



**WELCOME!**  
**S5. Digital Visualisation beyond the Image:  
Archaeological Visualisation-Making in Practice**



Twitter: TAGsotonS5

This paper was presented at the TAGSoton Conference, during a session called “Digital Visualisation beyond the Image: Archaeological Visualisation-Making in Practice” on 21<sup>st</sup> December 2016 (Organisers: Gavin Beale & Paul Reilly).

Different expressions of the same mode: apprehending the world through practice, and making a mark

Stefan Gant (Fine Art, University of Northampton) & Paul Reilly (Archaeology, University of Southampton)

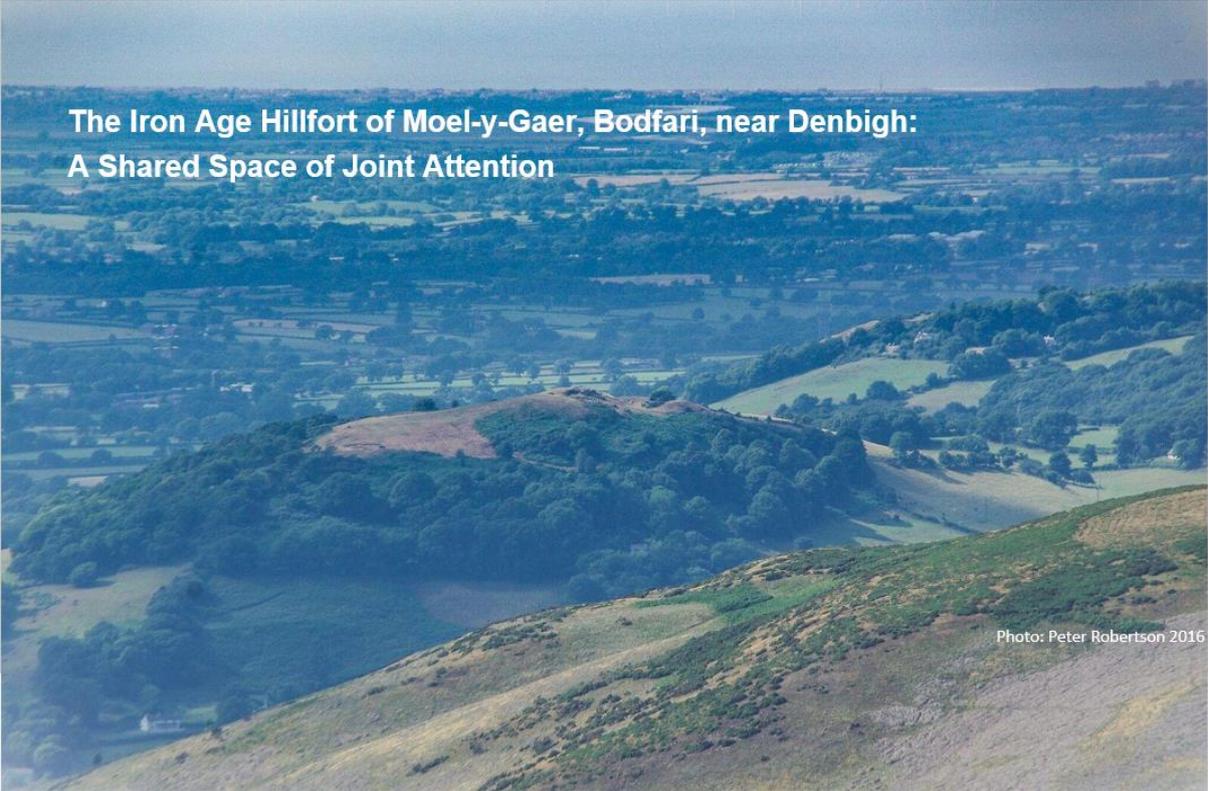


**Different expressions of the same mode:  
apprehending the world through practice,  
and making a mark**

*Stefan Gant & Paul Reilly*  
*University of Northampton | University of Southampton*

This presentation is really a collection of snippets from a 4-year conversation between an archaeologist and an artist in residence, exploring our complimentary ways of apprehending, or making sense of, the world through embodied cross-modal practices, what Mathew Crawford refers to as Ecologies of attention. We are interested in the evolving aesthetics of archaeological trenches; or modes of making marks on archaeological surfaces. This conversation is refracted through many voices and points of view.

