

Stones of Teeth: The Thoughtful Object and the Fictive Dimension

“As the icy rime dripped, the [primeval] cow called Audhumla was formed. [...] rivers of milk ran from her udders, and she nourished Ymir [...] She licked the blocks of ice, which were salty. As she licked these stones of icy rime the first day, the hair of a man appeared”¹

“From [Ymir’s] blood they made the sea and the lakes. The earth was fashioned from the flesh, and mountain cliffs from the bones. They made stones and gravel from the teeth, the molars and those bones that were broken.”²

CHAD CONNERY
McGill University

ANCA MATYIKU
McGill University

They are hung from the mouth. Heavy like fish, sweat rolls from bottoms hanging in the dark. In a void of drips and echoes swollen shadows slung low; wet mothers for coppery mouths below. Two days on and crusts begin to form. Calcified and crumbling, they betray their innards as something of the salten ground.

On the six by six, thirty-six polyps reach up to the dark; stark white tubular protuberances gazing with coppery eyes at their paired shadow above. A litter of thirty-six by computer numeric control, but with the rigid dignity of columns gifted from the parental mould.

Drunk with acrid dampness they forsake their uniformity. They twist and bow, taken with dancing on the spot for days and days. Not betraying their dream-sleep-dance, they crown around the mouth, flowering turquoise, reaching out. Moving through time and space without us, they show us only moments.

Freeze brittle aquamarine and shattered rotten teeth.

Opalescent stillness broken by the clumsy thump of a fallen trunk.

Flirtations between gravity, hydrology and a private choreography leave a ruin of furry musculature laid out like a fallen city. An impostor marble of wet white mud whose milk constitution has given in.

What follows is a reflection on how fiction and the fictive might inform, contaminate, or precipitate architectural research. The discussion will unfold through the authors’ recently completed research-creation project, an architectural installation entitled *Stones of Teeth*. The built work came about through a combination of repetitive manufacturing, empirical chemistry, and material explorations - all taking shape through the lens of Nordic mythology, and specifically the creation



1

story described by Snorri Sturluson in “The Prose Edda”. The resulting installation, as well as the process of constructing it, propounded a particular dialectical process between the human act of making and that of the-thing-making-and-unmaking-itself. The opening text was offered as an experiential description of how the space might have engaged the visitor’s imagination and it also included two short extracts from the Edda.

By reflecting on *Stones of Teeth*, this paper ultimately speculates on the capacity of fictive entities to contribute to discovery in architecture. It probes the question: How do architects navigate between the reality of substances and the infinite imaginary in order to learn about architecture? How do physical and fictive objects participate in the making of such knowledge? We maintain that at stake is the *learning about*; the architectural act rather than the architectural product. As such this paper will focus on the process of learning and discovery that emerged through the work. At play is a flirting with real materials to corroborate our suspicions that they might be smuggling in fabulations of their own. Through this paper, we suggest parallels between the tactile incarnation of fictive elements in *Stones of Teeth*, and pertinent theoretical works - in particular those of Paul Ricoeur, Martin Heidegger, and Graham Harman - in order to confront reality and fiction with learning and the making of knowledge. We keep in mind that from philosophy to architecture the correspondences are often oblique and require a certain amount of interpretation.

Throughout this paper, the word ‘fiction’ describes more than the specific literary genre. It is synonymously referred to as a ‘fictive entity’ and it encompasses several modes of engaging ‘unreal’ or imaginative dimensions. These will include stories, myths, fables, fabulations, and the term will stretch to include the ‘image’ one conjures in one’s imagination. Through Ricoeur’s speculations, it is further suggested that physical objects can also sustain fictive aspects.

Figure 1: *Stones of Teeth*

In a dimly lit space with walls painted black, thirty-six white waist-high, narrow tapered pillars stand in a six by six grid on an even bed of coarse salt. Each pillar is cast from a mixture of salt and statuary plaster. Nestled in a depression at the top of each pillar lies a copper cup that collects dripping fluids from above. Thirty-six corresponding black fabric bags hang from the ceiling, each steadily dripping through its membrane mild acid saturated with dissolved salt. Nine focused lights gently illuminate the field of salt pillars, which transform slowly in the course of one month.

