

PART A - DISSERTATION

DRAWING TIME

Design and Representation of a Time-Cognisant
Architecture of Reparability,
for an Era of Depleting Resources.

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Declaration:
I hereby certify that the material submitted in this
dissertation toward the award of
Master in Architecture
is entirely my own work and has not been
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assessment other than part-fulfilment of the award
named above.



Date: 13.01.2023

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A Stitch in Time . . .

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ABSTRACT

There is a distinct absence of a theoretical method or established mode of drawing to explore concepts of 'time' in architectural practice, or to describe it to a wider audience.

Discourse on how 'time' manifests in architecture, ranges from Lynch's call for 'future imaging,' to Moe's more recent coining of 'terrestrial' architecture. However there has been little exploration in its tangible application to design through an established methodology.

This study revisits an architectural project for the Sligo Sudbury School designed with 'time' in mind, and through re-drawing this case study tests methods of drawing time as a cognitive design tool, and methods of disseminating its embedded time aspects.

Bringing literature on 'time' into conversation with cognitive, narrative and landscape drawing, this research aims to devise a drawing methodology which "document[s] the continuous flow that a building always is" (Latour 2008), metaphorically capturing 'a gull in flight.'

The ambition of this research, in this era of climatic change, shortages and resultant despondency, is to encourage the design of more considered, joy-bringing, long-lasting and repairable architecture, itself inspiring a return to a culture of caretaking.



fig.1 'Bird in Flight,' E. Marey (1886)

INTRODUCTION

¹ “the bulk of the rise in temperature and practically all sea level rise produced by any given amount of cumulative emissions will hang on – if it is left to the earth system to work out the consequences – for at least the next 10,000 years, the seas potentially peaking at a level around 50 metres higher than today. Much of this can still be avoided. That possibility supercharges our moment with time.” Malm, A. (2018). *The progress of this storm: Nature and society in a warming world*. Verso Books.

*‘How can the feeling of being protected be provided without an immediate return to identity and the defence of borders?’ And we can now envisage an answer: ‘By two complementary movements that modernization has made contradictory: **attaching oneself to the soil on the one hand, becoming attached to the world on the other.**’ . . . we must agree to define a dwelling place as **that on which a terrestrial depends for its survival, while asking what other terrestrials also depend on it?** It is unlikely that this territory will coincide with a classic legal, spatial, administrative, or geographic entity. On the contrary, the configurations will traverse all scales of space and time.*

(Latour, 2018 pp.92-95)

In this current era, we are increasingly conscious of diminishing resources; “Migrations, explosions of inequality, and New Climatic Regime: These are one and the same threat . . . migrations without form or nation that we know as climate, erosion, pollution, resource depletion, habitat destruction.” (Latour, 2018, pp. 9-10)

It therefore seems pertinent to move away from conceptualising time as limitless and available, or diametrically, the nihilistic stance of it being ‘too late to do anything anyway’ and maintaining the status quo. Instead, we should move towards considering time in a pragmatic way, encompassing scales of both planetary and human intervention. ¹

Translating Latour’s message above to the concept of time, it could be deduced that to achieve

How to Capture a Building in Flight?

‘the feeling of being protected,’ we need to reattach ourselves both to the rhythmic time of our bodies, and simultaneously to the longer-spanning growth and decay of landscape time. Furthermore, we must consider our (architectural) actions in this moment in time, as actions that future world inhabitants will hopefully depend upon, or at least not lament in their particular time. More simply put, we must return to a philosophy of caretaking.

Perhaps with a momentum change such as this, “The new universality” which Latour identifies as the “feeling that the ground is in the process of giving way,” (Latour, 2018, pp. 9), or, as this author argues, ‘feeling that time is in the process of giving way,’ could be averted, or lessened.

How then to better engage with time as a concept and a tool to designing and living, that instead of scaremongering, highlights opportunity?

01 RESEARCH AREA

2." He advocates for the creation of continuity through "tangible presentation of historical context, one or two generations deep, in all our living space." Emphasising the inclusion of future imaging, he sees the "the stream of time [as] more valuable and more poignant and engaging than a formal knowledge of remote periods. New things must be created, and others allowed to be forgotten." Lynch, K. (1973) *What Time is This Place?* Massachusetts: The MIT Press, p215-223.

3 He puts it in unquestionable terms; "The dramatic irony of improving one place at the price of another is no longer a tenable architectural proposition" Moe, K. (2021) *Unless. The Seagram Building Construction Ecology.* New York: Actar p.283

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My research area is the exploration of multi-faceted 'time' within Architecture. The theme of time is wide reaching, and there are endlessly diverse readings of its meaning, including in the architectural sphere.

In his work 'What Time Is This Place?' (1973), Kevin Lynch proffers radical avenues for re-establishing a relationship with time in our built environment so they are once more "legible and meaningful." 2 Lynch poses an interesting challenge to architects; to produce spaces that at once convey history, life and potential for inhabitants to situate themselves happily in their environs.

Kundoo, in her essay 'Taking Time' (2020) has made an emotive call for us to recognise time as "the most essential resource that we have access to as living beings," suggesting it is currently undervalued and spent habitually and highlighting the importance of time as both an economic resource and a source of personal fulfilment when reclaimed for ourselves. In 'taking time,' she sees potential for increased wellbeing and more considered actions in this era of urgency.

Moe is at the forefront of a contemporary dialogue emphasising the extractive nature of architecture, and proposes a movement towards a 'Terrestrial Architecture' in which each detail of a design is followed from its geological source through to its maintenance.

In 'Building Time,' (2021) Leatherbarrow suggests that architecture has been viewed as "an art dedicated to permanence." He poses that given this stance it is hardly surprising so little attention has been giving to the temporal nature of buildings, and their relationship with time, which he goes on to appraise, asking, "can we think of built works as necessarily unfinished? More importantly, can or should we design them with this in mind?" (Leatherbarrow, 2021, pp.10)

Harnessing Time

The common denominator of these texts is that each author states or implies the topic of 'time,' as they varyingly understand its role in architecture, has not been satisfactorily addressed. Particularly in a practical and implementable sense, for the betterment of our built environment, and following that, society. The relevance of 'time' to the field of architecture is becoming more pressing as the environmental crisis we are facing deepens, as well as all it entails; changes in climate, energy crises, mass migration of dispossessed people, and increasing numbers of 'disenchanted' people of this time.

This research suggests that designing with 'time' in mind could become a method for architects to position themselves in the current climate and channel factors of sustainability, such as material sourcing and reparability, into their design considerations. We need not only look to science fiction for solutions either, But instead, as Ingold suggests, "To join with tradition, facing forward... to open a future that, far from converging on any projected end, is indefinitely renewable. This is what it means to say of the future that it is sustainable. A sustainable world affords the possibility for life to carry on, forever. This is not to substitute long-term for short-term solutions. Only in the rearward view of a pivotal present can time appear as a nested series of scales. Genuine sustainability cannot be balanced on any scale, for every moment contains within itself the promise of eternity." (Ingold, 2022)

4 "The present's ownership of the future... depends on the assumption that the past got it wrong... that the road from the past is paved with mistakes. We always know better than they did. Yet the inevitable implication is that our present solutions will, in due course, turn out to be equally misguided." Ingold, T. (2022) *The turn of the present and the future's past*, in Horizons. E-flux Architecture.

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02 RESEARCH IDEA

5 “we too need an artificial device (a theory in this case) in order to be able to transform the static view of a building into one among many successive freeze-frames that could at last document the continuous flow that a building always is.” As he allegorises, “To consider a building only as a static object would be like gazing endlessly at a gull, high in the sky, without being able ever to capture how it moves,” when instead we should strive to “finally do justice to the “thingly” nature of buildings, by contrast to their tired old “objective” nature.”
Latour, B. & Yaneva, A. (2008) ‘Give Me A Gun and I Will Make All Buildings Move; An ANT’s View of Architecture,’ in *Explorations in Architecture: Teaching, Design, Research*, Basel, Birkhäuser. p 80-89.

My interest in the matter of time in Architecture began last year, becoming the primary driver in my Advanced Architectural Design proposal. I identified and explored these diverse time related aspects, using intuition to incorporate their concerns into my design decisions. On reflection, my final proposal, while undoubtedly influenced by factors of time discussed, did not convey this to an audience without a good deal of oration. Represented through standard plans, sections, elevations and axonometric, little justice was given to the layers of consideration of time that had led to its fruition, or the narratives I had imagined.