We celebrate the skilful craftwork and embodied knowledge of practitioners in both field archaeology and contemporary drawing.



**The Iron Age Hillfort of Moel-y-Gaer, Bodfari, near Denbigh:  
A Shared Space of Joint Attention**

Photo: Peter Robertson 2016

Most of this conversation has taken place in the share space of joint attention provided by small Iron Age hill fort on the outstandingly beautiful setting of Moel-y-Gaer, overlooking the village of Bodfari and the Vale of Clwyd.

Most of the insights discussed here refer to 'Trench 3X', a 25m long by 5m wide trench cutting through the middle rampart and outer rock cut ditch. And we gratefully acknowledge Gary Lock and John Pouncett, the project directors, for providing us with the opportunity to conduct our protracted conversation!

## The Application of a Very Wide Range of Mark-Making Practices and Gestures Eventually Enables us to Make Some Sense of the Multiple Phases of Rampart



We got to a point where we could make sense of the archaeology and the usual publications, conveying the results of this effort, could now appear in due course.

Our collaboration explores how our different modes of mark-making to probe, make sense of, record and represent this shared space generated surprising new insights into our different ways of knowing and our different modes of doing. We will outline, briefly, our standard archaeological drawing procedures and then quickly extend the definition and scope of both archaeological and contemporary *drawing practices*.

We begin by drawing your attention to the verbs to 'draw' and to 'drag' and the central role of improvisation, [Illustrate the gestures simultaneously] Both modes of doing share the same Germanic root.

We would like to shift attention to some of our different ways of knowing and wayfaring through the archaeology that wont appear in the dominant discourses of Iron Age Hillfort studies or current drawing theory. These features were not 'found', they were ***intra-actively produced*** as the archaeologists worked their way into, through, and out of each new context involving processes of improvisation and negotiation blending the excavator, the context and the tools.

We argue that through their intra-actions the tools, deposits, and diggers mutually constitute paradata - data about how the data and metadata were collected- and thereby become *advocates* of one another. In short, they mark each other unselfconsciously with auto-archived paradata. Without resorting to the language of surveillance and control, traces of the actions are realised spontaneously, both physically and psychologically.



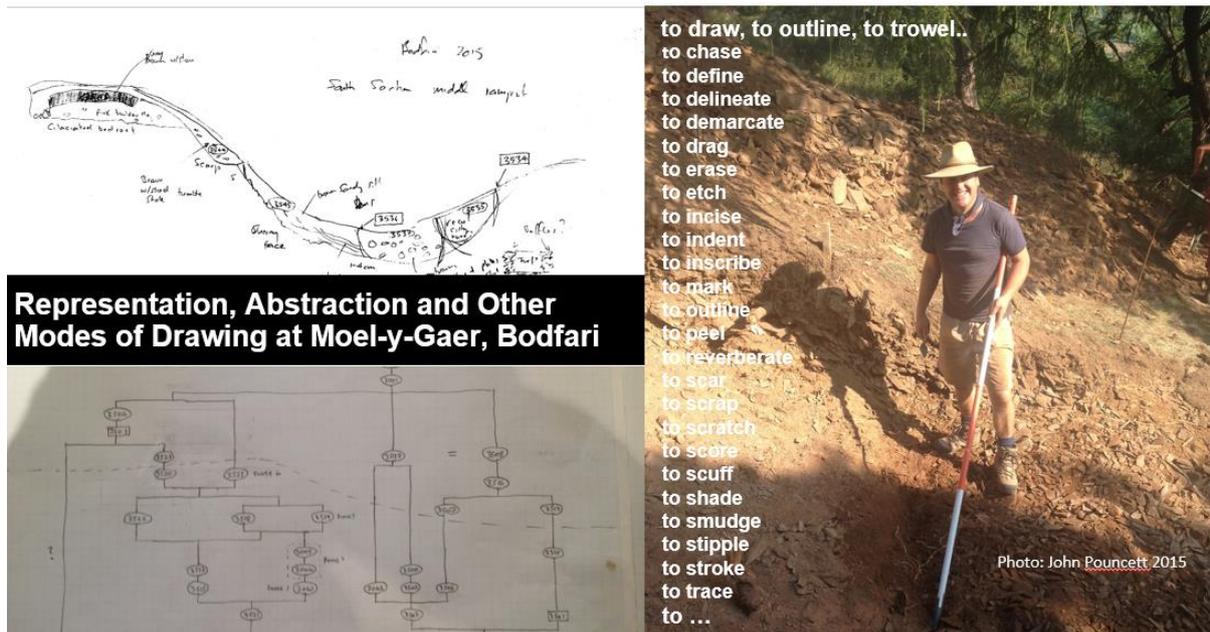
Both industrial and hand-crafted drawings are produced by the team investigating the Moel-y-Gaer hillfort. The many detailed topographic and geophysical surveys are rendered into cartographic manifestations using standard algorithms and instrumentation. Products of automated cognitive processes these maps have been invaluable for informing strategic decisions on where to target deeper more reflexive investigations.



