism' in the Americas, but it was strongly focused on the elite palaces which sponsored the production of prestige craft-goods and controlled a centralized redistributive economy. Rostworowski (1977) used Spanish documentary evidence to highlight the development of labour specialization with distinct groups of full-time craft-producers but she also identified exchange within these coastal polities, more recently the evidence for craft-specialisation and coastal exchange has been supported by archaeological analysis (Topic 2000, Tschauner 2009).

The Late Horizon

The emergence and consolidation of the Inka in the Cuzco region took around two centuries (Bauer 2004) followed by the rapid conquest of an enormous Empire (1400-1533 CE). When the Inka conquered new areas the population was expected to continue their allegiance to their ethnic leaders, in return these leaders were expected to coordinate a *mit'a* (the Quechua word *mit'a* means 'to take a turn') of workers to contribute labour to Inka state projects, for the rest of the year households continued to manage the fields, herds and other activities of their home communities (Murra 1982). During the *mit'a*, the Inka were expected to provide labourers with work materials as well as food and drink (Murra 1980). This has significant archaeological implications as the Inka taxation is evident in the infrastructure of the state, but is not very marked by the acquisition of goods in domestic households. D'Altroy (2015: 398) points out that for one well recorded census (of Huánuco) only 1/9th of the *mit'a* would produce archaeological evidence in the creation of state architecture or pottery. Inka officials worked with ethnic leaders to maintain a census of the population and delimit labour demands, and the Inka used the *kipu* (a recording device of knotted strings) to keep data on population size, work allocations, agricultural production, camelid herds, store contents, etc. One name for the Inka Empire was *Tawantinsuyu*: *tawa* ('four'), *ntin* ('together') *suyu* (usually translated as 'quarters' or 'parts'), but Bertonio (1984 [1612]: ch. II, 331-32) translates *suyu* as 'that part of a task that one or more persons takes to work on', leading Harris (2007: 151) to suggest that the empire was conceived of as a gigantic labour project, encapsulating the ideals of the *mit'a* in its name.

The Inka also extended the tradition of sending permanent colonists (*mitmaquna*) to work 'archipelagos', moving some groups more than a thousand kilometres to create new enclaves. D'Altroy (2015: 373) estimates that current assessment of Spanish records suggest that between a quarter to a third of the 10 to 12 million population in the Empire were resettled. 'Colonization in the Inka empire had many layers, as it was practiced by the state, the official religion, Inka aristocracy, ethnic lords, and local communities. Establishment of the colonies accomplished military, political, economic, social and ideological goals' (D'Altroy 2005: 292). Although there are many Spanish reports confirming the large-scale of this re-settlement policy, identifying the origin of specific colonies using archaeological evidence has been difficult, possibly because *mitmakuna* were expected to adopt the practices and way of life of the territory and peoples they moved to, other than maintaining the clothing of their original ethnicity (Cobo [1653] 1988: 190). Most populations used locally made pottery without any substantial change to the subsistence evidence within the houses (D'Altroy 1992), but see D'Altroy (2015: 376-77) for some, limited, examples of identifying *mitmakuna*, and current work on skeletal morphology, isotope analysis and DNA are promising avenue to address this question (Haun and Cock Carrasco 2010).

A large number of administrative centres were constructed throughout their empire e.g. Hatun Xauxa, Pumpu, Huánuco Pampa, Cajamarca, Hatuncolla, Chucuito, Chuquiabo, Charkas, Paria, Inkahuasi, Tambo Colorado, Aypate and Caxas – (Hyslop 1990; Astuhuman 2008). These administrative centres were an 'imposed urbanisms' (Morris 1972) where a transient population performed their labour tax, filled the stores, coordinated military duties, or engaged in state ceremonies and then left again. The central core of these sites had an Inka plan and several included large plazas with raised platforms where state rituals and large public feasts were carried out. Inka administrative sites lacked the organic growth and cemeteries of a permanent population and never developed into cities or market towns, with many abandoned after the Spanish conquest. Morris suggested that the location of administrative centres, often on vacant land at the boundaries of ethnic groups, was intended to limit the impact on the resources of indigenous groups, while maximising the integrative function for the empire. For instance Huánuco Pampa acted as the hub for at least 5 ethnic groups who supplied labour to the Inka, but within the territory of these ethnic groups there is very little material evidence of Inka influence (Morris and Thompson 1985). Administrative centres were only one layer within several overlapping networks of religious, ceremonial, storage, production, and defensive sites (Hyslop 1990). These were united by an extensive system of nearly 40,000km of prepared roads with suspensions bridges to cross deep river chasms and causeways over marshes (Hyslop 1984). As an Inka subject you were never far from a road, and thus always connected to the empire and the labour demands of the state. Large-scale and widely distributed system of storage buildings (*collcas*) filled with crops as well as textiles, military supplies, and craft goods could supply the needs of the military, state works, feasts and other state activities (LeVine 1992). The largest concentration of *collcas* recorded is in Mantaro with 2,753 storage buildings, other high contenders are the 2,400 *collcas* serving the state farm at Cochabamba, and 1,717 at Campo de Pucará (Argentina) (D'Altroy 2015: 411). With many more at each administrative site and some at the *tambos* (resting station, located roughly every 20 km along the Inka road).