The question of devising a methodology for practising architects to apply to real-life design presented itself and appears not to have been thoroughly investigated or at least satisfactorily answered heretofore. This includes a method of drawing which firstly allows architects to explore and later disseminate the factors of time embodied in their designs.

I am not alone in sensing a gap in architectural research in this regard. Latour maintains “the static view of buildings is a professional hazard of drawing them too well,” and by ‘too well’ he alludes to architectural tendency towards white-box-in-euclidean-space representations. He has voiced his irritation “for us not to be able to picture, as one continuous movement, the project flow that makes up a building,” (and similarly its context), charging architects with the challenge of finding the equivalent architectural tool of Marey’s photographic gun.⁵

For my final semester, I therefore propose to re-evaluate the embedded time concerns within the project, as well as being open to those unexplored, and devise a method of drawing such. The continuity of re-evaluating last year’s design proposal will help to delimit the scope of this research-through-drawing project.

A Stitch in Time . . .

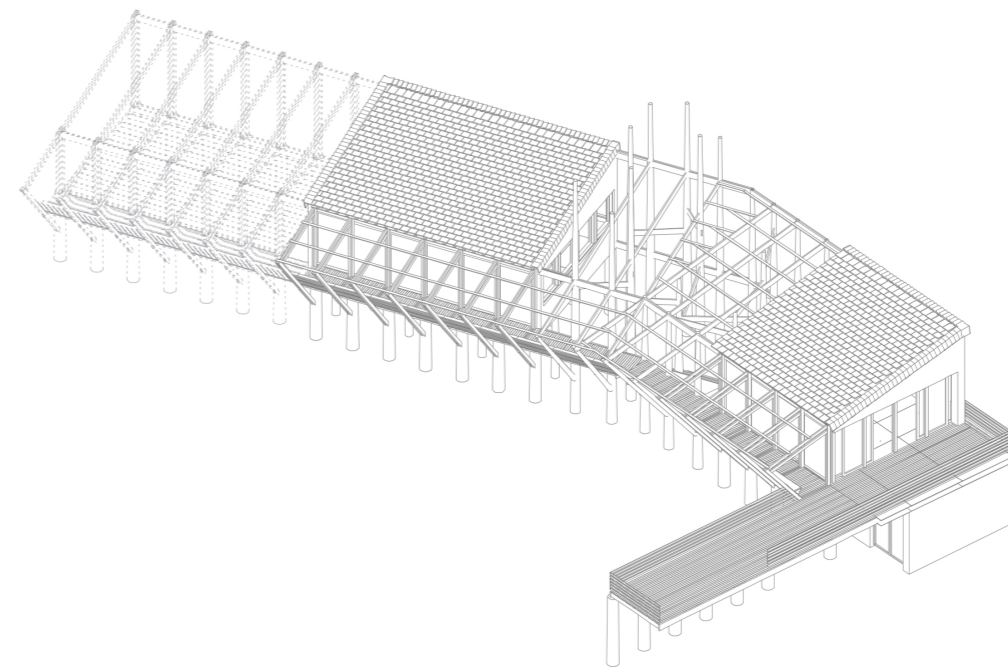


fig. 2 Axonometric of School extension from previous semester. This traditional style of drawing did not help to convey the embedded time factors in its design.

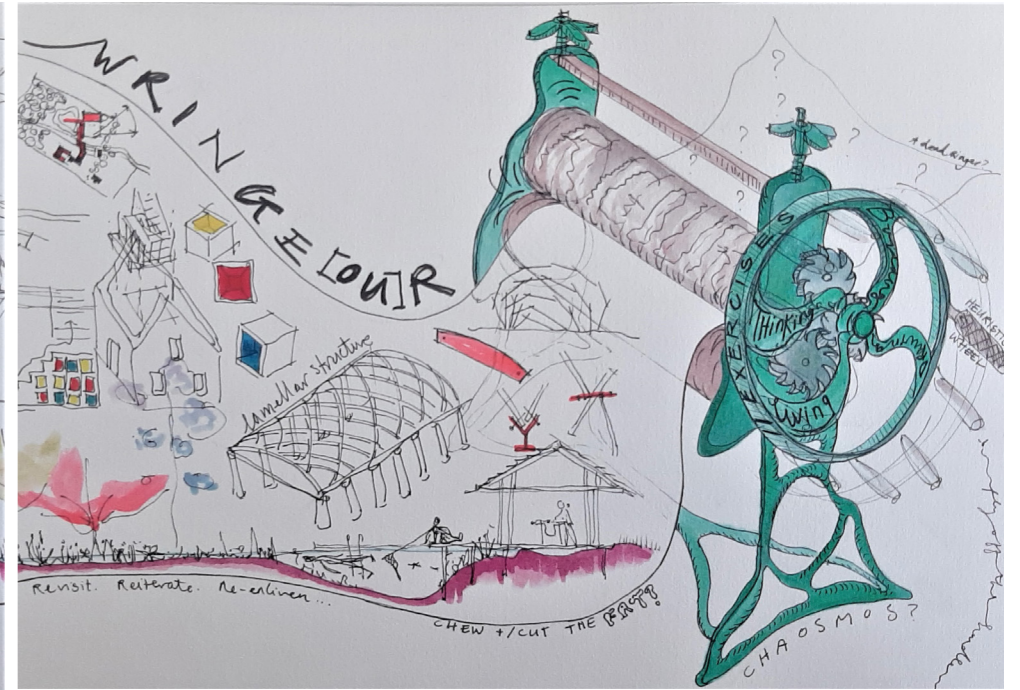
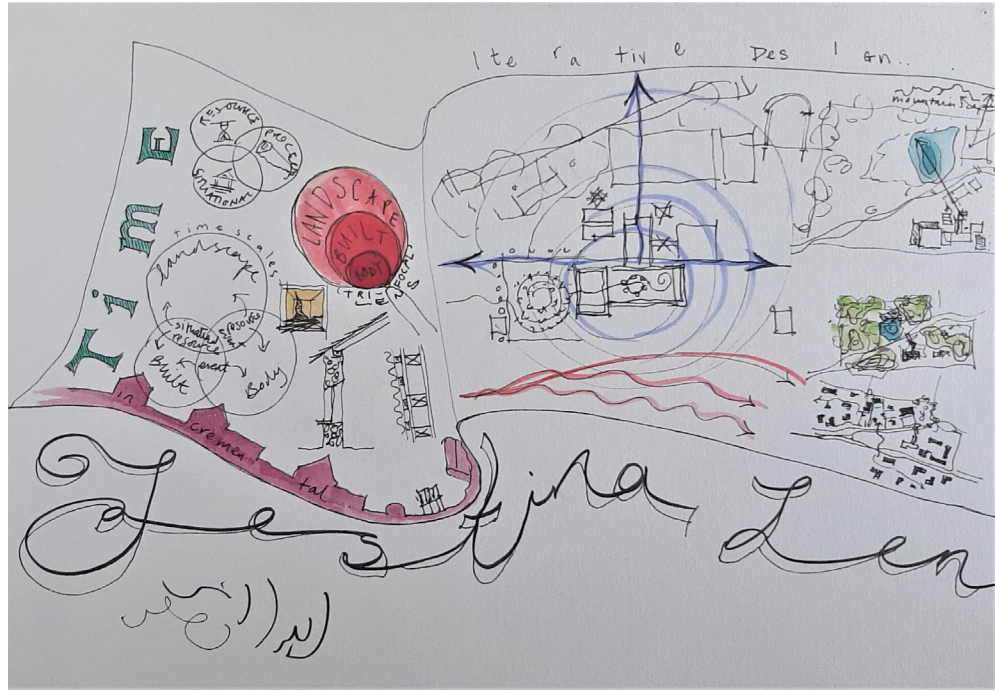


fig. 3 An early manifesto tri-partite sketch envisioning a rigorous re-drawing of the project.

03 RESEARCH OBJECTIVES +

- 01 To devise a method of drawing time in an architectural proposal, using existing architectural drawing types if/where possible to make it an easily practicable TOOL for current architects.
- 02 To devise a method, if different, of representing time-cognitive architectural proposals for successful dissemination to clients and a wider audience. In other words, moving the drawing from design tool to ARTEFACT.
- 03 To focus particularly on the aspects of time that could shed light on design decisions which impact on sustainability.

