Stones to build a world:
Circulation and value of materials in pre-Columbian northwestern Argentina

Introduction

Archaeological efforts to classify ancient artefacts based upon contemporary notions of value may not fit the diverse array of practices through which Andean people organized and used the materials that constituted their worlds in the past. Predominant approaches tend to emphasize physical distance as a measure of scarcity, which is in turn seen as the basis for the social and economic desirability of particular artefacts and materials. This results in a series of expectations about the ways in which such items were used and disposed of by ancient societies that, while many times accurate, may also be contradicted by observed empirical patterns. Obsidian is an interesting case in this regard: it is generally assumed that during prehistory it was a highly coveted item because of its technical and aesthetic qualities, as well as its limited scope of geographical availability. While in some contexts these characteristics came to warrant a special status for obsidian in terms of deposition or technical treatment, in many other cases it can be concluded that it was considered to be a fairly ordinary everyday material, even in contexts where it had been transported far from its sources and it was not abundant at its usage destinations. Patterns such as these require approaches that are willing to engage with the nuances of non-western systems of value when considering the reasons behind ancient interest in obsidian.

The principles of scarcity, investment and profit maximisation, all central to our modern economics-dominant thinking, underlie what are considered to be “common sense” approaches to ancient socio-economic logics. One of the ways in which these perspectives express themselves is through the stark distinction created by standard archaeological analysis between

things that are mundane and those that are “special” (often described as “ritual” or “exotic”). They are also expressed in the tendency to privilege physical links between artefacts and places (e.g., sourcing, morphological similarity) at the expense of other types that, while perhaps less evident at first, may turn out to be very relevant when considered within a more culturally sensitive framework. Although sourcing analysis can help to physically trace connections across the landscape, people and places were also connected in a variety of other ways, both tangible and intangible, and most of which remain underexplored in regional studies of past exchange and circulation practices. This article broadens the traditionally assumed “relevant context” to consider the reasons why archaeological stone materials circulated among people and communities across large sections of the south-central Andes.

The materials and artefacts discussed here constitute part of the domestic assemblages of sites from the first millennium AD located on the western slope of the Aconquija Sierra in northwestern Argentina (or NWA, Fig. 1).[1] This was a period characterized by an increase in settled life, when communities drew upon the possibilities afforded by long-existing exchange routes and networks which had first been developed by hunter-gatherer societies as early as c. 9600 BP. Evidence from sites in the Puna region indicate that these routes reached as far as Chile to the west and the *yungas* and Chaco lowlands of NWA to the east (Aschero 2000, 2007; Escola and Hocsman 2007; Korstanje and Aschero 1996; Núñez Atencio and Dillehay 1979; Rodríguez and Aschero 2005; Pimentel 2009; Tarragó 1994, among others, Fig.1). Since the beginnings of the human occupation of the region, obsidian was one of the materials that circulated widely (Yacobaccio et al. 2004; Seelenfreud et al. 2010). The fact that most communities in the valleys of NWA were developing sedentary lifestyles at the time allows obsidian to be classified as a “non-local” raw material in the study area. It is certainly tempting to assume it was a highly coveted item that was sought after for either functional or “symbolic” reasons, considering its limited geographical availability. However, the reasons why obsidian circulated across this vast area need to be examined more carefully, with consideration of its

forms of use and disposal, as well as a variety of contextual associations that can shed light on the desirability of everyday artefacts and materials, whether local or non-local (Sheppard 1993; Smith 1999; Tripcevitch 2009).

It is argued here that during this period obsidian had an ambiguous status, halfway between domestic staple and exotic material, which demands a more nuanced approach to the classificatory logic at work in the region at the time. Based on the combined consideration of both lithic and ceramic materials, I have proposed elsewhere (Lazzari 2005:145-148) that *fluidity* (in the sense of the capacity for physical alteration or mixing) was one of the sensuous qualities favoured by the cultural ordering of things in operation during the Formative period in NWA (but see Alberti and Marshall 2009 for an alternative reading of Formative period pottery). The present article expands upon my previous analysis by examining the value of obsidian as part of a very specific system of physical and semantic relations among stone artefacts that emerged at the time. These relationships could be conceptualized as a "system of stones"[2] in which different materials, with distinct physical properties and realms of uses, still were part of an integrated matrix of practices that did not isolate the pragmatic and quotidian from the ritualized and extraordinary. Drawing upon Andean notions of matter, domestic stone tools and ritual stone objects can be analysed as partaking of the same substance albeit with varying degrees of potency or capacity to affect the social field in order to fully understand the social efficacy of particular materials and the ways in which ancient forms of value generation energized the links between communities across vast areas, this article first discusses the relevance of anthropological perspectives on value as developed in fields outside of the archaeological study of circulation in the Andes. It then moves on to explore various aspects of how stones were conceptualized in Andean contexts in order to provide an alternative general framework for the study of stone artefacts in NW Argentina. The final sections describe the actual practices observed in relation to stone in domestic contexts of the Aconquija Sierra, and propose a framework for the value relations that characterized the period by considering the available

material record found at sites in surrounding areas. In this way, it is hoped that the present article may contribute to broader debates on notions of need and value in archaeology (Wilk 2001; Bailey 1988), furthering the reassessment of social interaction and exchange models beyond its own study area.

Materials, value, circulation: Anthropological perspectives and Andean notions of substance

Anthropologists have long argued that value is not inherent in things but is instead relational (Munn 1986).[3] Activities traditionally separated into the spheres of production, consumption or circulation are now understood as *productive performance*s, connected but not limited to the substantive creation and re-generation of material forms such as tools and food, among others. In works supporting this perspective, value is conceptualized as a measure of *productive capacity*, but in the widest possible sense of production: as regeneration, replacement, perpetuation, and the negation of loss and decay (Uzendoski 2004; Weiner 1980). Archaeologists have explored relational approaches to value in a variety of contexts (Bailey 1998; Lafrenz-Samuels 2008; Mills 2004; Orton 2010; J. Thomas 1996; for the Andes see Nielsen 2007), yet there are not many detailed discussions of how precisely to implement a strategy[4] to study past value relations.

A closer look at the literature on exchange and value can be helpful in this regard. Munn (1986: 2-9, 58-60; 1990) showed how every act or practice has a symbolic potential according to its capacity to develop relations that go beyond the self. Such potentiality is related to the physical properties of the medium, the specific labour involved in its production, and the type of social relations implicated in its circulation. For example, while providing food and hospitality may extend a person's reputation in time and space, the perishable nature of these restricts the

potential fame of the host as memories of the events dissipate. In contrast, non-perishable materials suffer less alteration, therefore they tend to be favoured in exchanges geared towards establishing an enduring reputation. In this case, small variations caused by antiquity or wear may be significant. For instance, Kula shells accumulate a reputation of their own that is associated to the reputation of the owner, but any signs of their age, such as wear or colour changes, also connect their current owners with former ones and ancestors (Campbell 1983). The durable artefacts that circulate in such fields of interrelated practices can in this way turn "regions" into macro-social spaces. They bring with them memories and stories about people and places (and not necessarily remote ones), which become palpable in daily life by means of the local tasks and events during which these artefacts are used or displayed. In such regional fields of social experience, individuals and communities extend the horizons within which their actions may be assessed and validated. Lee and LiPuma (2002:192) have called the resulting spaces "culture of circulations", which are the socio-spatial imaginaries created by the cultural products that circulate within and among communities. Like all social spaces, these cultures of circulations or regionalities emerge out of the recursive relationships among physical, imagined, and lived spaces (Lefebvre 1991).

