



Network of European
Museum Organisations

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Is Learning Better Without Objects?

The Meaning of Learning
in Museum Visitor
Experiences

A NEMO Report by LEM –
The Learning Museum Working Group

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The LEM Working Group

The working groups of NEMO (The Network of European Museum Organisations) offer their members a European perspective on different topics that are important to museums. The Learning Museum (LEM) Working Group explores topics relating to the fields of museum education, audience development, intercultural dialogue and lifelong learning.

It started out as a continuation of *LEM - The Learning Museum*, a network project funded by the EU and carried out between 2010 and 2013, in which NEMO was a partner.

Collecting the legacy of LEM, the Working Group today supports the exchange of information and learning among museum professionals in Europe, through various study visits to different museums in Europe organised for its members, as well as through studies and reports produced by the group.

Acknowledgements

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There is no point of this report where some of the great thinkers of the contemporary museum world have not influenced my thinking. Especially, I am indebted to fellow trustees and friends at the European Museum Forum, especially Mark O'Neill, and grateful for an afternoon spent talking with John Falk. Late night conversations fuelled by red wine prove to be a fertile ground for museum interpreters.

I have learnt much from curatorial teams at English Heritage, the Mississippi Department of History and Archives, and the William Morris Gallery. I am grateful to business colleagues, designers, content developers and marketers at Event Communications, Ralph Applebaum Associates, GuM, MET Studio Design and A Different View.

Thanks, finally, go to all the amazing museums around the world that through thick and thin provide their visitors with truly meaningful learning experiences, both at home and on their travels. They constitute a Community of Belonging that far surpasses borders.

A Point of View

When I was given this title as a prompt for a publication, I thought long and hard about what I could contribute to the informed debate that NEMO, the Network of European Museum Organisations, and LEM, its Learning Museum Working Group, have shaped over the last twenty years. The wheat needed sorting from the chaff. There are experts out there who have made informal learning their field of research, others who know more about objects and collections than I could ever aspire to, and others still who have championed evaluation and audience research since the inception of these areas of study. The words “learning”, “objects” and “better” all turned out to be loaded terms.

It was also my understanding that the article was aimed at an informed audience. Thus, I refer to learning theories only to give an insight into my own professional interpretation practice. Similarly, I have delved into collections only in as much as the thinking pertains to the points I am trying to put across in this article.

My contribution is proffered by a thinker and practitioner in the field of interpretation – a field which many museum professionals outside the Anglo-Saxon world think of as a linguistic process rather than a process of thematic planning and content development. I come at the issues with a deep understanding of the learning process as experienced by real museum visitors, and this too is unusual as interpreters are not (often) learning specialists. Interpretation, in my experience, requires top level skills of negotiating. It requires us to become, in the words of Mark Woolmer: a ‘curiosity provoker’, an ‘expert-to-visitor mediator’, an ‘information diplomat’, a ‘jargon Jedi’, a ‘story re-teller, meanings revealer, meanings communicator, visitor experience creator and curator’ all rolled into one. A tall order for anybody!

To master interpretation means to see content through the eyes of every general audience. It requires a clear understanding and open acknowledgement that the production of curator-led content is a highly authorial and selective process, and one which is rarely recognised as such. The best interpretation is also value centric, of course, but those underpinning values are fundamentally shaped by audience needs.

Ultimately, interpretation means grappling with the role of museums in our society today, acknowledging that they are rapidly changing, and that there is no space for complacent thinking around content and messaging. Having completed this article during covid lockdown I am more than ever aware of our responsibility to operate within wider society, as learning organisations that must stay relevant. We need to focus on delivering experiences that satisfy social, emotional, spiritual and intellectual needs. We need to reflect seriously on how museum learning can improve society in the light of human rights issues, social justice, cultural access and people’s wellbeing.

What Words Mean

As a professional museum consultant, experience has taught me that starting any content-based conversation with terminology definitions is a thankless task. But in 2019 something quite seminal occurred in the international museum world: ICOM decided to review its definition of museums. Thus, definitions are on my mind while writing this article. I am conscious of the surprising and uncharacteristically aggressive debate that ensued following the work of ICOM's Standing Committee, led by Jette Sandahl, and more than ever cognisant that words can trigger violent differences of opinion. The challenge, of course, is to grasp the meaning of words without getting hung up on their definitions. I will pursue this point further in the course of the article.

There is another reason why I am going against my better judgement and talking about “what words mean”. I presented some interim conclusions of this article to the NEMO annual conference in Tartu, Estonia, in November 2019, and I am very grateful to the attendees of the LEM Working Group seminar for pointing out that the language differences implicit in word usage are more significant the deeper you want to explore cross-cultural applicability of thinking. In other words, *context is all*. As a bilingual, bi-cultural professional, I appreciate the deep relevance of this for understanding each other – which in a sense is the underlying point of this article.

In Tartu I was told, for example, that in Latvia there is no differentiation between the words “education” and “learning”. This was enlightening for the participant – and for me too. We shared a “eureka” moment. As I have worked all but 5 years of my career in the UK heritage and museum sector, I am necessarily shaped by an Anglo-centric view of the sector, and its use of language. Thankfully, I am also a philosopher by training - so asking good questions is as endemic to the way I work as any lived experience.

To address that elephant in the room directly, I will set out my understanding of two key words. I take ‘*education*’ to mean a didactic activity generally directed by an-other, highly structured, and aimed at delivering a quantifiable outcome; I interchangeably call this “formal education / formal learning”. I take ‘*learning*’, on the other hand, to be self-directed, pursued as a leisure activity, occurring in the real world (including the museum context for general visitors - school visits to museums are a different matter), immediately applicable to real life circumstances, and promoting learner choice.

It leaves for me only to apologise that this exercise in definitions seems impossible even if I were to simply translate the terms ‘learning’ and ‘education’ into Italian, my other mother tongue. When even a simple translation cannot be made to work in the languages I am most familiar with, I can only surmise how difficult it is to understand the differences in other European contexts. No matter: where definitions fail, descriptions can help.

This article attempts to describe the peculiarities of learning journeys within museums, and highlight some characteristics of informal learning: what it is, and how we may quantify it. It explores what place factual understanding has in learning, what meaning making is, how learning occurs in a museum context, and what the role of objects is or might be.

Informal learning	Formal learning
is self directed	is dependent on objectives set by others
is based on multiple sources occurring simultaneously	is often linear and 'scaffolded'
occurs at different paces, times and locations	can be highly structured, catering for larger groups at same time
occurs in a relaxed environment, less threatening to most people	occurs in connection with 'experts', often time restricted
promotes choice and flexibility over content	can be didactic, theme based, often highly structured
promotes freedom to explore	sets out clear preset learning pathways
is lifelong	completes when objective is attained
has the deepest cognitive impact	caters to variety of learning styles
satisfies curiosity and triggers imaginative appreciation	builds on step by step incremental achievements

Summary table showing key differences between my use of the terms 'learning' (left) and 'education' (right)

A Definition of Learning

In the UK, the Inspiring Learning for All Framework was launched in 2008 by the Museums, Libraries and Archives Council. It established the following definition of learning:

“Learning is a process of active engagement with experience. It is what we do when we want to make sense of the world. It may involve the development or deepening of skills, knowledge, understanding, awareness, values, ideas and feelings, or an increase in the capacity to reflect. Effective learning leads to change, development and the desire to learn more”

This definition is based on the school of constructivism, with a strong American influence.