RESEARCH QUESTIONS

- 01 Have the main proponents of time, relevant to the architectural field, been accommodated or are there further aspects of time to be considered, in particular with regard to sustainable practice, such as designing for caretaking, building maintenance, and repairability?
- 02 Could a narrative approach to drawing aid in disseminating time considerations to a non-architectural audience?
- 03 What mode would be most successful for dissemination of the work? Will a print of the drawing suffice or could mediums such as film be used?

I hypothesise that if a means of drawing can be devised which satisfactorily allows the architect to both explore and disseminate questions of time in architectural projects, this 'cognitive' drawing style could impact largely on contemporary architecture from early design stage through to material decisions and encourage more sustainable choices.

04 REFLECTION ON CASE STUDY

6 A personal anecdote: I experienced, at both primary and secondary level, the frustration of improved building facilities promised and allegedly on the horizon for an extended period, but delayed in the usual way of governmentally funded projects. Having graduated before the completion of one, and only enjoying a 6-month period in the second, my cohort primarily experienced the negatives of the process; a period when the school had no incentive to improve facilities for what would be a temporary basis, we spent a number of years encamped in prefabs. Hence I understood the lack of engagement from some of the older pupils of the Sligo Sudbury School on our fieldtrip, as they had little enthusiasm for a project they knew they would not benefit from.

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My Design Research Project last semester arose from my position paper investigating 'fulfilling 'time-places,' in conjunction with a studio brief for a real-life client, the democratic, Sligo Sudbury School and the expansion of their current, rather ramshackle, inhabitation of an old country schoolhouse and its environs. I initially devised a 'trifocal' framework of nested 'time-scales' through which to conduct my design process; Body, Built and Landscape time. This triad came from three aspects of time I had focused on in my position paper; time as process, time as resource, and 'situational time,' which I felt needed to be rephrased to be more easily applicable to a design proposal and client body. Coincidentally, I later found that these aligned with Leatherbarrow's categories of Body, Project and World. This triad served its purpose in helping me consider and devise my initial architectural interventions in time-space. These timescales and their resultant proposals shall be briefly introduced and then reflected upon herein.

Time of the Body: Designing for Events and Acts of Care

The smallest of the scales that I considered, was that of the time of the body. The client body, a school, greatly influenced me, as it struck me as important to first ruminate on 'minor' architectural or spatial moves that could be enacted or constructed with immediate effect and from which the current pupils could gain, as well as future cohorts. 6

While the nature of a democratic school is that the day-to-day of school life is flexible and everchanging, there are a series of habitual activities which give weight to the democratic element of the school. I proposed to give prominence to the ritual of arrival/departure by relocating the daily held 'morning circle' to the walled garden, a non-architectural move. On a substantive level of interference, I felt the 'Cubby' space, currently poorly daylit, cold and cramped in the flat roof

Time of the Body: Designing for Events and Acts of Care

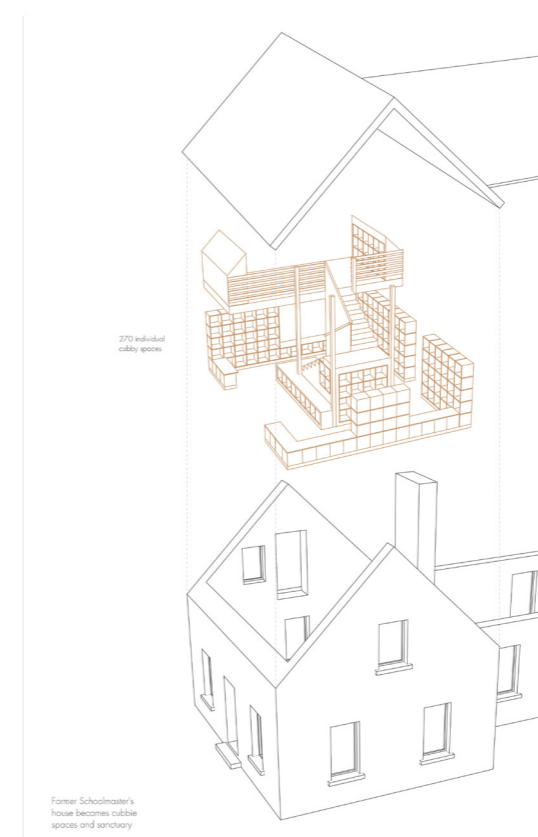


fig.4 Axonometric of cubby space intervention in existing 'Schoolmaster's House,' from previous semester.

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04 REFLECTION ON CASE STUDY

extension to the north, but nevertheless a high traffic area, could be relocated to the Old Schoolmaster's house. I proposed to open up its space plan to create a double-height volume, and insert a timber cabinetry to showcase the community's collected curiosities and personal belongings, which also integrated benches and nooks to retreat to.

Built Time: Encouraging Incremental Construction

Inspired by the current pattern of development of the Sudbury school community, or rather, the lack of formal pattern in their approach, I proposed to firstly devise a set of axes of infrastructure to guide continued incremental design, (as is ongoing) across the site, with cognisance of future needs. This took the form of an east west axis in line with the ridge of the existing school, and a "vertical," slightly off Euclidean north-south axis which would perpendicularly cross the river which diagonally dissects the site from an undeveloped field to the rear. Having established these axes, I then began to design a built proposal for an extension which would swallow the existing flat roof addition to the north and that could be further extended in the future, along this vertical line of infrastructure. Not entirely beholden to these guides, other built elements took cues from existing features, such as a courtyard structure to frame the existing walled garden/ morning circle gathering space.

Built Time: Encouraging Incremental Construction

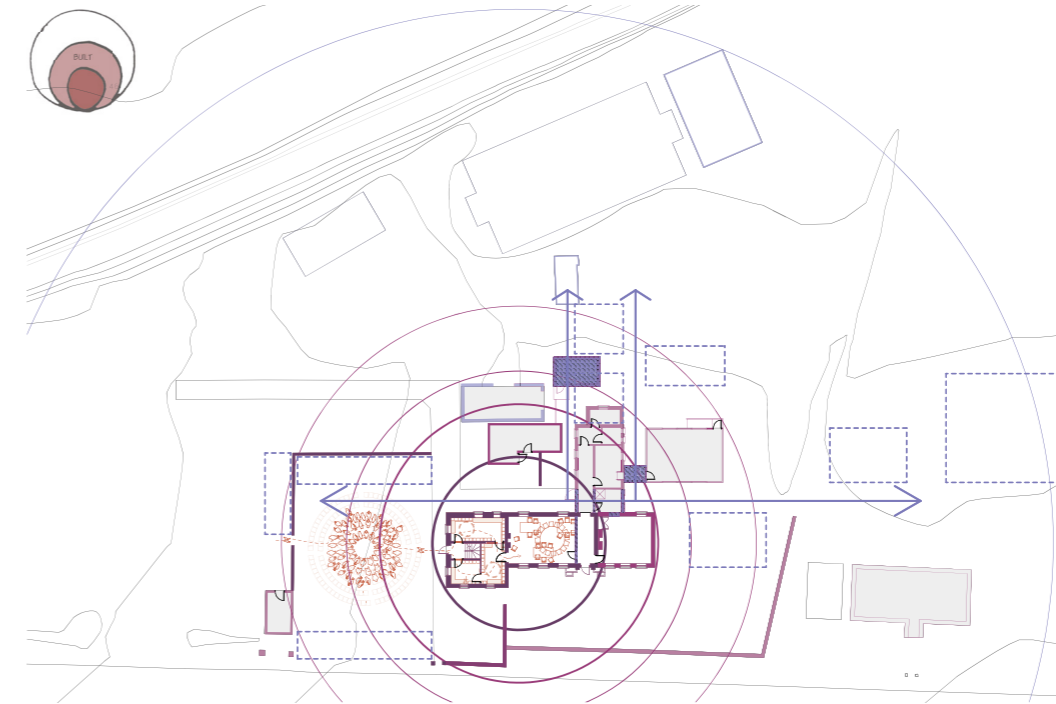


fig.5 Early plan diagram illustrating analysis of existing rings of outward development, and proposed axes of infrastructure for further incremental construction.

04 REFLECTION ON CASE STUDY

Landscape Time: Levelling the Past, Present and Future

To address the 'landscape time' of the site, I proposed the early establishment of a natural pond, envisioned to help reclaim the water-logged land to the site's rear for future development while also establishing an amenity for the community and local biodiversity in the future. In line with Kevin Lynch's writings on the matter, I saw this as a method of 'future imaging' for the community, like a first footprint on new soil.

