



# Ciências Humanas:

Caráter Polissêmico e  
Projeção Interdisciplinar

Antonio Carlos da Silva  
Vanessa Ribeiro Simon Cavalcanti  
(Organizadores)

 **Atena**  
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Ano 2021



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# CAPÍTULO 11

## HOOK, LINE, OR SINKER?: CHOICES IN ARCHAEOLOGICAL EPISTEMOLOGIES - TWO SOUTH AMERICAN CASE STUDIES

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**John Gabriel O'Donnell**

Escola de Humanidades da Pontifícia  
Universidade Católica do Rio Grande do Sul  
(PUCRS)  
Porto Alegre - Rio Grande do Sul  
<http://lattes.cnpq.br/4225435828370939>

**Klaus Kristian Hilbert**

Escola de Humanidades da Pontifícia  
Universidade Católica do Rio Grande do Sul  
(PUCRS)  
Porto Alegre - Rio Grande do Sul  
<http://lattes.cnpq.br/0704678157445792>

**ABSTRACT:** Archaeology, in both methodology and theory, presents the serious challenge of attempting to gather meaningful knowledge of past human activity through the gathering of physical evidence and its analysis. This has produced an interesting, and sometimes impassioned, discussion within the discipline regarding exactly how reliably certain conclusions about the past can depend on this process. This paper attempts to promote clarity in the discussion by acknowledging that archaeology has attempted to gain insights regarding both ontologically *objective* (readily measurable) and ontologically *subjective* (human 'experience') realities of the past. Designing better methodology and detangling the theoretical debates could be improved by forthrightly distinguishing between,

rather than mixing, these two types of epistemic goals. This paper uses two specific artifact types commonly found in the South American archaeological record to present its case. A family of unusual conical ground stone artifacts and the more well-documented stone bola are analyzed through both epistemological lenses.

**KEYWORDS:** South American archaeology, theory of archaeology, epistemology, artifact analysis

### HOOK, LINE OR SINKER?: UM CASO DE DIÁLOGO PAN-AMERICANO EM UMA INTERPRETAÇÃO DE ARTEFATOS

**RESUMO:** A arqueologia, tanto na metodologia quanto na teoria, apresenta o sério desafio de tentar reunir conhecimento significativo da atividade humana passada por meio da coleta de evidências físicas e sua análise. Isso produziu uma discussão interessante e, às vezes, apaixonada dentro da disciplina sobre como exatamente certas conclusões sobre o passado podem depender desse processo. Este artigo tenta promover a clareza na discussão, reconhecendo que a arqueologia tentou obter insights sobre realidades ontologicamente objetivas (prontamente mensuráveis) e ontologicamente subjetivas ("experiência" humana) do passado. Projetar uma metodologia melhor e desembaraçar os debates teóricos poderia ser melhorado distinguindo-se francamente, em vez de misturar, esses dois tipos de objetivos epistêmicos. Este artigo usa dois tipos específicos de artefatos comumente encontrados no registro arqueológico da América do Sul para apresentar seu caso. Uma família de

artefatos de pedra cônica incomuns e a bola de pedra mais bem documentada são analisados por meio de ambas as lentes epistemológicas.

**PALAVRAS - CHAVE:** Arqueologia da América do Sul, teoria da arqueologia, epistemologia, análise de artefatos.

## 1 | INTRODUCTION: THE EPISTEMIC VALUING OF ARTIFACTS

Within archaeology, and material culture studies, physical artifacts are the flash point of a beguiling epistemological interaction. When addressing artifacts, a complex emergent relationship is established between the voyeuristic researcher and the object under view — an admixture which causes, in equal measure, both methodological confusion and fascinating theoretical discussion about the limits of scientific and cultural understanding. This paper is a discussion about the process of *valuing* material artifacts aimed towards epistemic endeavors, which can be directed towards any number of cultural, metaphysical, anthropological, aesthetic, biological, or technological inquiries related to, in the specific field of archaeology, the human past. The specific *value* given to any archaeological object is certainly not inherent in the object itself, but a quality determined by the intentions and research goals of the researcher involved. This has been acknowledged many times and in many ways, but here we would like to lay out in a more utilitarian way what the implications are for constructing different kinds of knowledge banks regarding the past — specifically distinguishing between data that is driven towards *ontologically objective* versus *ontologically subjective* realities.

Being situated amongst the archaeological research communities and institutions in southern Brazil, we will use two well-documented, but perhaps not adequately addressed, artifact “types” as examples of how a single object or class of objects could be equivocally valued epistemically by a variety of research approaches and how those various viewpoints of the object, although challenging, could support and enrich one another when arranged in tandem, rather than simply cancelling each other out or becoming deadlocked in a martial spiral of competing interpretations.