Assaulted by diluted acids, the salt “ecosystem” is subjected to periods of saturation and evaporation resulting in erosions, depositions, growths, and warping. Salt and copper II sulphate crystals grow from the pillars, giving each a fuzzy turquoise-tipped exterior. Their chemical composition causes them to twist and bow in a time span ranging from hours to days, suggesting an internal entropy. Eventually, chemical stresses and excessive bending cause the pillars to collapse. They lie where they fall across the field of salt.

Photo by Jacqueline Young

ARCHITECTURAL FORMS AND FABULATIONS NURSED BY PRIMEVAL UDDERS

“By calling [fictive entities] ‘unreal’, we merely characterize [them] in negative terms. But fictions also have effects that express their positive function of revelation and transformation of life and customs.” – Paul Ricoeur³

From the very beginning of its conception as a research-creation project, *Stones of Teeth* fostered a connection to the Norse myths of the Edda. Although initially chosen because it resonated with our sensibilities about making architecture, the fictive depictions within the fables also came to contaminate the built forms and the spatial arrangement of the installation. Rather than attempting a literal transposition of the myth, the work was rendered as an intuitive interpretation of its imagery: Those familiar with the Edda⁴ might recognize the resulting products as ambiguously representative. Perhaps one might say that the objects fulfilled multiple characters or aspects of the narrative. For example, the black hanging appendages that dispensed and regulated the flow of fluids could be simultaneously interpreted as semi-deliberate manifestations of the cow Adhumla’s udders, the sweat glands of the first frost giant Ymir, or the poisonous rivers that precipitated solids in the frozen void Ginnungagap. Similarly, the field of columns-turned-polyps might concurrently allude to the rime-laden landscape that nourished the primeval cow or to the stones made of Ymir’s crumbled teeth and bones. Taken as a whole, the space could also be read as an enactment of Ymir’s mouth feeding on Adhumla’s udders.

While the formal expression of the project was inspired by the Edda stories, for us this was a tool for playful speculation rather than an attempt to derive the work in a causal and methodical manner. In reflecting on *Stones of Teeth* for the purposes of this discussion, we suggest a philosophical resonance to Paul Ricoeur’s work on how fiction enables learning and the making of knowledge. In the essay “The Function of Fiction in Shaping Reality”⁵ Ricoeur argues that



2

Figure 2: *Stones of Teeth*, Photo by Jacqueline Young

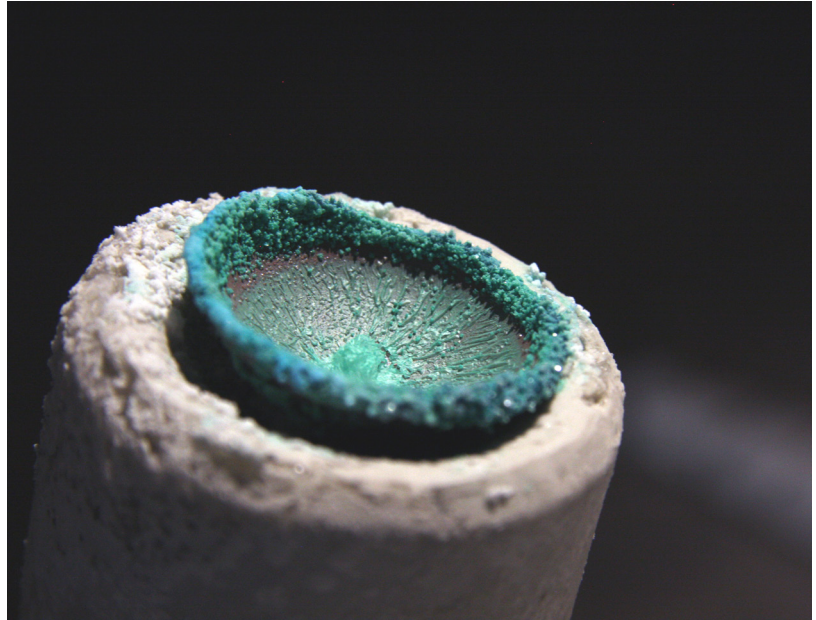
fictive entities such as poetry and painting are not merely 'reproductive'⁶ of reality but they are in fact 'productive' because they *invent* and *discover* reality. Ricoeur maintains that by positing 'unreal objects', fictive entities contribute to expanded visions of reality. He explains that this is achieved pre-reflectively in the mind through an interplay between 'image' and 'metaphor'. 'Image' refers to the picture that is intuitively conjured in the mind's eye, also referred to as the 'poetic image'. 'Metaphor' - for Ricoeur as well as several others⁷ - is not simply understood as a decorative linguistic device but it is an operative process through which knowledge and meaning are constructed. For example, the Edda describes that "*the earth was fashioned from the flesh [of Ymir's body].*"⁸ The metaphor "earth is of flesh" permits the imagination to *see* the earth as flesh while being fully cognizant that its author does not claim such literal correspondence in reality. Ricoeur would explain that the metaphorical statement "earth is like flesh" brings closer previously distant semantic fields - 'earth' and 'flesh' - but in doing so, it also de-familiarizes both. This disturbance prompts the imagination to "make sense" of it, and thereby sustains the possibility of a previously unthought-of reality.

