Criticality in Phenomenal Memory: Architectural Mnemonics for the Chaudiere

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Abstract

Memory has had a vital connection with the external mental development of culture as seen through the evolution of architectural artifacts that provide proof of the existence of history. Through an exploration of Sebastian Marot's phenomenal memory, ambivalent impressions of place can deepen, experientially, a site by incorporating its historical evolution and material remains into an architectural re-adaptation of current programmatic requirements. Marot’s phenomenal memory refrains from the creation of literal experiences of memory such as in monuments, or in the case of post-industrial sites – strict conservation.

A search for Marot’s phenomenal memory, in post industrial contexts, will reveal the possibilities of creating a deeper connection to place and site by addressing a site’s historical remains by incorporating its many mnemonic layers into a re-articulation of new program. This research will establish phenomenal mnemonic strategies to engage the re-adaptive potential of the post industrial site of the Cardboard Mill on the Chaudiere.
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Introduction

Too many places, too many regions, too many areas of cities and territories, brutally requisitioned and replanned in the name of the imperatives and conveniences of a present without substance, are every day flattened out, smoothed over, reduced to the two-dimensionality of pure landing strips. The most evident result of these reconfigurations – whatever spatial comfort they may provide to the programmes that motivated them – is that their inhabitants, or those who just frequent them, find it increasingly difficult to spatialize their thoughts, dreams and emotions.¹

This thesis researches memory in the role of architecture that deals with post-industrial sites specifically through an exploration of Sebastian Marot’s *phenomenal memory* (*Sub-Urbanism & the Art of Memory*): a suggestion of ambivalent readings or impressions of place that deepen a site by incorporating its historical evolution and material remains into an architectural re-articulation of current needs. This thesis’ *phenomenal memory* will refrain from preserving a strict literal memory of place, such as in monuments and strict conservation, and will contain a critical response to the history of the Cardboard Mill on Chaudiere Island (Ottawa). A proposition dealing with a critical response to the programmatic past of the Mill, through a re-articulation of existing architectural conditions, will address the question of preservation and proposal the National Capital Commission (NCC) might consider for the site, regarding the adaptive reuse of the Cardboard Mill through an exploration aimed at generating a specific *phenomenal memory* of the site that includes not only the physical existing remains, but also addresses the previously removed states of the site.
Thesis

The reuse of the contemporary post industrial site of the Cardboard Mill, has the capacity to address certain aspects the role of memory can have in strategies for design – specifically, an approach that deals with Marot's *Phenomenal Memory:* allowing for multiple mnemonic impressions of place that include historical site conditions, whether built or existing, into the adaptation of current needs. The idea of *Phenomenal Memory* appears from an extrapolation of the thoughts regarding literal and phenomenal transparency found in the essay by Colin Rowe and Robert Slutzky (*Transparency: Literal and Phenomenal* 1963), Marot deduces the potential of a phenomenal approach in design that would deepen a territory's architectural context by allowing a post industrial site's historical framework to participate in its adaptive reuse.2

Furthermore, contemporary post industrial sites are attracting significant attention from government bodies concerned with heritage preservation. In Ottawa, the National Capital Commission has an opportunity to encourage industrial heritage preservation that; is relevant for the surrounding community; and is architecturally responsive to the existing mnemonic conditions of site, not under strict conservation but as contributing, and architecturally evolving participants, to the contextual benefit of the larger community.

In addition, through the investigation of contemporary examples of post-industrial heritage preservation, this thesis will show that a proposal with an active architectural design process that interprets the historical and architectural memory of the Cardboard Mill's site will contribute to deepen a contextual union with the Chaudiere. Adaptive reuse models that contribute constructively to their community are functioning successfully to both re-engage

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post-industrial sites, through identifiable examples of ambivalent readings of place that evoke the past in the present, critically. The case studies employed in this comparative analysis of reused post industrial sites demonstrate that a relevant, and critical, response to a site's past provides contemporary participation in a temporally extended deepened site. The Duisburg Nord Park (Duisburg, Germany-Latz+Partners), the High Line (New York-Diller+Scofidio), and the Distillery District (Toronto-Cityscape) offer indication that design responses that engage the historical architectural memory of their sites can create relevant and deepened impressions of place.

The design approach for the Cardboard Mill on Chaudiere Island will respond to the previous natural states of the Island (that was at one time its main allure); and the eroding architectural remains of the Mill, through the formal desires of the NCC to situate a Museum of Science & Technology on the site. This will evoke the many mnemonic conditions of the site into a singular built condition, allowing for the many deep impressions of place required to construct a phenomenal memory of the Cardboard Mill on the Chaudiere.

The materiality and construction methods, for the Museum, will respond to the site's deteriorating building conditions by creating ambivalent impressions of preservation and re-connection. The reorganization of the site will be interpreted through axial incisions into the existing building that recall the horizontal and vertical developments of the site. An east-west corridor will align the site to the Parliamentary Buildings, providing a sense of orientation, and a north-south corridor will reconnect the individual to the shores of the Rideau River.
Marot and the Art of Memory

The premise of memory in architecture is a considerable historical subject matter that has been often examined in terms of memory as a material and element of architecture, and architecture as a vehicle of memory. In *Sub-Urbanism and the Art of Memory* Marot discusses an approach for contemporary architectural responses to program-site design which encourages the historical memory of a site to affect the way program is articulated through design. Marot points out that this architectural method challenges traditional design approaches where site is controlled by program; essentially from program forcing site accommodation – to site influencing program design; “…redirecting emphasis from programme to site – site as the matrix of design, and programme as a tool to explore, read, reveal, invent and ultimately represent the site.” By examining the historical conditions of the Cardboard Mill and its surrounding site, an architectural intervention can be made to provide impressions of the historical phases of the site, and of the Mill itself.

In Marot’s Manifesto the study of memory in architecture is divided into four sections that illuminate the need to deepen a place’s mnemonic context to allow for an individual to experience multiple phenomenal readings of architecture that enhance their connection to space and time. Marot’s first thread in *Sub-Urbanism and the Art of Memory* discusses Frances Yates’ *The Art of Memory* and extracts a historical foundation of mnemonics based on image and place. The second thread distinguishes psychological and social mnemonic phenomena in Freud’s fantasy of historical Rome, found in *Civilization and its Discontent*; in Halbwachs’ *The Social Frameworks of Memory*, and in Rossi’s *L’Architettura della citta*. The third thread is a mnemonic narrative, by Robert Smithson during a visit to a post-industrial setting, from *A Tour of the Monuments of Passaic*. The fourth thread is a description of Georges Descombes’
park design outside of Geneva that offers an example of how Marot's reuse of a site, through *phenomenal memory*, deepens a territory's connection with its contextual geographic past through ambivalent impressions of place and history.

