Memory Palaces Within the Space of Architectural Production

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ABSTRACT

A model of the space of architectural production is proposed here where the building is imagined as a Memory Palace. In this model, building work is understood to be foreshadowed by an imaginary architecture which both predicts the future physical construction to come and is also made superfluous by this construction work as it is comes to be. It is argued here that these Memory Palaces of production remain lodged in the minds of the constructors and designers who planned and executed the detail of a construction. After construction, a building's details act as a physical route through which individual actors might access their personal Memory Palaces in the space of production.

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Amongst the constructors, fabricators, engineers and designers who make buildings, it is commonly understood that architecture is assembled in the imagination before it is built on site. One might hear it said that a Job Architect has the building *in their head*, or that a Site Manager has *eaten the building*, so thorough is their grasp of the drawings and specification of a project. These phrases suggest that the project fully inhabits the mnemonic imagination of these constructors and designers.[1] While committing something as complex as a construction project to memory would seem a remarkable feat, central actors in the process of construction appear to do so. The hypothesis presented here is that the emerging subject of architectural production, the future building, is integral to the creation of the memory systems which constructors and designers use in their production of that building. This integration is achieved by the assembly of a Memory Palace within the mnemonic imaginations of those active in the construction process, using the future architecture as the spatial structure for the memory system for the project.

This proposition is explored by recording a Job Architect's personal Memory Palace, retained from a space of architectural production that dispersed over a decade ago. That particular space produced over 200 dwellings, using innovative construction techniques, in response to a range of industry related agendas. In the act of drawing a generic detail from this project, the Job Architect recovers aspects of his Memory Palace of its complex space of production; and this memory work is recorded and analysed in a film of the drawing process.

In *The Art of Memory*, Frances Yates recounts the mythical foundation of memory.[2] The poet Simonides of Ceos is short-changed by the host of a banquet for his performance of a poem. The host refers Simonides to Castor and Pollux for the balance, as half the poem was devoted to these twin gods. Later, Simonides is called away from the banqueting hall by two mysterious youths and, during his absence, the hall's roof collapses and all the guests are crushed at their seats. By calling him away from the imminent destruction of the building, the visiting invisible deities repay Simonides the balance for his lyric. Simonides is left as the only person able to recognise the disfigured guests, by memory of their location in the seating arrangement.[3] From this experience, Simonides understands the power of spatial order as an aid to artificial memory. His myth also suggests to us the possible fracture of an architectural conception, where, across time, the physical form of a building has a separate life to the mental organisation of space it contains.

This mental organisation of space develops into an artifice associated with the classical art of rhetoric, where images – the more grotesque in form, the more mnemonically stimulating – act as agents of memory located in memory places that are connected spatially in an architectural sequence to generate a rhetorical narrative.[4] Yates traces the development of this art across Classical history and the shift in its purpose, from public rhetoric to religious prudence, introduced by mediaeval scholastics. Drawing on Panofsky's *Gothic Architecture & Scholasticism*, she notes the connection between the high Gothic cathedral and a religious summa supposing that Thomas Aquinas' "…abstract Summa might be corporealised in memory into something like a Gothic cathedral full of images on its ordered places".[5] Yates is cautious in this proposition, but it is a supposition that follows a foundational conception of the western memory tradition; that memory is expressed as a physical imprint within us – for Aristotle, within the black wax of our soul[6] – and within our environment in the architectural organisation we give to our buildings. As Adrian Forty notes in his introduction to *The Art of Forgetting*:

> **Memories formed in the mind, can be transferred to solid material objects, which can come to stand for remains and, by virtue of their durability, either prolong or preserve them indefinitely beyond their purely mental existence.[7]**

In their transfer into religious instruction, Yates shows that the Classical principles of artificial memory remain resilient into the Middle Ages, where in a range of formulations they are expressed as "memory rules", a typical example being Giovanni di San Gimignano's fourfold direction:

> **[…] he should dispose those things which he wishes to remember in a certain order.**
> **[…] he should adhere to them with affection.**
> **[…] he should reduce them to unusual similitudes.**
> **[…] he should repeat them with frequent meditations.[8]**

Using these rules, an imagined architecture is assembled to hold narratives of rhetorical or religious argument with the intention that this architecture shapes and memorialises these arguments for future application. This connection between a flow of ideas and an imagined architecture might also apply in the production of buildings where architectural elements are coaxed into spatial organisation through processes of discursive argument. But where the classical or medieval Memory Palace shapes a repeatable argument focused on a set communicable narrative, the Memory Palace of architectural production

is itself shaped by repeated arguments that are slowly focused into a future design that the Palace itself predicts.

