A tale of technologies: constructing monuments and perceiving monumentality

Introduction

In a classroom context on the material culture of monumental architecture and monumentality, two images of the Eiffel Tower are shown. The image of the wrought iron tower set in its Parisian urban context is accepted by the students as an adequate example that represents the concept of monumentality. It is physically imposing in size, quality and quantity of materials; it exudes longevity; it is a public building; it was constructed to celebrate a specific public event of great importance (the World Fair) to a culture at its acme and thus evokes commemoration;

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1 I would like to thank the Amphora Collective for the invitation to contribute to the Amphora journal and for the Collective’s patience with my submission. I gladly acknowledge the ERC Consolidator Grant (2015–20) for their support. I thank Jari Pakkanen for commenting on the text.

2 See persistent places in Tuan 1978, 163.
its world-famous reputation draws people from all over the world to Paris to visit and photograph it (Figure 1). However, when the next image is shown (http://www.hongkiat.com/blog/35-lego-mega-constructions-you-probably-havent-seen-before/), the students smile and react differently. The Lego (re)construction of the Eiffel Tower and its surroundings in someone’s living room seems a good imitation of the real situation shown on the previous slide. As adults, we seem to agree that the ‘real’ Eiffel tower monument undoubtedly represents monumentality, while the Lego Eiffel Tower is a ‘mere’ toy construction. During the subsequent class discussion, the students agreed that monumentality does not just reside in the pure physical characteristics of a monument, but that the perception of what is ‘monumental’ may differ substantially from one person to another. Whereas, a Parisian citizen who lives near the Eiffel Tower may not think twice about its monumental character, most visitors do, and great majority of the city’s visitors will not leave Paris without having interacted with it (climbing, photographing and buying souvenirs that represent it).

Thus, the Lego construction touches the core of this paper; namely, how monumentality is perceived and how construction technologies may change these perceptions. If, for example, two ten-year-old children worked for three weeks during their free afternoons on constructing the Eiffel Tower and Paris around it, they will have constructed something ‘monumental’ for themselves, because in their understanding, the Lego Eiffel Tower is high and it took a vast effort in terms of time and concentration to achieve this. It may be equally ‘monumental’ to their parents who may see this as a major achievement in the patience, perseverance, concentration, memory building and technical know-how of their young children. In general, young children perceive size, height weight and dimensions differently to adults—everything is larger, taller, heavier and further away—due to their own viewpoint and accumulated experiences. These children’s achievements are in turn perceived by their parents in relation to the standards familiar to the latter: other children’s achievements and their own adult achievements, accumulated experiences
and aspirations. Perceptions tend to be rather subjective and culturally specific, as they are formed from a personal viewpoint, and based on experiences and expectations that differ for each of us.³

Thus, people’s perception of monuments, the relationships between material cultural expressions in the form of large-scale architecture, embedded memory building as a connective material practice (on the one hand) and as humans (on the other) create the perception of something that is more than the usual, something monumental, even if the actual item is not physically very impressive.⁴ Let us remember, for example, how many of us reacted when we saw for the first time the Mona Lisa in the Louvre. Admittedly, she was rather smaller than expected and is, as a framed painting, only a mere c. 75 x c. 50 cm large. Our expectations were simply blown out of proportion, as the painting is so famous and is perceived as ‘a monument’ of Western early sixteenth century painting. This painting, made by its equally famous master Leonardo Da Vinci, is arguably the most renowned painting ever made to date.

This paper is specifically concerned with architecture in its monumental and materially durable form, thus less so with ephemeral forms where archaeological remains often elude us in many contexts. In this issue on technologies and crafting, I focus specifically on the study of architecture as a set of processes, both across different scales of time and material registers.⁵ Monuments, depending on their context, can carry multiple meanings, connect to people, places and symbolic values in many different ways, and can evoke social or group identities, as places in use but also as places being constructed. Their performative role,⁶ their materiality, their materials’ texture, acoustics

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³ ‘Culture affects perception’; Tuan 1978, 162.
⁴ ‘To remind and impress’; Scarre 2011, 9.
⁵ Buchli 2013, 48.
⁶ Maran 2006.
and colour, and people’s sensory experiences with all materials they encounter while interacting with the monuments themselves, form a body of extensive study resulting from their strong presence. The efforts needed to build something on a monumental scale, whether a temple, tomb, fortification or irrigation system, would have brought people together, people who likely knew each other or would get to know each other intimately through the experiences of such building because it took time, and units of time convey a clear sense of effort spent together. Having to rely on each other to get the work done and for matters of safety, specific feelings of belonging together or sharing common goals must have been part of the builders’ self-awareness and group identity-building.