Over decades of discussion in theory regarding material culture studies and archaeological interpretation, a tendency has existed to defend a position on either side of the spectrum regarding just how much information could be or should be expected from the material remains of the past. These positions range from the full-throttled semiotic optimism of Clifford Geertz (1973), who sees the potential that artifacts, if understood in *thick description*, could quite literally be read as a language containing its own syntax and vocabulary; to the interpretively frigid position that objects should not be *re-read* into at all, and would be best taken at their face value — in other words, that their initially prevalent features and blatant purpose of use is likely the most instructive information they have to offer: “That a boat, for example, is mostly significant for what it is - that is, being a boat” (Olsen, 2010, p. 23).

Rather than taking a defensive stance on either side of this on-going and circularly symbiotic discussion, this paper asserts that both versions of understanding an object are equally and concurrently valuable but must first be identified to be understood to the fullest effect. They come across as being at interpretive cross-purposes only because they are pursuing different epistemic goals. The confusion and theoretical abrasion caused by their parallel usage can be eased greatly by defining epistemological categories more candidly and not denying the other's validity.

Borrowing an arrangement of terms from philosopher John Searle (2015), there is the very real possibility to gather valid epistemic knowledge of both ontologically *objective* and *subjective* realities. The ontologically objective reality is that collection of data points which exists for all people and non-people equally and universally: measurable qualities, chemical properties, biological processes (births and deaths), the behavior of molecular, celestial and geological bodies, etc. Certain types of archaeological research would certainly be tuned towards gathering as much of this handily measurable information regarding the human past and its associated environments as possible. This research front is a major logistical challenge and costly, but an invaluable body of information for constructing a view of the past that likely resembles some form of reality. It almost goes without saying, but of course even the most well-intentioned and honest pursuit of gathering archaeological data of this "measurable" sort is inundated with research biases, human error, skewed data, loaded language, and absent representation of important evidence that is baked into any research undertaken by folly-prone and institutionally positioned researchers. But that reality does not negate the fact that even information tarnished with the debris of inevitable bias can bring us closer to knowledge; inherent partiality does not necessitate complete abandonment of the project of building up cultural and historical understanding across the archaeological record.

If we can accept that this ontologically objective reality does exist (that, e.g., the height of Mt. Everest, the temperature at which water boils, and the essential functioning of the central nervous system all remain the same across cultural "boundaries"), then what do we mean by the contrast of *subjective realities* and what is their importance? In short, ontologically subjective realities are unique to each individual and, to a lesser extent, to each group of individuals that share cultural or societal links. They are composed of the *inner* experiences, fears, desires, doubts, and values (both conscious and subconscious) that inform our *outer* behavior while we go about our life in the ontologically objective world. It is hard to overstate the exponentially more challenging prospect of pursuing data of individual internalized ontologies but building an epistemically objective study of these subjective individual truths is by no means a de facto impossibility. As Searle (1997) points out, simply because the experience of pain is subjective in nature, it does not give the doctor license to ignore the very real character of that ontologically private experience. He goes even further to claim the *subjective* experience of pain is something distinct from the neural firings causing that state. The same kind of thinking can be applied to archaeological undertaking,

albeit, with much more distance in space and time between the subject (the past individuals represented by scant material remains) and the object (the researcher with their own private ontology as well). While neuroscience is always bringing us closer to demonstrating this *subjective* reality as perhaps a complex combination of *objective* cerebral, chemical, and electrical processes, the archaeologist does not have the luxury of pursuing their subjects in this clinically-derived way. The archaeologist, much like the historian, must be humble enough to only ever *build a case* for their *epistemically objective* descriptions of *ontologically subjective* realities of the past. It is a project without end, and therefore endlessly intriguing.

This ontologically bifurcated positioning is not meant to undermine or mutually exclude the adoption of a multivocal intellectual openness. However, rather than an insistence on developing a bridge “between rationalism (universalism) and romanticism (contextualism)” (Hodder & Hutson, 2003, p. 212), it may help to acknowledge both kinds of data have their own idiosyncrasies and, therefore, require different investigatory tools and terminology. Bruce Trigger (2008, p. 191) understandably regrets that “archaeologists have not yet freed themselves from the cynical privileging of rationalism and evolutionism on the one hand and of romanticism and historical particularism on the other”; but if Searle’s scheme is to be applied archaeologically, we can view this not as a problem of privilege or preference, but simply a matter of pursuing separate bodies of knowledge. The confusion is caused by ignoring the distinction between internal and external realities — realities that constantly play off of and inform each other, both nonetheless require their own unique approach(es).

Starting from this premise, both the ontologically *objective* and *subjective* fields of knowledge would benefit from and indeed demand the harmonies of a multivocal chorus of interpretation. This epistemic cosmopolitanism would enhance the robustness of either branch of ontological inquiry. Nevertheless, by increasing the complexity and layeredness of the interpretation, the organizational challenges would likewise increase, as Trigger makes clear: “Multivocality enhances rather than relieves the need for archaeologists to weed out erroneous assumptions and interpretations and to synthesize divergent viewpoints to produce more holistic explanations of the past.” (Trigger, 2008, p. 202).