Building upon the spatiality of exchanges, it is also necessary to consider their temporality, since gifts and counter-gifts always make reference to earlier artefacts and exchanges and potential future transactions. Weiner (1992:38) argued that social life is characterized by the "paradox of keeping-while-giving", that is, the continual carrying out of transactions to hide what is not really available for exchange. Value then becomes constituted through the resistance to exchanging particular items (Godelier 1999:166-67; Koppytoff 1986:70). These inalienable items, whether material (land, bones, resources) or immaterial (secret names, stories, etc.) serve as parameters for the values of a whole universe of other "lesser" objects that do circulate. This resonates strongly with Andean notions of circulation. Salomon and Urioste (1991:15) have noted that circulation was seen as a broad sphere of practice that included, but

was not limited to, subsistence-oriented exchanges, while materials were hierarchically organized according to their capacity to channel vital force, as will be discussed further in the next section. Although Weiner's model may not be entirely applicable to the Andean context,[5] her idea that the circulation of humble ordinary objects needs to be analysed within the context of the inalienable can shed light on value-forming practices in a variety of other settings.

Turner's (2008: 49-50) notion of value as "a form of social consciousness" can also be useful in relation to the Andes. In his view value is a form of collective representation, but it also expresses the social organization of productive activity and the formation of social agents; that is, what is necessary for social reproduction. In this sense, every society maintains theories that categorize people and materials and organize them in hierarchies. Value often expresses relations in terms of quantitative proportions of what is seen as a common qualitative substance (Turner 2008:50). However, what is considered as the "common qualitative substance" in a particular society may be far from obvious. The ranking and categorisation of materials can be very unstable, as they are measured against each other in a field structured by received wisdom and ingrained cultural logics, but also by contingent alliances and everyday practical knowledge. Yet as Keane (2003:414) has aptly demonstrated, particular materials may have different value levels because their sensuous properties are linked to specific socially preferred qualities. Studying the materials and artefacts that are routinely exchanged can reveal the fabric of assumptions about the world and its substances -- the culturally specific philosophy of matter Meskell 2004 -- which underwrites all exchanges in a particular society. Similarly, looking at the ways in which exchanges are mediated (e.g., with or without money) enables the forms of social consciousness that are key to social reproduction in particular settings to be grasped (Postone 1993:43-83,395).

Anthropology can provide an invaluable range of concepts for past forms of value in relational terms, yet adhering to these frameworks also requires attention to a drawing out of both similarities and differences between contemporary and ancient understandings (Holbraad

2009:436; Spriggs 2008). The extent to which the principles discussed here operated in particular archaeological cases needs to be examined rather than assumed, with special consideration given to culturally specific philosophies of matter. Andean scholarship offers a wealth of information for tracing the links among notions of substance power, duration and transformation, providing a "road map" to Andean philosophies of matter. While these notions were certainly not homogenous or generalized across the entire Andean region, they can highlight key themes that need to be considered when approaching ancient value and circulation there.

Stones in the Andes: value and cultural taxonomies in historical and ethnographic records

Unlike Mexican colonial sources (Saunders 2001: 222), Andean colonial documents seldom mention obsidian. Cobo (1890-1895: 289) included among his list of precious stones "…a certain rock that the Mexicans call *Iztli*,[6] and those from Peru *Chillisa,* which is transparent like glass" (italics in original, my translation), specifying that it was skillfully crafted and that it was used for making tools and weapons as well as in medicinal cures.[7] Given the scarcity of references among colonial sources and its virtual absence in ethnographic accounts, it is tempting to assume that obsidian became irrelevant in the colonial world and afterwards. Yet Cobo's passing mention to the medicinal role of obsidian should not be overlooked, since in the Andes the efficacy of medicinal cures derives from the significant associations of the materials employed (Greenway 1998). Interestingly, one of the few references to obsidian in the ethnographic literature from the Andes appears in a comprehensive study of modern Kallawaya healers in Bolivia, which describes a complex taxonomy of medicines and their uses, which includes crushed obsidian powder for treating kidney conditions (Girault 1987).[8]

In addition to obsidian, there is extensive documentation on the status of stones as privileged animated materials in the Andes, from ancient times through to the present. Pre-Hispanic Andean knowledge emphasized the common process underlying the transformation of all beings, which Salomon (1998: 9) summarized as moving "from soft biotic states, full of potential, to the hard states, full of permanence". This gradient provided a basis for ranking all materials and beings, as the more important actions in life resulted in harder and more permanent substances. The enduring quality of stone and its association with vital power was apparent in the monoliths known as *huancas*, or "mineral doubles" of sacred deceased ancestors (*mallqui),* which had specific powers of war and fertility (Duviols 1979). Other rocks, as well as landforms such as mountains and volcanoes, were also *huacas* or sacred ancestors, and their material endurance signalled their nature as powerful deities (Bray 2009; Bastien 1984; Bouysse Cassagne 1987: 215-16; Dean 2010; Lau 2008; Nielsen 2010; Sillar 2009).[9] Among contemporary Aymara communities in Bolivia, the *wak'a achachila* are carved monoliths representing masculine ancestral beings that provide power and protection to communities (Astvaldsson 1998). The hardness of the stone that a *wak'a* is made of is considered as evidence of the sacred ancestor's potency, a property that is also associated to stone Christ figures made in the Andes today (Barcelos Neto 2008).

While other accounts have shown that not all stones were animated or special (Dean 2010: 25), humbler stone artefacts could also channel power. In his list of Andean "idols" that needed to be eliminated, the colonial extirpator of idolatry Arriaga (1920: 25) included small stones presenting a peculiar shape, color, brilliance or any other unusual aspect, as these were considered to be animated beings capable of protecting houses, people and animals. Even more pragmatically, stone arrowheads were used by indigenous leaders as emblematic tokens to invite each other to rebel against the Spanish invaders (Boixadós 2011).

The underpinnings of this taxonomy were outlined by the chronicler Garcilaso de la Vega (1989 [1609]: 77), who explained that the term *huaca* represented anything that showed

208 “superiority against the common run of things”. However, this veneration and respect did not
209 necessarily translate into adoration. As MacCormack (1995: 338) has noted, while the sacred
210 could inhere in the world irrespective of human action or ritual, many of those beings considered
211 sacred were not cult objects at all. This highlights the multi-layered possibilities offered by
212 Andean life-worlds; clearly ‘either/or’ distinctions do not do justice to the subtleties involved. Yet
213 the inventories of sacred things compiled by the inquisition’s officers indicate the existence of a
214 general taxonomy of sacred beings and their relative importance in terms of their capacity to
215 affect human action. This taxonomy provides an entry point into exploration of value-creation
216 processes with a specific cultural logic, which can be partially grasped through Andean post-
217 conquest documents. The Huarochirí Manuscript[10] reveals that the principle of animated force
218 was the parameter used to determine the powers of things. The term *camay* referred to the
219 animated force that was infused from *camac*, the cosmological prototype or double of every
220 earthly instantiation (Salomon and Urioste 1991). Each *camac* animated its instantiation by
221 charging it with a specific energy and essence (Bouyse Cassagne 1987: 264-65; Taylor 1974-
222 76: 234). Yet this was not an abstract idea; a *camac* was “a being abounding in energy as
223 physical as electricity or body warmth” (Salomon and Urioste 1991: 16), which continued to act
224 upon its related earthly being for as long as this being existed. Things, people and places were
225 categorized according to the presence of *camay* and the level of it they embodied. Today, as
226 Allen (1997:81) noted, ritual practice in the Andes is also structured around this principle of
227 consubstantiality, as all beings are seen as sharing a matrix of animated substance.
228 Of course, the role of stone as identified in colonial times should not obscure the
229 potentially significant variation in its meaning across time and space. However, these records
230 identify elements of a tradition of “practices of ancestry”, or in other words, the historically
231 constituted modes through which people and communities wove themselves with the past by
232 means of material orders that were simultaneously enduring and contingent. Tradition here
233 needs to be understood as a dynamic process (Roddick and Hastorf 2010), where cultural

efficacy and relevance may have persisted while meaning varied across time and space. The following sections therefore consider a specific variation of such a tradition as it emerged in northwestern Argentina, where production and use of stone tools is considered as part of a general system of value creation that characterized the first millennium AD.