Marot extrapolates the notion of ambivalent impressions that occur in C. Rowe & R. Slutsky's phenomenal transparency, into a phenomenal experience of memory. This extrapolation is derived from Rowe & Slutsky's essay, *Transparency: Literal and Phenomenal*, with a suggestion that in revealing a site's history through the design process, a *phenomenal memory* exists in opposition to a *literal memory* (where a *literal memory* is concerned with a site's strict conservation), and should be explored when examining the relevancy of memory for the reuse of post-industrial sites. Marot's conclusive suggestion of a *Phenomenal Memory* pertains to the extrapolation of the distinctions used by Rowe & Slutsky to interpret transparency—Literal and Phenomenal (the terms Literal and Phenomenal were used to describe the possibilities of perception for the effect of transparency as to how they relate to painting and architecture); where literal in memory refers to severe preservation, phenomenal in memory refers to physical stimuli, an architectural setting, that expands the mnemonic experience of site to include simultaneous layers of time; not in concentration but in an expansion of space and time. Marot stresses the need to explore *Phenomenal memory*, through the use of a site's history as a design strategy, to demonstrate depth and a process of connection. This allows an individual to experience ambivalent impressions of place, stimulating the imagination in the reconstruction of memory, and deepening the connection to that place. This deepening of place through memory can provide cultural substance, and guidance that acknowledges previous physical states of a site that were neglected or destroyed; and allows for a comprehensive historical understanding of place that can provide
a deeper re-articulation of new programmatic inclusions in the adaptive reuse of post industrial sites.

Phenomenal Memory

The point of Marot's phenomenal memory is to refrain from the creation of literal experiences of memory (such as in monuments, statues, or in the case of post-industrial sites: strict conservation), so as to produce multiple ambivalent readings of context, that deepen the engagement of a tactile, material, memory of a site.

In addition, dismissing the contextual significance of a site reduces the possibility of intensifying a place by building on its mnemonic layers:

...exploring the idea of a phenomenal memory in a field where the effects of literal memory are very fragile and can only be relatively exceptional (strict conservation, monuments) – appears to us a highly promising undertaking...for the critique and practice of [architecture].

Marot's Literal Memory may provide evidence of the past (as in Memorials), but it is in Phenomenal Memory that one can participate in the evolving nature of memory; expanding an individual's perception of their spacio-temporal surroundings.

Sebastian Marot arrives at a conclusion regarding the future of post-industrial sites that encourages the deepening of site through the exploration of phenomenal memory. Marot's phenomenal memory pertains to the importance image & place have in the ability to re-construct memory. The presence of physical evidence, through architecture, can allow for a direct registering of 'real' images; so that our collective understanding of space and time extends
beyond the ephemeral present; so that we may participate deeply, truly, in that oceanic sensation of totality and belonging to a collective existence.

**The Art of Memory**

According to Yates, the Greeks stressed the importance of the facility of recalling text through the use of memory; often long texts would be recited solely through the use of ones elaborated mnemonic techniques:

> Few people know that the Greeks, who invented many arts, invented an art of memory which, like their other arts, was passed on to Rome whence it descended in the European tradition. This art seeks to memorize through a technique of impressing 'places' and 'images' on memory.9

The Greeks realized that a memory consisted of mental images, and these images required a technique that would improve their recall abilities and ultimately the memory itself. The mnemonic relationship that the Greeks developed, for the improvement of memory, was used predominantly in the exercise of Rhetoric, but this approach was encouraged for the betterment of an individual's intellect and imagination. This beginning of a memory improvement method stressed the importance of image and place, in memory. This mnemonic relationship was based on the premise that memory was predominantly image based; an individual's memory was a collection of reproducible mental images.10 The ease of recall relied on the projection of a temporary mental image onto a permanent mental image. A permanent mental image consisted of place or a stable architectural space that could be seen and experienced directly, this enforced a need for direct relationship with place:

> The first step was to imprint on the memory a series of loci of places. The commonest, though not the only, type of mnemonic place system used was the architectural type...The images by which the [content] is to be
A memory could be broken down into its images, and from there these mental images were projected onto a place or **loci** from which they would be recalled with more proficiency; a mental image was projected onto a stable architectural place that would house, for instance, a narrative. This technique stressed the use of imagination in order to facilitate the mental recreation of a *temporary* mental image (memory) on a *permanent* mental image (place), allowing an individual to imagine a memory to life. Marot affirms the importance of the image/place relationship, with respect to the self and its mental internal/external connection with reality; “…such as the primacy given to the sense of sight – perceptible in the very etymology of **idea**, which in Plato designates the essence of things, or in the Aristotelian thesis holding that ‘the soul never thinks without a mental picture’.12 Further more, by providing the historical narrative of the evolution of the Cardboard Mill area with a tactile physical collection of mnemonic impressions (induced through a re-articulation of existing, preceding, and proposed conditions) promotes a deeper perception and comprehension of the site.
This relationship between image and place, in the art of memory, was central to the developments of early literary imagery, as a memory system for visualizing and recalling an image of a place with its meaning, such as in Dante’s *Inferno* (where the images of the places of Heaven and Hell contain images of punishment and incentive). This imagery system deepened an internal mental connection to an intellectually external fabrication; allowing an individual “to read the spatial arrangements [Dante] describe[d] (Hell, Paradise) as mnemonic systems.” Through the medieval period image/place was essential in the formation of imagery in art and architecture through an encouragement of the imagination to manipulate image in place, and in the Hermetic philosophical investigations of Lullism, the art of memory, served to explain philosophical movements in the psyche through revolving imagery providing an external cosmic connection for the individual.

Marot extends the significance of the art of memory in interpretation through recall, by referring to Thierry Mariage’s, in *Univers de le Nostre, ou les origines de l’aménagement du territoire*, views on the garden:

> Certain engraved views from the baroque period bring explicitly into relief this process of transposition or translation, whereby a wood corresponds to a forest, a fountain to a spring, a grotto to caves, a canal to irrigation ditches, and the parquetry of flower beds to the divided plots of cultivated fields.

With this framework the cognitive effort in the art of gardens and, through the association of a mental internal/external material reorganization of site, the art of architecture appears as a “medium for the semanticization of the land, lending to nature the status of a landscape organized into spaces.” This mnemonic understanding of nature and our material
interpretation of it, underscores the importance of the image/place relationship that connects an individual to a specific site, and defines their place in Marot's 'time and culture'.

This ability to spatialize a specific space, and form an internal mental connection to it, allows for a deepening of site; if a historically social narrative exists of a particular site, for example: the great industrial boom that the Cardboard Mill participated in, then that site can provide direct mental contact to a permanent image (the Mill) providing a temporary image (the Narrative) residency.