The on-going intellectual project to amplify understanding and empathy across historical time and space is laudable and brazen in its ambitions of uniting collectivity and multivocality. Critiques of the project should be readily welcomed, however, as they will only strengthen the epistemically weak links within the humanities and offer opportunities to creatively improve the methods and theories that are in a constantly deepening dialog. But to deny the project itself because final answers will not be readily forthcoming, or biases persist would be a tragic and cynical maneuver. Archaeology is a dialectical discipline, and there is absolutely no shame in working at that level of intractability. It offers a fountainhead of refreshingly never-ending knowledge about the very essence of being human and a refuge of nuance that exists beyond the increasingly binary models of information harvesting and digital dispersal. Its practitioners are often criticized for mythologizing, fetishizing, or

romanticizing their subjects in their pursuit of the past, and certainly this should be avoided as much as honestly possible, but mystery is not a dirty word in the pursuit of layered meanings. At the core of archaeology is exactly this profoundly *mysterious* interplay between humanity, the materiality in which it finds itself, and the remains by which it has expressed itself throughout all time. It is a philosophical pursuit of the physical.

## 2 | THE FUSIFORM: THE CHALLENGE OF AN ONTOLOGICALLY OBJECTIVE UNDERSTANDING

To pivot off the theory outlined thus far and engage with some bonafide materiality, we approach two case artifacts pulled from the collections of the Museum of Science and Technology at the University. Both represent classes of artifact “types” that are common in excavations throughout the Rio de la Plata Basin (an area that includes sections of Brazil, Argentina, Paraguay, and Uruguay). However, their shared ubiquity in the archaeological evidence of the region does not correspond to a shared level of interpretive agreement amongst the researchers. A family of ambiguously-defined “fishing tackle” conical forms (cigar-shaped carved stones) and, in contrast, the regionally iconic hunting *bolas* (spherical stone ballistics) are enlisted here to illustrate the nonequivalence between efforts to gain either ontologically objective or ontologically subjective knowledge from the material record. The hope is to clarify that each of these research objectives requires distinct strategies and tools.

Our first class of items, a type of regionally well-known cylindrical stone object, (see Figure 1) illustrates the challenge of answering the seemingly straightforward forensic inquiry: *What is this thing, and how or to what purpose was it meant to be used?* This kind of inquiry posits, at the outset, an epistemic position that an objectively correct answer to the question is at least possible enough to justify its asking. It embraces an ontologically objective reality regarding the researcher being able to posit a likely intended *use* of an object but does not make a judgement regarding the ontologically subjective *value* of the object. We can discuss later how the two bodies of knowledge (objective and subjective) can play off of and inform one another, but for now, the two realms of epistemology are intentionally held at arm’s length to sharpen their contrast.

The smoothly polished, diamond-shaped stone artifacts were retrieved from excavation work undertaken in the summer of 1983 at the archaeological site of Itapeva, a shell mound on the beaches of the state of Rio Grande do Sul, southern Brazil (Wagner et. al., 2009). They are from an enormous collection of materials that were gathered and organized with broad research goals of forming a clearer picture of the variety of peoples who have utilized and lived along all the Brazilian coastline over the span of many centuries, approximately between 3.500 and 2.500 BP. Chronology of occupation, methods of fishing and hunting, diet, art, burial practices, demographics and technologies were all possible



points of consideration regarding the objects exhumed from these shell mounds, cleaned, tagged, bagged and eventually housed in the archaeology collections of the University. The particular items under consideration here (five in total, of which two, pictured here, remain intact) are referred to in the official project report as “biconical objects (spindles with or without notches at the ends and in the center)” (Kern, 1983). They average about the size of an adult index finger and weigh about the same as a pocket knife. Most are incised with a series of finely carved rings situated in a group near one end. There is a deeper, more pronounced single ring engraved near the center, which divides the form into two nearly symmetrical halves. The two intact specimens display a small nipple-shaped nub at the end opposite the concentric bands. In this sense they display a clear asymmetry. (See Figure. 1).



Figure 1. The biconical stone items. Photograph: The authors.

In the official Itapeva-site material catalog, which includes general descriptions and tallies for all the thousands of excavated materials from the coastal digs, these objects are referred to as biconical forms used for fishing activities (*fuso de rede*). This shorthand description and proposed usage as fishing tackle, certainly in keeping with the littoral character of the societies under analysis, is universal amongst regional archaeological literature. However, the details regarding the specific use of and design of these items is varied. Explanations include their use as line sinkers directly affixed to oversized fishing hooks, as spindles to wind up fishing line, and as a fishing net weights (*pesos de rede*) for keeping large fishing nets in place. (Thaddeu, 1995; Rafeal Milheira, 2020, personal communication and Jairo Rogge, 2020, personal communication). Clearly all these various

proposed uses, while all related to the activity of fishing, are very different in detail and would likely manifest their unique usage in variance of the object's design. By looking at some modern-day fishing tackle, it's not hard to imagine how the artifacts' association with similar, but distinct, items of the fishing tackle family could be maintained in the literature simultaneously (see Figure 2).