Over the last ten or so years the UK arts and culture sector has widely come to accept that learning is more than a childhood occupation – and that the overall aim of learning is to create a society that is *life-long learning*. This grows out of Jack Mezirow’s transformative theory of learning which he set out in 1978, and in more refined and complete form in 1991 in *Transformative Dimensions of Adult Learning*. In his words, the approach is “constructivist, an orientation which holds that the way learners interpret and reinterpret their sense experience is central to making meaning and hence learning”.

John Dewey, Thomas Kuhn and Jurgen Habermas all shaped Mezirow’s thinking. They helped mould the central idea that adult learning is *trans-formative* of the learner (whereas childhood learning is *formative*). In both stages of life, when we learn from

something, interact with something, and use that learning to have an impact on the real world, the learning is more profound – and retention is higher. This kind of learning modifies our paradigms, shifts our world views, transforms perspectives, and creates structures and schemes that enable new meaning making.

To summarise: authentic learning occurs when something happens within people which is more than simply a demonstration that they are engaging with basic content, ie the visible action of authentic learning is more than reading a label, glancing in passing at a display, or memorising data relating to an object.

This is of course a broad reaching and somewhat generic statement, and I tread very carefully as there is much debate on the importance and function that (factual) content has in adult learning. Some studies, for example, demonstrate that learning cannot happen without the communication and/or elaboration of types of factual data. However, it is my opinion that meaningful learning goes far beyond that. It needs to include meaning making and interpretations, the practices of absorbing for one's own use in real life key messages that are displayed in the museum context.

I will attempt to demonstrate that these activities – the making sense of something that becomes relevant to daily life (“meaning making”) and the broad redefining of the sets of one's own psychocultural assumptions and expectations (“interpretations”) – occur somewhere *between* the visitor and the content she is exposed to, which is itself of course shaped, manufactured and framed by curator, exhibition planner, educator, designer, interpreter - in short, by the institution itself.

On the following page is shown a table that I often use in the early stages of content development to help initial thinking for a new museum or gallery. The template is discussed and filled in with curators and content experts, as well as wider teams including

educationalists, marketers and volunteers. It is based on the Generic Learning Outcomes (GLO), a framework developed by the Campaign for Learning, that builds on the learning definition. GLOs are used to develop shared thinking around the question: “what do we want visitors to learn / take away?” This particular template proved very successful as it contributed to shaping the 2013 UK Art Fund Museum of the Year, the William Morris Gallery, which I helped to design.

The insights that emerge from this exercise, across a variety of curatorial teams and museums, are truly remarkable. Even specialist curators and professional historians are enthusiastic about making museum objects work much harder than the information they can provide about themselves. This is particularly interesting with a decorative art collection: a couple of the GLOs for the William Morris Gallery were memorable for me. “Standing up for your rights” and “a million ways to tell a story” directly shaped the ‘revolutionary’ gallery and the ‘storytelling lounge’. What I think we achieved in those two areas of the museum was to transform ‘content’ learning into ‘experience’. And there, the objects became instrumental to the message.

In museums, authentic learning happens somewhere between the visitor and the content she is exposed to, which is itself shaped, manufactured and framed by curator, exhibition planner, educator, designer, interpreter... - in short, by the museum institution itself.

GLO	General description	Specific to WMG
Knowledge and understanding	<ul style="list-style-type: none"> Knowing what or about something Learning facts or information Making sense of something Deepening understanding How museums, libraries and archives operate Making links and relationships between things 	<ul style="list-style-type: none"> What was he all about? What made him tick? Meet the man – up close, as a human Meet the firm There were many cross-cultural influences on WM: learn about these and how they influenced him understand what the raw materials of his design are like why and how did he tell stories? WM was a practical hands-on man: this was radical in his time (he got stuck in, did stuff with his hands, made things himself) he was an innovator and an experimenter (substituted chemical dyes with natural ones, introduced block printing in opposition to machine printing) WM is relevant to your life today Get an insight into how complex / skilful / time consuming this was Understand process: how things came about from idea to realisation Overarching educational mission for WMG: “don’t force knowledge but lead them as they are inclined to learn”
Skills	<ul style="list-style-type: none"> Knowing how to do something Being able to do new things Intellectual skills Information management skills Social skills Communication skills Physical skills 	<ul style="list-style-type: none"> Visitors to ‘try their hand at’ – but in specifically WM fashion – ie not stained glass for stained glass sake! Options to explore include: weaving (Belgium and France, Persian carpets) glass painting (<i>which other cultures do this/have this as a tradition?</i>) embroidery, stained glass, cabinet making, calligraphy (Islamic...), woodblock printing, pattern making illuminations in manuscripts, writing a poem, storytelling, carpet knotting... Observational skills: explore intricacy of pattern / handling? Critical understanding: critique his thinking: have a view on what he thought / did, compare with what you think / do today Get closer to textiles: tactile values, colour, weight, materials, feel, raw produce: a celebration of touch Tell a story using words, and images, and patterns, and heroes, and costumes: <i>a million ways to tell a story</i>

GLO	General description	Specific to WMG
Attitudes and values	<ul style="list-style-type: none"> Feelings Perceptions Opinions about ourselves (e.g. self esteem) Opinions or attitudes towards other people Increased capacity for tolerance Empathy Increased motivation Attitudes towards an organisation (e.g. a museum, archive or library) Positive and negative attitudes in relation to an experience 	<ul style="list-style-type: none"> Consider something new: a new idea, something unexpected Change you attitude to work: adopt a productive work ethic; in the spirit of William Morris, who was a workaholic, thorough researcher, fixgeter, didn’t cut corners, restless, always on the lookout for new stuff, <i>thought that work should be pleasant</i> Be inspired by his achievements Respect his work Work in a team with others – set up a creative team, role differentiation Internalise something about WM: feel a sense of connection with him, take away something meaningful for you Come away with a sense of ‘other’ cultures and how important they are in the mix of things that inspired WM Be respectful of other traditions Have a ‘peaceful’ experience within the gallery
Enjoyment, inspiration and creativity	<ul style="list-style-type: none"> Having fun Being surprised Innovative thoughts Creativity Exploration, experimentation and making. Being inspired 	<ul style="list-style-type: none"> Explore more and deeper Be surprised by how much be achieved Subvert your understanding of William Morris Be surprised by him: he wasn’t just a Victorian musty man, but a multifaceted visionary, utopist, multiskilled, multitasking, multimedia polymath Capture his uniqueness Be creative: don’t copy! Be inspired to test your boundaries, try something you have never tried before Explore more; become curious to go deeper Be amazed / be awed Travel in time: explore an old building with old things; come in touch with the Victorian feel / grandma’s attic / cabinet of curiosities Have a very different experience to the V&A!
Activity, behaviour, progression	<ul style="list-style-type: none"> What people do What people intend to do What people have done Reported or observed actions A change in the way that people manage their lives 	<ul style="list-style-type: none"> Go for a nature walk Go visit the Park Think in day to day life how WM faced problems we face today: class / wealth, sustainability, fairtrade and capitalism, paying people fairly for their work Work collaboratively with others Take responsibility for what you believe in and act on it / WM took personal risks: what would you do? Be pleased with your visit – come back, bring friends Think of a visit to the gallery as a good investment of time (quality/cost ratio) This has been fun!