A Freudian model of Memory

This regard for a mental connection to an external place reiterates Freud's sentiments regarding preservation, in Civilization and its Discontents. In the text Freud attempts to clarify Roman Rolland's description of the true source of religion's power: that “…‘oceanic feeling’ of belonging to the totality of the outside world that is supposedly rooted in everyone…”

This sensation is characterized as a survival trait that spawns from a state of consciousness familiar to that of an infant child, and can remerge in certain circumstances that bond an individual's psyche to the external world (such as in love). This attachment response is often challenged, altered, and transcended through Freud's reality principle, which instructs the individual to form a division between the ego and the real world. Although the separation implies disconnect, Freud states that through this dividing line a connection with reality is recorded; that the division between ego and reality is impartial to difference; although ego and reality are separate, they are each a half of the whole. That reality, composed of external matter, as through architecture, provides the counter, and completion, for the ego of the individual.
This recording, or memory, extends the connection to beyond the present to include most of an individual’s life; “that in mental life nothing which has once been formed can perish – that everything is somehow preserved and that in suitable circumstances it can once more be brought to light.”22 This suggests that Rolland’s oceanic feeling can be reawakened through the use of one’s memory to connect not only to the past but to the whole that includes the present. Freud presents an analogy to investigate this hypothesis, using the ancient city of Rome and its layered development as an illustration.

Freud embarks on re-creating the Ancient City of Rome where no architectural record is eliminated and the architectural experience consists of buildings within buildings, so that “Rome is not a human habitation but a psychical entity with a similarly long copious past – an entity...in which nothing that has once come into existence will have passed away and all the previous phases of development continue to exist alongside the latest one.”23 Freud’s attempt to generate a parallel with the cognitive workings of one’s memory through an analogy that considers the possibility of the complete architectural memory of a city continues with acknowledging an argumentative response that considers the relationship between the cognitive capacities of the mind and that of reality to exist differently. Freud counters this with a biological comparison, in which the body is used to ‘test’ the limits of memory, asserting that one’s body “...does not preserve its earlier phases of development...[; accordingly] the embryo cannot be discovered in the adult.”24 Equally, a built condition unchanged, preserved and frozen in a literal memory cannot provide fully to the evolving necessities of new socio-collectives; it must adapt, not preserve but continue.
Although these parallel analogies seek to disprove a complete collective memory in the mind, they omit external collections or remnants of the process of evolution in both the architectural fabric of a city (Rome), and in the physical growth of an individual that could prove the existence of an extended comprehensive memory. The complete history of Rome may not exist in the condensed version that Freud imagines, nor do bodily records exist of an individual’s physical development; but physical mnemonic records exist of these processes in the externalized impressions (images) during phases of their respective evolution: paintings, narratives, photographs, garments, etc (this aside from other extrasmatic collective devises). In addition, Freud’s use of an analogy to explain the internal mnemonic processes of the mind, which when viewed in the context of forgetting, something that these analogies, of body and architecture, seem to suggest (that one thing cannot remember everything with respect to the physical evolution of an individual, and of architecture), the memory of an individual, and the memory of architecture, evolve and expand outside their physical constrains and show traces of their evolution through what remains in, and of, them. Freud then retracts the comparative analogies of memory, whether mental or physical, recognizing their limitations and stipulates that portions of mental memory may persist and exist, in an evolving sense through impartial or incomplete recollection, as seen through the mnemonic abilities of the mind, that suggest an unlimited capacity for diluted recall.

**The Mind of today**

This inhibition to completely deny the possibility of a complete mental memory holds true in contemporary Neurobiology as when “…memories, when fixed, are…difficult to erase (…they are the most durable features…acquired during a person’s lifetime).”25 The
neurobiological processes of the brain, with respect to memory and information gathering, create channels or pathways that house a memory: encoded content is represented as a specific path. These pathways, through contextual repetition, if maintained “…allow for a record to be ‘printed’ in the long-term memory,” so that although we may not remember everything, what does remain, specifically in architecture, provides external evidence of the existence of memory; that what remains of the Cardboard Mill can offer an indication of the memory of the city.

Although Freud’s positions regarding the physiological functioning of memory is no longer convincing in light of recent advances in neurobiology, for the most part “…neuroscientists have not yet unraveled the secrets of the memory mechanism,” but have determined that certain neurological functions require tactile context, to impress in the mind, a memory, and that the same tactile context can remind. This suggests that although narratives or other forms of externally captured memories (as through photography) can evoke a memory, context is a superior method for recall; equally, a historical architectural collection can provide tangible proof for the imagination to reconstruct the mind’s past.

Providing context, through place, is important for allowing the individual an opportunity to reconstruct an event, or experience, “…context dependency is a retrieval effect, with context helping the subject to locate the relevant information in [their] memory store,” so that during the perception of a place, an individual can realize a history of a city through direct contact with an architectural memory of the past (context). This contextual factor assists the imagination, for example, by placing a historical narrative into context, the individual can reconstruct previous periods more accurately, and if in the setting of a
reconfigured post-industrial site, deepen the overall experience of space and time by invoking the past into the present.

In addition, the "...environmental context in memory, [states]...that contextual cues change the interpretation of the material to be remembered," offerring the direct experience of place provides an individual direct contact to a deepened sense of place, where they can participate in the continuing evolution and extended chronology of a place.

Contemporary studies on memory also place significance on the manner in which context is experienced: "We do not perceive or remember in a vacuum. The context within which we experience an event will determine how that event is encoded and hence retained." This encourages the way in which post-industrial sites are reconfigured so that the experience refers not only to the past but to the new present that an individual engages and perceives in the new overall context; placing importance on how we can adapt a historical place to accommodate the needs of the present, allows for both the previous and current states to exist simultaneously. The adaptive reuse of post-industrial sites, in the case studies referred to in this text, demonstrate the simultaneous existence of multiple programmatic dialogues with the past and the present; dialogues that criticize and acknowledge past occurrences, and previous natural states of a site, in a new re-articulation of present requirements. This referential procedure permits an individual to experience ambivalent impressions of place, stimulating the imagination in the reconstruction of memory, and deepening the connection to that place.
If a historical event or period is to be recalled or expressed it is "...crucial to reinstate the [material] context if good recall [is] required."\textsuperscript{31} The importance of place, or in the case of invoking a sense of the historical context of the Chaudiere, relies on direct experiential contact with the architectural setting; providing a contrast between the materialities of the existing eroding concrete conditions of the Cardboard Mill, and the reinforcing programmatic intervention of a Museum.

Consequently, the 'oceanic feeling' of totality that Roman Rolland wished to "...[describe] as the true source of religious behavior,"\textsuperscript{32} represents an extended participation of materialized evidence that a physical memory exists outside the self; history (memory) is confirmed through the physical remnants that can be experienced directly through something previously built. This resembles Maurice Halbwachs' inference that "the seat of memory is to be found in society rather than in the individual."\textsuperscript{33}

\textbf{Halbwachs' seat of Memory}

Marot restates that Maurice Halbwachs' position, in \textit{The Social Frameworks of Memory}, consists of external proofs of mnemonics:

\begin{quote}
...memory is not like a private chamber within the individual consciousness – a storehouse for personal recollections – but is more a process of reconstruction: an activity of localization and configuration functioning essentially from and within socially elaborated frames or reference systems (language, divisions of time and space, etc.).\textsuperscript{34}
\end{quote}

These references, or divisions of time and space, which architecture participates as, act as fixed points of reference that can serve for the mental re-articulation of external material for
the manufacturing of memory. It is with these material reference points, for Halbwachs that memory is allowed to exist, essentially outside the mind.