The process of architectural production, as it is experienced by members of a design team, can be understood in accordance with these same memory rules:

- *Spatial Disposition*: The painstaking and slow disposition of material specifications into sequences of assembly, which can be seen as process where inter-leaved arguments – legislative, technical, practical, financial and discursive in character – are fixed in space and memorialised within the projected assembly.

- *Adherence*: The process of iterative review of a future construction, and the rehearsal of an assembly through representational modelling and the subsequent discussion of those representations, which has something of the devotional about it. A process that cannot perhaps be undertaken without dedicated affection for the assemblies in question.

- *Ideational Similitude*: The association of contingencies and arguments with physical forms so that the relation between materials and components, or the re-reading of mute detailed drawings, recalls a history of the chaotic process by which the industries of architecture bring materials together in space.

- Finally, *Repetition*: the frequent meditation on the potential architectural order of these things, rehearsed and repeated at monthly, fortnightly, weekly meetings across periods of years, slowly forging a Memory Palace of the future physical construction.

By these memory processes, architectural projects develop in the space of production and an architect or constructor (traditionally the site foreman or job architect, also now the design manager and the package system designer), intimately involved in this process of developing a building project through their repeated practice of these memory rules, gradually builds a Memory Palace of the construction to be.

Here, then, is a key architectural difference between these Memory Palaces; the classical model operates as an imaginary memory system communicating a completed narrative whereas the Memory Palace of architectural production is both imaginary and predictive of its own physical expression in architecture to be built. By this dual nature, the Memory Palace of architectural production develops through reflexive memory work. In the discussion of a proposal for a construction assembly, actors within the space of

architectural production place the lineaments and elaborations of an argument in an imagined architectural space. As design development continues within the space of production the memories of this development are reinforced in a process of reflexive affirmation. The projected spatial arrangement is reinforced by the rehearsal of the argument and the argument can be recalled by re-reading the arrangement of materials in space as they are proposed within the Memory Palace. But where the Classical version remains imaginary, a construction Memory Palace has the characteristic that one day it might get built.
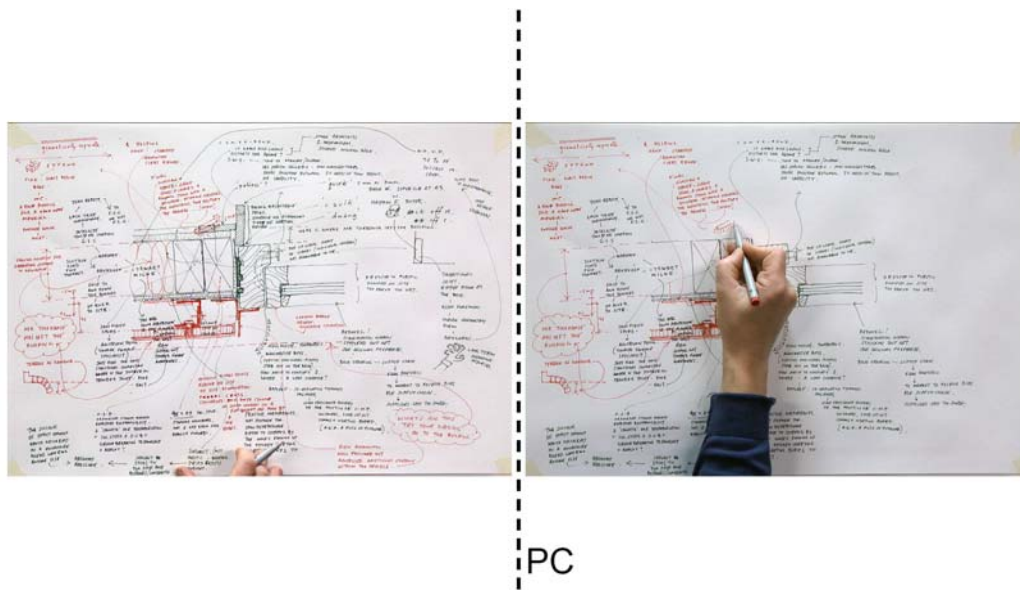
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Figure 1 : The Memory Palace of a detail recalled at the point of Practical Completion.
(Two stills from the film *Rotten Timber Palace Fifteen Years Gone*)

How then might we access the Memory Palace that led to a building; and how can we record and communicate this system of recollection? The film *Rotten Timber Palace Fifteen Years Gone*[9] attempts such a recovery by recording the memory of a junction between structure, wall, window and rainscreen envelope developed fifteen year's previously by a job architect. The film begins with a completed drawing of this particular detail. A hand rests, pen in hand, bottom-centre of the drawing. Looking closely, one begins to see that the description of detail is subjective and incomplete. This description is partial, because it is the result of architectural memory work undertaken, in one hour, on one day, fifteen years after the detail was developed in the space of production. At