Of importance for this paper are the aspects of making, the role that ‘making’ as a series of processes and social practices has on (changing) perceptions of the material culture of monumental architecture, and how ‘making’ may incorporate memories for those builders. In that sense, scaling down the built form as less important than the generic and repeatable qualities, through which this built form produces its social power, may not appreciate enough the physicality of ‘making’ (that is, what builders do each day together) and the resources—people and materials—of ‘making’ involved in these physical processes within the landscape. As such, this paper takes a relational approach investigating the ‘end result’: that is the building and problematising the role of many sets of activities and processes of building itself. Ingold also discusses how humans, in non-western contexts, maintained, and may still maintain, strong attachments to specific places and features of the landscape that characterise these places. He cites examples from the totemic landscapes of Indigenous Australia and Alaska, where specific places are passages of

7 Scarre 2011.  
8 Tuan 1978, 129.  
9 Buchli 2013, 70.  
10 Ingold’s taskscape concept; Ingold 2000.  
11 Ingold 2013, 48 against a ‘finished building’; also Brysbaert 2013; 2015b.  
human and non-human beings (for example, ancestors) and weave, as such, stories about these beings. As these ancestors shaped the landscape while they were dwelling within that landscape; they did not leave traces behind but ‘metamorphosed into the form of the landscape as they moved along’.\textsuperscript{13} Ingold does not separate or even create categories such as people, animals, plants, landscapes and materials since, as he argues, these are western ways of understanding ‘things’. With this in mind, it may dawn on us too that, really, human–thing interactions are two nodes in a continuum that make each other through technology and in which the landscape too finds its place. This poses, potentially, an issue in trying to define what technologies are, but not necessarily. A thing, for example a building, consists of or is a result of a set of processes, and the people involved in the making, producing or building are equally a thing or a set of processes. People are also ‘processes, brought into being through production, embroiled in ongoing social practices, and requiring attentive engagement’.\textsuperscript{14} Let us now look at two cases of monumental taskscapes in which such a continuum of people, things, place and time form the core nodes of social interaction, socio-economic and political meaning through multiple entangled processes of technologies.

**Le Château de Versailles**

We all agree that the palace at Versailles is monumental in every sense of the word. We are impressed when visiting the palace and its extensive gardens, but even more so once we learn of the thousands of people who worked on the construction there and at the court, and of the immense variety of splendid raw materials worked into final features in each room and space.\textsuperscript{15} The ‘end product’ (if there is such a thing)\textsuperscript{16} we now visit is very impressive and

\textsuperscript{13} Ingold 2000, 53; original emphasis; comparable to the contemporary story of the local people about the sleeping Agamemnon whose facial profile and long beard are noted in the shape of a mountain ridge visible from the modern village of Mycenae.

\textsuperscript{14} Pollard 2004, 60.

\textsuperscript{15} Duindam 2003; see also Tuan 1978: 163 on the meaning of Stonehenge for its builders.

\textsuperscript{16} Ingold 2013, 48 and 81.
a clear example of conspicuous consumption, but its production and human creativity made obvious in the chosen technologies and materials available at the time, evoke awe even more, especially in terms of manpower, organisational logistics and technical expertise. More than 60,000 square meters of land were freed up, built on, and modified by means of levelling, constructing and even rerouting a river, and constant decision making. While Versailles has seen numerous changes and expansions over time, four main building phases can be recognised, of which at least two were associated with periods of warfare under Louis XIV, and during which France had to find massive funding for the military and suffered losses. The first building expansion (c. 1660s–c.1678), was carried out upon the crowning of Louis XIV, whereby the hunting lodge of his father was enlarged to accommodate an annual feast with hundreds of guests. This 20-year period saw the Franco-Dutch War (1672–8) and the War of Devolution (1667–8). A second large-scale building expansion at Versailles occurred in the subsequent period, 1678–1715. During this period, the War of the League of Augsburg (1688–99) and the War of the Spanish Succession (1701–14) cost Louis XIV and France dearly. The War of the Reunion also fell into that period (1683–4), shortly after the royal court moved from Paris to Versailles in 1682, and when the royal apartments were added to the complex in 1683. The Royal chapel, one of the most costly single-building additions under Louis XIV was finalised between 1699 and 1710, after having been started in 1688. This short overview of corollary events and building activities may show that the construction, embellishment and enlargements at Versailles were seemingly associated with major socio-political events, either in preparation of an annual feast or after a fortunate or an unfortunate ending of the conflicts, and most impressively despite financial difficulties. In each case, many people were needed for the works to be undertaken, and very often, the soldiers who survived the wars were enrolled in these building projects.