GLO Table for the William Morris Gallery, developed at content development meeting nr 2, BT 091118

Learning about Learning

Many other thinkers focus on learning theory and practice, first among these Professors Falk and Dierking whose work on the social contexts of learning and how people re-construct and re-enforce self identities during museums visits is key to my own thinking. [See Falk: *Identity and the Museum Visitor Experience*, 2009; Falk and Dierking: *The Museum Experience Revisited*, 2013].

They posit that engagement happens in the overlap between personal identity, social context and physical context, ie:

- what I, as a visitor, bring to the experience (levels of interest, pre-knowledge, expectations, group composition, preferences and learning styles);
- my need and capacity to negotiate the social elements (who I am visiting with and what type of learner I am – whether facilitator, explorer, experience seeker, professional, recharger; the preferences and intentions of other people in my visit group; and finally:
- how I navigate the designed environment (architecture, exhibitions, interpretation, objects on display).

There are many schools of thought around learning, and of course not all are exclusive to the museum and heritage context. There is a rich learning seam among TED talks, for example. *How We Learn* by Benedict Carey, 2014, first set out for me the biology of memory and learning, and the idea that learning is something separate to memory. He shows that there is such a thing as ‘desirable difficulty’ that sets us up to learn through a prompt that is also a challenge, and that the two hemispheres in our brain function in complementary ways as ‘story-makers’. He also shows that upsetting rules when learning actually *helps* the learning process. This is fascinating when we are in the business of designing

learning experiences in museums, and goes some way to convincing colleagues that ‘books on walls’ is never the way to go.

If you are partial to investigating the ways our brains function in response to narrative, *Story Engineering* by Larry Brooks (2011) is invaluable. Once storytelling is mastered (!), and we have profoundly understood the reasons why the human brain – across all cultures, races, ages – craves a story, we can unlock the power of learning through story. [See Lisa Cron, *Wired for Story*, 2012].

Although I don’t subscribe to the idea that learning in a museum is different to learning anywhere else – and in fact I abhor it – a lot of good work has been done around object-based learning, for example by Sally Macdonald with the Museums and Collections team at University College London. They examined the value of touch and object handling, and the roles of objects in a variety of contexts, including emotional wellbeing, mental health, therapy and enhanced knowledge acquisition. Therein lies the rub, once again – *is that the point of learning, to “acquire knowledge”?*

Comparisons with formal educational theories are always useful, and I recommend looking into real-world learning and social learning strands as there are many fertile overlaps with museum learning.

*“Philosophers interpret the world, but the point, of course, is to try to change it.”
Eleventh Thesis on Feuerbach, Karl Marx; this is also engraved in the entrance hall of the Humboldt University in Berlin*

Learning Impact

Dinosaurs are much loved by children and museologists alike. Children love them because they are the closest thing we have to monsters – but scientifically explained, ‘real’ monsters; museologists with a bent for the visitor experience love them because around dinosaur exhibits much intergenerational conversation and social interaction happens.

A study carried out in 2002 (Sue Allen, *Looking for learning in visitor talk: A methodological exploration*) systematically set out the idea that conversation is a tool for evaluating learning. Many other studies have analysed conversations ‘overheard’ in the proximity of natural history displays, interesting because they are invariably intergenerational. A random mix might include exchanges such as (examples from the NY Natural History Museum):

- A young child near the Stegosaurus: “Look at the shark, Dad. See, the shark jaw?”
- A little kid, looking at the Stegosaurus: “Mom, that’s not real bone!” Mom: “How do you know that?” Child: “Look at it!”
- A girl, looking up at a pterodactyl: “Whoa, he looks like he’s about to eat me!” Her older sister: “That’s a very dead Stegosaurus.”
- A young girl talking on a cell phone: “Me and my daddy are downstairs, and we saw some beautiful, real dinosaurs. It’s OK that we saw real dinosaurs because they’re dead. The T-rexes are dead, too.”

Exchanges like these demonstrate moments of learning that are instantaneous, personally impactful and very memorable. A dramatic personal encounter occurs, is shared in impressionistic ways with others in the social group, and mixes mistaken



*Kid looking at a T-rex skull, coming up close to the teeth:
Natural History Museum. New York.*

information (*the shark is in fact a stegosaurus, the skeleton is in fact mostly real*) with raw takeaway messages based on observation (*they are really dead, they might have eaten you had they been alive*). In narrative terms, a lot of this commentary is framed by the possibility of near death in the presence of such monsters – had they been alive now. Story makers know the power of confronting the ultimate end as a way to strengthening narrative impact.

These exhibits provide that crunch without much effort. For me the interesting thing is that dinosaur collections make for very strong, in-the-moment, object-based learning experiences that invariably trigger the imagination, in young and old alike. The meaning making structure that visitors use is a ‘what-if?’ scenario, involving the idea that once upon a time humans and dinosaurs co-existed, making for very dangerous circumstances.



Crystal Palace Park: dinosaur casts in landscaped outdoor setting. From left to right: plesiosaurs and mosasaurus; the iguanodon, as known in 1854, with label “20 years after the dinosaurs were installed new fossil finds showed that bones people had identified as nose horns were actually part of the animal’s hands. These thumb spikes might have been used to stab attacking predators or to compete for mates”; George Baxter’s colour print of the Crystal Palace after its move to south London, showing some of Benjamin Waterhouse Hawkins’s sculptures

The idea of scientific accuracy necessarily underpinning learning – *should we quantify/qualify learning by measuring what new knowledge data is being absorbed?* – comes second place to the powerful sense that these animals once roamed the earth. The dramatic impact of that fact ‘carries’ the learning.

There are other useful dinosaur examples.

In Crystal Palace Park in London, not far from where I live, is a Victorian scenic landscape that shows what living among dinosaurs might have looked like. In 1852, sculptor and natural history artist Benjamin Hawkins was commissioned to create life-sized models of extinct animals, and working with palaeontologist Richard Owen he built the models in his workshop in the park. The project involved both physical and intellectual dexterity: they needed to examine fossils, study contemporary literature, and ultimately transform science into sculpture, in a process remarkably similar to that adopted by Yadegar Asisi in the design and fabrication of his panoramas (see case study).

The sculptures were fully restored to their former glory in 2002, conserved and listed for protection, and interpretation updated to show another side of the story: the evolution of scientific understanding over time.

At the Lego Foundation in Billund, Sweden, dinosaurs – like any other parallel world – are built in lego. By harnessing the power of play, children become creative, engaged, lifelong learners. 8 year old Frederik, with limited visual stimulus, created his monster, as life threatening to him in a ‘what if’ scenario, as any physical representation or skeletal remain. It emerged from his reflective thinking, a spurt of imagination, and the manual handling of lego bricks.

The deep link between why we learn and how this improves our life opportunities as adults underpins Lego’s ethos. It takes Mezirow’s theory in a different direction. We build the basis for lifelong learning in childhood, and this accompanies us into our adult life.