Figure 2. Modern fishing tackle items including line weights and sinkers.

Photograph: Courtesy of Mr. Aren Orsen.

Doubtlessly, the societies located along the coastal zones of Brazil were heavily maritime in their diets, means of transportation, and construction projects. Their architectural legacy is prolific in the thousands of shell mounds (*sambaquis*) that dot the ocean-front of the continent, and even these often massive constructions alone illustrate the indisputable integration with and dependence upon the ocean in their use of aquatically-derived fish and shellfish by-product as primary building material. These were fishermen through and through, and many of the items excavated within their population zones attest to their penchant for a life dependent on the ocean. However, any time multiple explanations co-exist in the archaeological literature for the same items, it is a quandary that begs resolution, and in this case, the potential revelation that perhaps none of the previous explanations fit well with the facts.

It may come as a methodological surprise to hear that a career archaeologist with decades of insight could have a long-held suspicion reignited by a chance encounter with an amateur YouTube video, but that is exactly what transpired with Dr. Klaus Hilbert and the bifiform artifacts discussed in this paper. Hilbert, who oversees and operates the current

archaeology lab and program at the University, ran across a 2011 video clip entitled “Indian Artifacts - Atlatl Weights,” and his hunch regarding the serious misclassification of the bifurms was reinforced when he saw the objects being discussed on screen. In the clip from Tennessee, local hobbyist artifact hounds discuss a particularly rare species of artifact they have run across during their excursions in the local areas. The objects, nearly identical to the fusiform ground stones found along the littoral areas of South America, are identified as *atlatl* weights, and a demonstration of how they were attached and utilized on the hunting spear-throwing devices follows in the video (Tallfeather, 2011).

The atlatl, used in varied forms throughout North and South American hunting communities, required the attachment of oblong, palm-sized weights to a wooden handle to aid in both target accuracy and projectile power. The atlatl remains in use today, both within hunting communities and as a popular hobbyist pursuit, so it is not difficult to see its contemporary use in action and marvel at its effectiveness as a powerful hunting tool or weapon. This is in large part to its ingenious design, which requires the aforementioned stone weights. Jenny Adams’ *Ground Stone Analysis* provides a straightforward explanation of the construction and use of the atlatl device:

An *atlatl* is a composite tool that includes a wooden spear tipped with a stone point and a wooden spear thrower. Ground stone items are sometimes attached to the spear thrower [...]. Recognizing weights and charmstones when they are not attached to a spear thrower is no easy task. Any shaped stone of suitable size could have been attached, but those with suspension grooves are more likely candidates than those without grooves. (Adams, 2002, p. 192)

It’s worth emphasizing that atlatl spear thrower technology, dating in use back to at least 32,000 BP, has been documented in the archaeological record first in Europe, and then throughout the American continents (McClellan & Dorn, 2006). Their component pieces, including the ground *bannerstones* or weights, take on a wide variety of forms, but consistently perform to “help stabilize the dart and keep it moving in a straight line during the critical first moments of casting. Atlatl weights slow down the cast and because of inertia, help the atlatl to keep in line with the cast, the spear accuracy and projectile speed” (Robert Berg, 2020, personal communication).

Dr. Klaus’ unexpected run-in with an enthusiastic YouTuber is a clear illustration of how multivocality can inform archaeological research of the ontologically objective kind. This is not a question of competing narratives regarding the significance or meaning of past events, but an opening of the dialogue beyond the academic to include other sources of expertise. Rather than a lack of seriousness, looking beyond academia speaks to a liberal open-mindedness of embracing the multivocal model of analysis and the ever-adjusting morphology of the accepted archaeological accounts regarding the past. So much more is unknown than known — and that which is known is open to continuous revision, which can come from unlikely voices. The video spurred on the reexamination with a new interpretive

lens with borrowed insights from outside the local research community and academia itself. Klaus immediately recognized the objects discussed in the internet video's resemblance to the ambiguously classified objects in the lab's collections, and the need to revisit the evidence and interpretative record was reignited.

When diving into the re-interpretation regarding the biconical ground stones and their resemblance to the Tennessean pieces from the video, a three-pronged approach was applied: reexamining the objects themselves, reviewing the regional literature, and bringing in more outside voices. The first of these, simply attempting a closer examination of the Itapeva shell mound-site specimens from the collection, yielded some surprising results.

