

Architecture, Fiction, and Thought Experiments

Introduction

The use of fictional narratives as a conduit for experimentation and speculation in architecture has been widely practised by paper architects and students alike, but what are the qualities of fiction that afford it credibility as a tool for such investigations? What is the nature of fiction that can enable an architectural discourse? Is it a form of a thought experiment? Can it be seen as an instrument for experimentation if experiments are undertaken to support, refute, or validate a hypothesis and gain knowledge and new insights.

This essay seeks to answer these questions. It examines the fictional possible world typologies and the modal statements that sometimes accompany them, to see what role they play in the experiments? Modal statements are important as architectural fiction can be used as a source of bibliomanacy, or as a way to investigate political, social, cultural, or environmental tensions through the conduit of architecture.

When considering architectural fiction as a thought experiment, the dichotomy is that fiction is a nonfactual poesis that reveals some truth in the form of knowledge. There has been debate about the epistemic value of thought experiments in fiction (Egan 2016. p.139). They, like real experiments, seek to raise questions and sometimes answer them (Egan 2016, p.140). However, real experiments are performed in the laboratories under controlled conditions and thought experiments, in contrast, are performed in the 'Laboratory of the Mind' (Brown, 2011. p.1)

By analysing theories of fiction, possible worlds, linguistics, epistemology, notions of thought experiments and human imagination, this paper seeks to understand the use of fiction as an experimental instrument and pedagogic strategy that aids architectural speculation.

Architectural Fictions

As a starting point it is worth offering a clear definition of architectural fiction. The word fiction is often used loosely; however, when talking about architectural fiction, this article is specifically referring to narrative-based speculative constructions set in a possible fictional world with architectural implications.

Thought Experiments and Fictions

Because this paper examines the relationship between fictional scenarios and thought experiments, it is also worth defining the term 'thought experiments' as there are multiple examples of this typology. Simply put, thought experiments

include short fictional narratives (Egan 2016, p.140) used to explore a hypothesis about a theory or quandary. Ultimately, thought experiments rely on ‘imagined scenarios to investigate reality’ (Stanford Encyclopedia of Philosophy 2019). They are tools that utilise imagination, cognition, and intuition to acquire knowledge and new insights. The mechanism for triggering these traits is hidden within a particular narrative, and thought experiments are specifically designed in a way that uses narrative to elicit these traits. The question arises: how is knowledge produced through this mechanism? Does it arise through empirical knowledge or knowledge gained through reasoning and one’s imagination (Arcangli 2010, p.572)? Given the fact that a typical experiment is undertaken in a person’s mind, there is an added element of subjectivity to the knowledge gained through thought experiments (Arcangli 2010, p.572).

For fictional scenarios to function as thought experiments, both the fiction and the experiment must have similarities that enable the same epistemological insights. That similarity begins with an understanding of the fact that thought experiments are a calibrated form of allegorical fictional narratives (Egan 2016, p.141). Although thought experiments are fictional scenarios, the reverse is not true; fictions are not always created for the purpose of acting as thought experiments. However, both invite critical engagement. As a starting point, one must analyse fictional scenarios to assess how they are instrumentalised in order to classify them as thought experiments (Egan 2016). For the purpose of this investigation, this paper also investigates the differences and similarities between architectural fiction and literary fiction to understand how they both operate.

There are noticeable differences and similarities between the two. Literary fictional possible worlds ‘are artefacts produced by textual poesis and preserved and circulating in the medium of fictional texts’ (Doležel 1998, p.787). In contrast, architectural fictional worlds produce possible worlds through several different media; they use the textual, visual, and diagrammatic forms and representations. Architectural fictions may not always have a plot or narrative but may nonetheless create fictional situations. Literary fictions are not always established as thought experiments; instead, they often play other roles, not least of which is simply providing pleasure to those who read them. Architectural fictions are generally constructed as speculations on future or hypothetical events. Generally speaking, architecture in literary fiction usually serves as the backdrop that supports the narrative, as the focus is typically on the human protagonists in the story. In architectural fictions, architecture is often on equal or greater footing as the human protagonists.