Measuring Learning

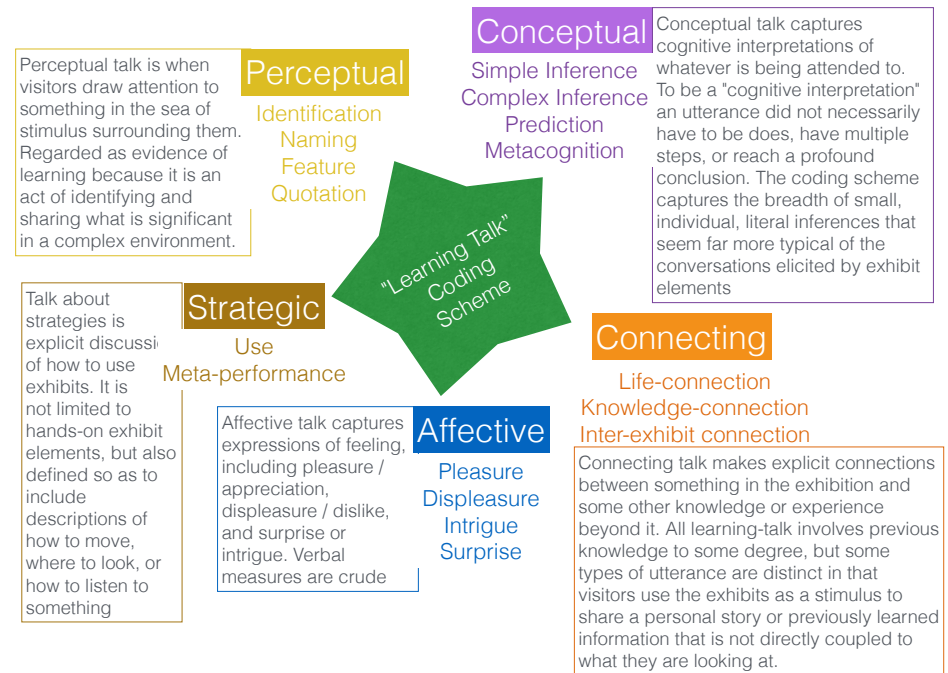
University College London expresses succinctly the idea that qualifying the learning that takes place in a museum context is a difficult task. Their 2013 evaluation framework states: “Although it would be easier to just measure *outputs* (direct, measurable results) of public engagement activities undertaken, there is a need to understand the *outcomes* (the changes resulting) of such activities. For example, if a learning event (such as a lecture) is organised, it is easier to measure the numbers attending (*the output*), rather than the learning that occurred as a result of the event (*the outcome*). However it would be more useful to know *what impact the event has had* (i.e. if the audience learnt anything), and to understand the quality of this, not just in a binary way (e.g. an increase / decrease in learning) but in people’s experience. *There is a need to measure what is important, rather than making things that are easy to measure sound important.*”

So – what is important? What are we *actually* learning in a museum context? What is that elusive learning experience?

If we move away from quantifying learning as a binary choice (I know / I don’t know) and encourage a view of learning as something that transforms us, takes us on a journey which may be triggered at the museum but continues beyond the visit and permeates our life ‘out there in the real world’, then we have different tools to measure its efficacy.

Our focus needs to shift from asking ‘what particular content is delivered by curatorial intent?’ to identifying ‘what are visitors reflecting on and how do they demonstrate evidence of learning?’.

There is a model that attempts to capture evidence of that subtle, “moment-by-moment” learning journey that characterises the



Sue Allen / Exploratorium Coding scheme, showing five categories and sixteen subcategories of “learning-talk”

museum setting. It focuses on conversational analysis and was developed by the Exploratorium in San Francisco, and was systematised by Sue Allen, Director of Visitor Research and Evaluation in her report *Looking for Learning in Visitor Talk: A Methodological Exploration* (2002). The model identifies key types of conversations (“learning talk” summarised in the diagram) occurring among visiting groups and quantifies the occurrences by type. It is loosely based on Harold Bloom’s categorisation of learning styles, and focuses on learning as an interpretive act of meaning-making, a process rather than an outcome, and a joint activity of a group rather than an individual’s journey. The report also constrains analysis to the specific content of *Frogs*, a 12 month exhibition staged at the Exploratorium in 2000.

The Individual's Learning Journey

To my way of seeing, learning sits on a continuum with normal life: it is an experience that *improves* the quality of life, *injects* power into our everyday, *enhances* our relationships with others, and *increases* our individual and collective wellbeing. Learning happens all around us, constantly, in the everyday. It is a real-life activity, that takes place without distinguishing its geography – people who learn in museums are also learning in their daily lives when they watch a film, visit a new place, browse the internet, go to the supermarket, negotiate with colleagues at work, develop problem-solving skills in training, think analytically about the news, spend time with their children as they mentor them during covid lockdown...

In essence, 'learning for life' is more than learning content, it is:

- **learning to know:** by mastering tools rather than acquiring structured knowledge;

- **learning to do:** by equipping yourself with innovation skills that prepare you for a future work environment that will, according to the World Economic Forum's Future of Jobs 2018 report, require human skills such as 'creativity, originality and initiative' (an upward trend since 2015), and a capacity for 'active learning and learning strategies' (a new entry in 2018, trending towards second place in 2022). *How does that effect the way we design the learning experiences of today, for future adults?*
- **learning to live together and with others:** by being willing to resolve conflict peacefully, and being open to other people and cultures, fostering community capability, and championing social inclusion and life resilience;
- **learning to be:** by developing mind and body, intelligence, sensitivity, aesthetic appreciation, spirituality in rounded ways.

Table 4: Comparing skills demand, 2018 vs. 2022, top ten

Today, 2018	Trending, 2022	Declining, 2022
Analytical thinking and innovation	Analytical thinking and innovation	Manual dexterity, endurance and precision
Complex problem-solving	Active learning and learning strategies	Memory, verbal, auditory and spatial abilities
Critical thinking and analysis	Creativity, originality and initiative	Management of financial, material resources
Active learning and learning strategies	Technology design and programming	Technology installation and maintenance
Creativity, originality and initiative	Critical thinking and analysis	Reading, writing, math and active listening
Attention to detail, trustworthiness	Complex problem-solving	Management of personnel
Emotional intelligence	Leadership and social influence	Quality control and safety awareness
Reasoning, problem-solving and ideation	Emotional intelligence	Coordination and time management
Leadership and social influence	Reasoning, problem-solving and ideation	Visual, auditory and speech abilities
Coordination and time management	Systems analysis and evaluation	Technology use, monitoring and control

Source: Future of Jobs Survey 2018, World Economic Forum.

[The above summary is an adaptation of the concept of *real-world learning* developed in formal education by Maxwell / Stobaugh / Tassell in 2015. They demonstrated that the power of retention is higher when students interact with, and have an impact on, the real world, rather than solving problems or answering questions on a worksheet.]