While in the example above the linguistic work conjures the poetic 'image', it is evident that a 'rendering of reality as otherwise' can be accomplished through a multiplicity of mediums, including for example painting. For this reason, a 'fictive entity' is not so much bound by a specific materiality. It is rather defined by its capacity to create a neutralized state in which the imagination "suspends attention to the real [in order to test out ideas and] new ways of being-in-the-world."⁹ Of essence is that the 'unreality' of fictive works provokes the creative imagination to construct and to discover new realities. In other words, the fictive entity operates as such through an action, which the study of phenomenology qualifies as 'poetic act'.

By reflecting on *Stones of Teeth* we might say that the experience it offered engaged the imagination in a way that resonates with Ricoeur's understanding of metaphor; that it rendered the familiar strange by revealing elemental substances such as salt, plaster, or copper in a new light. Encounters with the space might have prompted recollections that coalesced underwater images of sea creatures, a strange garden or cavern, or the ruins of an ancient city. This demonstrates that although familiarity with the Edda provides additional layers of understanding the work, we can confidently assert that the visitors' engagement with *Stones of Teeth* did not rely on their prior knowledge of the myth that inspired it. In other words, the fictive element that contributed to the making of the work was translated into a physical experience that was not bound by the fiction's explicit content. We cannot however deny that *Stones of Teeth* could have been so *without* the fiction that inspired it. We believe that by allowing us to playfully dabble into the 'unreal,' the myth relieved the constraints of the 'real' and it permitted a multiplicity of possibilities to percolate in the imagination. We hesitate however to point to deductive proofs as to how the fiction became form. Between Ricoeur's understanding of the role of fiction and our own experience with engaging the Edda in research-creation, we can draw out a threefold insight: That fictive entities play an essential role in the discovery of new realities; That tangible objects and spaces can qualify as 'fictive entities'; That fictive entities of the strictly linguistic kind (i.e. poetry, fiction, fable, etc.) are capable of enriching the making of such tangible experiences.

CRAFTING THE CREATURE-ARTIFACT

"If in our normal dealings with the world we use things hazily as bland instruments of our will, a thing is marked by sincerity when it seems to exhibit a genuine inner life of its own. Yet in this way a certain gap is still created between the thing and its accessibility..." – Graham Harman¹⁰



3

It has already been mentioned that the Edda myths were primarily chosen because they resonate with our sensibilities about architectural research. At an elemental and philosophical level, the Edda reflects our design approach in that it posits correspondences between seemingly inert matter and biological organisms. Snorri Sturluson explains in the introduction to "The Prose Edda" that the myths were engendered by a sense of awe and wonder at the world's capacity to generate life and reabsorb that which perishes:

"[People wondered] what it could mean that the earth and animals and birds were in some ways similar, even though their natures were not alike. [...] People think of rocks and stones as comparable to the teeth and bones of living creatures. Thus they understand that the earth is alive and has a life of its own. They also know [that] the earth is wondrously old and powerful in its own nature. It gives birth to all living things and claims ownership over all that dies."¹¹

The depictions in the Edda reinforce a sense of correspondence between geological landscapes, biological organisms, and humans: poisonous fluids shape the icy landscape of the primordial void, Ginnungagap; quasi-human creatures emerge from the sweating left armpit of the frost giant Ymir; the day and night are imagined to be horses that chase one another across the sky, leaving their spittle across the land as morning dew. This intermingling of un-glorified substances, playful or absurd characters, and the expulsion or consumption of bodily fluids, inspired the experience sought for *Stones of Teeth* and guided its material palette.