17 Duindam 2003; Bonney 2007.
Despite these immense efforts we admire on our visits there, Bonney indicates that the building expenses of the royal court expansions at Versailles were in fact never higher than 6% of its total court expenditure at any given time and most often did not exceed 1% of the annual overall expenditure.\textsuperscript{18} Versailles’ financial \textit{comparative} data are useful to demonstrate how the building costs relate to the annual overall costs of running the court:

For the reign as a whole, the château absorbed 33 per cent of the expenditure on royal buildings. Yet there are four years in which Versailles absorbed less than 10 per cent of this total expenditure. These were all years of war: 1667, 1668, 1695 and 1696.\textsuperscript{19}

However, despite lower expenditure on building during war, significant funds were spent on building, for example in 1680, while war costs did not diminish in that year or the year after.\textsuperscript{20} Thus, ‘to build’ the image of the king through physical sumptuous construction, this was hardly stopped during wartime, despite accumulated financial losses. In fact, building activities increased immediately afterwards, for example, in the decade of peace between 1678 and 1688.\textsuperscript{21} These costs needed to be contextualised, though, to eradicate the existing myths (started in the eighteenth century) that the French Revolution found its ultimate cause in Louis XIV’s profligate building projects, which exhausted all existing resources to the point of state destruction.\textsuperscript{22} Warfare was a much higher cost (quadruple) to the court of Louis XIV\textsuperscript{23} and there was a clear inverse relation between wartime (and its costs) and building activities during war years and peace years.\textsuperscript{24} One of the reasons why these myths were started, and which in themselves strongly indicate how people over time perceived Versailles and its court, may well be found in Louis XIV’s asser-

\begin{itemize}
\item \textsuperscript{18} Bonney 2007.
\item \textsuperscript{19} Bonney 2007, 220.
\item \textsuperscript{20} Bonney 2007, 219 see Table 1.
\item \textsuperscript{21} Bonney 2007, 219.
\item \textsuperscript{22} Bonney 2007, 206.
\item \textsuperscript{23} Duindam 2003, Bonney 2007, 223.
\item \textsuperscript{24} Bonney 2007, 212–20 see Tables 1–3.
\end{itemize}
tion that he, as king, had access to three essential attributes as stipulated by his grandfather Henri IV. These were the right to engage in warfare, to make love and to build: Louis XIV seemed to have taken all three kingly attributes to heart.\(^{25}\) The never reduced taxation under his reign would have ensured a constant income to allow such ‘triple-right expenses’ and from 1669, building costs at Versailles increased continuously after a massive land army had been built up for most of the 1660s when France was at peace and the labour force of the soldiers could be employed in construction.\(^{26}\) During this period, no large-scale changes in military expenditure can be noted, apart from the difference between 1668 to 1669–71.\(^{27}\)

By the end of the reign, Versailles was the paramount symbol of Louis XIV’s absolute power and the French ‘style’, which would be emulated throughout Europe. […] Its value as a symbol and in terms of prestige was greater than its monetary cost.\(^{28}\)

Versailles’ building phases have also been studied from a demographic perspective,\(^{29}\) which show that in each case, people descended on Versailles when building was started and on-going. These construction projects provided work for skilled artisans and lesser-skilled labour and thus an income for their families for guaranteed periods.\(^{30}\) Simultaneously, additional primary commodities were in demand, such as food, clothing, accommodation, tools, materials, water and other socio-economic and legal provisions required to make this growing population influx function smoothly. After the court had moved from Paris to Versailles, luxury commodities were also sought after, especially to accommodate the elite that came with this move. Both trends continued until after the Royal Chapel was finished in 1715 when the Royal

\(^{25}\) Prestwich 1968; Bonney 2007, 208.
\(^{26}\) Bonney 2007, 212.
\(^{27}\) Bonney 2007, 213 see Table 1.
\(^{28}\) Bonney 2007, 222.
\(^{29}\) Lepetit 1978, 607.
court moved away again from Versailles back to Paris.

As such, Versailles must have inspired and formed a crucible for many of its crafting people to engage with each other in these dynamic periods, irrespective of wartimes and possibly across social strata. Too often, studying monumental buildings is seen in itself as inspiring, resulting, for example, in the study of its energetics as a proxy for demographic estimations or the role of these monuments as the cause or outcome of elite power. However, the real importance to me lies in its role being embedded in the many other chains of events and socio-technical processes and practices at hand in their specific contexts.

**Mycenaean building programmes**

Equally interesting is the context in which Mycenaean large-scale constructions and long-term building programmes took place in the Argolid (Greece) from c. 1400 to 1200 BCE, especially the last decades during which most physical efforts took place. It has been often and convincingly argued that the elites responsible for these building programmes were seemingly losing power and were trying, perhaps desperately, to hang on, by changing their tactics to impress. They drove up the scale, function, amount and type\(^{31}\) of their building projects, and other forms of sumptuary practices including the production of exclusive luxury and prestige goods.\(^ {32}\) Such luxury goods production and consumption practices comprised a trend already known since the Shaft Grave period at Mycenae (c. 1700–1600 BCE) and had thus been successful in elite status building, (re)affirming and (re)confirming the importance of the elite for quite some time.\(^ {33}\) In the past, it has been suggested that the need for large workforces in building may have turned into abuse of both human and other resources employed in these building efforts and that this

\(^{31}\) From tomb building to citadel building; for example Dabney and Wright 1990.

\(^{32}\) For example painted plaster with specific iconographic programmes; see Brysbaert 2008.