Architectural fictions are usually arranged as scenarios that incorporate fictional elements into a setting in the real world as we know it, making the whole proposal fictional. The creator decides which proportion of such a world is real and which proportion is fictional. The fallout from the recalibration of a new world to a particular situation enables the author and readers to speculate about unknown and hypothetical situations and territories. Given that this investigation

is searching for the underlying functions that enable fiction to be considered as thought experiments, it is thus searching for cognitive responses to fiction that enable one to gain new knowledge or insights. For this to be verified, ‘fiction must be both a source of knowledge and generate knowledge’ (Egan 2016, p.141).

However, the notion, value, application, and validity of fictional thought experiments have been debated. One might question what epistemic value can be placed on knowledge gained through experiments born out of a nonfactual poiesis, considering that knowledge requires an element of truth (Elgin 2007, p.43). Whether one is concerned with literary fiction or architectural fiction, an element of reflection – which is an epistemological function – is to a certain extent required. The question is, is that enough? Also, can we trust an experiment that is undertaken in the mind’s eye? (Brown 2011 cited in Egan 2016, p.140).

To understand experimentation and speculation, it is worth considering how scientific experiments work, as the perception of scientific experiments is that they apply purely factual information to create knowledge. Elgin (Elgin 2007, p43) did precisely that, finding that as a way to test hypotheses, scientists use artificially constructed experiments set in rigidly controlled environments that rely on pure samples that are not found in nature. It was thought that undertaking an experiment in an unnatural situation would reveal something that would otherwise be hidden in the natural context. This artificial construction seems analogous to the structure of fictional experiments.

However, scientific thought experiments can be relatively regimented and focused because they explicitly depend on ‘established background assumptions’ (Elgin 2007, p43) which have been agreed upon and accepted by the scientific community (Elgin, 2007). Whereas, fictional experiments are more elaborate, and they generally do not depend on strong, shared, and agreed upon background assumptions.

Fiction, Possible Worlds, Knowledge and the Truth

Fiction is a constructed world, a Possible World. ‘They are ensembles of non-actualised possible specifics – be it fictional persons, events or scenarios’. (Doležel, p.789). Fictions may be set up in the past, present, or future. Architectural fiction is usually constructed in the present or the future, even though historical ones are possible.

Fictional possible worlds include modal statements that invite one to imagine a certain stipulated possible world with particular parameters. The modalities that work within a fiction would, by logical deduction, reveal if the world is possible, impossible, contingent on something, or even necessary (Doležel 1998, p.789). However, Doležel suggests that using ‘human constructions, the concept is brought down from the logical pedestal and turned into a tool of empirical theorising’ (Doležel 1998, p.790).

All fictions have creators, and fictions are framed to direct certain narratives or speculations to create a curated possible world that enable reader/viewer to

adopt ‘alien perspectives’ (Elgin 2007, p47), enabling them, to some extent, to see the world as others do. It allows a person to understand beliefs, events, and situations through another person’s eyes, even if those beliefs, events, and situations contrast with one’s own. In architectural fiction, the creators asks the viewer/reader to accept their proposed world and see it as they do. However, creators of possible worlds do not always create these speculative environments for reader or viewer’s alone. Often, possible worlds are created for the creators themselves, who want to conceptualise and advance their experiments. Possible worlds’ modal statements must be developed sufficiently such that they are acceptable to the creators themselves before any progression can occur. New insights and knowledge may appear in the evolutionary research process before implementation and representation of that world. Development in the creation of a possible world would have happened in representing this world, as a level of instinct and intuition mixed with rational construction plays an important role in the world’s composition.

Once the creator has created his or her world and conveyed it to a third party through some medium, the reader/viewer’s subjective interpretation will play a role in the experimentation process. Their interpretations could provide a perspective that yields an unanticipated take on a possible world that the creator may or may not share. To enable heuristic intension, the fictional world’s creator must focus on a small part of the possible world specific to the speculation in question or create a possible world that is small and limited in scope (Doležel 1978, p. 787) to focus and direct the reader’s interpretations. By limiting the information, readers can effectively decipher a hypothesis in a straightforward and uncomplicated way (Doležel 1978, p 788).