The principal sensibility we distilled from the Edda is a notion that materials and objects harbour a capacity to transform, thereby revealing themselves in

Figure 3: *Stones of Teeth*, Photo by authors

unexpected ways that are beyond the control of their makers. In this sense, they are seen as exhibiting formal and temporal manifestations that are reminiscent to those of living organisms. What is intriguing is not a question of whether matter is “alive” to the extent that it is capable of sentience but rather a sense that whether at geological or microscopic levels, and regardless of human perception, matter is seldom inert. The strategy for the work was to bring processes of change - not unlike those that occur in buildings, cities, and landscapes over much longer stretches of time - within the observable time frame of human perception. Thus conceived, the work emerged as a human-made landscape with creature-inclinations; an orchestration of chemical interchanges between solids, metals, fluids, and precipitates. The specific artifacts of *Stones of Teeth* were constructed with “anticipatory qualities” – meaning that they would continue to form themselves once they left the direct influence of the human hand. Such objects were to dissolve, deposit, sprout, warp, precipitate in unpredictable ways that satisfied the predilections of their material composition. The underlying motive was to probe the made artifacts to contribute their own reality to the work. This resonates with what we understand to be the philosophical tenements of Graham Harman’s speculative realism¹² and Heidegger’s phenomenology¹³: That in conspiring their own sensibilities of formal expression, the objects within the installation affirm a sense of autonomy from their makers.

Heidegger speaks about how things hold an inexhaustible capacity of being which, for the most part, is dismissed by humans in favour of the thing’s utility as a tool. He calls this a “readiness-to-hand”, which predisposes the thing to be regarded in terms of its capacity to serve human ends. It is when the tool breaks that we begin to consider that it might contain possibilities of being that transcend its utility. We notice it as something other, as something more; we see a new version of the thing’s reality; it becomes what Heidegger calls “present-at-hand.” This awareness indicates that the thing-normally-taken-for-granted is not only capable of disclosing new realities of its being, but also that its reality is inexhaustible and never fully knowable. This is how Heidegger sees the thing in a perpetual state of concealment, and is the basis for Graham Harman’s understanding of objects as harbouring an ultimately unknowable reality. Harman and Heidegger speculate that the real is always a mystery, it is never within grasp, and that all we are capable of knowing consists of the sensual emanations of the world. This almost suggests that what we actually know is more closely fictive than it is real. If we consider that the world appears differently to another species, we become aware of the fact that our sensory body merely grazes the endless potential of sensual emanations of objects. Thus, we can momentarily entertain the thought that human reality is in fact a fiction. This far from presents us with an abdication of hope.

In large part, humans need to operate under the assumption that human reality *is* reality. In order to build and nurture human culture, humans have made possible the “readiness-to-hand” of technology. It is then the task of poetic acts - which has been described as the function of fictive entities - to remind us that this reality *is human*, and that the real reality remains a mystery. The aforementioned philosophers suggest that our engagement with “the real” does not consist in our being able to know it, but in our acknowledging its existence, by which we affirm the limits of our ability to know it. The mind desiring to discover strives to reveal that what is taken for granted as being ‘real’ is capable of disclosing infinite other possible realities. The role of the poetic act is not simply to re-assert the fact that



4

the real remains beyond comprehension, but to make the sensation of its overwhelming mystery palpable. It seeks to convey that within the limits of knowledge there is at once a humble helplessness and an infinite possibility for wonder.