One subtle feature of the pieces that was not clearly conveyed in the Itapeva-site field reports or subsequent excavation literature is that the "conical" forms are not entirely conical! There is one notably flattened side to the pieces that is significant enough to prevent the items from rolling when placed on a flat surface. This also means the "concentric" bands carved into the items (supposed to affix rope or twine) do not travel around the entire parameter of the circular form, but only encompass roughly 270 degrees of the full item. The generally overlooked, but clearly noticeable characteristic, is perfectly in keeping with the expected abrasion of an item that would be affixed to the top surface of horizontal spear-launcher or atlatl and not at all indicative of a free-floating fishing line sinker, a net weight subject to the vicissitudes of water currents, or the uniform circumference expected of a line spindle.

It is important to note that in a 1995 dissertation examining the artifacts from the Itapeva-site excavations, graduate student Vera Thaddeu (1995, p. 118) mentions the polished side of the ground stones and cites the French archaeologist André Leroi-Gourhan (1945) as an authority to explain that this could be from the sinkers' attachment directly to a large fishing hook. So, while the case for the atlatl counterweight explanation is emphasized here, it is always important to bear in mind that alternative, parallel explanations for artifact features continue to exist and maintain a voice in the analysis.

Another physical trait that lends itself to the re-interpretation of the items as atlatl weights is the unique, asymmetrically shaped features at each of the pieces — one side demonstrating a series of closely clustered parallel lines (indicative of string anchoring to the spear thrower) and the other side consisting of a single, bulbous nub, consistent with a potential securing of the spear itself.

Inspired by the unexpected insights offered by the artifact hounds from Tennessee, a deeper journey into the milieu of North American collectors, hobbyists, and contemporary atlatl enthusiasts led into some constructive and interesting exchanges. Robert Berg, who, along with his wife Cheryl, operates the world's largest atlatl-making workshop in Candor, New York, seemed like another good resource to go to. He has been selling, making, lecturing about, and hunting with atlatls for more than thirty years. After watching a video demonstration of Bob Berg using his homemade atlatl to peg an invasive lake carp on the

first attempt, we reached out for his thoughts. Berg's (2020) input was welcomed and in support of Dr. Hilbert's hunch regarding the ground stones: "They are very likely to have been atlatl weights based on the fact that there is a (smooth) side that is formed to attach to something and the sinew lines cut into the stone. The two weights appear to be the right size for balancing a fairly large dart". Other amateur artifact craftsmen and hunters, including reality television outdoor survivalist Matt Graham (2016), have created educational online videos demonstrating the incredible effectiveness of the atlatl technology in use and with the inclusion of stone weights very much alike to the pieces from Itapeva-site.

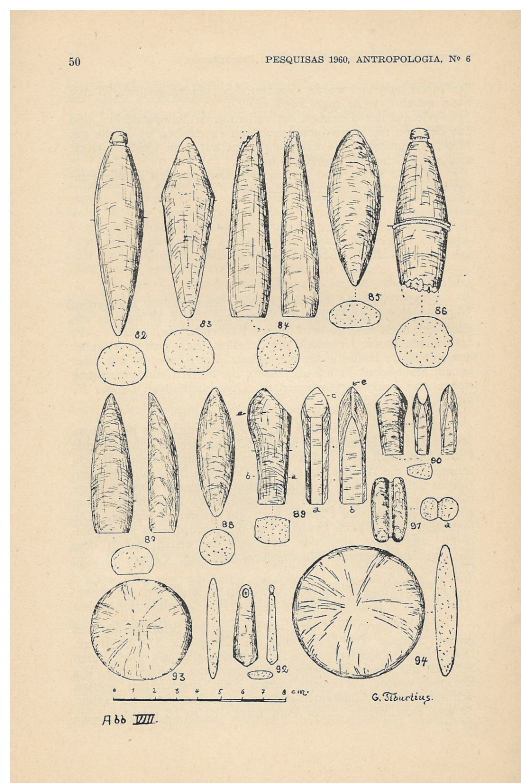
A practical challenge of the atlatl apparatus for archaeologists is the likelihood that only the stone components of the entire device generally survive into the archaeological record (Scheinsohn, 2016). The bulk of the spear thrower — like wooden artifacts in general — degrade into the earth and are much less likely to be detected in the archaeological record. This is one factor that has made this group of artifacts especially enigmatic and prone to such varied interpretations as fishing items, bodily adornments, and the even less well-defined *charmstones*. As Adams' notes:

The intersection of grinding technology with that of propulsion technology is not a common archaeological topic. However, it must be discussed because there are examples of ground or polished stones attached to atlatls. Questions have been raised asking whether their attachment is functional or ritual. Those identified as *atlatl weights* are considered important to the heft and arc of the spear thrower, and those identified as *charmstones*, to the tool's success. Evidence for distinguishing either type is tenuous. (Adams, 2002: pp. 191-192)