Of course, learning requires individuals to have capabilities to learn, and to be spurred on to make sense of their daily experience so as to embed it deeply as ‘learning’. Reflecting on lived experience produces life-long learning. In a fully developed life-long-learning society, individuals are exposed to many different catalysts for learning. These include: *knowledge* (where one idea triggers new ideas), *contacts* (knowledge spreads through interaction with people: the denser the network the more opportunities for learning) and *cognitive frames* (a mindset that is conducive to learning, which entails the belief that change is possible and important). Learning, therefore, is the other side of the coin to social change. [These ideas are well expressed in Keaney, *From access to participation and civil renewal*, 2006].

In other words, people navigate content on a daily basis to improve their own physical, mental and spiritual survival. Sometimes sub-conscious, this is a continuous, iterative and socially engaged activity. If we weren’t continually interpreting our lived experience and adapting to it, as well as shaping it, we wouldn’t, in a sense, be ‘human’.

The following is an example of an imagined learning journey that caught my eye. 2019 was the 500th anniversary of Leonardo da Vinci’s death. This came on top of the massive increment in visitor numbers to the Louvre in 2018, when 10.2 million people (mostly international tourists and under the age of 35) streamed through the doors, on the traces of Beyoncé and Jay-Z’s music video “Apushit” which had been filmed in the museum.

That production was a game changer in terms of museum innovation. The celebrity couple, appearing as the Carters, open the video standing in front of Leonardo da Vinci’s Mona Lisa in coordinated pastel-coloured power suits. Visually striking, the film makes space for black bodies in a traditionally white museum institution built on empire. The video also shows the Carters and their cohort of dancers engaging with other iconic pieces of western art: David’s *Consecration of the Emperor Napoleon and the Coronation of Empress Joséphine*; the Winged Victory of Samothrace, in front of which Beyoncé, dressed in white, dances; the Great Sphinx of Tanis almost reclaimed to a history of African and black art; the Venus of Milo, a recognised symbol of European beauty, which enables viewers to make direct comparisons between Beyoncé and Aphrodite; Benoist’s *Portrait of a Black Woman (Negress)*, which painfully highlights how while the black body might be included in a western art institution, black culture isn’t. The video is well worth watching.

Back to our learning journey example.

Specsavers is a British spectacles manufacturing company that launched a genial advertising campaign called “Don’t lose the picture” in 2019, starring Ian Wright, a former professional footballer, commentator and radio and TV personality. The full video is available here: <https://www.youtube.com/watch?v=5T0ERJ9jd18>, and it’s another one worth watching. It was launched for the UK’s National “Eye Health” Week, to raise awareness of the importance of eye health.

While the camera zooms in on Ian’s face, his internal mutterings are expressed in a voice-over. The transcript goes like this: “What can I say about this...? An ordinary looking lady - big hands.... [pause] Mountains behind her – so not Croydon... . [pause] Hmmm [laughs]... I get the impression she weren’t a painter’s first

choice.... [pause] This is hard! ...it's kind of beige. [pause] She ain't got no eyebrows?!" [pause] [Voiceover, as he turns away: "Words don't really do it justice, do they? Don't lose the picture. 50% of sight loss is avoidable. Search 'Specsavers free eye test online'."]

The end point shows Ian stepping away, and the camera doing a 360 turn, to reveal that what he has been looking at but not seeing clearly is Leonardo's *La Gioconda*, the portrait of the Mona Lisa.

If you take the trouble to assess the information in this video, which narrates Ian's observational learning journey, you'll find it's all art-historically accurate.

- Madama La Gioconda, aka Mona Lisa, **is 'kind of beige'** - that is a lay perspective on Leonardo's *sfumato technique*. For obtaining flesh colour tints, Leonardo advises painters to mix opaque pigments of 'white, lake and Naples yellow' which, of course, we could call 'beige'. Scientists have found evidence that Leonardo had made a general preparatory sketch of the composition using some sort of brown paint (Mohen, 2006), and the deep browns on Mona Lisa's face, especially around the eyes, were painted by Leonardo as shadows directly onto the white ground: *brown and white*. (Mohen, 2006; Elias & Cotte, 2008; De Viguierie et al., 2010).
- Lisa Gheradini's hands **are sort of big**. Initially, Leonardo had painted one of them clenched, as if she were about to rise from

a chair, which is no longer visible in the finished work. [From *Mona Lisa: Inside the Painting*, Jean-Pierre Mohen, Michel Menu and Bruno Mottin. [Source: <https://www.nytimes.com/2006/09/27/arts/design/27mona.html>]]. Scientists have claimed that La Gioconda suffered from hypothyroidism which relaxes facial muscles, can yellow the skin and produces swelling in the hands and neck.

- La Gioconda **really does seem to be missing eyebrows and eyelashes**. Some researchers maintain it was common at this time for genteel women to pluck these hairs, as they were considered unsightly. But in 2007, French engineer Pascal Cotte proved with ultra-high resolution scans of the painting that Mona Lisa had been originally painted with eyelashes and visible eyebrows, and that these had gradually disappeared over time, perhaps as a result of overcleaning. Cotte discovered the painting had been reworked several times, with changes made to the size of Mona Lisa's face and the direction of her gaze.
- And finally, the icy mountains behind Lisa **really aren't Croydon**. In 2008 geomorphologist Olivia Nesci from Urbino university and artist-photographer Rosetta Borchia identified the hills of Montefeltro in the Marche as the landscape behind the famous lady. [Source: <https://www.thetimes.co.uk/article/researchers-identify-landscape-behind-the-mona-lisa-cm5wzxs1bz0>]



There are two good reasons to focus on this piece of advertising genius. Firstly, it illustrates how we learn in the everyday, what prompts learning, and what we learn. Secondly, it shows that learning is a journey, a progression, a process of meaning making that is painstakingly constructed by our storymaker brains as they make sense of lots of fragmented elements. Ultimately, individual meaning-making is a perfectly legitimate way to learn.

Visual Case Studies

I must start this final section with the phrase: *the plural of anecdote is not evidence*. In selecting 7 case studies to demonstrate the relationships possible between objects, narrative and learning experience, I am far from showing definitive answers to the question this report has attempted to address.

The visual stimuli that follow, along with my commentary, are a collation of ideas that make sense to me, against the learning parameters I have set out. They attempt to show different scenarios around the role that objects have in the visitor's learning journey. They represent strands of thought that link and cross-pollinate and have shaped my lived experience and the professional skill set that has grown from it.

Ultimately the case studies attempt to show either how interpreters can go about thinking of the relationship between visitor learning journey and objects (Deal Castle, Esselunga and the Charterhouse); or how exhibitions deal with the issue, both in a good and a bad sense (Mississippi Civil Rights Museum and Asisi Pergamon Panorama); or how objects can have deeply personal meaning, and be props to stories (British Museum and Conflictorium). Other factors come into play during learning, including conversation, imagination, emotion and fatigue.

Up Close and Personal

Rodin and the Art of Ancient Greece was an exhibition staged at the British Museum in 2018, exploring Rodin's fascination with the Parthenon sculptures, the supersize reliefs of men and women, gods and goddesses, horses and mythical creatures that had adorned Athena's Temple, and were removed and shipped to London between 1800 and 1812.

The exhibition concept was both simple and striking: to juxtapose the Parthenon sculptures with Rodin's own aesthetic, as he reinterprets the past to create new work. Rodin 'invented' the limbless torso as an intentional art form, having studied the classical fragments of the Parthenon. He captured for modernity the essential life force and strength that were created by Phidias.