Like the poetic act, architectural speculation seeks learning through discovery and we can thus understand it as a complicit practice. In the case of *Stones of Teeth*, we distinguished architectural speculation from the full range of poetic acts by positing a necessity to engage with processes of making and the nature of materials. We sought learning by suspending the certainty of what was going to happen and by probing matter to surprise us.

ON ARTIFACTUAL FICTIONS

“Base matter is external and foreign to ideal human aspirations and refuses to let itself be reduced to the great ontological machines that result from these aspirations.” – Georges Bataille¹⁴

Although *Stones of Teeth* was built using elemental materials and by employing typical crafting techniques such as repetitive casting, pattern-making, and metal-smithing, the process unfolded not unlike the tending of a garden whose blossoms consisted of furry turquoise precipitates. While we anticipated that the salt

Figure 4: *Stones of Teeth*, Photo by Jacqueline Young

pillars would slowly crumble under the dripping fluids, they completely surprised us with their violent twisting bends and untimely collapse. As such, we responded to their ‘performance’ by re-leveling the strata upon which they stood and by reorienting them to ensure that they received acidic drips from above. This intermittent re-adjusting of the building process posits an alternative notion of making that begins to swivel outside the traditional preconceptions of the term: The crafted entity emerges through an entropic set of circumstances, while the actions of the maker remain open to a changing range of qualities. The resulting work becomes less the design of fixed objects, but rather the orchestration of a composite ecology that acts out its particular temperament for a given time.

As it changed, *Stones of Teeth* enacted multiple variations of its existence. Each of these versions of its reality is at once authentic and equivocal: Although each of its fleeting incarnations was *real*, not one of them could be said to verifiably constitute the *reality* of the thing. If the real object and its real qualities exist in a shadowy state of concealment, as Heidegger and Harman suggest, then do these shifting apparitions constitute a potential fictive dimension that point to the thing’s inexhaustible essence? Are ‘real objects’ capable of enacting their own ‘fiction’? Does it make a difference whether it is their fiction or the human’s seeing it as such?

If the question concerns discovery that leads to knowledge, how do we then come to *know* anything about a thing? A parallel circumstance is found in Goethe’s¹⁵ speculation as to how one might construct understanding of living organisms such as plants, which he believed to be inscribed with metaphysical knowledge. What we do know is that while any one of the physical variations of the thing observed does not constitute its reality, it does reveal *aspects* of its reality. These multiple aspects are however never there before us in physical form all at once. In order for us to assemble knowledge of such things with