Making and unmaking the world in technical style: the first millennium AD in NWA

The first millennium AD coincides with what the standard chronology of NWA calls the Formative period, often described as a time when segmentary societies with little internal hierarchy settled in the diverse microenvironments of the region. These communities have been described as having a mixed economy based on agriculture, hunting and herding and a dispersed settlement pattern. Traditionally, the economy of this period has been understood as being geared towards self-sufficiency, although communities also established long-distance networks to obtain resources that were unavailable in their immediate surroundings. The presence of non-local materials in a variety of archaeological contexts supports this view, including items such as obsidian, wood, beans, hallucinogenic drugs, and oceanic and riverine shells, among many others. The evidence of widespread circulation of materials lead investigators to propose the existence of a series of spheres of interaction in NWA, mainly defined by the presence of characteristic pottery styles with varied range of geographic reach and internal homogeneity (González 1955, 1977, 1979; Tarragó 1984, 1994).

For the southern sector of NWA in particular, some researchers have argued for the emergence of early ritual centres at Campo del Arenal (Fig.1) during the first centuries of the first millennium AD as a result of their purported control of long-distance networks. In this view, these centres became the basis for the subsequent Aguada cultural complex (Tartusi and Núñez Regueiro 2001). This cultural complex, partly defined by the larger and more complex settlements with distinct monumental and ritualized spaces that developed in areas such as the Ambato valley (Fig. 1), was early proposed as a cultural sphere of wide influence based on the

circulation of its characteristic iconography and artefacts (González 1960, 1998; Pérez Gollán 2000a). The nature and extent of this influence remains widely debated, with several authors calling for a revision of this formerly predominant narrative of increasing sociopolitical hierarchisation (cf. Cruz 2007; Gordillo 2007; Laguens 2006; Scattolin 2006 a,b).

Crucially, recent research across the region has uncovered several "ordinary" settlements dating to the first millennium AD that were actively engaged in this social landscape. These sites, generally consisting of a few domestic units scattered among agricultural stone-walled enclosures and corrals, and lacking public spaces or ritual platforms, have revealed a diverse repertoire of materials and iconographies that far surpass those found in their immediate surroundings (Delfino et al. 2007; Korstanje et al. 2007; Scattolin et al. 2009). Ceramic artefacts in particular combine several elements of the regionally available traditions. Clays and artefacts circulated across various ranges (Lazzari et al. 2009), while long-standing local technical traditions of clay preparation and vessel manufacture continued to exist throughout the millennium (Pereyra Domingorena 2011). Scattolin (2006a) has identified a wider universe of decorative techniques and motifs resulting from these interactions and based upon transfer of both materials and knowledge. This iconographic universe included the valley areas and western slope of the Aconquija Sierra, but it also included places associated to the Tafí and La Candelaria traditions in the *yungas* and certain areas in the Puna, such as Laguna Blanca (Figs. 1 and 2). This complex and multi-layered context of interaction points at the contingent and negotiated nature of interpersonal and collective relationships, undermining neat readings of cultural boundaries and identities. The purported role of exchange in regional processes of political centralization, traditionally assumed in narratives of cultural change in the region, also needs to be questioned in line with the aforementioned recent discussions.

The role that obsidian may have played in such processes remains unclear given its reported scarcity at many of the so-called centres (Laguens 2006; Núñez Regueiro 1998). What is known, however, is that from the beginnings of the first millennium AD onwards, the

circulation of obsidian linked sites that did not possess similar archaeological assemblages in terms of pottery and other materials, supporting relationships that were different from those supported by the circulation of ceramics (Lazzari 2005, 2010; Scattolin and Lazzari 1998; Lazzari et al. 2009). Interestingly, obsidian seems to have been mainly a domestic item during this period. Only a few of the hundreds of burials excavated in the region since the end of the 19th century have revealed obsidian artefacts among the grave goods present. González (1956: 62) mentioned obsidian projectile points in Condorhuasi graves in the Hualfin valley, but without offering many details, while Schreiter (1934) published a single find of one projectile point in a burial context in the La Candelaria area (*yungas* area, Fig. 1). Weiser (1922-24), one of the most detail-oriented early excavators in NWA, recorded several Formative period burials on the western slope of the Aconquija Sierra, none of which had any evidence of obsidian (Cortés 2005; Scattolin 1986).

More recent finds in the Cajón valley (Fig. 1) have revealed a small domestic cache containing obsidian and other raw materials (Scattolin and Gero 1999), while further northwest a floor deposit containing obsidian artefacts has been described in Antofalla (Fig. 1), an archaeological area close to the Ona-Las Cuevas obsidian source (Haber 1999). Even further north at Quebrada del Toro (Fig. 1), near the northern boundary of the supply zone for Ona-Las Cuevas obsidian, projectile points have been found as part of regular domestic waste as well as associated with burials (De Feo 2012; Raffino 1991). This overall pattern of predominantly domestic usage, albeit with a few examples of intentional deposition scattered across the vast area of NWA, contrasts with the pattern seen for the Late Period. After the first millennium AD, although obsidian continued to travel far and wide across the region, large quantities of everyday artefacts were deposited as offerings in some graves across NWA, along with a wide variety of other non-local resources (Sprovieri 2012). Thus while the withdrawal of obsidian from circulation may have begun in some communities during the first millennium AD, through storage or intentional deposition, it is not until the Late Period that this can be seen as a

recurring practice. This change in the pattern of use and deposition needs to be considered when investigating socio-cultural and political change in the region over the long term. Deposition in the sphere of the dead is thought to be a form of symbolic accumulation and an invitation to the living to re-start their own authority-building process through formation of competitive alliances (Weiner 1992: 40). In addition, as Turner (2008:50) has pointed out, materials that are used to channel value tend to become sources of value themselves, and therefore at some point start to be stored and/or accumulated. Yet before moving on to such questions it might be useful to characterize in more detail the universe of value-forming practices amidst which certain materials slowly grew as mediators of connectivity across the landscape.

Places and stone tools

Stone tool assemblages are one of many possible avenues for investigating the configuration of such a life-world. Ordinary artefacts used for hunting, as well as for a variety of mundane tasks, provide an ideal entry point for research focused on the ways in which local practices were intertwined with wider circles of social experience. The sites considered here are typical examples of sedentary settlements dating to the first millennium AD. They all represent variations on the settlement type consisting of stone-walled household compounds with rooms attached to a patio, scattered among agricultural enclosures and corrals (Scattolin 2006b; Fig. 3). The sites also encompass the occupational history of the study area during the first millennium AD: Ingenio Arenal-Faldas del Cerro and Antigal de Tesoro represent the earliest occupations (AD 70-400 and AD 120-600 respectively), Loma Alta the longest (AD 100-990), and Tesoro 1 (AD 680-1040) the later phases (Lazzari 2006; Scattolin 1990, 2006b). The assemblages discussed have been recovered from the domestic compounds, particularly from the patios where most of the domestic activities were carried out.

Taken as a whole, the lithic tool assemblages found at the four sites occupy the “informal” end of the tool manufacturing continuum (Andrefsky 2005:31), consisting of a range of retouched and un-retouched flake tools and a few projectile points made out of bifacially retouched flakes. The majority of the raw materials used were locally available stones such as andesite, quartzite, schist and quartz (70−80% of each lithic assemblage). There were also a range of cutting and scraping tools as well as projectile points made from a fine-grained dark vulcanite (of still unconfirmed provenance), representing 14−23% of each site’s lithic assemblage. Artefacts made on similar raw material found in contemporarily occupied contexts in the Hualfin valley were initially described as ‘La Cienaga Industry’ (Menghin 1956). An ongoing geochemical characterisation program is starting to show that Aconquija artefacts came from the same outcrops as vulcanite artefacts found in the Hualfin valley (Lazzari 2006).[11]

Obsidian was used in very low frequencies, constituting 2−9% of the total stone artefact assemblage at each site (Fig. 4), although it was relatively more abundant at the site Ingenio-Arenal Faldas del Cerro.[12]

Obsidian came from highland sources located at a straight-line distance of 130−225 km to the west (Fig. 1) (Lazzari et al. 2009), and the sites clearly had access to visually distinct kinds of obsidian, including one “glassy” translucent variety (often banded with different grey tones) and two types of opaque obsidian: one darker and with a lustrous shine, and another one with grey bands. The translucent banded grey obsidian came from the Ona-Las Cuevas (OLC) source, while the other two kinds came from either Cueros de Purulla (CdeP) or Laguna Cavi (LC) (Fig. 5).[13] It is worth noting that while the obsidian percentages are certainly low, contemporarily occupied sites across the region also consistently show low obsidian frequencies relative to other lithic raw materials, even at sites closer to the sources (Carbonelli 2011; Escola 2004; Escola et al. 2007; Lazzari 2013; Somonte 2005).