The stunning overall effect was to see the Parthenon elements – which are in fact always on display in the British Museum – reinterpreted by modern art, with collections on loan from the Musée Rodin in Paris. The museum set out its learning journey design



Inspired by Rodin: the visitor's own artist gaze: a visitor gets up close to the Selene horse head from the east pediment of the Parthenon (circa 435 BCE); right: the Parthenon's male torso, and Rodin's, shown right in the photo

intent for visitors to “experience the magnificent sculpture of a modern master, and explore how the ancient world shaped his artistic vision”. It worked, simply, and beautifully.

The exhibition effectively opened two entry points into the theme: art aesthetes came together with archaeological junkies, each extracting from the story and the objects their own learning takeaway.

What value has the story? It modernises the ancient past, exploring continuity in art.

What place have the objects? Absolutely critical. Visitors are walking in the footsteps of Rodin who “haunted” the galleries, seeing the art anew, through his eyes. This is the first time ever that we have been given a chance to look at Rodin's works alongside their exact sources.

What is the learning experience? The man in the photo had a sense of urgency in taking his photo – almost as if the horse, so lifelike and vital, with its bulging eyes and flaring nostrils, is about to gallop off.

The 'Me' in Memory

In 2018 a major supermarket chain in Italy opened a temporary exhibition called *SuperMostra*, celebrating 60 years of food shopping through multimedia and dense object displays. The exhibition spanned corporate history and social context, in a euphoric celebration of consumption, one of many exhibitions illustrating the social history of our times through the story of retail.

It was tagged as a 'show' rather than an exhibition, and indeed managed visitor flow through timed ticketing. Upbeat, colourful, consumerist, engaging, light hearted, harnessing award-winning advertising communication techniques, there was also something quite magical in the unabashed display of 'stuff'. This was down to the fact that every object was immediately recognisable – and *supercharged* with the ability to provoke memories.

Visitors naturally clustered around the decade that they identified with their formative childhood and teenage years. The visitor journey was a very personal one, and yet also highly social. Conversations were loud, punctuated by expressions of glee and high-pitched recognition, in a stream of affective learning talk that bound complete strangers in shared experiences.



The 1970s display, left, and a first encounter with "a phone" for a young technology native.

What value has the story? The brand story frames the chronology but it's only a starting point.

What place have the objects? The exhibition's consumerist leit-motif appeals to the individual perspective: each object recalls a deeply personal and particular memories of use and ownership.

What is the learning experience? The objects on display trigger highly personal, emotive, intimate memories, which the space then reverses back into a social experience. The takeaway is social bonding and brand like-ability.

Impact

Conflictorium, the Museum of Conflict, is a participatory museum set in the old part of the city of Ahmedabad in Gujarat, India. It addresses the themes of conflict, violence, oppression and divisive identity politics. It raises a conversation with target audiences of 15-35 year old locals on topics ranging from displacement to identity (Muslim and Dalit), from gender issues and women empowerment to caste and class, from the rights to freedom of speech and expression to sexual equality. It challenges the prevailing narratives of our increasingly binary world: it stands for the in-between, beyond the black and white, 'where the shades of grey are acknowledged and celebrated'.

Conflictorium helps build bridges creatively, highlighting how social change is possible. It is a truly transformative museum, where the learning journey is cumulative and moves visitors physically and conceptually from the personal to the political.

Art practice, exhibitions, performances, film screenings and workshops encourage active participation of communities in a neighbourhood that is locally recognised as a place where the tipping point into aggression is set very low. In Mirzapur, it takes very little to turn a small brawl into a



Moral Compass gallery: inviting reflection on cultural identity and aggression. Mediating through art an understanding of conflict in society.

stone-pelting event that escalates into something requiring army intervention.

Conflictorium shifts the idea of 'museum'. It engages in social change by dynamic facilitation of dialogues across identity divides.

There is a sound installation under the entrance stairwell about the woman whose house this was: Bachuben Nagarwala, the

first professionally trained hair stylist in the city of Ahmedabad. The *Conflictorium* is housed in her beauty parlour, built nearly 90 years ago. 'In this House and That World' is an intimate audio experience, a somewhat voyeuristic view of her life and her choices, and an invitation to begin a journey of discovery through the building, to participate in a process of reflection.

What value has the story? It places the recent past of this violent region centre stage, within a safe place in which to recognise conflict. It shows how history is narrated through different lenses. It explores why individuals have difficulty in acknowledging that we live in a conflict ridden society. It gives people the power to rethink and re-imagine society.

What place have the objects? In the words of the curator director, *Conflictorium* “collects history beyond artefacts”. The building and its location is central to the storytelling. Supporting objects are the rotating art installations that reinterpret the narrative in different voices and media and from different perspectives. The key artefact on display is a *replica* of India’s Constitution, placed on a pedestal. Rarely correctly identified by the younger visiting public, the book sets out the ideal of Indian-ness as a moral and constitutional quality.

The Memory Lab, which follows the display of the Constitution, asks visitors to add an object from their own lives: something that represents some form of personal conflict. The object is accompanied by a little tag to fill in—date, object name, story. Simple



Conflictorium entrance; the sound installation by Avni Sethi “In This House and That World” introduces the layered history of the building and sets the scene for the audience-participant; personal memory notes on the Sorry Tree.

pickle jars collect the tags and the objects: cigarette packets (representing a teenager’s conflict with parents), broken bangles (symbolising domestic abuse). The learning takeaway here is that over time, the idea that conflict is larger than me / outside of my world / remote is dismantled. Conflict is also small, interpersonal, and very human. From what seems political, societal and momentous, we arrive at personal self reflection.

What is the learning experience? Visitors to the *Conflictorium* are learning to negotiate conflict, dramatically present in their everyday life. In Gujarat, apology is a deeply political act –and visitors find it very difficult and profoundly uncomfortable to share a space with survivors of violent acts. At the

Sorry Tree, towards the end of the museum visit, they are encouraged to write a personal note on the reverse side of cards printed with the words ‘I am sorry’, and tie them to the tree. The cards contain moving and intensely personal reflections on what each person might have done differently, an embarrassing memory, moments of shame, and also testimonies of love and longing.

The overarching learning journey focuses the attention on the fact that suppressed personal conflict is a stepping stone to aggression and violence. The ‘learning’ here is, ultimately, about living with others and changing society.

Flattening Time

When working for English Heritage in 2017 I was responsible for delivering a brand new interpretation scheme for Deal Castle, a 16th century Tudor fortress on the south coast of England. The low-lying castle is set on the beach and designed as twelve bastions, arranged in two concentric rings of six on two levels, plus a viewing platform and basement. It was designed this way to maximise its defensive capacity against possible attacks from the sea.

The importance of the structure from a learning perspective is that all conceptual journeys imagined must marry the space. The physical journey must go hand in hand with the logical one to promote engagement that has no 'breaks' in it, where people are not worried or confused at any point, and thus distracted from their capacity to learn.