\(^{33}\) Voutsaki 1997.
stretching of resources beyond repair would have contributed to the demise of the Mycenaean civilisation.\textsuperscript{34} Much thinking about these issues has moved on and there are some major issues with such past understandings:

1- There has been, until now, no clear understanding of exactly what resources were in fact needed to build at such a programmatic scale and whether these resources could have been over-abused. There simply has not yet been a thorough fieldwork-based thermodynamic study that would even begin to tackle such questions for that region in that period.

2- Such understandings look only at the crises phenomena from a top-down perspective while other factors, such as warfare, climate, natural disasters, famine, disease, crop failure and internal trouble are added to the pot of potential causes of crises and ‘collapse’ and blend together.

The figures of a detailed thermodynamic study\textsuperscript{35} are indeed needed to calculate what all these efforts may have ‘cost’ over time.\textsuperscript{36} The calculated ranges of labour-input (expressed in labour-days or labour-hours) may begin to approximate how many people had to be freed up from other efforts of subsistence such as food, clothing, and providing for accommodation, as we saw earlier for the Versailles situation. The crucial questions then are whether enough people were available in the region, and if not, how this issue was solved. Were people recruited from elsewhere, and by which dynamics, or were they, as in Versailles over 3000 years later, attracted by the prospect of work and commerce, and thus moved to the region themselves? Towards

\textsuperscript{34} De Fidio 2001,16; Galaty and Parkinson 2007, 14–15.
\textsuperscript{35} The SETinSTONE project is funded by ERC-COG-2014 grant (2015–20) and brings together (among other aims), for the first time, field data on architectural energetics of Mycenaean monumental building projects in the Argolid, Greece. The project consists of 3 full-time PhDs, 3 part-time post-docs and the PI (author) totaling to 23.5 person years of labour to fulfill its tasks.
\textsuperscript{36} Shelmerdine 1997.
1200 BCE, some of these centres enclosed their workshops within the existing massive fortification walls by extending these (Tiryns, Mycenae), while several crafts slowed down or ceased to exist around 1200 BCE. After the so-called ‘collapse’ of the Mycenaeans palaces, no monumental building at the same scale as known from the previous 200 years was carried out for more than half a millennium in Greece. The logical deduction seems to be that the central powers collapsed and people dispersed, being freed from these centralised authorities. Some local power surges were still visible, though, for example in the post-palatial Building T at Tiryns (LH IIIC).37 It is possible that these post-palatial elites were physically linked to the previous lineages of power and were included in the social memory of these.38 This was made visible by people’s choice of location to construct Building T, and the use of available material resources to characterise and remember their past. At the same time, it has also been argued that these post-palatial elites also did not want to be associated entirely with previous powers and, therefore, left the rest of the destroyed palace in ruins around them. A monument built perhaps with the intention to last (that is the palatial citadel) did so, but not in its originally intended form (as that citadel). As the central part changed shape, size and materials, it likely also changed its meaning and people’s perception of it changed over time. However, a more practical explanation of Building T sitting in its predecessor’s ruins may be that lack of resources stopped people from cleaning up the mud brick remains, leaving the intended outcome ‘incomplete’. It seems this was often the case in later Greek building projects, of which those on the Athenian Acropolis are perhaps the best known.39

However, the question as to why these post-palatial elites, at Tiryns or elsewhere, did not build as extensively as the previous generations, perhaps deserves further thought. What was it that stopped them from doing this at this specific moment in time, which is LH IIIC, or around 1200 BCE? Was

38 Mühlenbruch 2007; Maran 2012, 2016; Brysbaert 2015a.
39 I thank Jari Pakkanen for reminding me of this.
it purely an economic matter, did too many people disperse after the demise of the palaces? This question is of special interest due to the material continuity expressed earlier in superimposed buildings since the EH II period, thus demonstrating a very strong attraction to the locale on the low hill of Tiryns. Such material continuity seems also to reflect a continuity of practice (building on the same spot, perhaps for similar reasons) over long periods. Therefore, the question of why it stopped c. 1200 BCE and only started again on the same spot but far less impressively so during late Geometric times, is valid. With Maran’s recent reconstruction of the tumulus tomb overlying the EH II ‘Rundbau’, at least the LBA building activities at Tiryns re-enacted the social and material commemoration of the ancestors of the group(s) at home in that specific landscape. Such material expressions in durable architectural forms seem to suggest active consolidation of social continuity over time, even if the physical forms and materials may change diachronically, as well as the meanings embedded within these architectural forms. Surely the physical effort needed in human resources could have been called upon, or the material ones, if they were powerful or networked enough? Or should we try to understand this situation from a bottom-up viewpoint? Perhaps people would be attracted to a large building site for stable work? Or perhaps part of the population that was, for so long, involved in such activities, did not see themselves, using such buildings anymore and decided to divert their efforts to different activities instead? Several groups of people had already proven that they could move from one trade (for example agriculture) to another when needed (building) or were doing several jobs seasonally in any given year. Additionally, the Linear B tablets indicate such practices. Seasonal and occasional work is also a practice evident at Versailles where soldiers in peaceful times were engaged in the building trade. Or were there, in the