### Conventional Archaeological Drawing Practice

Traditional low-tech, slower, hand-measured and hand-drawn works that require discussion and concentration before a single line is committed to record are standard fare at Bodfari. Here, the usual jigs of gridded pegs, tapes, planning frames and offsets are deployed to help generate

standard scale plans (1:20) and sections (1:10), conventionally drawn, with sharp hard pencils (preferably 6H) on permatrace secured to gridded drawing boards.



PR:However, our archaeological drawing practices are iterative and reflexive, and involve both representation and abstraction. Every catalogued drawing is frequently the second or third expression of the features of interest. More often than not the archaeologists rehearse the drawing gestures, at a scale of 1:1, by scoring the interfaces of contiguous contexts or features on the actual surface of 'the archaeology', using a trowel. We often draw the features of interest for visitors to the site using a 2m ranging rod as a stylus tracing their outlines on the surface of the archaeology. Sometimes, usually in connection with the unravelling of some stratigraphic conundrum, we might also free-hand sketch sections. We also touch, mark and intellectually dissect the actual surface of the archaeology. Refreshed Harris Matrixes are hand drawn too.

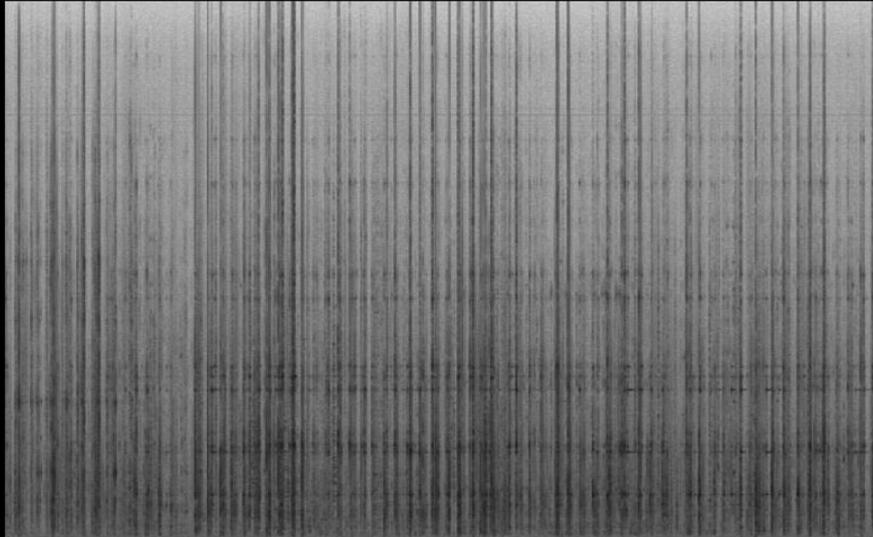
We incorporate a small homage to Richard Serras: our verb list.



What constitutes a drawing and a drawing support is an on-going analysis we continue to pursue. Stefan's first impression of the excavation was the orchestrated sound of archaeologists scraping. For a practicing artist, the texture of these noises was reminiscent of being in a life drawing class.