I will not dwell on how difficult it is to provide useful navigation and orientation clues for visitors within an essentially circular building. As a team, we decided we would embrace 'getting lost' as part of the visitor experience, as visitors naturally tend to lose themselves in the circular repeating pattern inside the Castle: they might as well be encouraged to consciously enjoy it! The irony, of course, is that fortifications *are meant* to keep people out, not welcome

them in. So the challenge of providing welcome is made even harder but, satisfyingly, in a historically appropriate way.

The driving principle of interpretation was to encourage visitors to ask questions of the



A map that is more confusing than it is useful; and aerial view of Deal Castle in Kent; tools of the trade: military engineering at play.

building, to truly imagine themselves as its builders and engineers, using the tools of the time. *How can you lay out a perfect hexagonal petal shape using only plumb lines and basic tools? How might you go about creating symmetry with the basic mathematical concepts of the time? How did soldiers stationed here use the bastions to calculate cannonball efficacy, thrust, weight - in other words, firepower? What was the geometry of war?*

I refer to this concept as 'flattening time'. As a visitor, you are asked to bring your natural

abilities and skill set into the past, and find solutions to real problems.

What value has the story? The power to take you into the past with great sense of continuity - the past is *not* a foreign country.

What place have the objects? The main object in this case is the building itself: it is central to the physical and intellectual exploration. *What is the learning experience?* Learn by trial and error, learn by doing.

Flattening Time 2.0

The issue of realism in the presentation of the past is a constant debate between ‘purist’ historians and ‘storymaker’ historians working in museums. It is beyond the scope of this report to delve into the intrinsic contradictions of this opposition.

To my mind, the most convincing interpretative installations to combine historical and interpretative truth are the 360 degree painted panoramas designed by Yadegar Asisi. This one (2018) was developed for the Department of Classical Antiquities of the Berlin State Museums, and has as its subject matter the city of Pergamon in the year 129CE.

The visitors in the photo are looking over the city’s amphitheatre cut into the rock. The scene captures the most important annual festival of ancient Greece – in honour of the god Dionysus, celebrating wine and ecstasy. Just below the visitors, to the right, is shown Emperor Hadrian entering the theatre through one of the stone arches, accompanied by his wife Vibia Sabina and his (homoerotic?) companion Antinous (detail on next page). To the extreme right of the photo, at eye level with the visitors, are the columns of the temple of Athena with a sacrificial altar and the magnificent gateway that separated the shrine from the city – a

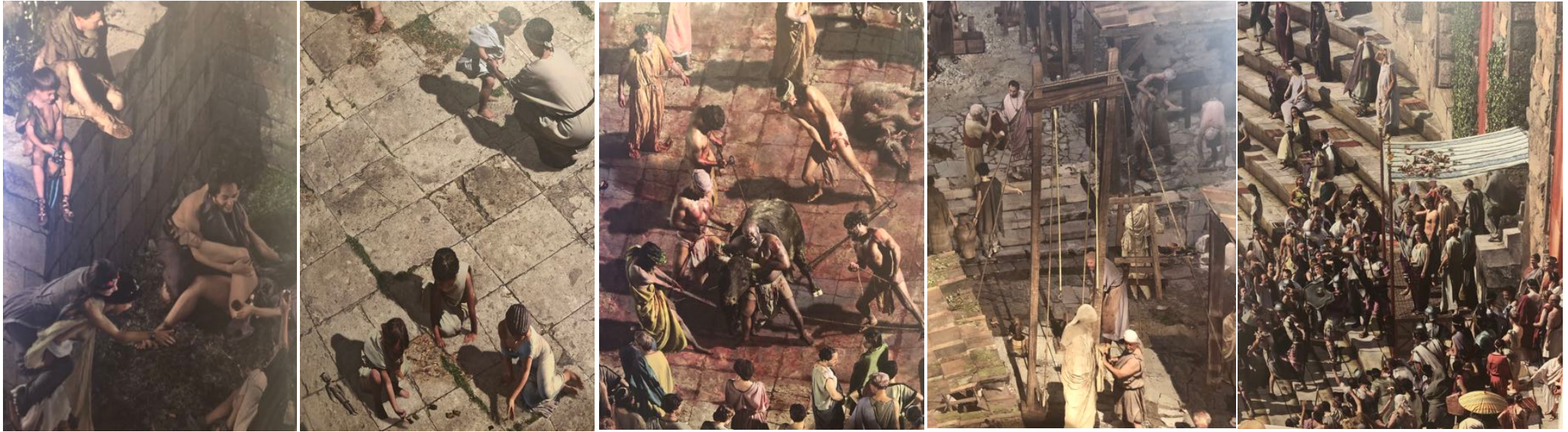


Panorama of the city of Pergamon, by Yadegar Asisi. Top floor visitor balcony.

gateway reconstructed in the Pergamonmuseum (and not visible in the photo).

The curatorial ambition of the panorama was meant to merge archaeological science and artistic interpretation. The artist’s eye, however, has done much more. Visitors delight in the discovery of detail painted

onto 3,200m² of fabric suspended in a circular formation around them. They become part of this panorama, and something very bizarre happens, as you realise that this is an infinite flow all around you: as an observer, you are in the middle of the scene, which is a neat displacement trick.



Details of the panorama, from the book Pergamon Meisterwerke der antiken Metropole und 360°-Panorama von Yadegar Asisi. From left to right: an orgy watched by peeping toms; children playing on the ground; a bloody sacrificial scene showing butchering of a bull in front of the Pergamon Altar; a stonemason's workshop with statues of gods and mythological figures being sculpted; the arrival of the emperor into the theatre.

The incredible power of this installation lies in its detail. Layers of detail reveal themselves to each visitor's visual perusal of the scenes – the more you look, the more you see. You can lose yourself and dwell in the darkened space for hours, climbing up and down the central scaffold and browsing all parts of the scene... and again. Each time finding a new detail, a new character, a new setting you are drawn to and can identify with.

What value has the story? Not simply recreating the past, but breathing life into it.

What place have the objects? There are no 3D objects physically on display here, and yet they are all here. The value proposition of the panorama is 'life', not 'object'. But the objects have been embedded into the visual, and have shaped the actions of imagined people – umbrellas shielding noblewomen from the light of the sun, platters of fruit carried by stallholders, staffs topped by ostrich feathers wielded by servants, leopard skins on thrones carried by slaves, bird cages carried by women, broomsticks, fire brands and palm fronds

used to stoke the fire and clear the ashes around the altar; wreaths, jewellery, armbands and belts; tunics and veils; barbecue trestles, wool packs and cushions... These are archetypal scenes with each figure brought individually to life - by actors and actresses who pose in the scene.