For the purpose of culture, there can be no memory without external proof from which to reconstruct, through permanent images, a sense of reality, and through extension of Freud's ego/reality, a sense of belonging. For "...we preserve memories of each epoch in our lives, and these are continually reproduced; [and] through them...a sense of identity is perpetuated." A sense of identity and socio-collective presence – culture – is provided through the many remaining historical architectural artifacts found within cities. Consequently an awareness of culture and identity can be achieved for Ottawa, through an engaged and evolving reorganization of the existing conditions of the present-day Cardboard Mill; a preservation that is not literal but that engages the broad social and natural historical context of the Chaudiere Island; suggestive, reflective, and critical of the chronological periods of the site.
Halbwachs defines memory’s existence as material mnemonic evidence in space:

...like an immobile image of time...there is no collective memory that does not unfold in a spatial framework... [Space] is an enduring reality: each of our impressions banishes the one that came before, nothing remains in our mind, and there would be no way of understanding the past, if it did not in effect preserve itself in the material surroundings.\textsuperscript{56}

Marot elaborates on the evolution of the city through its social frameworks, and interprets it as a mental organism whose previous “states of existence” are available to certain extents “and whose spatiotemporal depth, now transparent, now opaque, is more or less available to the voyage of memory.”\textsuperscript{37} Cautioning that “…beyond the machines for traveling in space and time...the mental health of our cities and territories no doubt depends on the degree to which...elasticity or depth...is available to be experienced everywhere...and therefore...”\textsuperscript{39} it is the obligation of the architect/builder, whose responsibility it is to reconfigure our environments, through adaptation for the present or the future, “...to permit, restore or invent this availability.”\textsuperscript{39}

This idea of an engaged evolving reconstruction of architectural remnants, a process of connection and depth to a site's historical context, supports Marot’s later objection to the effects of \textit{Literal Memory} (one of strict preservation as in monuments) in the design strategy of adaptive reuse projects. An approach through \textit{Literal Memory} – a memory that is frozen and inhibited from participating in the evolution of the physical and tactile progression of the impartial erosion of temporal reality – delays, and often prevents, the evolution of a continuing, expansive, mnemonic reality; a reality composed mostly of previous material
moments, that exist as a continuous layering of the physical proof of those moments in history, that developed the Chaudiere and the Cardboard Mill.

**Smithson’s Passaic Narrative**

This type of reconstruction, or perception of reality, draws parallels to Smithon’s narrative, in *The Monuments of Passaic*, which retells an account Smithson had during his trip to Passiac, a suburb of New Jersey, New York. The narrative reads as a collection of Halbwachs external memories and demonstrates Smithson’s participation in the proof of a material memory that is not an internal mental process devoid of external mnemonic proof, but a reconstruction of fictional and abstract understandings of the process of engagement with a new surreal collection of existing phenomena.

Smithson’s narrative echoes Halbwachs’ proposed external memory frameworks, and maintains that memory cannot exist without external material proof. The Passaic adventures induce an experience of interwoven recollections, consisting of external mnemonic contexts: fenced off decaying post-industrial buildings, vacant neighborhoods, a glaring midday sun, a dilapidated bridge, reference texts from a local newspaper, and a science fiction novel. This amalgamation of reference points, when combined through imagination, provided a sensation of an allegorical mnemonic interpretation, and by extension a sense of belonging and participation in the chronology of the space and time of Passaic. Smithson’s concept of memory, through his narrative, consisted of a nonlinear collection of mental images projected from external tactile evidence that allows him to comprehend, or receive and perceive, his spatiotemporal place in the reality of the site, extending his sense of assimilation beyond his internal self. Smithson’s yearning to form a ‘deeper’ connection recalls Rolland’s
'oceanic feeling of totality', and Freud's makeup of the ego and reality, so that Yates' permanent images instill the contextual setting, thus forming a connection to a, historically extended, perceivable reality—a connection that was not literal but more in line with Marot's phenomenal memory.

When experiencing the post-industrial remains of Passaic Smithson sums up the effects of the lack of mnemonic material history through an attempt to fill in the material voids with any perceivable content:

The sky was a news print grey, and the clouds resembled sensitive stains if sweat reminiscent of a famous Yugoslav watercolorist whose name I have forgotten. A little statue with right arm held high faced a pond (or was it the sea?). 'Gothic' buildings in the allegory had a faded look, while an unnecessary tree (or was it a cloud of smoke?) seemed to puff up on the left side of the landscape.40

This search for a material, external mental connection that provides proof of reality, for a connection to his Freudian ego, led Smithson to reach for any tactile presence of memory that could provide him a way to connect with his surroundings. Smithson later concludes
that statues could not provide adequate substance in the order of an external participation with the place, leaving his imagination to ponder his context: "...maybe there are a few statues, a legend, and a couple of curios, but no past – just what passes for a future?"

This abjection to Marot's *Literal Memory* devices of statues, and legends, show a desire to create a more thorough bond to the tactile environment, analogous to participating in the past, in Halbwachs' architectural material proof of memory (albeit from a varied program), and not in the past, from the tactile distance suggested by these 'statues' and 'legends', but within these external proofs of memory.

Smithson’s later earth works seek to form a mental mnemonic connection to a site’s material, and geological, layers of history, when the site was lacking in material proofs of history, and memory. As an extension of Smithson’s ambivalent impressions of place, this search for a tactile connection to site, whether narrative, architectural, or even geological, seeks to resolve initial perceptions to relate to the mnemonic remains on abandoned post-industrial sites.

The perceptual experience of the current abandoned state of the Cardboard Mill is one of noticeable emptiness. Aside from the lack of a programmatic inclusion for the individual, the monumentality of the Building, if left completely preserved, as an example of Marot’s *literal memory*, would leave an ephemeral longing for a deeper connection to the site. Although the contextual distance of time makes the connection to the history of the Cardboard Mill difficult, the architectural remains provide proof, and any attempt to
reconnect to the Mill requires additional external proofs of memory (such as historical narratives, and photography) to make a connection more impressionable.

The built evidence provides proof of something previous to an individual's current reality, a physical memory that an individual can absorb as a collection of referential mental images for their imagination to reconstruct. An individual can recreate and engage, through additional or contrived narratives, in the city's past through a mental reconstruction of imagined narratives of the surroundings of the Cardboard Mill. What can make this mentally reconstructed connection to the Cardboard Mill possible is through an additional narrative context, one that is articulated, architecturally, in the reorganization of existing conditions that reflect a thorough connection to the history of the site by reflecting its natural, social, and architectural phases.