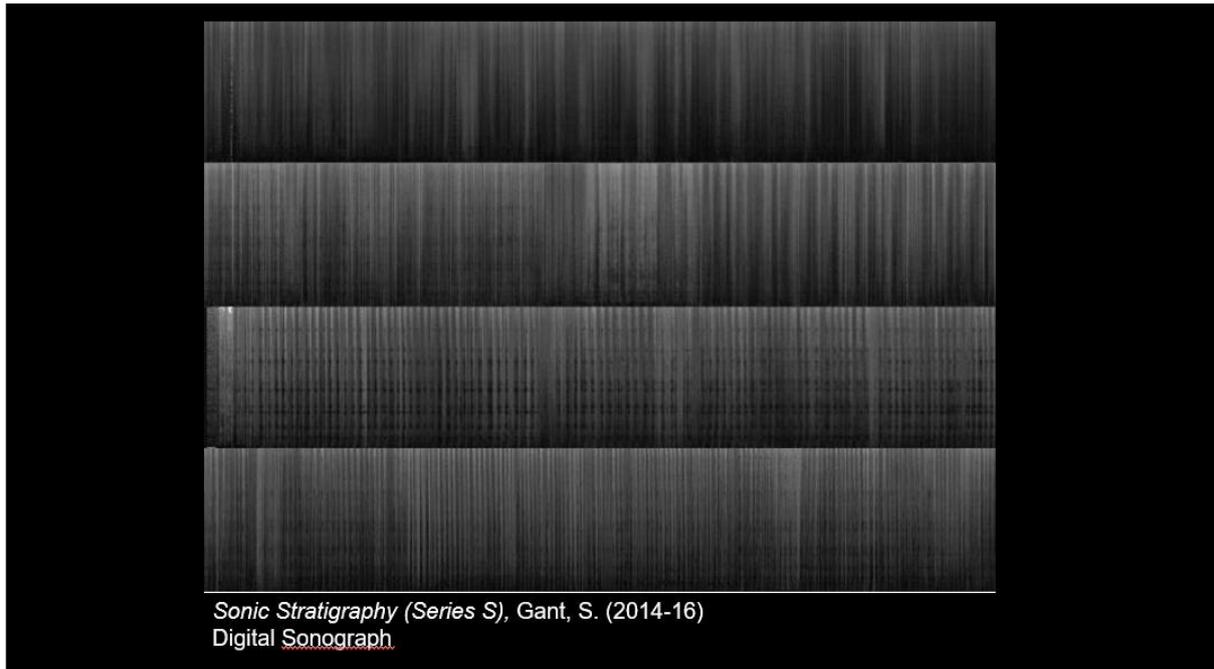
Life room and trench merged. Moel-y-Gaer was no longer a hill but was transformed into a surface or 'support' for drawing; a surface to receive marks and delineation as an extension of paper, interrogating drawing directly through the land itself. It became a place to learn something new about drawing beyond normative, conventional processes and activate new approaches for describing a place, site and space extending beyond the visual image. Pencil was exchanged for a trowel; the hands of the archaeologists and their practices appropriated by an artist.

Sounds reflect off surfaces and hence become many kinds of mark.



***Sonic Stratigraphy (Sub Soil)* Gant, S. (2014-16)  
Digital Sonograph**

The artwork, *Sonic Stratigraphy (Sub Soil)* Gant, S. (2014-16) is recently derived through audio visualisation software and explores acoustic signatures within the ground realised and activated through contact with a trowel stroke and an archaeological defined surface. The interfaces between layers are recognised by changes in the tone and/or frequency. Associated prominent frequency ranges are displayed by darker tones along the vertical axis emphasising strengths of frequencies. These patterns are emphasised in the above image and appear as repetitions through mark making or 'drag' presenting the excavators rhythmical encounter with surface. The graded tonal ranges across the image represent subtle and prominent frequencies, measuring decibel amplitude levels in digital systems in decibels relative to full scale (dBFS). Rhythmicity and/ or cadence and gesture are realised through this process and also present the 'signature' of a group of the excavation team or an individual depending on the recording. The 'drag actions' become expressive through tone and vertical delineation. The horizontal axis depicts time. The notion of a land, surface or context timbre is instilled through this process including a summary of the tactile intimacy of a conversation with land.