Looking back through excavation literature from archaeology done along the same parts of the coast, we find some interesting field report entries pertaining to similar objects. In the illustrated journals of German amateur-archaeologist Guilherme Tiburtius, artifacts comparable in form, weight, and size to the Itapeva biforms are represented and described (see Figure 3). Tiburtius was performing excavations in the north coast of the state of Santa Catarina in the mid-20th century and publishing his findings in the 1960s. Regarding these specific items, the description of its excavation context is revealing:

[...] the main building was located, higher on the third and smaller shell mound. As the only find, soldiers uncovered, at a depth of two meters and next to a large block of granite, a skeleton. Under the well-preserved skull lay this masterfully crafted green granite pendant. Unfortunately, the lower part was missing. At below the top, a deep, 2 mm wide groove was carved which goes all around the 'head' of the piece. With astonishing skill, the manufacturer had polished the sanded stone body in such a way that a projecting frieze that remained exactly over the center of the body remained. Both friezes are 1.5 millimeters wide and the same height. The whole piece has a fine and shiny surface. According to the strongly contrasting double frieze, the work can only have been carried out with a hand-held device. If you take the upper half as a basis, the piece was about 80 millimeters long. Diameter in the middle of the body without frieze: 22 millimeters. The whole pendant may have weighed about 54 grams. (Tiburtius, 1960, p. 51, our translation)

Here Tiburtius describes in cut-and-dry detail an elaborate burial arrangement with this “masterfully crafted” stone placed directly beneath the skull of the body, which is itself placed directly under an overhanging frieze. Indeed, nothing can ever be proven in the speculative craft of archaeological interpretation, but one would be led to judge this sepulchral arrangement as one of great intentionality and significance. And whether we are more likely to expect the carefully entombed cadaver to be buried alongside either prized and unique *atlatl* spear throwing device or a single fishnet weight is also quite subjective by nature, but still it’s impossible and irresponsible to disregard interpretations for lack of absolutism. Further exploration and comparison of previous burial excavation practices, both locally and transnationally, would be a logical step in supporting either interpretation.



**Figure 3.** Tiburtius’ drawing of his finds including ‘Item 86’, which was found directly under the skull of an elaborately buried individual. (From Guilherme Tiburtius, *Pesquisas Journal*, 1960).

With the bifurms examined above, we have one class of items that potentially played its role in two very different strategies of food procurement: baited and hanging languidly at sea or explosively launching a spear through the air. Further wear-use analysis, using comparative models, experimental archaeology, fresh finds from forthcoming excavations,



ethnoarchaeology, and perhaps even better chemical analyzes, may essentially close the case on the past utility of these artifacts. But the fact that they have been found alongside their dead owners speaks to something beyond utility, a role played beyond the practice of food procurement and making one's daily bread. This is the realm of subjective reality — the *facts* of the mind. The *data points* of beliefs, fears, and aspirations. With our next case study — a group of items with a well-known and widespread use that needs no further explication — we see that determining an item's utility and its value are two very different artifactual beasts entirely.

### 3 | THE BOLEADEIRA: EPISTEMIC OBJECTIVITY OF ONTOLOGICAL SUBJECTIVITY

The boleadeira (South American stone projectile) has been an idiosyncratic and locally well-known hunting (and now ranching) tool used throughout the southern cone of South America for many centuries. This specific specimen is most likely the product of either the *churrua* or *guaraní* cultural groups from the area, but its provenance remains unverified (see Figure 4). The bola, whose origins certainly lie with the native populations, has since been adopted by the contemporary gaucho cowboy culture, becoming a local symbol of regional pride and identity. It sits alongside the characteristic baggy clothing, obsession with barbeque, and ubiquitous yerba mate (*Ilex paraguariensis*) or *chimarrão*, as an icon of the culture. These projectiles were used in the act of hunting various fauna of the *pampas* grasslands and surrounding areas, such as the camelid guanaco and the large flightless rhea bird.



Figure 4. Boleadeira. Photograph: Daniele Borges. Available on AMAA Acervos: <http://www.amaacervos.com.br/>

Examining a boleadeira, we find it adorned with white-out correction ink, upon which the script of a black ballpoint pen reads “JJ 8735” — i.e., object “JJ 8735”. The significance of this organizational moniker has been lost as archives have been moved, reorganized and

scrambled over the years. The collection of artifacts that offered up the object “JJ 8735” is in a basement room of the complex of laboratory buildings at the University. The same building also houses collections of rocks and minerals, reptiles, insects, and live fish. This bola came out of a drawer amongst other items, some (incorrectly) labelled boleadoras from the Museum of Science collection.