A Memory in Lancy

Marot examines a project by Georges Descombes, in Lancy, Switzerland whose works often deal with the issue of memory through rehabilitation, and re-appropriation. Descombes' pedestrian underpass deepens the mnemonic connection to its site through the manipulation of the 'pathway' that reveals the past and present interpretations of the riverside and bridge conditions; developing the surrounding sites "...upstream and downstream through a few discrete interventions that are conceived as so many insights into the disrupted topography and memory of this suburb."
The park/footbridge project was a proposal raised from concern that, with the widening of the road-bridge, a disconnect would be further propagated through the obscuring of the existing natural composition of the site; "...it is a 'tunnel-bridge', perpendicular to the roadbed and clearly distinct from the channel of the Voiret, which runs two metres below it..."44

In the middle of the foot-bridge is a light well that opens up onto the median of the road above, marking the point where the foot-bridge, road-bridge and the river intersect in plan. The placement of the footbridge underneath the road bridge provides a topographical relation between the three elements of the site: the road, the tunnel-bridge, and the river.

"The first advantage of this device is that it addresses the stream as much as (or more than) the, road, restoring some balance to a relation that had been increasingly dominated by the latter."45 This in-between relation also "makes evident what otherwise would have remained imperceptible: the fact that one is crossing both the roadbed and the stream at the same
time, "through the highlight of a light well that projects, from the tunnel-bridge, above to the road and below to the river.

...there is nothing over elaborate about it: its elements, clearly distinct and precisely adjusted, all simply state what they are and what they do...embracing all the territorial features the address (respectively: road and embankment, stream slope)."47

"In an essay devoted to the 'topographic imagination'...Elissa Rosenberg points out this 'mapping impulse'... 'Descombes reinvents a sense of place be describing what is there and what is no longer there. What has disappeared is, in fact, as important to evoke as what is present..."48 Through the creation of multiple impressions of place, a suggestive, reflective, and critical response can provide for Marot's phenomenal memory to deepen the site's existing, and proposed conditions, with the existed.

Criticality in phenomenal memory

Criticality in phenomenal memory refers to engaging the historical narrative of a site to question and alter what is perceived, currently, as a previous, ecological, mistaken relationship with the site. This resolution of past transgressions creates a stronger connection with the material evidence of memory on the site, and creates a sense of relevancy for the current need of a Museum on Chaudiere Island.

Furthermore, creating Marot's phenomenal memory through a deepening of a site's mnemonic architectural evidence, requires the inclusion of a critical examination of a sites historical ecological misconduct that will extend the chronology of site in order to instill Marot's
intention of "...creating more complex and deeper territorial matrices [that are] able to articulate and superimpose more planes in the stratified memory."\(^{49}\)

Through an examination of adaptive reuse case studies that respond to a post-industrial sites’ memory, a search for Marot’s *phenomenal memory* will reveal the possibilities of creating a deeper connection to place and site by including, not only the historical remains of the sites in its reorganization through new programs, but also addressing the previous site’s programs, and their relation to site.
The Distillery District; Toronto; at the intersection of Cherry & Mill St. [Cityscape Holdings
Inc., Dundee Realty Corporation, and the City of Toronto]

The Post-Industrial Site of the Distillery District located in Toronto’s south central industrial neighborhood has been remodeled into a mixed cultural residential district in an attempt to preserve a part of the industrial archaeology of the city. By introducing legislation prohibiting the demolition of the Distillery District, identifying it as a historic landmark, in 1976 the city of Toronto encouraged potential owners (the facilities were purchased by Cityscape Holdings Inc. in 2001) into preserving the aged facilities within their future proposals. This attempt to conserve, and reengage, the Post-Industrial site, by way of government influence, and to revitalize the area commercially, through the needs of the Developers, created a viable and relevant alternative to the potentially demolished or strictly preserved Distillery District, for the neighboring city centre and surrounding communities. By converting the site into a mixed commercial and residential neighborhood, essentially a “pedestrian...village”, the historic preservation position the project might have taken by way of a one-dimensional museum type program was eliminated in favor of a more fiscally and socially relevant multi-use programmatic alternative, that adds the present needs of the
developers to the historical mnemonic remains of the Distillery District's past. Through the choice of active social programming specifically dedicated to arts, culture and entertainment, and through construction efforts aimed at restoring existing built conditions and minimizing physical architectural alterations, the Distillery District project deals with the historical relevancy of post industrial sites by engaging heritage preservation in a multi-use, and socio-economically relevant fashion that encourages safeguarding, but also the active re-use of industrial abandoned sites. In effect this project moves at a slower pace than the following case studies which critically engage the history of their sites through interpretive referential design, and historical remediation interventions, but it does provides the city with an architectural connection to an extended collection of historical evidence that expands the chronology of the city of Toronto through its new interpretation.

The history of the Distillery District is marked with large financial and operational fluctuations; from its early beginnings as a small Grist Mill operation; to becoming one of the largest producers of spirits in the country; and currently as a major cultural attraction for the city of Toronto, the Distillery District marks the development and transitional periods of early North American Industry, culminating in its current state, and relevancy, as a
commercially appropriated post-industrial site.\textsuperscript{34} What remains are buildings of the Victorian Industrial Style belonging to the once highly productive and industrious Gooderham & Worts Distillery. The Buildings on the Distillery District site emerged through successive intervals as investing funds permitted Gooderham and Worts to expand. By the early 1830's the first Grist Wind Mill emerged on the site; by decade's end operations shifted to include a Distillery and small storehouses; at the start of 1860 the spirits market enabled Gooderham & Worts to construct their signature five-storey limestone Distillery (Stone Mill) building; during the 1870's the Copperage and Pure Spirits buildings were erected; subsequent construction efforts included storehouses flanking the existing infrastructure as major construction efforts ceased at the turn of the 20\textsuperscript{th} Century; until recent redevelopment of the current Distillery District by Cityscape Holdings Inc.\textsuperscript{55}

The Developers of the Distillery District and its Management team of Cityscape Holdings Inc., with additional partners Dundee Realty Corporation, implemented a plan for the site that consisted of creating a pedestrian village devoted exclusively to arts, culture, and the entertainment sectors.\textsuperscript{36} Through the choice of programming which incorporated the theme of cultural village, the development group divided the site into residential, commercial/retail, gallery/studio, restaurant/eateries, performance/theatre, and offices/service spaces. The additional programs in the development project required administrative services to manage the area's operations.
The development project of the Distillery District consists of construction additions built within, and surrounding, existing conditions that are minor in scope—restorations, refurbishments, and constructions that reflect the Victorian Industrial Architectural style of the buildings' period. These construction approaches reflect a restoration process that involves refurbishing deteriorating existing built structures and conditions on site; cleaning interior and exterior facades through sandblasting; and additional construction incorporates minor architectural additions that reflect the architectural style of the surroundings buildings in a Neo-Victorian Modern vernacular. A possible outcome of this type of commercial retrofitting approach to developing post-industrial buildings, as seen through the work of Cityscape Holdings Inc. in the Distillery District, will be that these new stylized archaic settings, although refurbished and repaired, will not critically engage the historical context that the Distillery District site participated within its historical surroundings. This Post-Industrial site in Toronto has participated considerably in the environmental degradation of
the adjacent Don River Tributary, and because of its previous political and commercial influence encouraged the construction of two major components in the instability of the Don River; the current Rail Line running up through the Don Valley, and the canalizing of the lower Don River. Unfortunately, the Distillery District Project has done little to address the adverse environmental impacts the Distillery District had on the adjacent Don River tributary through its principally commercial restoration efforts. Fortunately, the redevelopment does make an effort, regarding the reuse of post-industrial sites that forwards the safe keeping and active engagement of historical landmarks and creates a sense of architectural heritage for the City of Toronto. With respect to the Chaudiere, and the Cardboard Mill, this reengagement of a post-industrial site produces a sense of historical contextual culture; through multi-functional programs that make use of preceding architecture the Distillery District illustrates that through a commercial venture dedicated to arts, culture and entertainment a viable and relevant alternative to demolition or strict preservation can be achieved through the redevelopment of post-industrial sites.
Case Study No.2