The occurrence of obsidian in the archaeological record needs to be considered as the result of various factors, in addition to distance to the source or the possibly that is was given a

low priority it relation to acquisition practices. Knapping is a reductive technique that unavoidably causes the loss of the material being worked, particularly if the material is typically worked and used outside of the domestic structures (or if the domestic structures were regularly swept). In relation to this, few projectile points have been recovered at the sites, which can be expected given their use in hunting activities conducted in the surrounding areas. More importantly, although the low frequency of obsidian in the archeological assemblages should be taken into consideration to avoid overestimating its role in past socio-technical strategies, it is also necessary to find culturally appropriate ways of assessing its relevance. Here it is worth considering Allen's (1997:79-80) analysis of the importance of small and shiny "power objects" in the Andes. Their power to encapsulate personal and community wellbeing does not come from their numbers but from their physical connection to the mountains where they come from and the creative power of shining celestial light. In order to understand cultural significance it is necessary to focus on the *presence* of particular kinds of artefacts and the way in which their uses appear to be structured in recurrent practices.Looking at technology in more detail can provide further insight into the decisions behind the technical modes observed in the different raw materials used at the sites.

While low in occurrence, obsidian at these sites had specific uses and has been recovered in a relatively limited range of shapes and sizes. Obsidian projectile points range from very small to medium sizes, with some of them showing invasive regular retouch, and/or partially invasive retouch on one of the sides. Their sections are asymmetrical and they are clearly made out of flakes. Most of the obsidian projectile points recovered to date are made with varieties of opaque obsidian. One medium-sized opaque obsidian preform has been recovered, but no blanks of this material have been identified in the total assemblage. While the manufacture of obsidian projectile points involved pressure flaking, and while these artefacts show more care in execution compared to the rest of the toolkit, the assemblages do not reflect any outstanding technical expertise.

Although all types of obsidian were mostly employed to manufacture projectile points, there are noticeable differences in the ways different varieties were used. Ona-Las Cuevas obsidian entered the region as decorticated cores and partially cortical flakes, which were converted into small flake retouched tools and a few other types of tools like scrapers and borers. In contrast, opaque obsidian was dedicated to projectile points, pre-forms, and fragments of bifacially retouched artefacts (which are possibly also the remains of projectile points). Until now, no cores or cortical flakes of opaque obsidian have been found at any of the Aconquija sites, while all debitage of this raw material is the waste product from reduction and retouching activities.[14] While it is possible that the smaller examples were reduced from larger pre-forms at the sites, the absence of large/medium opaque obsidian blanks indicates that the first stages of manufacture for opaque obsidian projectile points occurred elsewhere, and that the artefacts were only partially manufactured and re-sharpened as necessary at the sites.

Other retouched obsidian artefacts apart from projectile points are also classified as small or very small. They tend to have more than one working edge, some of which are sharpened over fracture planes, suggesting a relatively extended use-life compared to other non-obsidian tools. However, when considering other traits such as the range of flake length/width ratios (or 'modules', following Aschero 1983), it can be seen that obsidian artefacts of the Ona-Las Cuevas type have a range similar to that of the local raw materials, while the proportion of short-wide flakes is higher among the vulcanite flakes (Fig. 6)[15]. This may indicate the presence of more regularized knapping practices with vulcanite than with local raw materials and obsidian. It seems as though obsidian did not have had a standardized, highly formalized knapping process oriented towards the production of specific blank products. There is, however, a larger proportion of retouch and micro-retouch flakes in obsidian compared to the other raw materials, and overall obsidian shows a higher index of extended and semi-extended bifacial retouching, although no proper bifacial thinning techniques could be identified (in the sense of Aschero and Hocsman 2004).

A closer look, however, shows that although obsidian as a whole was treated in a similar manner across all of the sites, there are some interesting differences among the site assemblages. Figure 7 shows the relative proportion of obsidian tools vs. obsidian debitage at each site, revealing minor variations. Additionally, while most obsidian flake tools (and all made from Ona-Las Cuevas obsidian) show some level of retouch at all of the sites, it is the assemblage from Ingenio Arenal-Faldas (the site with a relatively higher abundance of obsidian) that has more artefacts with signs of extended use-life (such as retouched fracture planes). This contradicts the usual expectations in lithic studies, since the knappers living at this site seem to have extended the obsidian's use-life despite having a relatively more fluid or frequent access to the material than other knappers in the area.

The logic behind the patterns observed in these stone tool assemblages may become more apparent when looking at the internal production and circulation of other materials at these sites. For example, the available evidence regarding faunal remains from the Loma Alta site indicates the selection of camelid parts with more meat for consumption inside larger patio structures, and the possible circulation of the remaining parts to the other compounds (Izeta 2007: 349). This agrees with the study of ceramic vessel forms from the same site (Martínez 1990), which has suggested that cooking and food processing activities were not carried out equally in every compound, possibly reflecting the exchange/distribution of food between units. Lithic analysis reinforces this pattern, as more reduction stages occurred in the largest of the dwelling compounds, while smaller compounds show not only a lower quantity of materials overall, but also a higher frequency of small and broken extractive tools and retouched micro-flakes, suggesting maintenance tasks for tools rather than their initial stages of reduction or manufacture. This evidence should be considered alongside the fact that at Loma Alta the larger and smaller compounds do not show contemporaneous occupation, and therefore these particular patterns for the faunal, ceramic and lithic artefacts may be indicative of sequential developments within the settlement. It is worth noting that contemporary observations on

Andean village growth (Delfino 2001; Weismantel 1989) have recorded their sequential development, where new residential units are inaugurated with new nuclear families, but with the main or “mother” units continuing to be active for a long time, acting as centers for the coordination of daily activities and the distribution of food and other goods until their owners die. An deeper analysis of intra-site interaction is beyond the scope of this article, but a brief consideration allows the internal re-circulation of goods and coordination of tasks to be proposed as a logic structuring the social efficacy of everyday tools made of obsidian. The primary use of obsidian for hunting tools, albeit a non-exclusive one, cannot be separated from the practices that favour extended sharing of wild camelid parts rather than those from domesticated camelids. These practices have been documented ethnographically in the region, while archaeological evidence has also provided interesting parallels (Haber 2009).

The dynamics of settlement life revolved around the patios, where household activities were concentrated (e.g., cooking, knapping, butchering), and this has been amply documented for this period (Berberián et al. 1988; Delfino 1999; González and Núñez Regueiro 1962; Haber 1999; Salazar et al 2007; Scattolin et al 2009). Patios are still today considered to be the primary working space in Andean households, providing the grounds for acquisition of practical knowledge under community observation (Allen 2002:236). Bearing this in mind, the settings in which skills were acquired involved a wide range of activities practiced by various community members who could oversee and supervise knapping practices. This setting favoured a homogenous approach to technical practice, with marginally varying degrees of informality, and with this approach also concealing the relatively easier access some of the communities had to obsidian.