The case of this boleadeira being registered as an item of “science” seems particularly problematic, considering this item was probably certainly not involved in any *controlled laboratory experiments*, certainly not of the kind attempting to *repeat results*, that is to say “the scientific method”. It seems to have found its way into the Museum of Science collection, along with the other archaeological items, simply for lack of a more appropriate place to go. It could be argued, with equal validity, that this object would be just as appropriately housed in the history, engineering, geology, or philosophy departments, should they have space in their collection drawers for stoney, peach-like projectiles.

The approaches of history and archaeology have much to learn from one another. Apart from the obvious fact that both disciplines are in constant dialog with the present and the past, they also attempt to feed this dialog with the fruit of source material, whose original full sense or intentionality is never a given.

Some mid-20th century thinkers like Jacques Derrida, Roland Barthes, and Michel Foucault have even gone so far as to not only claim the impossibility of useful interpretations of a source’s original intention, but have offered the idea that the search for an original meaning is not even a desirable or useful goal:

[...] one of the more challenging features of postmodern culture has been a deepened skepticism about the traditional humanist project of interpreting texts [*we can insert archaeological remains here in our case!*]. Given this development, it seems well worth asking anew how far it remains defensible to speak...of recovering the motives and intentions of authors [*designers and users*], of ascribing particular meanings to their utterances [*their artifacts*], and of distinguishing acceptable from unacceptable readings of literary or philosophical texts. (Skinner, 2002, pp. 90-91, *italics* are author’s additions)

Setting aside the possibility/impossibility or usefulness/uselessness of the task for the time being, it is the case that history and archaeology *both* rely on physical source material. In the case of history, primarily documents of the written kind; with archaeology, material remains that may or may not include some form of written language. This distinction is enormously important when considering theory and methodology as applied to both subjects. However, because they do both rely on source material, there are techniques, strategies, problems, and potential solutions surrounding best practices and theoretical development that both fields can offer one another.

In the case of a single artifact — in our case object “JJ 8735” — we must address (at the very minimum) two levels of *intentionality* or *sense* of the object: that of the original construction and design (in our case, likely a member of the *charrua* or *guarani* native

population) and also the intentionality and sense of all the subsequent researchers (writers) who have provided their interpretations, analyses, or ideas on the item. In the mode of the historian, we have an *excavation of text*; in the mode of the archaeologist, the *reading of material*. We are always wearing a minimum prescription of two pairs of interpretive lenses. Andrew Jones (2004: 11) simply refers to these as the contrasting physical and textual models of the archaeological record.

The historian, at times, has the distinct advantage over the archaeologist of being *spoken to* by the author (or in the case of archaeology, the one acting upon or with an object) and sometimes directly offered the purported intentions, but even this requires looking outside or around the material source for a more fleshed-out interpretation:

[...] it has been asked whether we can recover the author's intentions from his text without becoming imprisoned in the hermeneutic circle. The answer is that this may indeed be a danger when we have no evidence regarding the intentions other than the text itself; in practice, this is sometimes the case but not always. There may be evidence, unreliable and treacherous but still usable, from the author's other writings or his private correspondence;...The more evidence the historian can mobilize in the construction of hypotheses regarding the author's intentions, which can be then be applied to or tested against the text itself, the better his chances of escaping from the hermeneutic circle [...]. (Pocock, 1985, p. 4)

In terms of ascertaining the original purpose, significance, or *intentionality* of the artifact and its user, we could substitute the historian Pocock's "mobilization of other evidence" for the archaeologist's rightful concern with context and we would be situated comfortably in a parallel discussion of interpretation of meaning between the two disciplines. In the case of object "JJ 8735", the only body of current *context* we have is its fellow "drawer-mates" (the other artifacts in the basement collection) and many other similar artifacts (also designated boleadoras) that have been found and used in the region (a body of contextual data points).

We can begin our survey of potential interpretative languages of object "JJ 8735" in 1949, with the Smithsonian Institute's *Handbook of South American Indians*. Organized and published by the Bureau of American Ethnology, this multi-volume tome has deservedly developed a reputation as a fair representative of the early 20th century tendency to catalog and categorize human behavior typologically rather than offering any sort of explanation for *why* this behavior exists or if there is any *cultural significance* of the behavior beyond its practical use:

The distribution of *bolas* coincides, in part with that of the sling, a coincidence that is not entirely fortuitous, since both weapons are effective only in open country [...] Stone for *bolas* were found archaeologically in Uruguay and its other Brazil, a distribution which coincides with historical data [...] The Bola was principally a hunting weapon, but it became a war weapon that was used with some success against the Spaniards when the Indians discovered how effectively it stopped their horses. (Steward, 1949, pp. 253-254)

Here we have purely descriptive language: what is a bola materialistically, its distribution, and which groups used it and to what purposes. The approach does not provide any space for any inquiry into why this particular device was used in these ways and by these particular groups (the texts mentions more than twenty ethnic groups, spanning halfway up the continent of South America known to have used some variation of the bola). If there were variations in use or meaning of the bola amongst these meticulously cataloged ethnic groups, or if there was any significance to the item for the people that used it, beyond the purely utilitarian, the language here does not concern itself.