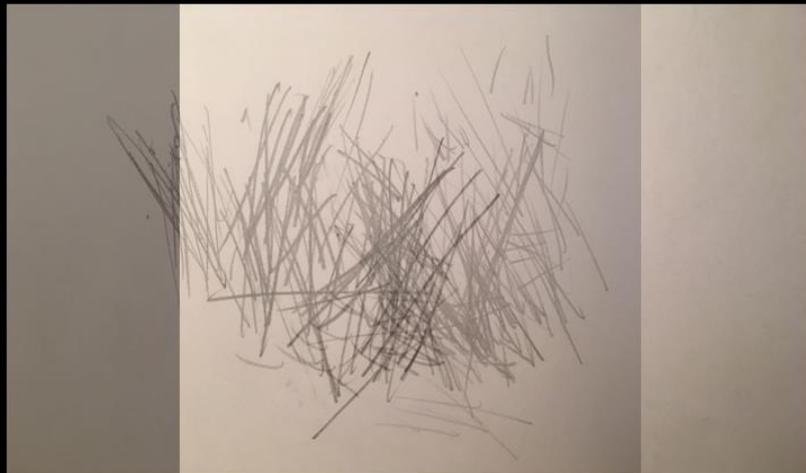
*Sonic Stratigraphy Series S*, Gant. (2014-2016) presents an interrogation of mark making over time through archaeological surfaces from mattocking and trowelling through to the natural subsoils. The images reveals and embodies sonically, existential experience of a specific space haptically engaged, in this instance through sound. The piece also references what Rawson (1969, 95) refers to as the importance of 'linear phrasing' of marks; springing from one to the next and so on. The piece explores mapping in a non-Cartesian way, building an enquiry into our relationships with surfaces physically and depicts an approach which expands from a two dimensional linear enquiry into three dimensional volume, known as 'plasticity' (Rawson 1969, 94), the enquiry of depth. Relationships between a scrape or stroke and the relationship as one leads to another is perceived as 'a demand of good drawing' according to Rawson (1969, 91). The dichotomy and polarity of dematerialisation of surface, working backwards and rematerialisation through art practice has released new approaches for personal consideration in regard to drawing practices. The dematerialisation of an object is here, rematerialised through the artwork, producing associated textures and tones through graphic constructs whilst making physical the immediacy and externalised thoughts of the maker.

**Towards an  
Archaeology of  
Archaeological  
Gestures**

**Acknowledging the  
interdependency and  
intersection of  
practices results in a  
renegotiation and new  
awareness of known  
parameters and  
interstices.**



We are therefore beginning to uncover a new taxonomy of archaeological gestures and marks. These marks represent the signatures of the often anonymous practitioners, the voice of the deposits, as well as the imprint of the tools, and their interplay creates a multi-threaded narrative documenting their modes of intra-action, in short their practices. They therefore occupy the conceptual space of paradata, and lend a new kind of probity in their translations as both art form and archive.