It could be argued that the exchanges that took place were regular or predictable enough to make obsidian readily available, and thus unnecessary to conserve through a focus on careful manufacture. Yet this is challenged by the overall low frequency of this material across the region, and the uneven relative abundance of obsidian at the sites considered. It is more

likely that the informal nature of the lithic assemblages in the Aconquija was not the result of economization strategies, but rather of a particular sort of “technological performance”: a situated, culturally meaningful practice that, while involving a material that was desirable but not readily available, also responded to cultural expectations and social obligations. This is not to say that technology was reflective of social norms, but rather that the field of relations from which artefacts emerge, as Ingold (2000: 5, 193-194, 347) has put it, also includes social expectations and obligations as described by Mauss (2006). A final exploration into the wider field of semantic and material relations into which these artefacts were inserted may allow us to better understand the role of obsidian artefacts in the region under discussion.

Extended dwelling: the spaces of/for reproduction in ancient NW Argentina

In the region under study here the consistently low frequencies of particular materials such as obsidian should not be dismissed as irrelevant. The combination of this pattern with the observed technical modes applied to this material opens the door for new questions about the social efficacy of these artefacts. Gosden (1989: 48) has shown that social landscapes are spaces constituted through mutual debt, and as such, they are characterized by low accumulation levels for the things that mediate these relationships. This observation enables the consideration of alternative social roles of such materials, since their worth comes not from their intrinsic properties per se, but rather from how such properties make social connections possible (Sheppard 1993).

During the period under discussion, obsidian was consistently circulated and used, albeit in low frequencies, and was only rarely purposefully deposited. It was largely a domestic material, discarded as part of the daily waste. To a certain extent there is contextual diversity in the obsidian deposits, which indicates that attempts were made at different times to withdraw obsidian from circulation; yet this was not an extensive practice. Obsidian was largely an

exchange item that had to change hands, but this does not mean that as a material it was fully alienable.

Andean ethnographies have shown that materials from different ecological zones are experienced as carriers of the symbolic properties associated to such zones (Lecoq 1984; Sillar 1996), while archaeology has demonstrated the antiquity of exchange routes and the consistency of obsidian traffic across the millennia. It is therefore possible to propose that obsidian artefacts may have been “fragments” of their original sources, or at least of their general geographical area of provenance. However, this capacity to make such places or landforms “present” at distant locations did not translate in a ritualized role for the artefacts (cf. McBryde 1984).

As mentioned earlier, ancient routes expanded and multiplied in NWA during the first millennium AD, as communities engaged with each other within a wide-reaching social space characterized by the circulation of an ample range of materials across various distances. These networks, often overlapping and intersecting, connected communities in a wide regional space of social experience, imposing a variety of reciprocal obligations while also providing a horizon of meaning for understanding local relationships and events. In this context, the value of obsidian in the past can be understood by looking into the possible elements underlying the relationship between alienable and inalienable, on the basis of the “road map” offered by the Andean scholarship discussed above.

It may be worthwhile here to draw attention to other stone artefacts from the same period, usually considered to have ancestral status, but which are never analysed in conjunction with ordinary domestic stone tools. Some of the earliest sedentary settlements in NWA, found near the modern community of Tafí del Valle, have large granite monoliths that were placed at the entrances to dwellings as well as among agricultural enclosures (Figs 1, 2, 6), in a manner similar to those described by ethnographic and ethnohistorical sources for the central Andes (García Azcárate 1996). Further to the southeast, the sculptures known as *suplicantes* from

Campo del Pucará and the surrounding areas (Figs. 1, 2, 6) have been interpreted as representations of founding ancestors and creation/fertility gods (Pérez Gollán 2000b; Raffino et al. 1997), and also as facilitators of the sexed ordering of daily life (Scattolin 2006). Standing stones or posts, mostly non-carved, have also been found at Campo del Pucará, at Laguna Blanca and in the Antofalla area (Delfino et al. 2007; Haber 1999; Núñez Regueiro 1998) (Fig. 1). Stone funerary masks are also common in the region for this same period (Fig. 8), which have been interpreted as ancestral artefacts as well (Aschero 2007), although it should be noted that other materials were also employed for funerary masks (Stenborg and Muñoz 1999; Scattolin et al. 2010).

Like the Tafí monoliths, some of these artefacts were unmovable and as such were good candidates to embody the inalienable. As Duviols (1979: 12) has noted, Andean monoliths "are the tangible expression of the primordial act of occupation, of construction, of adding value, [an] act through which exemplary conservation and persistence are guaranteed" (my translation). Less is known about the original placement and trajectories of the other stone artefacts and sculptures mentioned, but the deposition of masks in graves indicates their final inalienable status. It is important however not to gloss over the potential differences in meaning among these items. However, the long tradition of stone representations of ancestors that can be mapped throughout the Andes at various points in time strongly supports the idea that these sculptures were themselves animated beings. Furthermore, the hard stone used for sculpting some of these artefacts, like the Tafí monoliths,[16] could have been seen as fragments of their parent (animated) mountains (García Azcárate and Indri 1999). If so, their presence, like Weiner's inalienable objects, demonstrates their *irreplaceable* nature and they establish the tone and scale for measurement of value for all other related objects within the same taxonomy, according to the levels of animated life force they channelled. Everyday stones, on the other hand, may have had various levels of potency, depending upon their degree of *irreplaceability.* In this sense, obsidian held an ambiguous status. As a material coming from afar, it demanded

that its use-life be extended, yet this was executed in a limited manner. It was a material that while special, could be easily replaced by other local or semi-local raw materials when obsidian was not available.

There is enough evidence of the similarities in relation to settlement patterns, ceramics and other materials between the Aconquija Sierra and the Tafí valley (Scattolin 1990) to propose the existence of a fluid connectivity between them during the period under consideration.[17] It is likely that knowledge of the ancestral figures fuelled the value appreciations for all of the transactions that kept social flows in action. Within this setting obsidian may have been a *consumable valuable* -- a substance with both cosmic associations and an ordinary life. This ambiguity could have allowed obsidian to weave together people and places across the landscape through a way of being in the world that was substantiated by giving away things rather than by accumulating them.

Final considerations

This article offers only a very fragmentary picture of the practices through which obsidian became a facilitator of particular social arrangements, and other aspects may emerge through a consideration of different material relationships. There is enough variation in the archaeological records from the period considered to preclude sweeping statements on the value of things across time and space, and further comparative studies could shed necessary light on the specific value systems obsidian entered into at particular locations. However, by examining a series of such locales it has been argued here that obsidian was ambiguously categorized, with aspects close to those of inalienable stones and landforms (and to the animated powers of stone) but also intimately connected to perishable goods such as wild game. Given the centrality of the everyday tasks that facilitated gatherings and hospitality (through the sharing of game), obsidian would have mediated a complex set of relationships at both the local and regional level. In this sense, obsidian was in dialogue with wider developments and provided an

ideal material for an alternative social model: its physicality lend itself to shared technological modes and aesthetics, while its presence embodied connections with places that were different from places of regional importance. Effectively and pragmatically, people were integrated with each other and extended their reach in various directions through obsidian's qualities.

Obsidian's value during the period under consideration was a measure of its animated capacity considered against a range of other materials, located both above and below it within a hierarchy of similar substances. Allowing for the assumption, as discussed above, that all transactions are historically connected, this article has maintained that the chain of connections relevant for understanding the social efficacy of obsidian involves not only places that were physically connected (through sourcing). It also involves the wider spatial-temporal reference frameworks rooted in specific understandings of the kinship of particular substances and their relative capacity to channel ancestral force. Stones used as raw materials were related substances by virtue of their provenance from specific landforms and landscapes, albeit with differing qualities and capacities for power. If value is a relationship involving proportions of a common qualitative substance, the ancestral stone forms that characterize the artefact assemblages of the period -- whether in the shape of stone monoliths, sculptures or funerary masks -- offer an entry point into a hierarchical ordering of substances and beings. Within this order, immovable items related to land and settlement did not circulate, but their presence affected the wider social field beyond their immediate location, establishing the ranking of all the other stones that did in fact change hands. Obsidian moved freely within this regional hierarchy, supporting transactions that were less concerned with roots and more open to connectivity for its own sake. In this sense, it can be said that obsidian, as a circulating material, became positioned along the axis of stone artefacts and materials with "powers of presence" (Armstrong 1993; Gell 1998; Dean 2010) as this existed at the time, but on the opposite end from the monoliths and other kinds of ancestral artefacts, which as unmovable ancestors channelled the ultimate life force and therefore ranked higher in the system.