To offer an illustration by way of example: the standard 9 ½ inch, 5 ounce, hide-bound American MLB baseball is optimally designed for its particular requirements of performance; but when viewed as an object by most Americans people, the reaction would be of much more emotional or symbolic content (nostalgia, excitement, pride, or even boredom) than a thoughtful reflection on its particular technical qualities and usefulness. To put it another way: I could explain that I *use* my Ferrari for my daily commute to the office, but that would be a very incomplete, if not downright misleading, explanation of why I might possess that particular car and what it might *signify* to me, and the larger society, as an object.

As a hefty counterbalance to the evolutionary, diffusionist language of the inevitability of the existing archaeological record as a naturalistic manifestation of makeable adaptive practices, a wave of theoretical concepts to re-introduce individual agency, choice, and creativity emerged in archaeology (as in many other fields) and also began to be fully critical of the *individualization* of the interpreters themselves:

If the hypothetical deductive scientists of the 'new' archaeological paradigm saw themselves as the ultimate social planners, discovering laws of cultural evolution that would lead us knowingly into the 21st century, we post-processualists have more modest aims. We can predict neither the past, nor the future; in fact, we claim not to know that past at all. Rather, we tell stories about it and discover stories told by previous generations of scholars...But — and this is the important point — we proceed *critically*, seeing how these stories are used and manipulated for present purposes, sometimes condemning the tale, sometimes approving it — always, of course, from a *critical* perspective. (Kohl, 1993, p. 13)

In this regard, it is unlikely one would ever be able to really say if our boleadeira object “JJ 8735” had any special meaning to its previous users or possessors. Maybe some ethnographical information could be twisted into providing some kind of gossamer insight about human-object relationship in that particular time and place, but as far as the specifics go, we are at a loss.

Another strategy, design theory, offers the satisfying “rationality” of processual models, while also allowing for the input and idiosyncrasies of an individual acting behind the object in question; it uses the logic of creative design to explain an item’s characteristics:

As restructured (*as opposed to its use in architecture, engineering and industry*) for ground stone analysis, design theory assumes that tools are made to solve problems deriving from functional, economic, or other realms. The designed differences in form are sometimes brought about by sociocultural constraints such as economy of production, durability, and efficiency. Cost of production issues, such as distance to material source and difficulty of manufacture, often dictate choices of design specifications. (Adams, 2002, p. 8)

Here we have the idea of thoughtful *invention* and the rationality of the engineering of objects being used to explain what objects are found. It also offers the wiggle-room of sociocultural constraints to allow for any characteristics that don't fit the expected results of a fully rational design strategy. Delegating any possible expression of symbolism, creative expression, political meaning, or even personal whims to the footnote of "sociocultural restraints" seems like a pretty unsatisfactory solution to the complexity of human materiality.

As touched upon earlier, we have not one, but two "intentionalities" we have to address in archaeology: that of the object and its creator, and furthermore, that of the archaeologist(s) giving this object a new "public outing," as well as their own personal, professional, political, and logistical influences that might come along for the ride. (That's some stratigraphy!)

Archaeologists define themselves as addressing the *materiality* of human experience (as opposed to the anthropologist, the historian, or the ethnologist), but it still requires language at every step of the way. This fact essentially guarantees the circular semantics of the conversations surrounding and defining the field. Language offers its gorgeously and stubbornly slippery acrobatics (sometimes more combatively "martial arts"-like) into the mix — a contribution to be acknowledged and celebrated, rather than chastised or ignored. Naturally our interpretations may lead us to epiphanies of self-realization and self-criticism, which in many ways is why we collectively pursue history in the first place.

Hopefully the final distillation from the contents of this paper is clear enough: archaeology casts two extremely wide, but distinct epistemic nets. It can be used for collecting data regarding objectively-oriented past events when it behaves as a *natural science* with the human species as its locus. However, it can also approach subjectively-based realities of individuals inner lives and their cumulative inner experiences in the form of an interpretive *cultural science*, unpacking less obvious meanings within the physical manifestations of the archaeological record. Though archaeology has attempted to maintain this balancing act between these two very different bodies of knowledge, this paper proposes the distinction is less problematic when clearly recognized and one of the two epistemic lenses is used, rather than a murky blending of the two.

With the discipline's ambiguity viewed less problematically, archaeology can come to be seen as a methodological and theoretical toolkit for problem-solving on at least two epistemological levels (in practical, academic, political, environmental, historical or philosophical arenas) and not relegated to existing under the presumption that its primary

goal is to narrate prehistory. This will open up the techniques to be used in creative new ways, render unnecessary the theoretical tail-chasing and put archaeology in the central role of providing an intellectually honest bridging between the abstract and the physical – something so many existentially and pragmatically daunting challenges of our era demand.

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