A possible world’s accessibility for a reader or viewer is paramount if new knowledge and insights are to be gained. The reader/viewer will need to suspend disbelief, which is done through a component in the instrument of fiction telling: creators describing the fiction as if it is the truth. The next accessibility component in a fiction is its relationship to the actual world. Fictions and their speculations or propositions can only operate against the reference to the actual world. They have a transworld identity (Lewis D. 1978). The worlds one creates approximate the actual world, or alternatively may be far different from it; worlds which ‘violate actual world laws’ in the real world allow a creator ‘to create fantastical worlds’ (Doležel 1978, p 787).

The cognitive act of interpreting the boundary between a non-actual possible world and actual world (University of Hamburg 2013) allows a fiction to be accessible to viewers or readers. These fictional possible worlds must be accepted by the community (i.e., the writer and his or her intended readers). The constructed world must be strongly plausible, however abstract, such that the community can suspend disbelief and engage with the fiction. To gain knowledge requires one to distinguish between true and false statements; likewise, a fictional world will be subject to truth valuations (Doležel 1978, p 790).

The boundary between fictional and actual factual worlds is blurred as they dovetail with one another. However, fictional worlds are not only comprised of these two elements. There is a third component: the gaps in the world (i.e., things that are not discussed in the work). Fictional worlds are always incomplete, as it is impossible to create a comprehensive possible world (Doležel 1978, p 794). Both the factual and fictional aspects of a world will have gaps within them. Creators introduce fictional gaps in a fiction based on their relevance to the narrative. Furthermore, creators select factual gaps based on ‘epistemological quality, relevance, and hierarchy’ (Doležel 1978, p 790). Fictional writers use gaps for a number of reasons. Gaps allow readers or viewers to focus on one aspect of the fictional world by leaving out ‘what is not necessary to the plot’ or to ‘provide tension to the plot, for ideological intent and aesthetic reason[s]’ (Doležel 1978, p.790). Architectural fiction also has gaps for similar (albeit not for plot-related) reasons, but such fictions also have gaps that literary fictions do not. For example, architectural fictions often feature gaps between the mediums of representation. There are four main types of media (the text, the diagram, the drawing, and the model) used in architectural fiction, and each provides a unique function in describing a project and related concepts. These media serve to corroborate the overall story. However, each one will have narrative gaps within them and between them. Any ambiguity that emerges from that structure is ‘filled in by the context, content, and common sense’ (Doležel 1978, p. 790). A viewer/reader will postpone their final decision on how factual a hypothetical event is while engaging with the fiction.

Ultimately, the extraction of the narrative typically serves as the starting point for gaining knowledge. However, this is not automatically true in fiction. Usually, audiences interpret the contents of fictional works against a background of well-known facts. When combined with the factual context and explicitly stated content in the work, ‘reading into’ (Lewis 1978, p.42) a fiction’s contents that are not overtly apparent enables the reader to understand the work. Lewis suggests that readers determine what is true by exercising their ‘tacit mastery of the very concept of truth in fiction’ (Lewis 1978, p.42). However, it is a mistake to believe that truth can be found using information that combines fact and fiction. Moreover, it is typically not possible to determine with certainty whether a truth presented in fiction is *bona fide*.

Reasoning about truth in fiction can also be form of counterfactual reasoning (Lewis 1978, p.47). Often, readers and viewers make suppositions that are contrary to the facts. In reasoning about what would happen in such a counterfactual situation, one may use facts to gauge what is occurring. Creators may need to limit the disparity between the actual and possible world if their fictions are to be believable. Readers of a fiction can use the immutable features of the actual world to negotiate their understanding of the fiction from a safe position (Lewis 1978, p.55).

Truth in a given fiction also depends on matters of contingent facts (Lewis.D.1978, p.47). When coupled with the suspension of disbelief, one can accept these fictional worlds as they contain certain believable contingent facts. These contingent facts can be well-known facts or generally prevalent beliefs that are explicitly expressed or exist subtextually; either way, types of facts are subject to the viewer/reader's truth valuations.