The main goal of this article has been to explore the role of ordinary tools within an ancient Andean context, as an element of life-worlds where meaning was created, following those who have argued for overcoming the divide between essentialist and hybridist perspectives in order to truly do justice to Andean past and present life-worlds (Platt 2002). Yet such a goal might not be achievable in the Andes or anywhere else until the notions of value underpinning customary understandings of circulation are re-examined. There is nothing self-evident about exchange relations and value in the past. Teasing out the complexities of a material universe in which decisions were made based upon the relationships established with a diverse array of animated beings, both human and non-human, may be a way forward.

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Biography

Marisa Lazzari is Senior Lecturer in the Department of Archaeology at the University of Exeter. Her research focuses on the archaeology of circulation, materiality and social landscapes in the south-central Andes. She also conducts research on heritage artefacts and places within contemporary indigenous struggles for cultural recognition in Latin America.

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Notes

[1] The first millennium AD in NWA partly coincides with the Formative period (*c.* 1500 BC-AD 600) and the transitional Middle period (AD 600-1000) (Scattolin 2006a). The pre-Columbian chronology of NWA is usually divided in the following way: Pre-Ceramic Period (6000-1500 BC); Formative Period (c. 1500 BC to AD 1000, subdivided into Early, Middle and Late); Regional Development Period (also known as Late Period, AD 1000-1436); Inca Period (AD 1436-1536).

[2] The notion of system of stones is loosely based on Braudillard's (1968) "system of objects" in the sense that objects do not exist in isolation facing asocial human needs but as part of a system of signs and rules to interpret them. However, unlike in Braudillard's analysis, in this article I propose that the value of the stone artefacts did not derive merely from their sign capacity but from the power of their sheer physical presence. For the possibilities and limits presented by Braudillard's framework see Dant (1996).

[3] Munn (1986:274) explicitly combines Marxian and Simmelian approaches to value, but see Graeber (2001:31-35) for an endorsement of Munn's framework while arguing that Simmel's was a precursor of neoclassical notions of value.

[4] In the sense of de Certeau (1994): understanding the generation and reproduction of value in the past requires both a 'panoramic', encompassing view, as well as a ground-level movement back and forth between phenomena usually assumed to be unconnected. I thank Felipe Gaitán Amman for making me reflect on this point.

[5] A key notion is that of 'mapula' (Weiner 1992:26), which refers to inalienable possessions that are given away but never disowned by the giving clan. It would be difficult to identify a similar category in this context of study, however, the principle of inalienable/alienable relationship remains valid as a framework.

[6] Saunders (2004:133) mentions that the Florentine Codex mentions *Itztli* as the word for obsidian in ancient Mexico. Alvarez Palma and Cassiano (2009) also indicate that *iztli (itztli*) or *Iztetl* are terms for the generic name of obsidian in Mexico, and they provide a finer distinction of terms offered by different colonial chroniclers for different varieties.

[7] González Holguín's (1608:304) Quechua vocabulary provides the word *quespi* for glassy, translucent materials, including precious stones, while Bertonio's (1879:82, 290, 291) Aymara vocabulary records *chillisaa* and *quesca* as words for sharp stones used to shear wool, and *quispi cala* for precious stones.

[8] Similar medicinal uses have been identified in colonial Mexican sources (Palma and Cassiano 2009)

[9] Gose (2008: 240-243) argues that initially mountains had a kind of secondary agency as they channelled the power of ancestral bodies and only later did they personify the landscape. However Arriaga (1621:201-02) offers early evidence that mountains were ancestors' transformed bodies (see also Salmon and Urioste 1991:93).

[10] The Huarochirí Manuscript is a colonial document produced around A.D. 1600 at the request of a renowned Spanish 'extirpator of idolatries.' The manuscript describes in great detail Andean pre-Hispanic and early colonial myths and ritual practices offering a native point of view on Andean categories of thought.

[11] These artefacts, traditionally known as 'La Ciénaga basalt industry", have been found in various stages of reduction in domestic assemblages across the region and petrographic studies have been conducted over the years (Babot et al 2009; Escola et al 2013; Lazzari 2006). Results from petrographic studies have yielded varying geological classifications of this material, therefore more recently the common term 'vulcanite' has been adopted. Potential geological formations have been identified close to the Hualfin and Cajon valleys based on the geological literature (Fig. 1) (Sentinelli 2011; Turner 1973), but no direct geochemical match has been obtained yet.

[12] A Chi-Square test compared the whole assemblages of the four sites, which were divided in the following categories of raw materials: obsidian, vulcanite, and other/local. The null hypothesis posited that the distribution of raw materials was identical across sites and hence, the lithic assemblage of each site should have the same relative composition of raw materials. The justification for this hypothesis comes from the fact that the four sites considered are located at roughly the same distance from the sources. Because of the considerable larger size of the sample of other/local raw materials, the test was conducted with and without considering this set of artefacts. Given the Chi-Square statistic of 92.62 with 6 degrees of freedom in the first test (with other/local), and 43.74 with 3 degrees of freedom in the second table (without other/local), the null hypothesis can be rejected with more than 99 % level of confidence, as suggested by the P-value of 0.000.

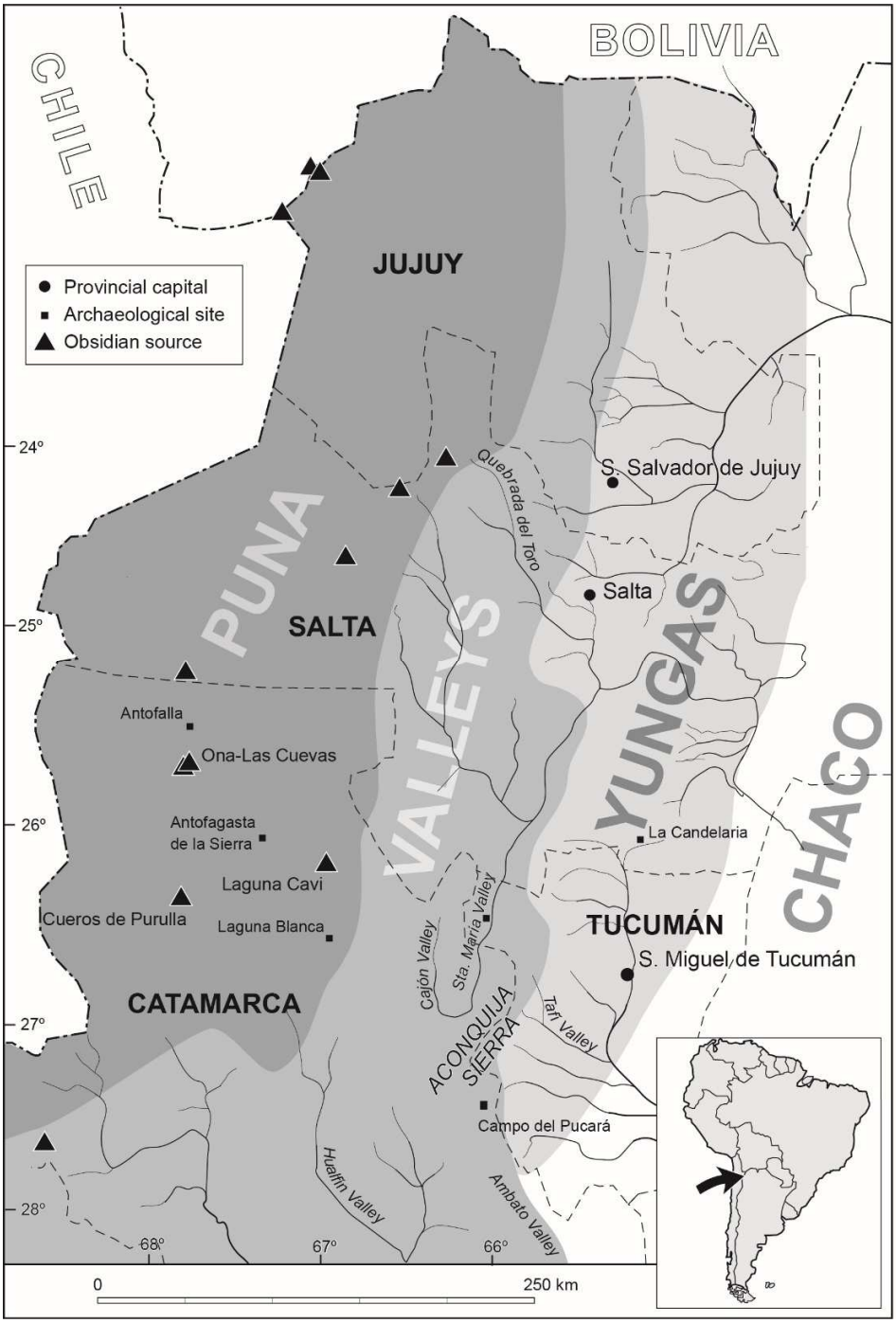
[13] For full description of sources and obsidian varieties see Escola 2004; Escola et al. 2007.