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41 c. 650 BCE, oblong building which covered the east part of the Great Megaron, possibly a temple to Hera; see Papadimitriou 2001.
42 Maran 2016.
43 After Hodder 1994, 73–5.
44 Nakassis 2013; Brysbaert 2013 for farmers likely employed in building works.
Mycenaean case, perhaps additional deeper motivators, such as ancestral ties or previously strongly rooted belief systems that were severed or damaged beyond repair, with those ruptures becoming reflected in people’s moving away from their alliances with formerly powerful elite groups for whom they did not want to build anymore? In a contextual study on Mycenaean figurines, it seems that the practices of using these before and after the palatial demise involved differences in quantity, technological make-up, type and location, indicating that changing socio-political structures had a marked influence on people’s overall behavioural practices. As Maran has argued convincingly, the citadels and other large-scale building works raised only one or two generations earlier were not perceived by the post-1200 BCE elites in the way they were under the previous palatial socio-political structures. Building T, a banquet hall of monumental scale, was built inside the ruined walls of the most important locale of the earlier palatial elites, the Great Megaron, which was the seat of the former palatial elite rulers. Such a locale-usurping act indicated that the new elites undermined the previously held perception of power by showing its failure so blatantly. This new structure was created and produced by people working within a given cultural structure who renegotiated and transformed the cultural structures in which they worked by creatively manipulating existing meanings to produce new combinations. And so the post-palatial elites did build again, by electing again the same locale, linking to a now-changed hearth structure in the central court and rooting it in known ancestral powerful presences, but now expressed in different ways technologically, materially and socially. Such strategies aimed at altering people’s perception of where and how power was present under the ‘new regime’. As Ingold asserts, monuments seem to contain a paradox in ‘that they can serve as memorials only because they have failed in the objective set for them by the powers that originally intended their construction’ (my emphasis). Or in

45 Vetters 2015.
48 Ingold 2013, 78.
Scarre’s words, ‘monuments carry meaning far beyond the contexts of their original creation’ and ‘they are also mutable and contingent forms, frequently reused and reinterpreted across the passage of generations’.49

As to the question regarding the locale where the LBA citadel of Tiryns with its megara was built and where le Palais du Versailles was erected, it is striking how persistent that locale was, as in each case earlier predecessors existed: Tiryns with the EH II ‘Rundbau’ and subsequent tumulus, and Louis XIII’s hunting lodge at Versailles. It may be straightforward to understand the role of ancestral-based or lineage-linked (real or appropriated) claims on these spots, made to legitimise subsequent building on that very same spot by the powers in place. Differently formulated, the several chronologically and materially overlapping buildings write accumulating biographies of that locale and can be understood as ‘parts of a collective or ancestral body which embodies genealogical and social links to the past. These accumulated biographies enrich and enhance the potency of a [monument’s] physicality’.50

But one crucial question remains: why were these specific places chosen in the first place to start constructing there? Why was the EH ‘Rundbau’ made there! Was it because of its higher, strategic, position on the rocky outcrop with a view over the sea nearby that attracted people? Kilian’s report indicates that its foundations were cut into an earlier EH apsidal building.51 What about the choice to build that structure there? Did people understand and interact, perhaps, with a ‘deeper time’ connection in the surrounding landscape? Or did this specific place carry cosmological powers recognised, for example, in natural shapes that spoke to past people of the region, well before any building was attempted there?52 From that exact spot at Tiryns, one can see both the Larissa and Apsis hills at Argos towards the northwest, the Profitis Ilias hills to the southeast, the Palamidi hill and Akronauplon hills at Nauplion

49 Scarre 2011, 9.
51 Kilian 1986, 65.
52 Natural monuments or places of power, Scarre 2001, 10.
to the south, and the mountain range where both the LBA citadels of Midea and beyond Mycenae are located to the north. There is also evidence for an EH II dialogical relationship between Lerna’s Corridor House community (across the bay) and Tiryns’s ‘Rundbau’ community.53 All too often we only look at the built form in isolation and not how it may have been tied into its surroundings or may have been embedded inside specific landscape features.54 Additionally, specific earlier interests in connecting places and natural features in that landscape may have played their role.