The beliefs mentioned above may represent a community's (i.e., the author and his or her intended audience) collective belief that the actual world determines. Tensions and provocations within the fiction may arise if the fiction contravenes the community's overt beliefs (Lewis 1978, p.50). This, however, may provide insights that might otherwise be overlooked. A viewer/reader's judgment or acceptance of truth in fiction is sometimes consciously or subconsciously verified by the reader's or viewer's actual real world experiences. The real world provides concrete elements that are 'like a map that helps us to see more clearly the fiction through the abstract notions' (Egan 2016, p.144).

After this navigation, Elgin goes on to posit that 'works of fiction can unsettle complacent convictions, calling into question what we take ourselves to know' (Elgin 2007, p.50). Elgin states that fiction 'dislodges unfounded claims to knowledge' (Elgin 2007, p.50) that consequently drive cognition. She goes on to say that 'the non-truths that constitute a fiction are cognitively valuable because they equip us to discern truths that we would not otherwise see or would not otherwise see so clearly' (Elgin 2007, p.50).

The Role of Representation in Fiction & the Cognitive Black Box

Fiction (and thought experiments) use textual language to generate narratives and allegories. They use signs, signifiers, symbolism, and metaphors as foundations to enable abstract thinking and imaginative cognitive engagement (Frey (1957) cited in Egan 2016). Relying on this foundation, an audience member uses his or her imagination to conjure up images and play the thought experiment and fictions out in his or her mind's eye. Generally speaking, drawings are usually the main instrument for speculation in architectural fiction. Typically, textual language, diagrams, and models serve as supportive devices. They act in two ways: Firstly, they act as an experimental device that is used by the creator to push speculation forward and think through ideas and secondly, they represent concepts so that others can read and speculate about them. The creator and the reader/viewer both seek knowledge or insights. If architectural fiction is to be seen as a thought experiment, drawings must operate as a vehicle for the development of insights. As a starting point, drawings must act as a form of language that are recognisable by both the viewer and the creator. 'Language is a system that creates meaning; it is not only semiotic but semogenic' (Halliday 2005, p.63). These semogenic instruments transform one's perceptions of the material world into something with cultural value; in other words, they create meaning (Halliday 2005, p 59 cited in Riley 2019, p.136).

Halliday states that three main functions support the usefulness of drawings: the experiential function, the interpersonal function, and the poetic function (Riley 2019 p. 137). The experiential function refers to what a drawing represents, such as the narrative or subject matter. The interpersonal function relates to ‘how the viewer[’s] moods and attitudes are positioned to the artist’s emotive drive’ (Riley 2019, p.137). The poetic function relates to how the drawing represents the perceptual and emotional experience (including the media, the lighting, the colours, etc.). Halliday called this a systemic-functional semiotic model for drawing. It uses the functions mentioned above to form conceptual ideas into a material form that can be used to communicate with people through a shared visual language (Riley.H.2019, p.139).

However, communication is not always straight forward and clear. Drawings establish the narrative form and externalise a creator’s concepts and ideologies with overt or hidden meaning into compositional allegories. Drawings are subject to hermeneutic reasoning, just like textual fiction. According to the structuralists, the signified changes; in contrast, the post-structuralists state that the signifier and the signified are in constant evolution, ultimately never leading to the final signified conclusion. According to Derrida, meaning is in constant flux, and humans are in a continuous state of aporia. Derrida compared drawing to writing, and he called it a ‘projected grasping’; in other words, drawing is a projection into the unknown (Milani & Schoonderbeek 2010, p. 2). Taking this thought to the extreme, Derrida believed that drawings lead people to the abyss, as drawings are not a ‘summarised interpretation of external representation but a subjective expression of inner vision’ (Milani & Schoonderbeek 2010, p.2). Certain drawings, like traditional architectural drawings, can be objective and instrumental. However, in architectural fiction, drawings are usually suspended between objectivity and subjectivity. Drawings are cognitive representational instruments that communicate information (i.e., knowledge), but also facilitate interpretation as a result of their subjective nature. It is here that a viewer may have insights that may differ from what the creator intended, even if the interpersonal function is being applied.

There are often a multitude of contradictions within a drawing. These contradictions ‘are both simultaneously a simulacrum of a reality and reality itself, memory and anticipation, subject and object and knowledge and desire’ (Milani & Schoonderbeek 2010, p.2). They offer a destabilising space for interpretations – one that is in some aspect confusing, but in others clear, and in some ways hazy or vague, but in others informational.