[14] The typological analysis of debitage and tools follows the guidelines of Aschero (1983). Also following Aschero et al (1994), small retouch flakes are those with striking platforms width lower than 5mm.

[15] A Chi-Square test compared the frequencies of flake L/W modules (long/narrow, normal, and short/wide) across raw materials (obsidian, vulcanite and other) in the whole sample (all four sites). The null hypothesis posited that the frequencies of L/W modules were equal across raw material classes. Given the Chi-Square statistic of 80.82 with 4 degrees of freedom, the null hypothesis can be rejected with more than 99 % level of confidence, as suggested by the P-value of 0.000.

[16] The Tafí monoliths were carved on schist and granite obtained from sources located 2.5 km away from their final emplacement (García Azcárate and Indri 1999).

[17] Transactions, alliances and marriages between communities residing on both sides of the Aconquija were quite frequent in colonial times (Bixio and Berberián 1988:114-145; Lorandi 1988:237-238).



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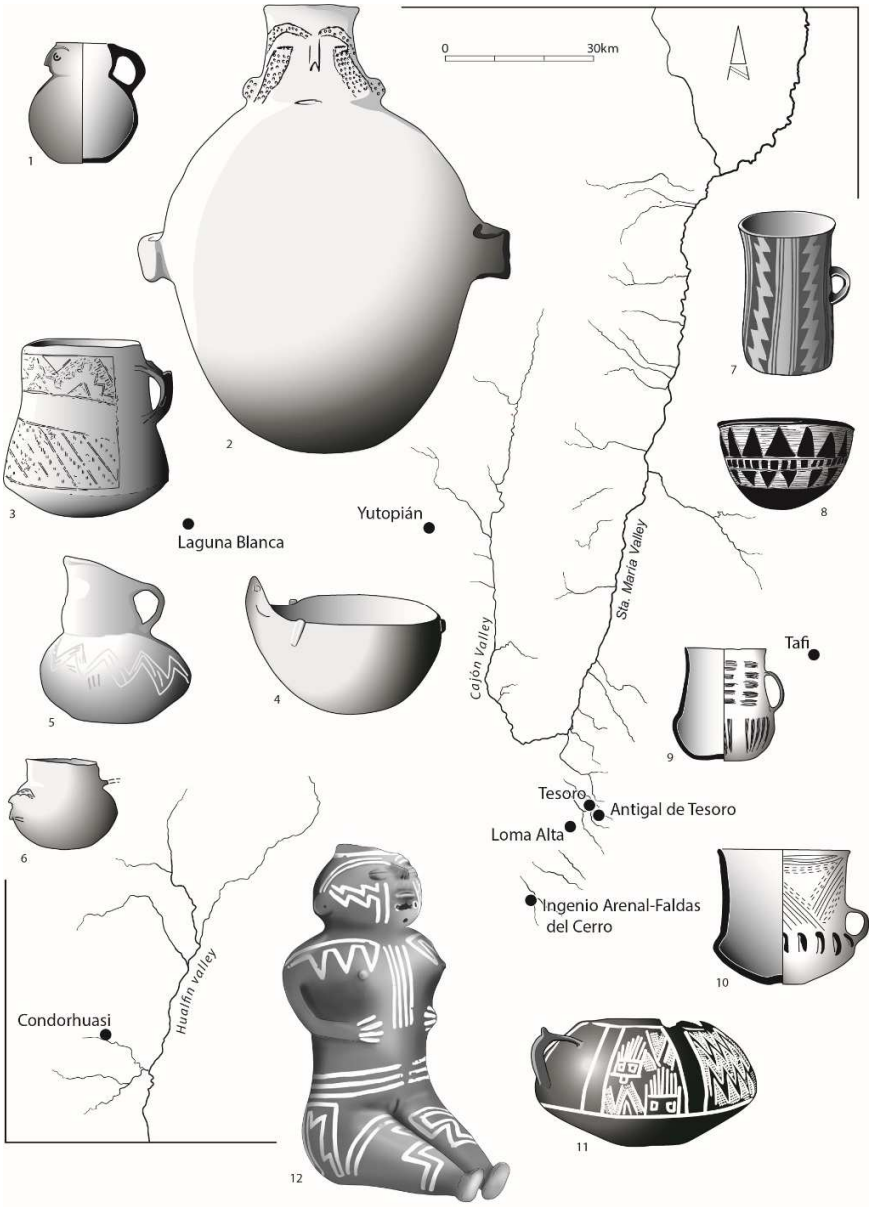

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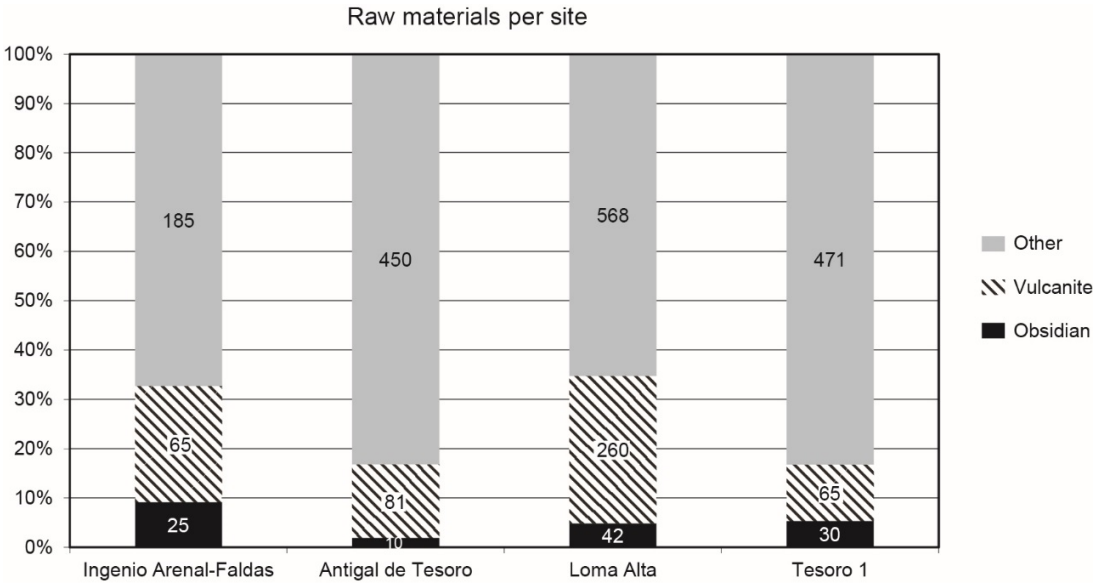