As such, the construction of monuments, often in very specific places, may carry with them much more than the commemoration of events or specific people.55 For prehistoric times, it may never be possible to answer the question of locale choice in a satisfactory way, but in a paper on past technologies, crafting and people, the question of location choice is crucial as it suggests that people in the past paused, communicated and then made conscious choices in picking a place before they started building there. Selecting a suitable place was an integral part of planning to conduct activities there at that spot. It was also a decision that had to be agreed upon by several people for it to be acceptable and to set the building activities in motion. As such, the well-considered choice of this locale influenced all subsequent sets of interwoven building and other activities, related to building or not, technological or other. At the very least, it brought together the people from the surrounding landscape into an act of gathering, whether for building or otherwise; therefore, the locale was interwoven with the landscape even before it was decided that this would become the place to start building. That this line of enquiry is not entirely fruitless has been demonstrated by the various teams that have been working in the region of the site of Stonehenge and related sites, for many decades. Richards and Thomas, for example, could illustrate

53 Most recently Maran 2016.
54 For example, quarrying the rocky outcrop to build on top of it, as in Tiryns, Brysbaert 2015a.
55 Scarre 2011.
that the location choice for certain henge monuments already seemed to include evidence for much earlier activities taking place there, thus marking out those specific spots instead of others. Such choices then made people move in the surrounding landscape in specific ways, following specific routes with the purpose of ensuring they passed by these places, thus impacting on and interacting with, that specific landscape in various ways.

It is beyond the scope of this paper to investigate this for the sites mentioned above, but it would be a useful exercise to investigate the pre-EH II activities in the region of Tiryns, if at all possible, to determine if any specific behaviour could be detected through its material remains. A well-documented example of Mycenaean monumental architecture and the importance of its specific locale is the ‘Treasury of Atreus’ tholos tomb as studied by Mason for its contemporary location.56

Other monumental phenomena

Modern examples of massive constructions, of which we are well informed through the media, can also reveal other strands of perceptions in addition to their physical grandeur that impresses. One such example is the immensely large and costly sports facilities constructed for the 2022 World Cup at Qatar, including the Al-Wakra football stadium and its surroundings. There is no doubt that these constructions are, and will be, mightily impressive for most visitors as they were intended to be, and (will) have cost a huge amount of labour input and organisational planning at many levels. For those who care to read beyond their visual presence and impact though, an ethical shadow seems to hang over this project. This reduces, in the eyes of the critical mind, these buildings to the physical embodiment of human abuse, expressed online by the virtual growing tower of coffins, an architectural project designed by Iweek1project.org and which can be understood as an example of a

56 Richards and Thomas 2012.
57 Mason 2007.
'counter-monument'. This design is constructed by means of the number of deceased Nepalese builders that were/are involved in this large-scale project, each represented by a coffin as a building block of the virtual tower (see http://archinect.com/news/article/116273652/a-memorial-for-the-workers-dying-while-construction-the-qatar-world-cup-stadium and http://www.1week1project.org/en/2014/11/25/qatar-world-cup-memorial/).

The original intent to impress may therefore be perceived rather differently. It seems that these builders are active in the building of sports facilities but also, perversely, in constructing the symbol of their own death, forming (as such) this tower; this is not unnoticed by the media. Scarre especially has argued that past people’s perceptions of the landscape surrounding monuments may be very different from modern ways. While this difference between intent and perception may make archaeologists ponder how such structures may be(come) perceived by people in the future, our main concern will be how we may notice this in the preserved archaeological material for past monumental building projects and this may not be possible at all in many cases.

**Constructing monuments and perceiving monumentality**

Examples of monumental building contexts, which can be understood as both the outcomes of and the causes for socio-economic and political processes and social practices, highlight a relational approach to monumentality. In this, both humans and objects (that is, the monuments), or the social and the material, are embedded into each other and find a place in an interdisciplinary discourse on the topic. Such studies thus investigate human relationships and their changes and how these are expressed and negotiated through non-human forms, such as the material environment and its resources. Monumentality, therefore, is an ‘ongoing, constantly renegotiated relationship’ between thing and person, between the monument(s) and the person(s).

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58 Young 1992 on holocaust examples.
59 Scarre 2002; see also Brysbaert 2015b.
60 Examples for each given by Osborne 2014.
experiencing the monument'.

Osborne also observes the term ‘monument’ as coming from Latin and thus carrying the meaning of ‘things-that-do, motionless objects that nevertheless possess an active force, accomplishing real work among those surrounding them’. One may question the idea that buildings are motionless—many move regularly or constantly—and some are even adapted physically to accommodate such constant movement. It seems that a monument is defined by the people for which it functions as ‘the’ monument. It (the monument) may thus physically remain the same for quite a long time, but the actual meanings people themselves associate with the monument may change continuously, due to the changing contexts in which it is assessed over time. These changes of meaning may occur diachronically and geographically, but also socially. A monument likely means something quite different for those who were its patrons versus those who constructed it, versus those who managed to obtain a living out of its construction (that is production) and its existence (that is consumption), versus its later tourist and research visitors. It is to this meaning-making that the earlier Lego example referred: the perception of something or a feature (independent of its size) is social and constructed, as much as the monument is constructed too, and subsequently provides that feature with its meaning for these perceivers.