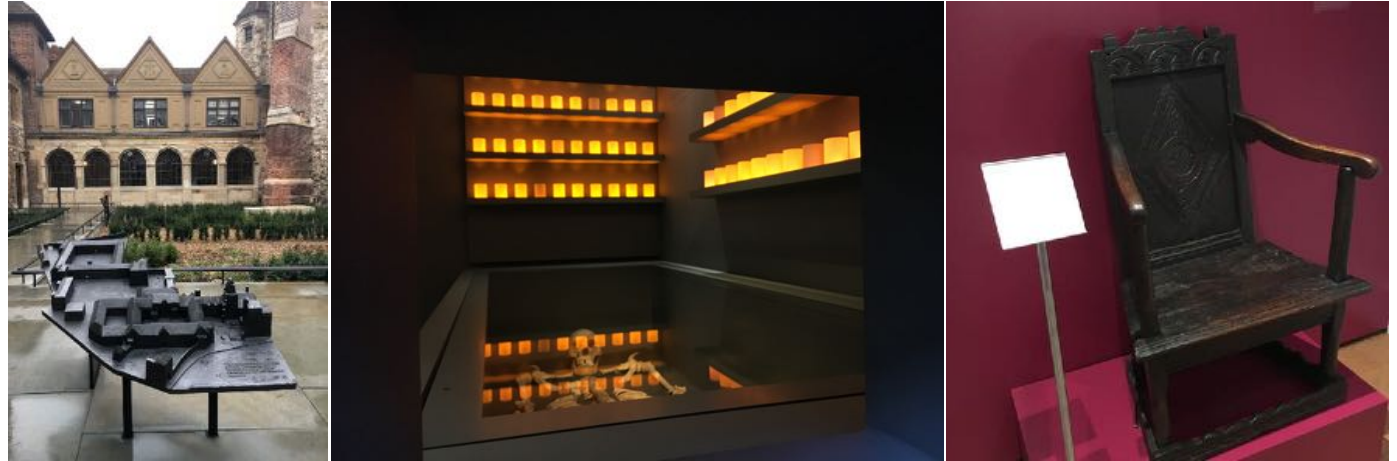
What is the learning experience? Asisi says his intention is for visitors to "leave the panorama with the feeling they have celebrated in the citadel of Pergamon with the people of the time".

Power of Object?

The most difficult balancing act for learning and interpretation professionals designing a new visitor experience is to place the object and the story as counterweights to each other. We must carefully examine the power individual objects have. Some act as threshold objects, that can be used within spaces to identify transitions – from one space to another, or from one theme to the next. Other objects are descriptive of a notion or illustrative of a process (many of these are repeating, and star within traditional archaeological displays: the dozens of amphoras, the tile fragments...). Others again are symbolic, opening a window in the story that is breathtaking and unexpected.

Founded as a Carthusian priory in 1371, the Charterhouse is a historic complex of buildings in east London, redeveloped in 2017. It was one of the greatest palaces of Tudor London, then became a school, then an almshouse. This is a case of the building being the central and biggest object, its location and setting critical to understanding its story.

Visitors walk on cobbled stones over the foundations of the medieval monastery and the graves of the monks, through the chapel and into the museum.



Two displays in the museum: the skeletal remains of a victim of the Black Death, a chair. The label reads: “Ancient chair. This chair has been at the Charterhouse for many years, but no one can say quite how old it is. It has been much repaired and incorporates pieces of wood that don’t match. Like the Charterhouse itself, repairs have kept the chair usable and strengthened it over time.”

In the museum are two very different object displays. One, an atmospheric low lit conservation display case is self contained within a small room, surrounded by candles as if to evoke a crypt. It contains the human remains of one of thirteen people who succumbed to the Black Death here and whose remains were excavated on site. The human skeleton evokes powerful reactions, from reverence to fear, and its setting invites contemplation and quiet reflection.

The other is a nondescript but ‘ancient’ chair, with no story. Its label doesn’t help: symbolic meaning is attributed to it, but the design of the display does not deliver this

visually, so its power is lost. Had it been contextualised differently it would have been more powerful.

What value has the story? The city of today built on the city of the past.

What place have the objects? Different objects are symbolic, or prosaic. The juxtaposition is uncomfortable.

What is the learning experience? The learning journey is uneven and imbalanced because there is no unifying message.

Overload

The state of Mississippi, USA, had the highest number of lynchings between 1882 and 1968, with 581 black people killed violently, outside of the law, by mobs, mostly by hanging. The state's current Constitution was adopted in 1890 and has never been updated. The Mississippi Civil Rights Museum opened in 2017, as the first state sponsored civil rights museum in the US, with a mission to "document, exhibit the history of, and educate the public about, the American Civil Rights Movement in Mississippi" from the arrival of the first African slaves to today. It tells a previously untold story (at least in a museum institutional setting) of huge significance, impact and legacy. The legacy of this violent past is still very visible and felt very raw in Mississippi today.

The museum layout is circular, with narrow claustrophobic galleries surrounding the central rotunda, a well-lit contemplative space with an interactive sculpture accompanied by the song *This Little Light of Mine*. Within the galleries, exhibits and graphics cover the walls, the ceiling and often the floor, interweaving content and message into tight restricted spaces.

A story suppressed is finally given voice, and the visitor learning journey is as



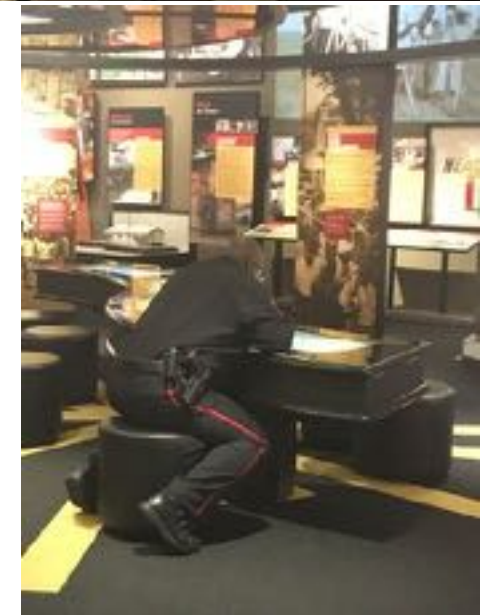
The overall learning journey is constricted because the emergency of the narrative blocks out every other concern for the visitor and their mental space.

complex as the intricate design of the museum. The museum is driven by content, with a resounding urgency to its message that whether through design or by accident, creates mental fatigue. There is no chance for a visitor to take it all in in one go, and there is little opportunity to 'breathe in' any learning within one's own progression. More than a museum, this is a study centre, a comprehensive resource for a history that has been swept under the carpet and now claims its place.

What value has the story? Unimaginable.

What place have the objects? They are analysed, presented, displayed, interpreted until their essence is sucked out.

What is the learning experience? The visitor needs to work very hard – the history is very



powerful, its shock value beyond belief, and the distress provoked starting from the first historical gallery very real. But the feeling of overload ultimately may play against the museum's own mission. The policeman in the photo stayed at the interactive table for 14 minutes – without once looking up.

Conclusion

The learning ecosystem is a complex and multilayered one which includes intentional and unintentional activity, across many sectors, including museum and heritage settings. Our job as interpreters requires us to set visitors on their own learning journey, and watch to see what happens when people engage with high quality storytelling and meaningful object collections.

The provocation that remains unanswered and on which I wish to end, is: *how does that help us change society for the better?*



At the Louvre Abu Dhabi. Politics of display and social equality. The painting shown is Jacques Louis David's "Napoleon Bonaparte, First Consul, crossing the Alps".

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Finally, all notes, findings and recommendations in this report, are intended solely for NEMO (Network of European Museum Organisations) and LEM (the Learning Museum Working Group) networks. This report is prepared by Benedetta Tiana, Principal of BT Museum Consultancy, London & Milan. Email: bt.museumconsultancy@gmail.com.

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