Although architectural fiction uses drawings as the main investigative and experimental tool, it still must frame the overall fictional narrative with text, diagrams and models playing a supporting role. The media forms an uneasy relationship with each other; they are collaborative yet offer different notions of the same concepts and all have a mixture of clarity, abstraction and ambiguity. Fictional representations are destabilising places that offer uncertainty and opportunity that enables multifarious diverse readings.

One question does arise in terms of this article: are drawings undermining the very nature of thought experiments? Drawings have been used to support thought experiments, but only as an aid, as the textual narrative has been the main trigger of any imaginative leaps. The issue is this: Text is there to provide the image in the mind; drawings short circuit that and provide the reader with that image, thus undermining thought experiments' very notion. This outcome would diminish the potency of drawings as a tool for thought experiments.

When one looks into the 'cognitive black box of thought experiments' (Arcangli 2010, p.572), the 'black box' reveals that imagination is at the centre of it. Any insights emanating from the fiction can be deciphered through the conduit of imagination (Arcangli 2010, p.572). If a reader reads fiction like an observer, he or she will see that fiction from his or her mind's eye. This requires conjuring up images in one's mind, and such mental images play a pivotal cognitive role in understanding fiction. Arcangli states that the role of imagery is sometimes heuristic but also 'epistemically crucial'. This is not done through deduction or inference but through what Arcangli calls 'quasi-observational' reasoning (Arcangli 2010, p.572). The images a reader produces in his or her mind's eye are a quasi-spatial picture of the fiction that requires image-based reasoning to fully comprehend. Fiction and thought experiments are simulation-based speculations.

The difference between drawn and textual poiesis is that drawn poiesis explicitly illustrates images that a reader would otherwise have to sketch out in his or her mind using the reader's imagination. Textual fiction relies on written word to induce readers' imaginary functions and to accept that everything happens in a reader's mind. Drawings offer concrete or quasi-concrete depictions of a creator's imaginative musings; some would say limiting the imaginative process of a reader/viewer's interpretive process. A drawing's creator may still enjoy the image-conjuring aspect of translating fictional ideas in his or her mind before committing it to paper. However, a reader or viewer, as the observer of a drawing, uses rational deductive powers to interpret an image to gain insights. That is not to say that knowledge is deeply curtailed by providing an image, but it is more limited compared to textual poiesis that allows the conjuring up of images.

However, drawings have within them the contradictions and destabilising qualities that was mentioned above. Add to that any abstract and poetic qualities that the creator of the drawn fiction wants to engender in his or her creation may allow the mind to engage with the fiction in a different way. By increasing the level of abstraction and poetic qualities allows audiences to interpret the drawings with an element of subjectivity. The gaps between the media used (e.g., text, drawings, models) will also aid subjective insights. Returning to Derrida's concept of *aporia*, drawings, images, models, and text should lead one to a state of uncertainty, but with tantalising offerings that make a promise but no guarantee of a way from the abyss. I contend that architectural fiction would function better as a thought experiment tool if the representation a creator uses leads audiences to

this point. This would lead drawings to reclaim itself as one of the primary tools for thought experiments.

Conclusion

If the definition of thought experiments is an allegory that uses arguments to shed insight on a specific and targeted quandary, then architectural fiction may not strictly fall into the category of thought experiments. Typically, fictions are schematically created and filled with subtlety and nuances (Egan 2016, p.146); and for that reason, some would say that they are unsuitable for discovering explicit, concise, precise, and wholly packaged knowledge.

Architectural fiction and literary fiction are generally constructed by altering the real world ‘big picture’ which then has numerous ramifications for many elements within the newly fabricated world. The impact on the different elements will depend on the creator directing the narrative with focused specifications. Architectural fiction may focus on one or a number of those elements to observe how a new possible world influences the human condition which will in turn will have architectural consequences. Architectural fiction, by integrating two worlds yields new questions that otherwise not have been considered. These novel questions will inevitably produce new insights and knowledge with outcomes that may not always be clear and may produce accidental or unintended revelations. (Egan 2016, p.143).