I also proposed that the rear field could become a continuous cover forestry, and again that this planting should be one of the first moves taken. In time, this could potentially serve as a source for future incrementally built timber structures, or repairs. Stuart Brand tells of "a grove of oaks" that it is said were discovered in the 19th century to have been planted specifically for the replacement of the solid oak beams for the dining hall at New College, Oxford, when it was originally built. A plan which had been forgotten by all except the line of foresters who had passed down the message for 500 years. As Brand says, "That's the way to run a culture." (Brand, 1994)

Landscape Time: Levelling the Past, Present and Future



fig.6 Early plan diagram illustrating view to Copes Mountain, and proposed position of a natural pond to act as an amenity as well as a method of lowering the water table of the rear field.

04 REFLECTION ON CASE STUDY

Reflection

As the project progressed, these realms of time merged and led to more holistic architectural moves as I relied more on intuition in perceiving where time stood within my project. In designing 'Built Time' interventions, you cannot ignore the need to design for the body in time, for instance I considered the accessibility to the shingle roof via the external first floor walkway as an overlap in this regard. I came to the realisation that this relationship between the body and caretaking (or caregiving?) needed exploration, as will be further detailed later.

Other discoveries also influenced this blurring of boundaries, such as learning of the imminent and necessary felling of trees onsite, which instigated my interest in 'timescales' of tree growth, harvesting and drying, versus use of green timber etc. I saw this development as equally significant in each timescale; an immediate sorrowful event for the school community, an instigator towards using green timber in the structure in 'built time,' and a propellant towards remedying this loss in the broader 'landscape time' of the school.

On reflection, I found the tripartite separation of these times, while useful initially in a theoretical grapple with the project, unsuited to a method of drawing. My inclination since has been to strive towards a single drawing (not discounting the potential use of collage, layering etc.) that could embody all three and indicate the necessary overlaps.

As a starting point, I made, as I titled it, 'A Single Artefactual Drawing' to consolidate the breath of design work and drawings from last semester into a single digestible piece. Unfortunately, a managerial error last year resulted in the loss of my entire collection of hand-drawn or modelled

Reflection

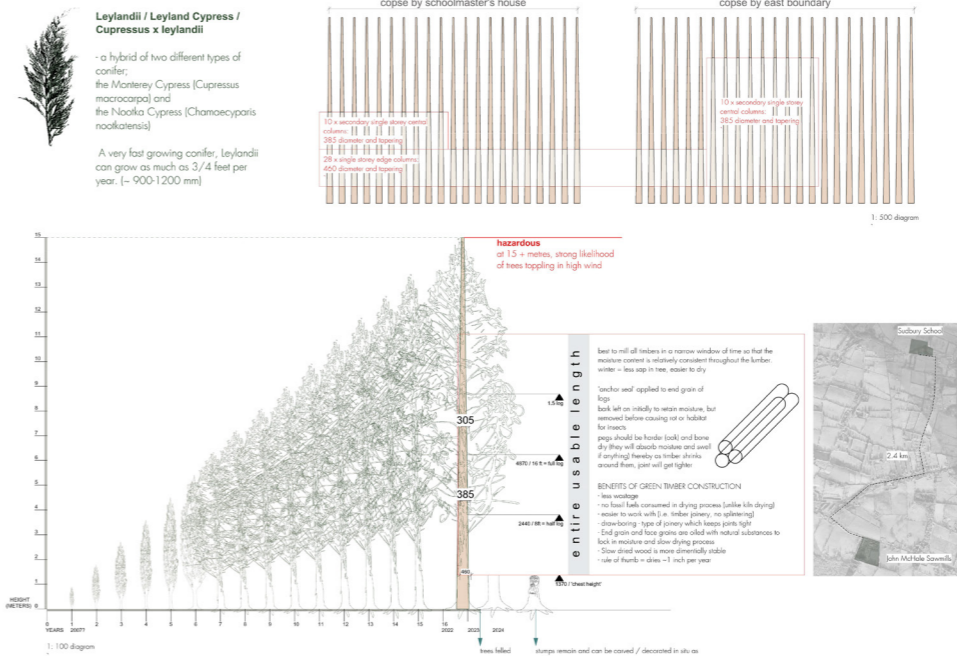


fig.7 Diagrammatic study of the existing copse of Leylandii trees on the site which require culling due to safety concerns, and the potential of using this as a method for procuring lumber for the project. A map illustrated the close proximity of an existing sawmill.

04 REFLECTION ON CASE STUDY

sketch designs. Notwithstanding, by trawling through historical CAD files, I extracted every still existent version of the scheme and layered these on top of each other.

Further to this, I began to compile these layered drawings in a collage such that the scheme could tell its own story. As an analytical exercise and for visual clarity, I used colour to distinguish the various standard drawing types, i.e. green for plan, blue for section, red for axonometric, grey for diagram.

While this drawing displays the time related design decisions I made to a knowing interpreter, perhaps the most legible time within this drawing is the time of the designer, or the design process. These drawn iterations say more about the time dedicated to my own process than to future inhabitants of the final proposal. However, I did feel there was potential for similar use of collage colour categorisation to aid in dissemination in future drawings.

Reflection

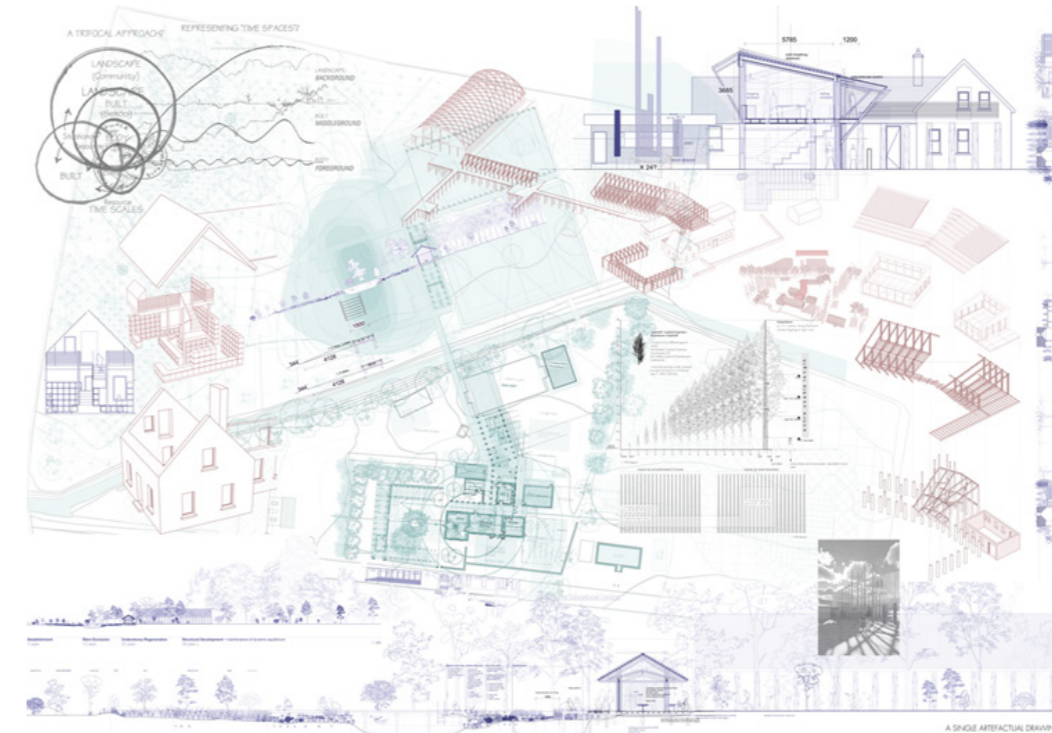


fig.7 'A Single Artefactual Drawing' 2022, as inspired by Marco Frascari's exercise of 'A Single Drawing.'

05 LITERATURE

In addition to the literature relating to 'time', further categories of literature I would like to involve are a number focused on drawing itself, and the idea of 'caretaking' as a core component of the Time of the Body. These are outlined below.