The High Line Project; New York City [Field Operations; Diller, Scofidio+Renfro; Olafur Eliasson; Piet Oudolf; and Halie Light & L'Observatoire International]

During the mid 19th century, the City of New York approved the development and construction of street level railroad tracks in lower Manhattan to meet the emergent needs of large commercial freight movement. This new rail route was treacherous and often deadly as essential early industry rail traffic rove along the South-West side of Manhattan's Industrial and Residential boroughs. In 1929, after years of public debate regarding the treacherous road level conditions of the rail line, levels of municipal and state government from New York decided to implement a program entitled *The West Side Improvement Project*. This program would include an elevated high traffic rail line, the High Line, placed above street level but incorporated within building infrastructure, running through the centre of city blocks, to avoid the negative street level conditions of a lack of natural light at street level.
During the 1950s a decline in rail service on the High Line, due to improvements in hauling transportation, led to its eventual ineffectiveness as a commercial rail line; during the 1960s portions at the ends of the line were eliminated; and in 1980 rail service stopped entirely. Public and Private funding allowed the Friends of the High Line (FHL – an advocacy group) to maintain influence against political pressure from prominent city councilors that were in favor of its removal.

The unusual views atop the Rail line, witnessed during the abandoned state of the High Line, were the inspiration for its redevelopment as a park promenade. In addition, further enthusiasm for the redevelopment of the High Line came from precedents of converted post-industrial inactive elevated rail lines. Currently, the Urban Post-Industrial site of the High Line is being converted from its deteriorated and vacant state, as an archaeological relic, into an urban recreational corridor intended to create, among other things, additional
green space for the surrounding neighborhoods, but more importantly continuing the mnemonic evidence of the history of New York City.

Through the winning proposal for the High Line Project (by Field Operations; Diller, Scofidio+ Renfro; Olafur Eliasson; Piet Oudolf; and Halie Light & L’Observatoire International) that accepted the natural overgrown existing conditions of the elevated Rail Line as the unkempt natural component of its history; the Post-Industrial Site of the High Line will be transformed into a freely accessible park avenue, followed by commercial and residential occupancy; by means of inhabiting portions above and below the Rail Line; creating a relevant alternative to its demolition, and providing an opportunity to deepen a sense of connection to the historical mnemonic significance of its post-industrial past. Through limited architectural interventions that respond to accessibility in detailing ramps and exploring lift conditions, and designing an integrated path assembly that incorporates a park lined with indigenous plant arrangements, the project will invoke the mnemonic remains of an overgrown train track to include the present need of public leisure space, with the historical moments of the High Line’s participatory evolution.
The infrastructure of the rail line has weathered well, and is in good condition with a structural capacity that exceeds the proposed development. Restoration and inspection is required to remove harmful surface elements, and to verify structural integrity of the steel bulwark.63

The project team's intentions focused on the site's originality, partial seclusion, and wild natural over-growth in their approach to design; creating consistency through a singular design to express its originality; providing a sense of autonomy to create an independent character of the High Line, and through an agricultural architecture consisting of planting & pathways, an integrated system rather than a segregated collection, forms a single ongoing experience. The new plantings will contain a varied mixture of native & non-native species that support regional invertebrate and avian habitats; while removing 'invasive' species. Incorporated in the design of the rail line are arrangements of plants producing woody thickets, flowering meadows, wetland features, and skeletal forms through seasonal changes.64
The High Line serves a collection of interwoven matrices of mnemonic artifacts replaced on an interpreted recollection of the train track. Although placing historic artifacts along the interpreted train/pedestrian path might seem arbitrary, they function as reference points: their literal connections to the past, in fact act as means to connect with the historic memory of the newly interpreted articulation.

The commercial portion of the project will be limited predominantly to the underside of the line, while the elevated surface will be removed from evasive commercial activity. Although the High Line expresses a linear circulation, the project will contain points of interest & rest to generate a sense of gathering along the path in order to connect interstitially with surrounding communities.

The proposed path, in plan, resembles horizontally re-oriented railroad ties with differing masses of foliage that evoke the previous overgrown condition of the abandoned elevated rail line. This mnemonic method of evoking the past train tracks and its natural overgrown foliage, within the new design of the promenade, produces a phenomenal memory device.
that vibrates the many chronological states of the High Line – the past overgrown derelict elevated track, with the new pedestrian path – in one moment.

In addition to the redesign of the path, historical rail line articles will be incorporated back into the path, so that the experience of walking along the newly articulated park/path holds the three moments, or impressions, of the High Line’s existence at once. The reminiscent freight articles that will be replaced throughout the new path expand the immediate walking experience beyond the abandoned rail state, and into the time when freights rolled across the tracks, so as to include the original, the abandoned, and the interpreted track/park/path impressions all at once. Creating within this singular experience, multiple mnemonic moments that stimulates an individual’s perception of their present space of different times.
An adaptive reuse interpretation of the Cardboard Mill, will consider the incoming residential sectors, within the Lebreton Flats, in the design to incorporate the surrounding institutional and recreational communities. By providing unrestrained public access to the Chaudiere site within the Museum of Science & Technology venue, incorporation might better suture itself into the surrounding area. In addition, the mnemonically architectural design approach of invoking the previous condition of the overgrown rail line into the design of the High Line creating multiple mnemonic impressions – creating a phenomenal memory of place – will serve as a strategy for the redesign of the Cardboard Mill.
In Duisburg, Germany the Architects of Latz+Partners have recently completed a ten year project which redeveloped one of the City’s post industrial sites, belonging to Thyssen’s Steel Production Facilities, into a multi-programmatic park facility. The history of the Landscape Park bears witness to the social and economic origin that produced the Steel Industry for the City and the Emscher-Ruhr region, and has been allowed to continue a relationship with the land and its people through the reuse of its abandoned mnemonic artifacts. Through the interpretation of the remaining built remnants of the Thyssen Steel Production industry, in Duisburg, Latz+Partners have made that history relevant again, and extended the chronology of the site, through the progressive ecological and programmatic remediation of its site.