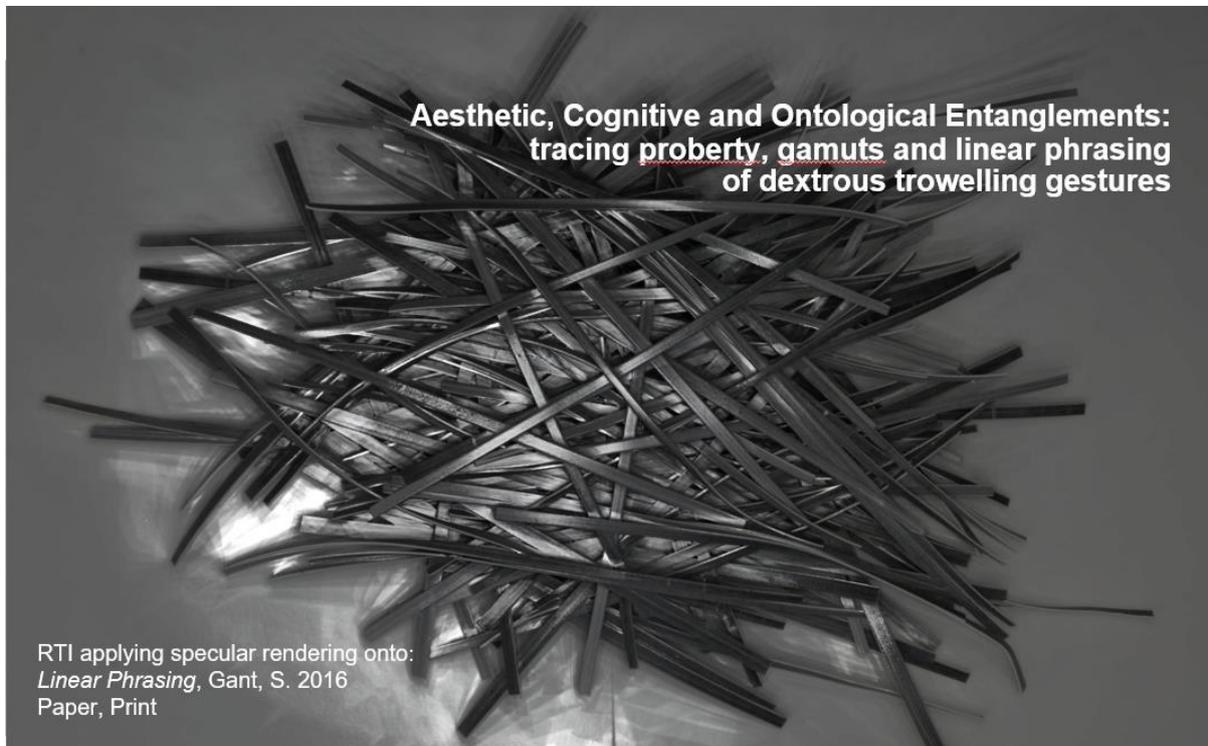


*Trowelling Study, Dr. Paul Reilly*  
Gant, S. 2016  
Pencil and digital overlay

Each line presented is a residual trace of where the trowel, digger and gesture make contact and become entangled, as the surface of the exposed archaeology is simultaneously inscribed and erased. The feathered terminals of these lines in fact flow invisibly from, or into, the unfolding loops of the now frictionless questing trowel. In other words the apparent breaks in the meshwork

presence what Ingold terms 'moments of tension' - when the archaeologist decides subliminally what to expose next. In these evocative, atemporal, arrangements of superimposed marks we begin to discern unconscious intent and improvisations of the digger.

GAMUTS - (set of directions – wide/narrow) and radiating mark sequences (which embed various linear inflexions; patterns of curve and straight lines) cognate to field archaeologist.



In the piece "Linear Phrasing", Gant 2016 explores mapping in a **non-Cartesian way, building an enquiry** into our relationships with surfaces physically, and depicts an approach which expands from a 2D **linear enquiry into 3Dvolume, known as 'plasticity' the enquiry of depth.**

Each pattern is distinct to the owner and often is attributed to their level of experience and ability to tune in to the surface. **The 'gamut' examines the set of directions employed within a drawing connecting shared meaning between both artist and archaeologist. *The plasticity of the lines recall the erasure of material as they (re)materialise the transit of a gesture. Marks embody and externalise our existential experience through and onto material -these here are condensed to form reality.***

Another ontological twist here is this distinctive gamut of drawing-trowel gestures is translated anew using RTI and the archaeologist re-appropriates his hand gestures! This particular mode of translation – which here is just a single frame - enables us to capture and deepen insights into the embodied practice: to excavate the relative stratigraphy of gestures, traces and marks . For example, temporal dynamics are re-enacted when the marks are expressed anew as 3D physical instantiations in the form of linear card strips, orientated and then stacked; one stroke on top of another. Here the points of contact are paradata, each referencing an instant of pre-reflexive divination.

## Cross practice aesthetic insights

- The theoretical underpinning of traditional drawing practice gives prominence to the actions of the excavator
- Modes of mark-making reflect highly skilled exploration and exposition techniques, and realise a highly sophisticated mode of meaning-making.
  - Drawing theory foregrounds signatures and authorship: 'thinking through mark making'
  - Parity between drawer and archaeological field excavator with variants from novice to professional with shared melodic rhythms and gestures as a vocabulary, "inflecting them, breaking them, and causing them to spring one from another – Linear Phrasing"
  - Archaeologist and artist share a common vocabulary
- Auto-archived, and advocates of excavator, archaeology, and tools, marks may be reconceptualised as both art, paradata, and the waymarks of field archaeology
- Embodied analysis of rhythmic phrasing of the dematerialization brings the act of archaeology to the forefront

The theoretical underpinning of traditional drawing practice gives prominence to the actions of the excavator. Our modes of mark-making reflect highly skilled exploration and exposition techniques, and realise a highly sophisticated mode of meaning-making. We have demonstrated that Drawing theory foregrounds signatures and authorship: 'thinking through mark making'. There is a parity between drawer and archaeological field excavator with variants from novice to professional with shared melodic rhythms and gestures as a vocabulary, "inflecting them, breaking them, and causing them to spring one from another – Linear Phrasing" (Rawson)

Archaeologist and artist share a common vocabulary.

Auto-archived, and advocates of excavator, archaeology, and tools, marks may be reconceptualised as both art, paradata, and the waymarks of field archaeology.

In summary, our embodied analysis of rhythmic phrasing of the dematerialization brings the act of archaeology to the forefront.

Thankyou [End of Presentation]