Once upon a Time: Narrative Drawing

One area of literature which I hope to bring into dialogue with the concept of 'Drawing Time,' is the topic of narrative drawing, or storytelling. Cristina Ampatzidou declares "Stories and buildings have been tied up together since the beginning of the conscious formation of space and the first attempts to understand the world around us," further elaborating, "while architecture is capable of telling stories about past and present, the architectural design is by definition telling a story about the future and its construction." (Ampatzidou, 2014) While artfully omitting the word 'time', its relation to her topic is undeniably implicit here. She asserts that storytelling is a "powerful cognitive tool" that helps us make judgements, but also cautions how the choice of tool can have influence over the eventual narrative. This is substantiated with her account of prevalent drawing types through architectural history, which prompts us to question what these tools have variously "allowed or emphasized, what kind of buildings did they lead to, what chances did they give and what did they dismiss?" (Ampatzidou, 2014) Furthermore, it will be vital to acknowledge, if using narrative drawing as a cognitive tool with which to explore time, to firstly be aware of the limitations of narrative, and equally to make any audience unambiguously aware where a singular narrative has been employed to fabricate a hypothesis.

Once Upon a Time: Narrative Drawing



fig.8 section of 'Bayeux Tapestry,' an 11th c embroidered cloth almost 70m long, which depicts the Norman invasion of England and the Battle of Hastings. This could be considered one of the world's best examples of narrative illustration that still resonates with people today. This sample shows the construction of the Normans timber longships.

05 LITERATURE

Against the flow of this constant entropy, maintenance people must swim always upstream, progressless against the current like a watchful trout. The only satisfaction they can get from their work is to do it well. The measure of success in their labors is that the result is invisible, unnoticed. Thanks to them, everything is the same as it ever was. The romance of maintenance is that it has none. Its joys are quiet ones. There is a certain high calling in the steady tending to a ship, to a garden, to a building. One is participating physically in a deep, long life.

(Brand, 1994)

Time Well Spent: Caretaking, Maintenance and Repair

Further to the idea of narration as a cognitive tool in representing time, I became interested in the validation of this narrative, as far as possible, especially when attempting to visualise an unknown future. To elaborate, architects of today routinely speak of the import of a '100-year life span' of buildings, particularly in relation to environmental and economic sustainability. Terms such as the 'Design Working Life' or 'Service Life' of the building's constituent parts and materials are, in the best cases, considered at design stage and listed numerically. It can feel like an unamusing game of Top Trumps, comparing the incomparable options of composite systems, or even when weighing the benefits of natural materials; the variables are far too many. Too often the discussion boils down to procurement and installation costs, vs the anomalous "O maintenance" choice.

This issue relates to one of my early interpretations of time, as prompted by Kundoo's writing; that of time as a resource. In the case of the Sudbury school, a resource they do not have readily

Time Well Spent: Caretaking, Maintenance and Repair



fig.9 Photograph taken in the Sligo Sudbury School, 2022

05 LITERATURE

available is finance. On my most recent site visit in October 2022, we witnessed a rallying cry splashed across the wall of their meeting room in oversized letters... "BUILD FUND 1 MILLION IN 1 YEAR!" I have little fear in their sheer enthusiastic determinism to provide new facilities for their school, and that they shall work towards this somehow. However, a resource they do seem to have in more abundance than most, is time. This has been showcased in built elements such as their art room reportedly constructed at the hands of parents. The community they have at their disposal is potentially worth more than they realise.

Society's current consumeristic tendencies in this part of world are enabled by our equally abhorrent attitude of disposal and apathy towards maintenance. As Brand puts it, "No wonder people get in a permanent state of denial about the need for building maintenance. It is all about negatives, never about rewards" There is an alternative, however. As he later adds "Maybe the trick...is to mix serious and frivolous chores." (Brand, 1994) Already, the Sudbury community has a stronger relationship than most with the idea of 'caretaking.' Once a day, in the early afternoon, a bell is rung for 'clean-up time,' and for a brief spell the pupils are united in a single activity, brandishing sweeping brushes and rakes for an energetic 15 minutes or so of comradery care.

Fred Scott has told of the "spirit of renewal" that inspires the continuing ancient Shinto tradition in Japan to rebuild the shrine at Ise every two decades. In this case regeneration is taken to the enth degree; with the foundation stones the only original components in each new rendition. However, this attitude towards the preservation of craftsmanship and the creation of jubilant celebrations around these traditions could be applied to a more pragmatic preventative maintenance cycle.

As previously described, my proposal consists entirely of timber construction including in its

Time Well Spent: Caretaking, Maintenance and Repair

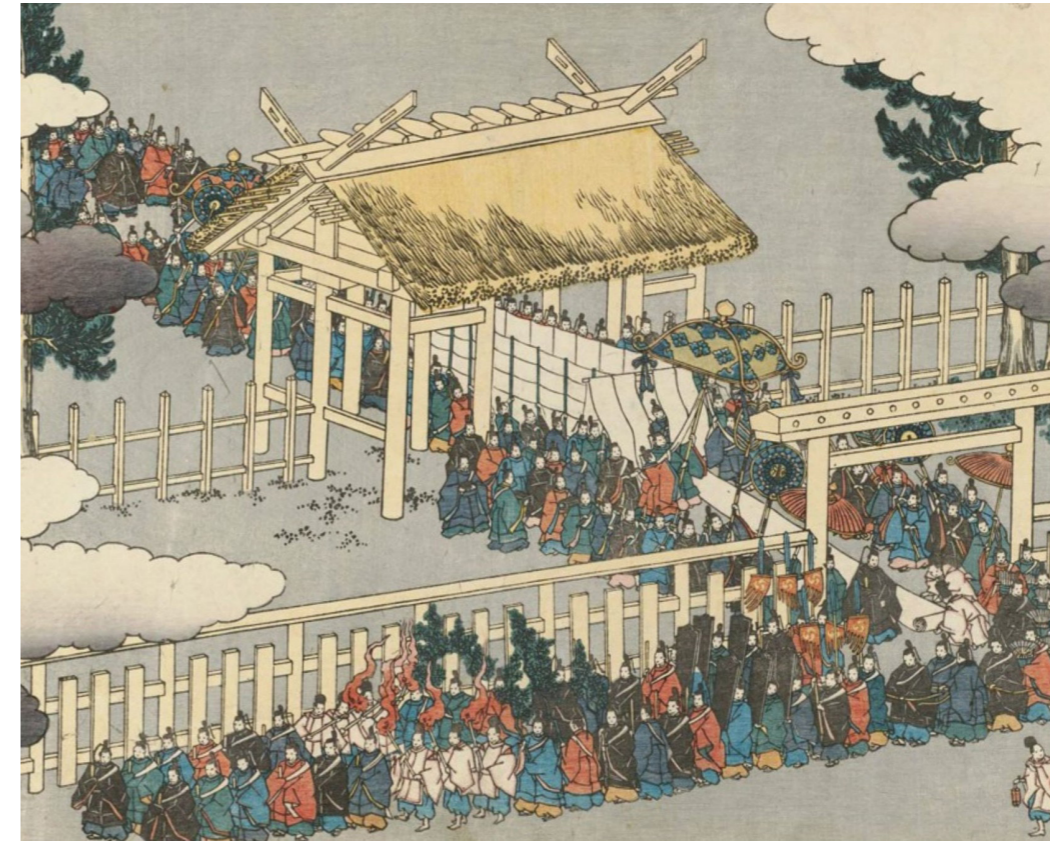


fig.10 The Ise Shrine, Utagawa Kuniyoshi

05 LITERATURE

⁷ In the recent publication, 'Critical Care,' it is asserted that "What the climate needs to avoid collapse is a contraction in humanity's use of resources; what our economic model demands to avoid collapse is unfettered expansion. Only one of these sets of rules can be changed, and it is not the laws of nature." Fitz, A., Krasny, E. (2019). *Critical Care: Architecture and Urbanism for a Broken Planet*. London: The MIT Press. pp.11

rainscreens of timber shingles and vertical siding. It would be particularly remiss of me therefore, to illustrate the project withstanding the elements, unaided, into its 100th year. Brand doesn't shy away from the truth in saying "WHO BUILDS IN WOOD builds a shack—adaptable now, gone soon. No other material is so easy to work, and none is so vulnerable to neglect" (Brand, 1994) However, this is not a reason to disregard wood, as long as preventive maintenance is adhered to, which "not only costs markedly less in aggregate than repairing buildings failures, it reduces human wear and tear." (Brand, 1994) Furthermore, timber is esteemed by Brand for its forgiving nature, and for being "a material that looks bad before it acts bad, like shingles or clapboard... they show you when they're getting worn, and they're easy to replace piecemeal."