The invention of possible worlds that include modal statements that assert that the world could be a particular way if certain realities of the actual world are amended or augmented is the experimental starting point. One could say that this is similar to a scientist setting the conditions inside a chamber in which experiments are performed, with the knowledge that by creating a specific environment with limited variables, will enable more precise reflection on the investigation’s results. The very contemplation of a possible worlds initiates a cognitive comprehension exercise, which is made more accessible and plausible because fictional possible worlds are told as truths.

Actual and concrete elements play a profoundly important role not only as a datum point for a speculation but also serve in a vital, non-passive role in providing epistemological value. Like all fictions, the making of a possible world occurs through how that world is represented, either by textual or drawn poiesis, both of which offer the possibility of subjective and objective readings. When initially observing a drawn representation, it seems drawings undermine the very notion of thought experiments by offering a real image and removing the task that the mind traditionally performs in thought experiments. Nonetheless, drawings can be useful instruments in thought experiments but only if abstract and poetic representations are offered to the viewer/reader to enable their flights into the imagination.

The protagonist architecture, itself a fictional invention, engaging with a calibrated environment and provokes questions. The moment of interaction is where undiscovered resources lie, and it is here that the fiction invites audiences into the creator's possible world and encourage them to mine it. However, one must be aware that the artefacts that are extracted from the fiction arise out of facts mixed with non-facts bought together in an imprecise schematic offering that are subject to multifarious subjective readings. Although excavations can occasionally reveal some truths, they typically provoke more questions than answers. The incomplete and nonfactual nature of this form of speculation is both unfulfilling and generous at the same time. It is generous because it allows one's imagination to attempt to fill in gaps and make unexpected connections and sometimes creating additional corollary fictions that in turn provoke further fictions. Knowledge gained is through a series of deductive filters in the mind of the reader/viewer. Fiction's role as a provocation is where the value of fictional projects lie. One of the fundamental aspects of fiction that people often neglect to see is that it is an experiments and provocation about the real world. However fictional a project may seem, what such an experiment speculates upon is what the actual world could be or could end up being like.

Architectural fictions are invaluable instruments that provide thought experiment modalities. These modalities are essential to creating a simulation-based account of a scenario that reveals hidden knowledge, produces new knowledge, enables understanding, and provokes new insights. It is this that makes fiction an appropriate instrument to further architectural discourse.

References:

Arcangli, M. (2010) *Imagination in Thought Experimentation: Sketching a Cognitive to Thought Experiments*. In: L. Magnani et al. (eds.): *Model-Based Reasoning in Science and Technology* (2010), Springer-Verlag Berlin Heidelberg, pp. 571-587.

Doležel, L. (1998) *Possible Worlds of Fiction and History* in: *New Literary History*, Autumn, 1998, Vol. 29, No. 4, (Autumn, 1998), pp. 785-809 Published by The Johns Hopkins University Press Stable.

Elgin, C. Z. (2007) *The Laboratory of the Mind A Sense of the World: Essays on Fiction, Narrative and Knowledge*, ed. Wolfgang Huemer, John Gibson, and Luca Poggi. London, Routledge. 2007. pp.43-54.

Egan, D. (2016) *Literature and Thought Experiments*, *The Journal of Aesthetics and Art Criticism*. 2016. pp. 139-150.

Lewis, D. (1978) *Truth in Fiction*, *American Philosophical Quarterly*, Jan., 1978, Vol. 15, No. 1, pp. 37-46

Halliday, M. A. K., 2005. *On Matter and Meaning: the Two Realms of Human Experience*. *Linguistics and the Human Sciences* 1 : 59–82.

Riley, H. 2019. *Drawing as Language: The Systemic-functional Semiotic Argument*, Journal of Visual Art Practice. Neurosci Lett. 2018 60–68.

Stanford Encyclopedia of Philosophy (1996 Rev.2019). *Thought Experiments* (Online). (Viewed 20 February 2021). Available from:[https://plato.stanford.edu/entries/thought-experiment/University of](https://plato.stanford.edu/entries/thought-experiment/University%20of)

Hamburg (2013)(Ryan ML. *Possible Worlds* (online). (Viewed 15 March 2021). Available from: <https://www.lhn.uni-hamburg.de/node/54.h>