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another time a different partial account might have been filmed. Following accepted industry conventions, arrows link annotations to parts of the remembered assembly. But, rather than specify instructions for material and workmanship as might usually be the case, the notations narrate accounts of past activity within the space of production. At this beginning, we see a drawn account of a Memory Palace of construction, fifteen years on and subject to forgetfulness. Twenty seconds into the film, the hand at the bottom of the page springs into action. It moves the pen at speed across the page, erasing memories and associated drawn components until the page is blank. The erasure of each word is marked by the brief appearance of a memory descriptor. Chains of association link shifts in memory form stimulated by the detail. Moments of reverie, instrumental knowledge, narrative recall, total recall, collective memory, recollection of event or location, are erased.

We watch the Memory Palace disappear. The beginning of this memory loss might be seen as the point of what the UK's JCT building contracts call the "Practical Completion" of the project. At this point, the detail is replete with memories of the space of architectural production (some of which might, possibly, be deliberately suppressed to ensure that Practical Completion is secured). Post-Practical Completion, the record of this diverse architectural activity slowly dissolves. The dwellings that were generated from this Memory Palace remain physically in place elsewhere, outside this film; but the parallel architecture built within the space of architectural of production becomes diminished.

Figure 2 : The Memory Palace of a detail moving to dissolution. (Two stills from the film *Rotten Timber Palace Fifteen Years Gone*)

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David Lowenthal posits three forms of recall: instrumental memory, schematized and dispassionate; reverie, comparative explicit but incomplete; and total recall, the past relived in the present.[10] He observes our experience of memory to be a shifting juxtaposition of these types of recall where our retrieved memories are haphazard, rarely sequential and where, therefore, forgetting is an inextricable aspect of remembering.[11] These juxtaposed methods of recall also characterise the Memory Palace of architectural production but with a less haphazard organisation than Lowenthal might allow. The practical discipline of construction assembly gives the sequencing of memories within this Palace a higher level of order than might be expected in other formulations of artificial memory.

As a spatial progression, albeit at the micro-scale of the arrangement and connection between materials, the Memory Palace constructs a narrative of the decision-making process of architectural production. The final relationships between materials defined within this Palace describe decisions made either for technical reasons or reasons of contingency. Possibly it is only because the Memory Palace is entered individually and subjectively that this range of reasoning can be captured. Similarly, place, history and geography are expressed within the Palace perhaps most effectively in the particularities of regional names applied to materials. For example, the continued reference to '4 by 2'-inch timber frame 'studs' on metric construction sites, or the migration across the border of timber frame buildings laterally braced with 'dwangs', the Scottish term for the equally strange English word 'nogging'. It is perhaps in this subjective construction of narrative memory that the information model constructed by this Memory Palace differs most greatly from that of Building Information Modelling (BIM). The latter is an instrumental memory system where the objective coding of components edits out a layer of historical and constructed meaning, whereas conversation on site carries forward an oral tradition informed by collective memory.

Also, using Lowenthal, one might understand a building project as being recorded by two memory types, instrumental recall and reverie, amplified to an extreme. Two memory systems are at work within the space of production, an instrumental record of schedules, specifications and drawn descriptions by which a building project is procured and notionally executed; and the highly ordered yet reveric account developed in the

constructor or designer's Memory Palace. Both, arguably, offer unreliable testament to what might have been executed on site and perhaps interconnect in this forgetfulness – although one might argue that the narrative histories located in a constructor's Memory Palace might get closer to what actually took place during the build. We can see that the factual description of what is "as built" provides a mnemonic doorway into the Memory Palace of what actually was built and why it happened differently to the official record. That is, until post-Completion, as the Memory Palace begins to fade.

One might be tempted to argue for BIM as a form of digital Memory Palace that neutralises the inherent unreliability of individual Memory Palaces within the space of production. Privileging a singular digital account of the space of production, of course, concentrates power. It is of no surprise that Government directives and professional agendas champion this approach[12]; and this negation of competing memory systems can be theorised within architecture as a return to eminence of a single professional narrative. But one can argue that multiple Memory Palaces within the space of production will always remain as subjective memorials to the collaborative space of architectural production. These individually constructed Palaces mimic a future project but, perhaps more accurately, one might say that the complete project mimics the private Palaces actors within the space of architectural production use to make it; thus making plural the singular digital narrative given to us by BIM.