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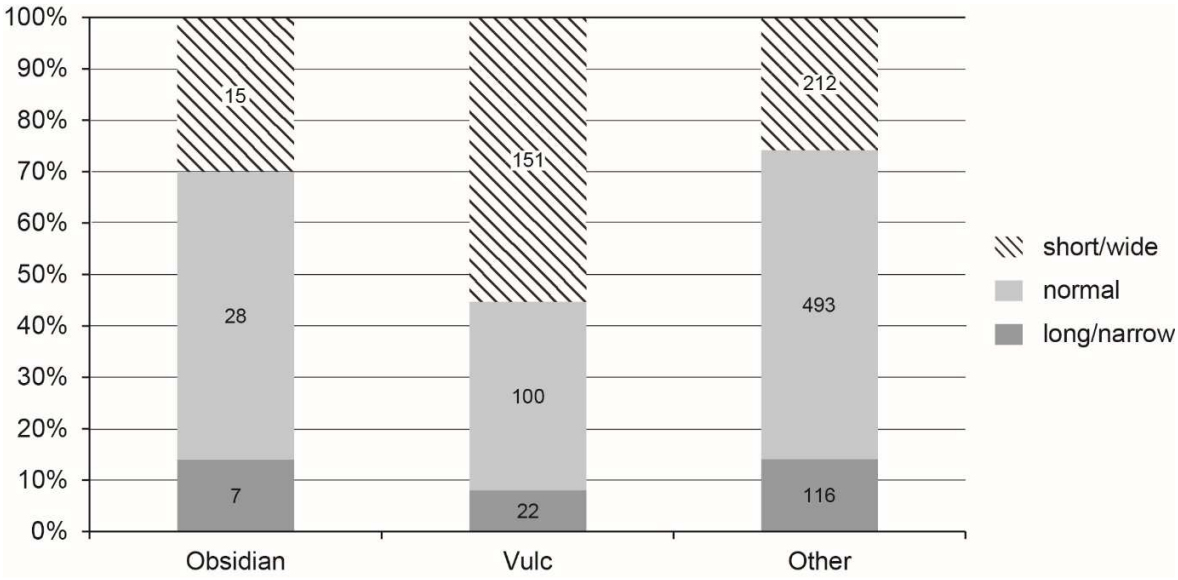

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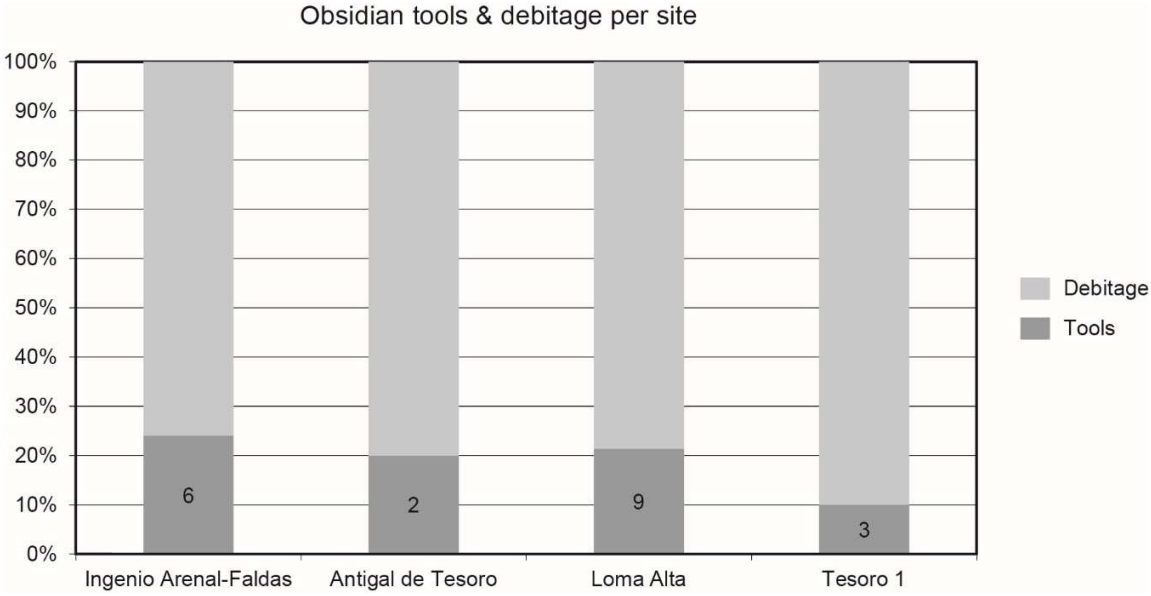

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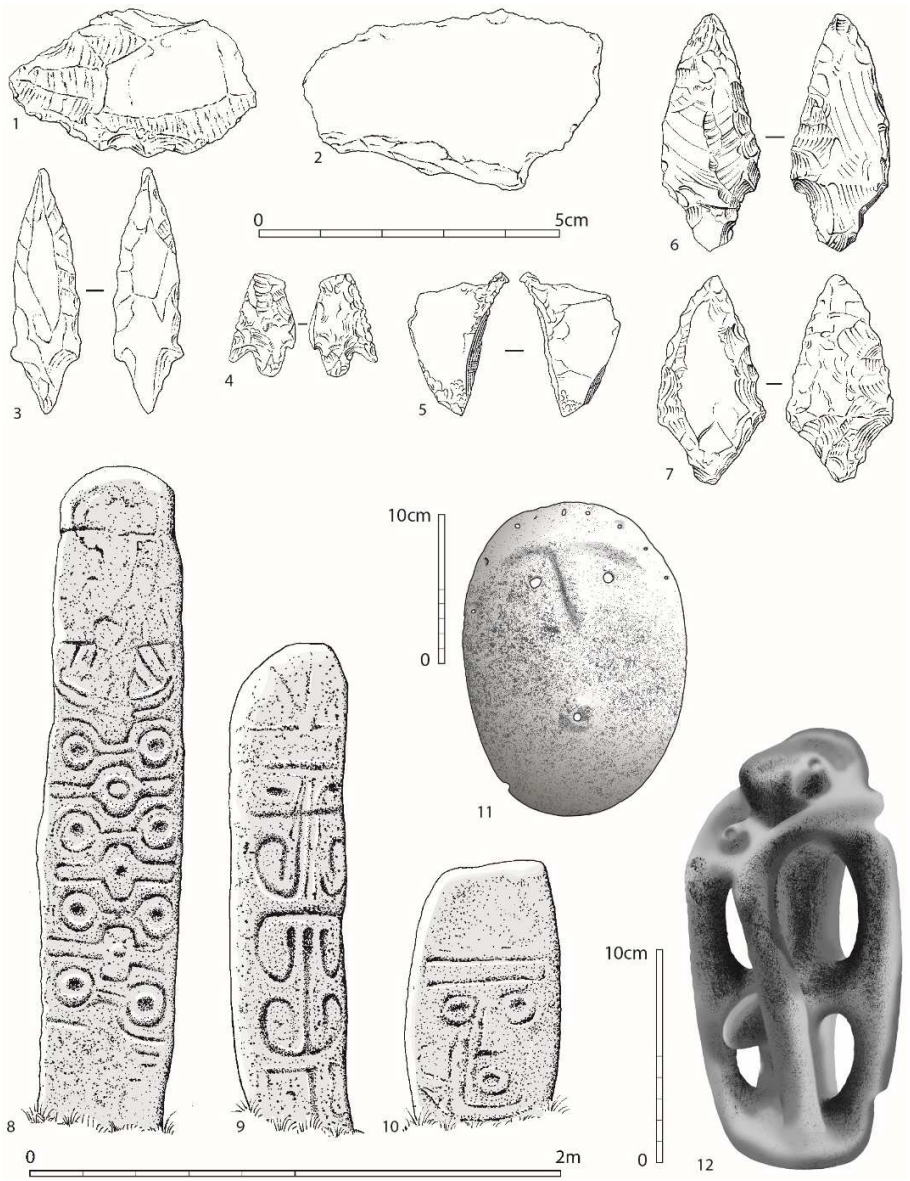

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