Undeniably, earth's population need to collectively move from consumers to caretakers.⁷ In which case it is negligent of any designer to hide or underplay the inherently required maintenance our designs require. Instead this research suggests that when considering the body in time, or time as 'event,' acts of care must be elevated to the same standing as social gatherings in consideration, and perhaps, celebration. Including this element in the research, removes somewhat the whimsy which could detract from the useful application of a 'hypotheograph' or time narrative investigation of an architectural project.

Time Well Spent: Caretaking, Maintenance and Repair

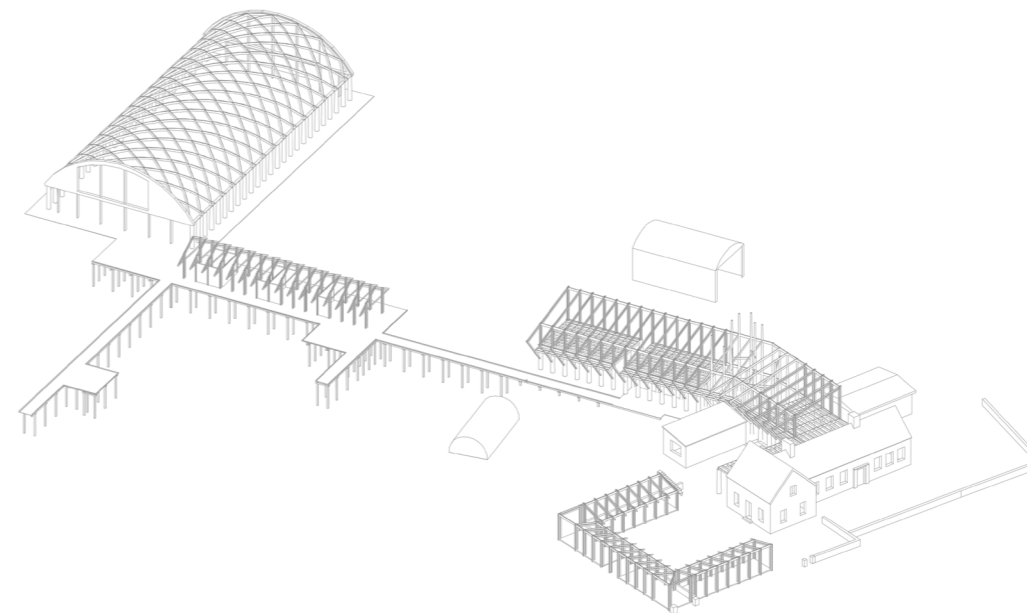


fig.11 Structural Axo of Proposal from previous semester. This illustrates how the design is entirely of timber.

05 LITERATURE

8 He has simply asserted “the introduction of temporal representations in addition to spatial representations in the taxonomical system for representation could enrich understanding of the landscape, assessment of existing landscape designs, and the creation of new designs” and underlines a “need to acknowledge a specific domain for types of representation that focuses on time as specifically as the section does on vertical planes.” van Dooren, N. & Nielsen, A.B. (2019).

The representation of time: addressing a theoretical flow in landscape architecture, *Landscape Research*, 44:8, pp 997-1013 It appears this statement could equally be made of the architecture of buildings, (as has been alluded to by Latour) as much as of the landscape.

31

The Test of Time: Considering Buildings as Landscape

In the field of Landscape Architecture, the absence of drawn consideration of time in proposals has also been noticed and is arguably an even more pressing issue given the undeniably temporal nature of landscape. Indeed, the topic of ‘time’ within the landscape architecture sphere is on the rise it would seem, with much due to the work of Dutch researcher van Dooren, who’s PhD entitled ‘Drawing Time’ chronicles the emergence of this theme, and the implicit layers of time within a series of professional practice drawings. 8 He has conducted workshop and project based engagement with students of Landscape Architecture, most recently editing an edition of the SPOOL journal, with ‘Drawing Time’ as its central theme. It exhibits some interesting approaches to the representation of time, ranging from ‘fixed moments’ in time, to capturing movement, to diagrammatic representations. These are interesting case studies for my research, particularly in my own attempt at grappling with ‘landscape time,’ however as the journal itself acknowledges, “there is still work to do... the theoretical basis is still in its infancy.” (van Dooren, et. al 2022).

In art, a building photographed or painted in its context is considered a “landscape,” be it urban or otherwise. Even if the image focused entirely on a singular building, I can’t imagine anyone categorising it as a still life, in the way you would easily label as a glass bottle, for instance. Why then do we still revert to considering and drawing buildings as euclidean objects? If we theoretically categorise buildings as landscape, how might we begin to draw them? Conversely, could a methodology for drawing buildings whole ‘in time’ help to transcend our view of them from still life to landscape? One thing is for certain, if it were possible to move our interpretation of buildings towards that of landscape, it would be more and more difficult for designers to justify unmaintainable designs, or to ignore the fact importance of buildings standing the test of time.

The Test of Time: Considering Buildings as Landscape

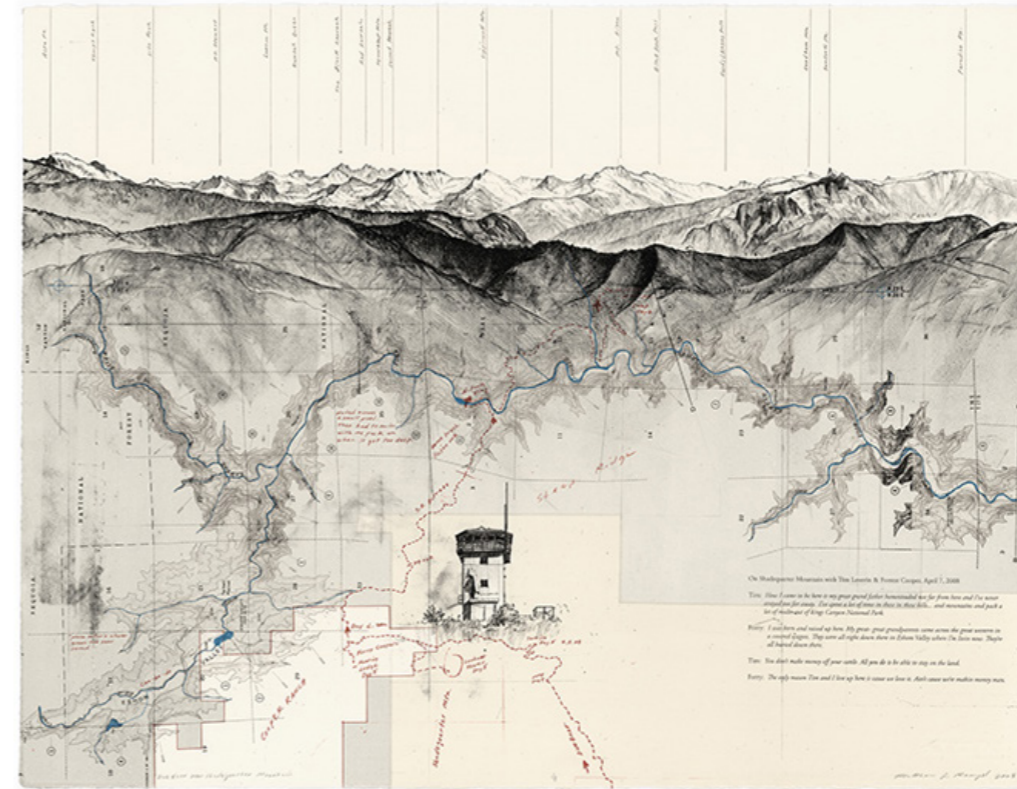


fig.12 ‘Due East over Shade-quarter Mountain’ Matthew Rangel (2005) Use of collage is also present here.

32

05 LITERATURE

9 In contrast, he proclaims non-trivial drawings to be “the very condition of architectural experimentations...[belonging] to a specific category of representation that makes architectural thinking possible.” Departing from Platonic or Cartesian views, neither are they simply artistic or illustrative, but as he describes, “idiosyncratic approaches, which controvert the presence of the entity presented in the drawing yet to elaborate it further.” “Proper” architecture, he proclaims, results from the merging of the arts of thinking, living, building, and drawing well, which together formulate his blueprint for a heuristic wheel to investigate factures of architecture. Frascari, M. (2011). *Eleven exercises in the art of architectural drawing*. London: Routledge..