Beyond the question about what these monuments ‘meant’ to people also lies the question of what these monuments did to people. In asking this, it entails enquiring about the active role that these monuments, finished or not

61 Osborne 2014, 3; original emphasis.
62 Osborne 2014, 3.
63 See also Kolb 2014, 154.
64 Hygrothermal performance of porous building materials, for example wooden houses: Hameury 2005; Tower of Pisa; Burj Khalifa in Dubai: https://www.emporis.com/buildings/182168/burj-khalifa-dubai-united-arab-emirates see Facts section: The building was rotated 120 degrees to allow for less stress from the prevailing winds.
65 Osborne 2014, 4.
66 That is notion of affordance; Gibson 1979; Osborne 2014, 3.
(yet), played in people’s day-to-day lives or, in other words, how the monuments affected them. In a different context, I have suggested how the architectural layout of two different workshops at the same location changed over time through remodelling and building efforts, and in doing so, also changed the way people moved into the changing spaces (re)created by a changing layout.67 Kolb, for instance, writes the following: ‘Monumental palaces, forts, temples or tombs offer commentary about society; they cast social ideals and principles as being true within the landscape in which they stand, and transform private actions and behaviours into movements of the collective public’.68 Considerations about both the meaning of monuments and what they do to us, and realisations of fine nuances between them, may force us to rethink the meaning and the roles that technologies, both past and present, may play in both constructing and documenting something monumental, whether this is a physical reality or perception, or both.

Inasmuch as Osborne sees links between the monument and the form, and between monumentality and the given meaning,69 I agree with Osborne that form and meaning should not be dissociated from each other. He indicates that a monument, as an object that possesses an agreed-upon special meaning to a community of people, is never immutable and, therefore, that the meaning of something monumental needs to be seen in relation to that community.70 He emphasises the importance of relationality as a framework to approach both the physical monument and its monumentality, and suggests that they are totally intertwined, very much the line of thought taken here too. While this certainly forms a strong basis for understanding both monumentality and monuments in context, it is perhaps the context—for example, the community as a whole—that needs to be more nuanced. As perception is different for each of us, so is meaning-making and creating, and so are our

67 Brysbaert 2014.
68 Kolb 2014, 154.
69 Osborne 2014, 4 and 8.
70 Osborne 2014, 4.
individual experiences with the world around us. Both the physical form, and the technical processes and social practices surrounding the actual forming of a monument, therefore, may be rather different for a family of skilled masons than for the royal or elite family who commissioned and financed the construction itself, even if they are all part of the same community and are each other's contemporaries. For each of these groups, these monumental works will likely have affected them differently.

Perhaps this social embeddedness of buildings through technological processes and social practices in people's lives, through relationality, forms the necessary antidote to a rather negative view about the use of architectural energetics (or thermodynamics) expressed by Osborne.\textsuperscript{71} Given that seeing ‘large-scale’ as expressions of power, domination and social complexity may be just one way of interpreting the calculated data of the energy spent on labour,\textsuperscript{72} it does not need to entail that this approach is therefore useless or misinterpreted. Such data must be studied in each context individually and the subsequent interpretations of socio-economic and political realities of a given community may therefore be valid. But there needs to be room for other interpretations as well and, as such, the practical method of architectural energetics in itself deserves its place, because an economic perspective on human activities is entirely human in its own right. People in the past, in many contexts, periods, regions and cultures did calculate and strive for cost-effective economic gain or performance. Plenty of evidence exists to illustrate this, even in the Linear B tablets that documented economic transactions of interest to palatial elites in the Mycenaean era’s final centuries. Denying this economic aspect of human interactions with each other, their environment and resources, would equal the denial of a strong and important component of socio-technical and political human interactions. Further, it is through the lens of the physical processes and social practices of building and crafting, and choosing the specific locales in which these activities took place, that

\textsuperscript{71} Osborne 2014, 6ff.
\textsuperscript{72} As Osborne critiques 2014, 6.
we can argue convincingly that perceptions of the monument-in-the-make may become formulated \textit{while} the physical form itself is still being created. As such, dynamic and changing meaning-making and -giving may also influence the shaping of the monument in each of its facets spatially, materially, socially and diachronically. This socio-technical approach (whether or not it includes a thermodynamic methodology of labour calculations based on the efforts made when constructing large-scale and long-term), does not have to be interpreted as a reductive understanding of physical monuments and monumental architecture as power consolidation strategies by the dominating elites, which would result in a rather ‘static’ understanding of monumental architecture as a useful indicator for social complexity.\textsuperscript{73} Other, more nuanced and comprehensive, interpretations have been proposed, especially for the Mycenaean mainland.\textsuperscript{74} I argue elsewhere that such thermodynamic methods—that is, architectural energetics—are in fact very strong tools to break down the still perpetuated and rather useless dichotomy between elites, on the one hand, and ‘the rest’ or the labouring population, on the other.\textsuperscript{75} I therefore see meaning-making, whether related to technologies of building or not, as a cognitive technology through which to express a wide range of societal relationships, cosmologies, and understandings of the world by widely ranging socially ranked groups; as such, it impacts on the physicality surrounding people in an equally multiple set of ways. Denying these social complexities is denying past people’s ever-changing and dynamic walks-of-life. First, it is not too hard to understand that certain social complexity levels (and I do not mean strongly hierarchical levels of complexity; social complexity does, in my view, not need to be hierarchically structured to be complex, see below), will allow for easier organisational and structural capacities to achieve large physical constructions and large-scale building programmes. The large-scale physicality of many of these monuments screams for high-energy input and a complex level of organisational talent and structure to make