The original proprietors of the Steel Industry in Duisburg were Thyssen and Krupp, beginning the steel industrial revolution during the early 1900’s. This Steel Production industry unified the local population, and created a fundamental reliance on the Steel
Economy. Coal, required for the production of Steel, forged a pivotal relationship with Steel, and this was the economic driving force in the industrial development of the city, and the region. After the collapse of the steel industry in the early 1980’s, steel production at the plants seized, leaving a large anthology of industrial architecture on the polluted and impoverished landscape of Duisburg and the Emscher-Rhur region. The 5 acres of industrial wasteland that remained necessitated a participation in the social infrastructure of the remaining inhabitants of the city.

The proposal from Peter Latz (Lead Architect) called for preserving the industrial relics on site, and encouraged an interpretation of the existing built conditions to allow for new programmatic uses – recreation, commercial, and interpretive facilities. Within the competition that the City of Duisburg held for the redevelopment of the site, Latz’s proposal differed pragmatically from the others because of the intention to keep the existing infrastructures relatively intact, whereas other proposals, including the reservations from the City, were inclined to remove the remaining ruins to make way for new development. The reservations towards keeping the existing infrastructure were based on concerns of the site’s uselessness and toxicity; having to reengage the architectural ruins of the historic source of sustenance which disappeared, leaving the city abandoned. Reusing the abandoned post-industrial site challenged perceptions of progress and change, history and memory, things that the City could do with. Peter Latz’s proposal, through the rigorous exploration of the site’s remaining artifacts and its ecological damage sustained throughout the production of steel, handled the incorporation of a mutli-programmatic park facility with sensitivity for the immediate environmental area, and a social responsibility for the affected population.
The site was at one time the major economy for the City, and during the complete decline of the steel industry left the residents that depended on that Industry with nothing but the architectural remains. In 1989, the State Government initiated the International Building Exhibition (IBA) to prepare a strategy for the socio-economic and environmental redevelopment of the Emscher region through the Emscher Landscape Park.

The objectives of the current Emscher Landscape Park design are to preserve the remaining landscape, link up isolated existing post-industrial and environmental infrastructures of the region through re-zoning, and create administrative oversight in order to create a permanent regional park association. The approaches to reengage the site visually led, the Architects to employ lighting techniques that would re-interpret the archeological ruins. In addition, historic images of the site during the height of its industrial power were placed as billboards up along the sides of prominent buildings.
The phenomenal mnemonic experience of the Landscape Park, when it is encountered against the multiple visual impressions of the nightly lighting conditions and its industrial archaeology, surprise the viewer to drastically alter their previous mnemonic impressions of the site as a waste land of economic depression, and instead aim to re-imagine it as something else, critically engaging the unpleasant visual memory. On the other hand, the use of the historical image as billboard is simply used as a device to recall the past, but does not produce the critical reengagement with its history that, at any rate, the lighting conditions do. Even the pragmatic challenge, and freedom, of determining suitable programs for the many specific spaces within the existing infrastructure allowed for the critical adaptive reuse of interpreted existing infrastructure to remain relevant for the city, creating seasonal ampitheatres, convention centres, and a business park within the existing buildings. In addition, the existing Gasometer infrastructures had been converted into scuba diving pools, creating unique and specific training facilities. Another critical redesign in the park has been the transformation, through bio remediation and water treatment methods, of the Emscher River which runs through the park. Previously, the river had served as an open sewer.
channel receiving high levels of toxic manufacturing by-products. The new design culverts and diverts wastewater, while converting the Emscher into a collector for pretreated runoff and rainwater.68

Creative techniques were employed to treat runoff waters on site, instilling a formal aesthetic connection to the ecological process, in addition to preserving the overall function of water treatment.69 In contrast to the surrounding design interventions, other areas of the Park were treated in ways intended to minimize maintenance costs and reduce energy inputs, while recalling the previous abandoned natural history of the site.

In certain areas disturbed soils had high levels of concentrated slag, cinder, and remains of coal, among other toxic pollutants.70 These areas were treated through bioremediation, and in effect were being critical of the past and altering it, changing the past by undoing what previous ills were committed on the site.71 In addition over the years seeds from around the world were introduced along with industrial shipments, generating a substantial variety of
mix native and exotic species—these neophytes range up to 450 varieties. The current state of the park reflects well with the surrounding social city infrastructure and has created new mnemonic relevancy for the many generations of Duisburg.

With respect to the Cardboard Mill, the assistance of a critical position regarding the alteration of the public’s impression (or image) of the site, and the manner in which the site dealt with its ecological surroundings, in the past and in the proposed future will attempt to produce criticality in a phenomenal memory of the site.
Proposal

Museum of Science & Technology; Chaudiere Island, Ottawa

The Chaudiere consists of a chain of islands and water channels in the Ottawa River that have participated dramatically in the historical development of the Capital Region. The post-industrial site on the Chaudiere Island consists of numerous buildings with varying historical functions. A building that participated heavily in the formation of the area is the Cardboard Mill, located on the easterly portion of the Island.

Before the 1800’s the Ottawa River was an essential method of transportation for early explorers, and as travelers encountered the daunting Chaudiere falls portage landings were necessary for traversing the turbulent geography. These landings formed on both sides above, and below the river, and served as the foundation for small settlements in the area. Through the deforestation of the Ottawa region by local wood/pulp industries beginning in the 1800’s the recent abandonment and deterioration of the Cardboard Mill, on Chaudiere Island exhibits the resting point of an industry that at one time sustained the city through a Lumber, and Pulp & Paper Industry.
During the first half of the 19th Century, the Chaudiere Falls' energy potential attracted economic interest from industry looking for mechanical power. The use of the Chaudiere for energy established a grist and small-scale lumber mills. In addition to the energy capacity of the falls, the surrounding area provided an immense yield of timber and when combined, the Chaudiere and the timber lands produced an industrial boom for the area. By the mid 1800's, the Chaudiere was a major sawmilling powerhouse in North America. This industrial boom was led by J.R. Booth, an American entrepreneur who heavily exploited the region's natural resources and in turn contributed to the economic security of Ottawa.
In addition the economic importance of the Chaudiere, the Islands provided a crucial method for land transportation. In 1828 the Union Bridge, a wooden-arch structure, built by Colonel John By, spanned the narrow stretch over the falls, connecting both sides of early Canada.\textsuperscript{74} By the 1850's the wooden structures were replaced with one the earliest suspension bridges in North America.\textsuperscript{75}
During the second half the 19th Century, development on the Chaudiere included an expansion of transportation infrastructure that attracted various industries to the Islands. In addition to sawmills, the Chaudiere supported manufacturing plants, warehouses, furniture mills, breweries, a rail depot and several pioneer hydro-electric plants. But for the most part the Eastern portion of Chaudiere Island was used in the manufacturing of the wood, and wood products; the east end of the island was used for the drying of lumber.
During the beginning of the 20th Century the Chaudiere increased its industrial importance due to the area's potential for hydro energy, and witnessed an intense industrial development on the island, that reflected in the construction of large industrial structures on Chaudiere Island. The site was still predominantly used for the production of wood products - pulp & paper. By the mid-1900s industry on the Chaudiere had been reduced drastically by other industrial sites across North America.⁷⁷
During an NCC report conducted in 1984, on the existing conditions of the Cardboard Mill, it was determined that the remaining existing conditions could support an adaptive reuse project that addressed the non-reinforced concrete construction, timber posts supporting concrete flooring, and the structural instability on several roof conditions. Currently the Cardboard Mill, on Chaudiere Island, is in a state of disrepair, and abandonment. The company (Domtar) that currently owns the infrastructure has determined it to be condemned and unsafe for entry on the account of the failing roof members, throughout the structure. Assuming that the remaining roof structures fail, the remaining skeletal infrastructure will consist of external and internal wall conditions, and concrete flooring on concrete posts.
Cardboard Mill, present state; Basement Floor, Sub-Basement Floor  Images: Author 2007©
Cardboard Mill, present state; Second Floor, Machine Floor  Images: Author 2007©
Proposal