A Waste of Time? ‘Non-Trivial Drawing’ as cognitive tool

‘Drawing time is all well and good, but what about valuing the practitioner’s time?’ you might validly question. Frascari discusses drawing as a true cognitive tool in polarity to the superfluous contemporary use of drawing as a seductive representational tool, in ‘Eleven Exercises in the Art of Architectural Drawing: Slow Food for the Architect’s Imagination,’ (2011). Ranging from light-hearted activities such as using foodstuffs for ink, to more applicable exercises, all his methods strive toward accessing tacit knowledge and creating as he pens them; ‘non-trivial’ drawings, or “the place where architectural ethics occur.” Frascari, much like Kundoo, decries the prevailing ‘unnecessary hastiness’ of contemporary living as well as architecture, which exists within “three spheres of influence: the push of finance, the urge of technology and the pull of fashion.”

The same position can be extrapolated to architectural drawing styles. As he laments, “Digital technology speeds up tasks... but produces buildings that lack grip and traction in time.” 9 This research work suggests that a new category of drawing which specifically investigated the time within a project would manifest as a ‘non-trivial’ drawing process, such as Frascari has commissioned. Similarly, the time of the architect spent in drawing in such a way could not be considered a “waste” of time, as the tacit knowledge gained by the architect, and expressed to the client through the artefact, would far outweigh similar time that is habitually spent by offices on numerous “realistic” 3D renderings. 10

A Waste of Time? Non-trivial Drawing as Cognitive Tool

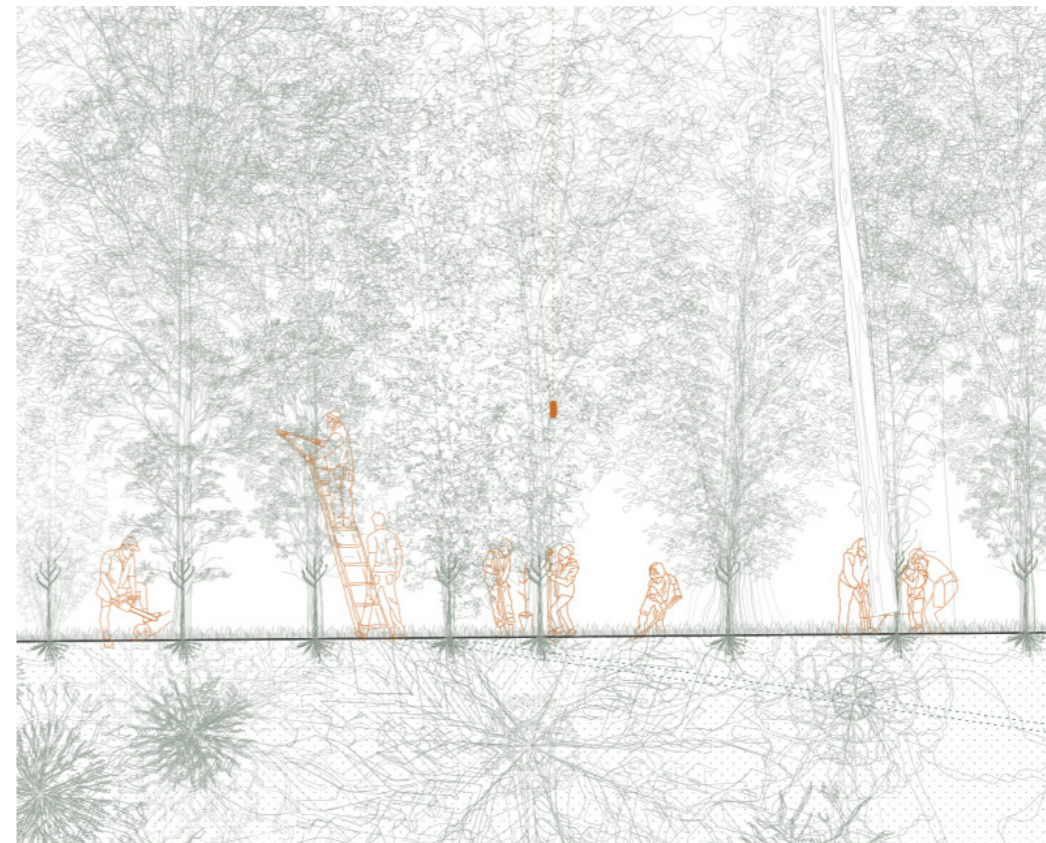


fig.13 Sample from final drawing

10 It would be wrong to assume Frascari, or indeed this author, propose a rejection of digital tools entirely. In fact, one of his exercises advocates for ‘Hybrid’ drawings made through “a continuous process alternating conversions and translations.” His issue, like Latour, lies with the iconophilia that comes with the rendered images of building perfection, which through “pseudo-completeness [hide] a loss of rigor,” Citing Pareyson’s idea of ‘Formativity,’ defined as “a way of making such that, while one makes, one invents the way of making,” his salient advice is to be guided in the act of drawing itself. Frascari, M. (2011). *Eleven exercises in the art of architectural drawing*. London: Routledge.

06 METHOD

Methodology -Redrawing

Ray Lucas, has endorsed the idea of learning through redrawing, himself having conducted research into other architect's works by "retracing the marks... to engage more directly with their practice. Understanding the drawings as scores to be re-enacted." Even in more general terms he promotes drawing, or as he labels it 'inscriptive practice' in order to encompass sketching, notation, diagramming etc., as a means of research, saying these practices are "equivalent to extended discourse in writing; and...offer significantly different insights, not easily accessible through textual models of discourse analysis, critical theory, or observation." (Lucas, 2019)

Drawing Methods:

100 years:

Having complete the 'Single Artefactual Drawing' as spurred on by Frascari's idea of 'A Single Drawing' to represent an entire project, I began by identifying and drawing a north-south cross section through the proposal and site that I felt best described the project in a single instance. This cross section incorporated the original schoolhouse, a sectional elevation of my proposed extension, the crossing of the river, an elevation of the changing pavilion and cross section of the GP hall. When I was satisfied with this, I stripped the site back to its existing state, and began to create a series of drawings, separating layers of groundwork, foundation stones, primary and secondary structure and envelope to show the construction of the proposal, an effort towards showing incremental construction in the vein of my 'built time' proposals. Quite quickly within this process, it became clear that what would be even more interesting than this construction series, which is a type of drawing that is quite often done by students and practising architects alike,

Drawing Time



fig.14 + 15 Showing layers in separation of construction build up.

06 METHOD

would be to continue further into the lifespan of the building.

I then proposed to further investigate the time embodied in last semester's scheme through a process of re-drawing to create a series of layered drawings revealing the 100 year (+) imagined narrative of the proposal. This timespan seemed to allow for a long view of decay, maintenance, and growth within the project, and begin to bring in to question the representation of maintenance and caretaking that I felt had been neglected last semester.

The choice of a 100 year span of time was partly in reference to the oft used term of 'building service life' which was once 60 years but is stretching in current discourse to 100. However, it was also chosen as 100 years is the upward limit of generational memory. The middle range past and future, as Lynch advocated for, is more likely to engage viewers, as it has a direct influence on their own lives.

This method of 100 years was refined to drawing the project at 5 year intervals, with the exception of the initial 6 month construction of the extension, which was drawn at bimonthly intervals, and the arrival of the second phase of construction including pavilion and hall in year 2 and 5.

Drawing Time

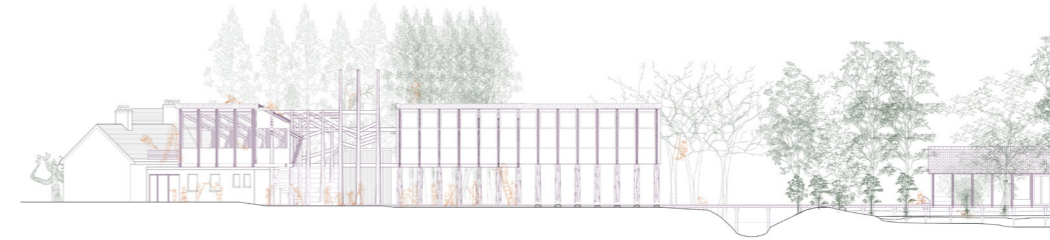


fig.16 Sample from early version of drawing before techniques of collage were employed. Less successful in conveying the building or the narrative.