Cuzco was the origin place and ritual core of the Empire. Cuzco was built by vast numbers of conscripted labourers (Bauer 2004), but, these were mostly seasonal workers, and migrants could

not stay in the city unless given a specific role by the Inka. This meant that the city did not grow exponentially and never became as large as Tiwanaku, Huari or Chan Chan. Inka rulers did not spend their time based in Cuzco. The narrative of each Inka ruler's life reads like a travel diary. Like his subjects the Inka was frequently on the move as he directed military, religious and administrative activities. Huayna Capac spent much of his life in Ecuador supporting military conquests, and he is also recorded as being at numerous other places to resolve inter-ethnic disputes, and establishing new religious and administrative centres. This included setting up new agricultural production sites such as in Cochabamba, Bolivia where 14,000 *mit'a* workers were brought in, some of them from over a thousand kilometres away (Wachtel 1982). Ramírez (2005) argues that the name 'Cuzco' referred to the Emperor rather than the city. Rather than seeing the city as the centre of administration, we should see the emperor as a mobile facility with much of the Imperial administration, military coordinators and *kipu* record keepers moving with him.

The Inka developed a characteristic ceramic tradition (Rowe 1946) which included the iconic *aryballus* jars used to make and serve *chicha* beer for Inka feasting and rituals. Although only very small quantities of the pottery made in Cuzco were exported (e.g. D'Altroy and Bishop 1990: 133) the form and style of Inka pottery was copied widely. In some cases this was made at artisan centres set up by the Inka state. For instance, one thousand weavers and one hundred pottery-making families were moved to a new craft production centre at Milliraya (near Lake Titicaca) under Inka Huayna Capac (Spurling 1992). These state artisans were given local agricultural and pasture lands as well as more distant land suitable for growing maize (Murra 1978; Spurling 1992). Like many activities that in other societies would be 'full-time' such as craft production, mining, construction and warfare the Inka organised these on a seasonal basis so that they could be combined with agricultural and herding duties at the household level and justified through the Inka system of the *mit'a* labour tax. Under the Inka there was an important shift from copper-arsenic bronze that had previously characterized the Peruvian coast and Central highlands to tin bronze – tin only became available after the Inka conquest of Bolivia, yet the copper/tin alloy becomes ubiquitous throughout the empire and is perhaps the best example of a widely distributed material that was acquired by even modest households under the auspices of the Inka state (Lechtman 1984; Owen 2001).

Although Murra (1982: 288) suggested that the Inka economy was based only on labour obligations, in fact the Inka adapted as they expanded and met alternative economic systems. In his study of highland Ecuador, Salomon (1987) identified market exchange of products such as salt, coca, chilli, and cotton, with shell beads sometimes acting as a medium of exchange. The Andean region had been acquiring marine shells from Ecuador through exchange networks since the Middle Horizon and when the Inka took over this region they tried to integrate this 'market system' into their own model of hierarchical tribute. Similarly, the Chíncha ethnic group had been involved in long-distance trade of spondylus shells and the Inka seem to have used this to gain access to the shells (Rowstowsky 1977). The people living on the Peruvian coast inherited a high degree of occupational and craft specialization from the Moche, Sicán and Chimú societies, and the Inka succeeded in acquiring some of this production. Prestige and ritual goods (such as spondylus shell, fine textiles and silverwork) were used by the Inka to placate the elites of subject ethnic groups, as gifts to cult centres, to exchange with groups not yet under Inka

domination, while the regional economy of the highlands was primarily driven by labour obligations which the elites helped to coordinate for the Inka (D'Altroy and Earl 1985).