5 Figure 5: *Stones of Teeth*, Photo by Jacqueline Young

ENDNOTES

1. Sturluson, Snorri. *The Prose Edda*. (London: Penguin Classics, 2005.) p. 15
2. *Ibid.*, p. 16
3. Ricoeur, Paul. *Time and Narrative Vol. 3*. (Chicago: University of Chicago Press, 1984. Print.) p. 101
4. We will later discuss that *Stones of Teeth* does not require the visitor's prior familiarity with the Edda and thus what follows is offered as a teasing rather than an explanation of the content of the myths. For those who are curious, some quotations from "The Prose Edda" have been included in the opening text. (see notes 1 and 2 above)
5. Ricoeur, Paul. "The Function of Fiction in Shaping Reality" in *Man and World*. 12.2 (1979): 123-141.
6. Ricoeur was explicitly referring to a notion inherited from Plato, which is that works of art are mere 'reproductions' of reality. Plato had posited that the physical world is but a shadowy copy of divine ideas, and therefore inescapably inferior. Human artifacts, being a copy of the copy, were by implication considered doubly condemned. This notion has contributed to an inferiority complex that leads artistic works to question or undermine their validity as forms of knowledge.
7. Additional authors that discuss the role of 'metaphor' and have contributed to the thoughts of this paper are Giambattista Vico as well as George Lakoff and Mark Johnson. An eighteenth century philosopher and philologist, Vico is one of the earliest to speculate on the importance of language and the metaphorical constructs to enable a progressive building of knowledge. (Vico, Giambattista, and Thomas G. Bergin. *The New Science of Giambattista Vico*. Ithaca: Cornell Univ. Press, 1948. Print.) In the much more recent past, Lakoff and Johnson suggest that metaphors betray as well as shape the conceptual structure and thought processes according to which we act. They posit that our actions are shaped and sanctioned by metaphorical concepts and that metaphors reveal a mode of framing what is real and significant to a particular culture. (Lakoff, George, and Mark Johnson. *Metaphors We Live by*. Chicago: University of Chicago Press, 1980. Print.)
8. Sturluson, Snorri. *The Prose Edda*. (London: Penguin Classics, 2005.) p. 16
9. Ricoeur, Paul. "The Function of Fiction in Shaping Reality" in *Man and World*. 12.2 (1979): 123-141.
10. Harman, Graham. *Weird Realism: Lovecraft and Philosophy*. (Winchester, UK: Zero Books, 2012.) pp. 55-56
11. Sturluson, Snorri. *The Prose Edda*. (London: Penguin Classics, 2005.) pp. 3-4
12. Harman, Graham. *The Quadruple Object*. Winchester, U.K: Zero Books, 2011. Print.
13. Heidegger, Martin. *Being and Time*. New York: Harper, 1962. Print. Heidegger, Martin. *Poetry, Language, Thought*. New York: Harper & Row, 1971. Print.
14. Bataille, Georges, and Michael Richardson. *Georges Bataille: Essential Writings*. (London: SAGE Publications, 1998.) p. 14
15. Goethe, Johann W, and Gordon L. Miller. *The Metamorphosis of Plants*. (Cambridge, Mass: MIT Press, 2009.) Goethe suggests a twofold way of constructing knowledge with his "genetic method", which combines scientific knowledge with poetic wisdom. While scientific knowledge fixes the object of its inquiry so that it may measure it with accuracy, the "poetic wisdom" is an intuitive perception through which one constructs an understanding of a thing that is 'changing and becoming'.

some complexity, we must appeal to our memory and our power of imagining. Goethe refers to this intuitive leap as the "poetic wisdom" through which we strain our imagination to reconstitute for ourselves an understanding of the thing observed. While it is debatable whether this understanding is fictive or real, it is almost certainly a human one. Between the thing before us, and our way of knowing it, there will always be a gulf of an un-crossable depth. It is precisely the presence of this gap that taunts the imagination with the same desire for discovery that haunts scientists, architects, artists, and poets alike; it propels the mind to posit, to speculate, to forfeit the certainty of that which we already know or take for granted.

We set out to discuss the capacity of fictive entities to contribute to discovery in architecture, a process of learning that navigates between the reality of tangible substances and the infinite potential of the imagination. We noted Ricoeur's position that fictive entities enable discovery by opening a suspended state in which reality can be imagined into and questioned. We have suggested that 'fictive entities' can include physical objects in as far as they perform this 'poetic act' and participate in a re-making of reality. We have posited that architectural speculation partakes in the poetic act, and that we have chosen to approach the making of discoveries about architecture by exploring the materiality of the objects we constructed. We have confessed that literary fiction was a tool for playful positing that led to the physical space of *Stones of Teeth* and that we orchestrated an ecology of transmutations that probed the material constitution of objects to challenge and surprise us. We interpreted this as being their way of emanating aspects of their realities (and of perhaps their fictions) before us, and we wondered about the multitude of other possible aspects of their existence that they withheld from human perception. We have conceded that in order for us to know the complexity of a thing whose physical constitution is not fixed, we must perform imaginary leaps across its temporal unfoldings. However feeble, fictitious, or very human such imaginary conjurings may be, they take us to the precipice of knowing, where the immensity of possible knowledge is palpable but just barely beyond grasp, where discovery reveals mystery and the imagination strives to reach such discovery.

In reflecting on the 'fictive' and the 'real' aspects of a physical space that we constructed, we had hoped to learn something about architectural speculation. We have discovered that reality, in the way in which it is knowable to human experience, is always fleeting and bound by circumstance. We have learned that perhaps the distinctions between fiction and reality are less consequential than the realization that knowledge and discovery are never fixed and in no way complete. We ask ourselves whether the myths and fabulations that occurred between the making of *Stones of Teeth* and the fragile incarnations of the thing making and unmaking itself were any more ephemeral, fictive, or real than our engagement to everyday things.