\begin{itemize}
\item \textsuperscript{73} As Osborne 2014, 5–6 asserts.
\item \textsuperscript{74} For example Santillo Frizell 1997–8; also Devolder 2013 for Minoan Crete.
\item \textsuperscript{75} Brysbaert 2013; 2015a; 2015b.
\end{itemize}
this possible, beyond the economic powers to cover the energy expenditures, whether through salaries or food rations. To allow such organisational technology to develop and achieve its goals, as has been argued in urban planning studies, top-down planning may be needed and the most imposing buildings, as argued by Osborne’s examples, are found in places under the most totalitarian regimes in our modern times. Moreover, the location, quality, scale and frequency of monuments in a specific landscape may (or may not!) indicate the dynamic nature of political control in a region. At the same time, building projects that can be called ‘monumental’, due to scale, energy expenditure, longevity and public character, can equally be conceived of, planned and executed by an entire community for the general benefit of that community. Irrigation earthworks such as the furrow networks planned, executed, maintained and used by everyone in entire communities in the Kilimanjaro region (Tanzania), for example, are examples of clans based on fairly egalitarian but complex and stable socio-political structures that operate their large-scale ‘monuments’. Finally, architectural energetics calculations must be interpreted for what they are: they provide relative figures of the activities involved in the measured monument. Any of the supportive activities such as agricultural activities, traction animal fodder production, tool making and repairing, chopping and transporting wood for scaffolding and structural architectural elements, all of which were needed to make this building happen but which are not visible archaeologically, are not often considered. As such, energetics figures obtained on stone works only are reduced in terms of their impact on the overall socio-economic and political structures of the communities under study.

76 Tuan 1978, 105. 
77 Osborne 2014, 7. 
79 Gray 1963 on the Sonjo clans; Goldsmith and Hildyard 1984 on the Chagga clans. I thank Daniel Turner for providing these references. 
80 But see Brysbaert 2013 for such cross-craft interaction approach, also McGovern 1989. 
81 For example Kolb 1997, 269 and 280.
It seems then that agency-based studies in particular that attempt to make sense of monumental architecture, monuments and monumentality have turned a top-down approach upside down and come to the reverse conclusion that political power is the result or the outcome of monumental architecture, instead of its creator. Again, Osborne provides examples of such studies. The way then, that the location in the landscape of the Tiryns citadel itself may have formed the major impulse for the later building phases suggests, perhaps, a bottom-up interpretation. This conscious choice then was based on Early Bronze Age ancestral existence of power in the landscape, and was maintaining and literally materially encapsulating (and possibly hiding and internalising) the social memory of these ancestral powers. However, there is no need to deny the potential of a top-down approach (see discussion on economic and organisational needs in constructing on this scale). We often reverse standing hypotheses and interpretations first before we can come to a more nuanced and infinitely richer explanation of our material cultural phenomena, based on a contextual approach (see above) and again allowing the full complexity of human interactions and social practices in any given specific context. The Versailles and Tiryns cases illustrate well how power was both present and needed to build, but equally that more building also enhanced the powers already in place.

I have argued for a more nuanced and fine-tuned approach to monumental architecture and monumentality, its acts, processes, practices and ‘by’-products being totally entangled with each other. This includes especially how these form, together with people, time (thus effort) and landscape, all nodes of a continuum that give meaning and are meaningful, and can be perceived in a myriad of different ways. I employed Osborne’s paper to show the many exemplary studies through which monuments and monumentality can be studied through a technological lens. As such, I also critiqued, up to a point, some of his broader statements. We, as archaeologists interested in the hu-

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83 See also Brysbaert 2015a.
man past and how people and other non-human beings interacted with and through their surroundings on a daily basis, have an obligation to allow a picture constructed as complex as we can conceive of ourselves. It is this level of complexity that may have existed in the past, independent of social hierarchies. To this end, we should also employ as many methods as needed to obtain such a complex picture as long as the results are interpreted within the limits set by these methods. Whether we may be able to evidence these complex pictures of prehistoric people materially is a different story altogether, and this will very likely never happen. However, that of all reasons should not stop us from suggesting hypotheses and giving meaning to past remains, based on thorough technological understanding of people’s social practices in context. It is our most complex and widest imagination, aided by multiple technologies, past and present, which will give justice to our predecessors’ ever-changing walks-of-life.
Bibliography