It is possible that the Inka Empire had reached its limit when the Spanish arrived, the civil war between the half-brothers Huascar and Atahualpa marking an inevitable fragmentation. Further expansion of the Empire was difficult as it would require more effort to subjugate and administer the dissipated and less structured societies at their borders, and the Inka were probably content to acquire tropical wood and exotic feathers through exchange with the Eastern lowlands. There is only very limited evidence for Inter-American levels of exchange prior to European contact (e.g. the widespread adoption of maize, and some exchange of gold and emeralds) but the Inka were ignorant of Aztec markets and warrior societies. Yet Caribbean islands were in contact with Mesoamerica to their East and the coasts of Colombia and Venezuela to their South and the likelihood that a greater integration of North and South America would have been achieved eventually is high. Indeed the rapid spread of smallpox across South America in advance of the European colonisers shows that a chain of human interconnections did link these worlds, even if they were not integrated.

Spanish Colonialism

The Spanish conquest was swift. Pizarro's small band of mercenaries invaded just as the civil war between rivals competing to become Huayna Capac's successor came to its culmination. The Spanish captured the new ruling Inka, Atahualpa, and used alliances with disgruntled indigenous elites to rapidly gain control of the Empire. Smallpox spread, devastating the population and indigenous social structure, the fragmentation of the ethnic groups, and much of the canals, terracing and road system fell into disrepair. Native communities were granted as part of large *encomiendas* to the Spanish conquistadors who placed even greater labour demands on the dwindling population than the Inka had done. In the 1570's the remaining native population were resettled into *reducciones* with churches and marketplaces as the Spanish imposed their religion and economic order. Some parts of indigenous society were very successful participants in these newly developed markets, such as llama and mule caravan traders in the *puna* who controlled a high proportion of sixteenth century trade. Under Spanish rule many new mechanisms of global integration were incorporated into the Andean world: money, market trade, writing, and transport by ships and carts. The discovery of silver at Potosi (in 1545) led to the setting up of large mines and the Inka *mit'a* was re-instigated as a Spanish colonial labour tax. The silver from Potosi fed the European economy allowing wealth to be held and exchanged by those who were not 'landed' aristocrats, contributing to the development of capitalist economies around the world.

Discussion

The production and exchange of prestige goods and ritual paraphernalia was a significant feature of elite power in the Ancient Andes (Goldstein 2000, Vaughn 2006), but this long-distance exchange was a tiny part of the economy. Even within the two major Empires most of what we see as classic 'Wari' and 'Inka' material culture was locally produced, and there are interesting examples of prestige and ritual items being made BY, as well as for, local elites. I agree with Jennings (2011) that the Andean world was developing 'complex connectivity', but I have placed less emphasis on long-distance distribution of artefacts as I feel this actually under-represents the degree of interaction and connectivity that was taking place across the Ancient Andes. While

Inka economic organisation affected the distribution of goods, as expressed in the spread of tin-bronze and spondylus shells as well as the vast storage system of the Empire, the main integrative mechanism was the movement of people who travelled widely to work for ethnic and state demands as seasonal workers, and longer-term colonisers as well as with camelid caravans. The Inka and Wari state investment in roads and administrative sites etc. is one aspect of this, but the production of hybrid artefacts and transfer of technologies are also illustrative of strong social contact. This was not just under state societies, as the wide spread response to the collapse of Wari and Tiwanaku and adoption of *chullpas* illustrates strong connectivity even in the 'intermediate' period. In relation to the various markers or trends that Jennings (this volume) suggested characterise an era of globalization we have seen evidence of long-distance integration of economic, political, and social processes; local practices that were transformed by the influence of external groups; languages and iconographic motifs being spread over large areas; previously distinct groups adopting similar practices; as well as the vulnerability of these deeply-embedded connections following the arrival of the Spanish.

Although historic records make it clear that mobile labour was essential to the Inka state, it has been difficult for archaeologists to recognise where the people doing this work came from. Yet the degree of language change in the Middle Horizon, and the vast infrastructure built by the Inka show that this mobile workforce had a huge effect on society. Globalization is usually seen as a connectivity that is beyond the self-awareness of the individual. In contrast, the Inka economy placed personal social obligations at its core, but it succeeded in integrating tens of thousands of people bridging ethnic and geographical differences over thousands of kilometres. This movement of people must be central to any conception of globalization.

Illustrations

Map of Wari, Tiwanaku and Chimu influence

Map of distribution of Chullpas and above ground sepulchures

Map of Inka Empire

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