The need to unfreeze the Cardboard Mill from a literal memory, that keeps its history intact and obstructs its evolution, is crucial if we are to extend our participation with it simply beyond the confines of a monument to the past. Our connection to the area's collective historical significance, to the site's chronological programs, needs to impress the arrangements of many times and spaces in one. In order to deepen our sense of time, to deepen the sense of belonging more to a greater spatial whole, then to the ephemeral now, it is principal to instill a mnemonic presence that holds with it the many tactile proofs of the many pasts.

Ottawa offers limited opportunities in which we can participate with, and bring in to our present needs, its history through architecture, and create a deepened historically extended sense of place. Aside from preserved important institutions, literal memory collections, such as the many peace monuments, and other strictly distant reservoirs and shrines of the past, the city's places in which we can widen our combined engagement with the city's history into the present, are few and those seem delegated to continue this trend of historical preservation. Although these places might offer Halbwachs' proof of external memory, these monuments of the past only allow us to view them with detachment.

The problem with the need for cultural preservation of the instances of the past, for a conservation of the Cardboard Mill that preserves its architectural history intact (if it can preserve its past at all; if the buildings and the surrounding area can survive the abandonment of disrepair and disuse), is that these measures will only remove the Cardboard Mill from having any engaged participation in the present that celebrates, and criticizes, it's
past. Although that direction of literal memory might seem likely, the problem is that they may be interested in solely preserving the infrastructure, perhaps even recreating existing built conditions now removed, where these measures will only freeze it in the past, through a literal transparent picture, into what it was, and never into what we can.

The difficulty with the strict conservation of the Cardboard Mill is that from a fixed and frozen past, a literal memory of the historical mnemonic evidence of the industrial boom of Ottawa, the admittance of any type of evolution, or opportunity to bring it into the present through an incorporation of new programmatic requirements, such as a proposed Museum, will be limited through a mannered concern with its unmoving nature, a conservation distant and highly manicured. This approach for the Cardboard Mill would remove any opportunity to criticize its ecologically questionable past, and even partially acknowledge what came before the mill. An approach of literal preservation that keeps an architectural history intact denies its past, and removes the opportunity to redefine our intellectual positions and continue our presence.

The need to preserve our historic architectural remnants of the past so that perception of reality extends to include these mnemonic proofs of history is important for the extension of our current relation to Freud's reality that defines our ego, but paramount is the need to not make these preservations literal, and removed from the criticism from which we can engage in active discussion with these past intellectual positions of reality. We need not be restrained by fences of strict conservation that limit our contribution and involvement with the triumphs and errs of our cultural past; keep these objects of the past dusted and free
from contamination. Our need is to criticize and change past faults, and celebrate the complete evolving existence of a site’s participation in our future.

Through literal preservation of the Cardboard Mill we deny the opportunity to criticize what went wrong on the site; that it was responsible for the partial deforestation of the Outaouais region; that the dramatic industrial evolution of the building complex eventually cut off any physical relationship with the shoreline of the Chaudiere Island; and although substantial in the use of non reinforced concrete, the structure of the Mill requires reinforcement in order to continue its mnemonic dialogue with the present.
Design

*Museum of Science & Technology*

In creating an evolving critical *phenomenal memory* for the site of the Cardboard Mill, that incorporates a new Museum of Science and Technology, the following will address the articulation of the additional programmatic inclusion and its architectural necessities for a temporally expansive mnemonic collection of historical moments:

The design strategy addresses the existing conditions; the dilapidating and deteriorating non-reinforced concrete roof structure; and the dislocation from the waterside that the building enforces. The need for delicate lighting conditions for a museum requires an articulated roof system that provides appropriate shelter from overexposure. This roof system is explored mnemonically through the tactile suggestions of the historical phase of the Chaudiere when the site was a lumber drying field (plate I). The heights of the clerestories are determined through the programmatic needs of the spaces below.

To provide programmatic separation, a sense of division is articulated by dividing the existing building into islands that satisfy the programmatic needs of the museum; navigating these islands through bridges help evoke the historical and natural separations that previously composed the Chaudiere. These separations are made through incisions, articulated through corridors, that allow for physical access to the riverside (plate III, X), and orient the site with the Parliamentary Buildings and the Chaudiere Falls (plate XI).

The importance of image in memory is investigated through the use of reflective glazing and etched imagery (plate VII, VIII). By exploring different daily lighting conditions these
assembles provide multiple ambivalent impressions of place, evoking a deeper sense of place. In addition these areas of enclosure are points of vertical circulation (plate X), reinforcing the many mnemonic moments of place as vertical movement dictates change.

These points of glazing enclosed, existing non-reinforced, concrete conditions are considered in the natural evolution of the building. By allowing portions of the non-reinforced concrete building to deteriorate naturally (plate IX) in front of a properly enclosed inner shell, provides adequate curatorial measures for the museum, while the enclosed portions of the existing concrete remain acclimatized to the interior environment requirements of the museum. This continues the multiple ambivalent conditions of place, deepening the continually evolving present with remaining moments of the past, for the future of the museum and the building.
Plates

I - the drying stacks of lumber act as mnemonic reference points of departure for the design of the clerestory conditions

II - clerestory archetype, the height of the roof condition is adjusted to address spaces beneath

III - bridge design that provides differing amounts of transparency, views from east bridge connection & south corridor entrance

IV - reinforcing strategy for non-reinforced concrete conditions of the Mill; reinforcing window conditions allows for emphasis in detailing

V - roof and 2nd Floor axonometric views; differing roof, and reflective glazing conditions

VI - view from entrance and corridor intersection, towards parliamentary bridge buildings

VII - view from south; day - reflective image over protected portions of existing conditions, night - lighting measures expose existing conditions

VIII - view from north west

IX - erosion allowance: interior condition protects existing non-reinforced concrete through glazing barrier; exterior condition allows concrete to erode naturally while providing interior protection

X - plan of programmatic separation

XI - interior views from gallery balcony, and from vertical circulation access
Conclusion

Providing a process, and opportunity, for connection – especially in the membership of a growing collective memory for such a young nation – evolving and deepening one of the few potent remnants of architectural history that participated dramatically in the inception of Ottawa, the capital, and the citizens of this country is indeed “...a matter of urgency,”79 for now is “…the time of deepening territories.”
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