By definition, the Memory Palace is an analogue of the final construction assembly and in its process of reproduction the relationship between this Palace and its subsequent construction is similarly analogue. The constructed building is a relatively exact rendition of the Memory Palace. But it is an analogue translation. Random variation, *noise* as we commonly call it, is added to the construction and the built copy "cannot escape a bit of forgetting".[13] By contrast, BIM as a digital system captures information as a discrete set, repeatable and translatable across media. Arguably, BIM offers a direct and repeatable translation of the virtual to the physical in its execution on site – depending on the building technology used. But the binary process of digitisation approximates this information at source, removing the layers of interpretive meaning located within an analogue Memory Palace.

Noise in translation makes forgetting integral to the relationship between Memory Palace and construction. This leads us to ask how memory is constructed in this Memory Palace.

From Zofia Rosińska's review of the *Philosophical Psychology of Memory* we might understand two psychologies, passive or active.[14] Applying Rosińska's categories, we can see a Memory Palace as an active memory system, as a "dynamic structure, which apart from recollecting, reminiscing and recognizing also includes the following processes: repetition, narration and evaluation and feelings."[15] Rosińska categorises active memory as a twentieth century construct where memory is seen here as a process of the mutual negotiation of content, in our case between actors within the space of architectural production. In contrast, again using Rosińska's interpretation, BIM could be argued to be a pre-twentieth century, passive, memory form where "the content of memory [is treated] as recorded image, as an object that can be recollected, reminisced or recognised". A mode of remembering that has aspects of the pre-Modern[16] and qualities of the Platonic wax-plate imprinted with information that, when the imprint is effaced, deletes the memory. Although in this digital age we choose not to forget.[17]

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An older generation of building professionals, pre-BIM one might say, argue that building information management is something they have always done. The proposition here is that privately, in co-ordinating a building as constructor or designer, building a Memory Palace has been a central way in which this information is managed. If we understand the process of building as a "dynamic flow of memory", then the completion of a building could be seen as a fixed moment in that flow when we could begin to forget.[18] Digital memory removes the fixity of that point of construction and, in the nature of its memory form, reduces the richness of architectural memory that the makers of that building associate with it, whilst also reducing our options to forget what remains.

We should take care not to make analogue and digital, Memory Palace and BIM, an oppositional set. Both memory systems inscribe ideas in spatial form but perhaps to different ends. The active process of building a Memory Palace memorialises the way in which ideas are negotiated in design. The passive process of digitization, meanwhile, records the way in which design might be translated into physical form. We should also remember that there is a private world of discursive meaning by which architectural artefacts come to be built. The argument here is that this private world takes shape as a Memory Palace, created by the constructors and architects intimately connected with a project; and that it locates the transitory stories necessary to build within a spatial

arrangement similar to the architectural project to be. This would suggest that buildings are built by their constructors in a process of mnemonic reverie through a memory system that the construction industry hasn't yet come to appreciate.

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Notes

[1] Emily Keightly and Michael Pickering, *The Mnemonic Imagination: Remembering as Creative Process* (New York: Palgrave Macmillan, 2012).

[2] Francis A. Yates, *The Art of Memory* (London: Pimlico, 1992).

[3] Ibid., 17-18.

[4] Ibid., 17-41.

[5] Ibid., 90.

[6] Ibid., 50-51.

[7] Adrian Forty "Introduction" in *The Art of Forgetting*, ed. Adrian Forty and Susanne Küchler (Oxford: Berg, 1999), 3.

[8] Giovanni di San Gimagnano, "Summa de exemplis ac similitudinibus rerum", quoted in Yates, *The Art of Memory*, 96.

[9] James Burch and Steve Brown, *Rotten Timber Palace Fifteen Years Gone*. (Bristol: UWE Film Unit, 2015).

[10] David Lowenthal, *The Past is a Foreign Country* (Cambridge: Cambridge University Press, 1985), 201-204.

[11] Ibid., 207.

[12] See Great Britain Cabinet Office, *Government Construction Strategy* (London: The Stationery Office, 2012); and Richard Garber, *BIM Design: Realizing the Potential of Building Information Modelling*. (Chichester: John Wiley & Sons Ltd., 2014).

[13] Viktor Mayer-Schönberger, *Delete: The Virtue of Forgetting in the Digital Age*, (Princeton: Princeton University Press, 2009), 53.

[14] Zofia Rosińska, "Philosophical Psychology of Memory," in *Memory Work: the Theory and Practice of Memory*, ed. Andreas Kitzmann, Conny Mithande and John Sundholm (Frankfurt: Peter Lang, 2005), 25-43.

[15] Ibid., 31.

[16] Ibid.

[17] Viktor Mayer-Schönberger, *Delete*.

[18] Rosińska, "Philosophical Psychology of Memory," 42.

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