06 METHOD

Narrative

While I was interested in the idea of devoting time to a series of potentialities, narratives, or simply put, stories, as championed by Ampatzidou, I instead decided I would present a singular narrative due to the limit of the research timeframe. I felt the 'incompleteness,' of choosing one narrative would in itself stimulate the imagination, an "indispensable hinge between intuition and understanding," (Frasconi, 2011), of both fellow practitioners and the client body, spurring the viewer to question the representation and imagine their own alternative reality for the project. I decided my narrative would be utterly optimistic, and envision a 100 year future where the building was looked after attentively and diligently. With this approach, it became necessary to illustrate this maintenance.

Inhabitation

Thus, the inhabitation of the drawing became particularly important, showcasing the 'Time of the Body' which was broadened to encompass the act of caretaking as much as other user inhabitation. To this end, I drew at least one symbolic representative for every act of construction, maintenance, and repair at each of the 5 year intervals.

Drawing Time

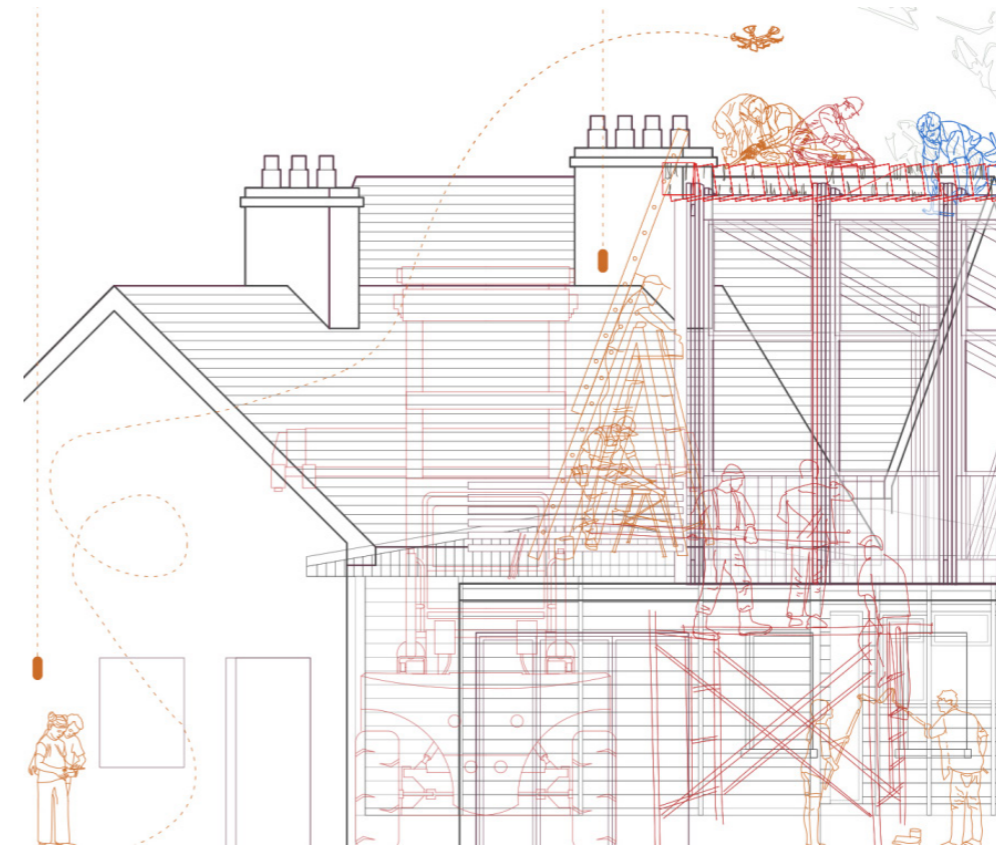
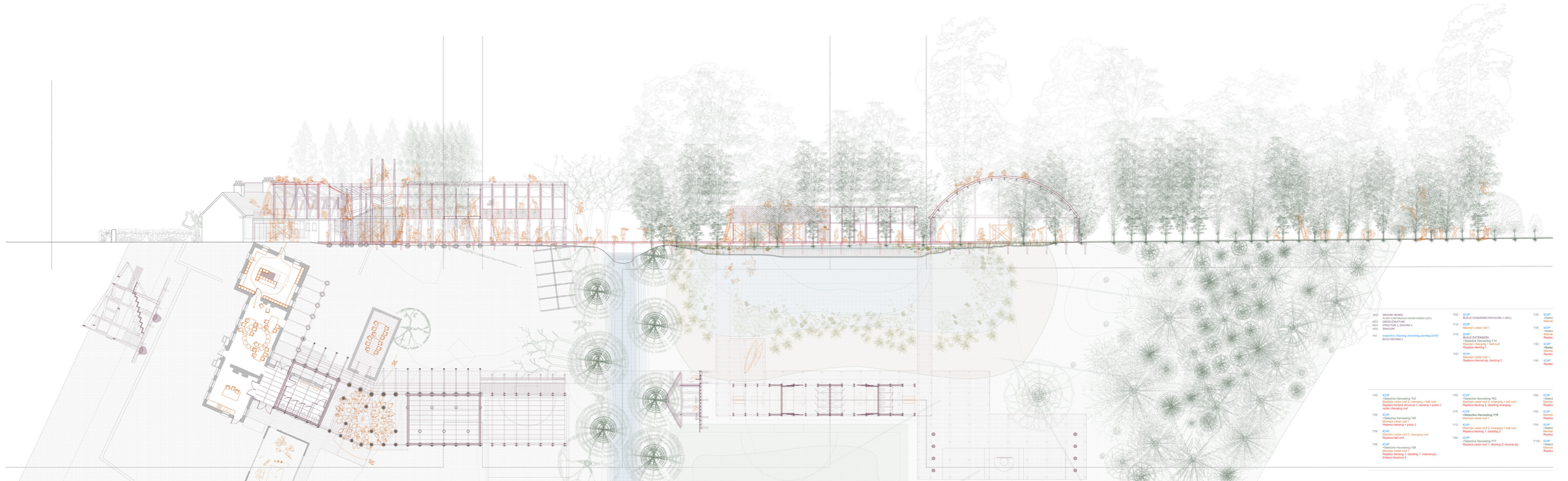


fig.16 Sample of final drawing showing detail of inhabitation.

Fig. 17 (overleaf) Drawing at Interim Review Stage.



100	GROUND WORKS	105	SCVP	110	SCVP
101	PLANT CONSTRUCTION OVERVIEW (20%)	106	SCVP	111	SCVP
102	CONSTRUCTION OVERVIEW (20%)	107	SCVP	112	SCVP
103	CONSTRUCTION OVERVIEW (20%)	108	SCVP	113	SCVP
104	CONSTRUCTION OVERVIEW (20%)	109	SCVP	114	SCVP
105	CONSTRUCTION OVERVIEW (20%)	110	SCVP	115	SCVP
106	CONSTRUCTION OVERVIEW (20%)	111	SCVP	116	SCVP
107	CONSTRUCTION OVERVIEW (20%)	112	SCVP	117	SCVP
108	CONSTRUCTION OVERVIEW (20%)	113	SCVP	118	SCVP
109	CONSTRUCTION OVERVIEW (20%)	114	SCVP	119	SCVP
110	CONSTRUCTION OVERVIEW (20%)	115	SCVP	120	SCVP
111	CONSTRUCTION OVERVIEW (20%)	116	SCVP	121	SCVP
112	CONSTRUCTION OVERVIEW (20%)	117	SCVP	122	SCVP
113	CONSTRUCTION OVERVIEW (20%)	118	SCVP	123	SCVP
114	CONSTRUCTION OVERVIEW (20%)	119	SCVP	124	SCVP
115	CONSTRUCTION OVERVIEW (20%)	120	SCVP	125	SCVP
116	CONSTRUCTION OVERVIEW (20%)	121	SCVP	126	SCVP
117	CONSTRUCTION OVERVIEW (20%)	122	SCVP	127	SCVP
118	CONSTRUCTION OVERVIEW (20%)	123	SCVP	128	SCVP
119	CONSTRUCTION OVERVIEW (20%)	124	SCVP	129	SCVP
120	CONSTRUCTION OVERVIEW (20%)	125	SCVP	130	SCVP

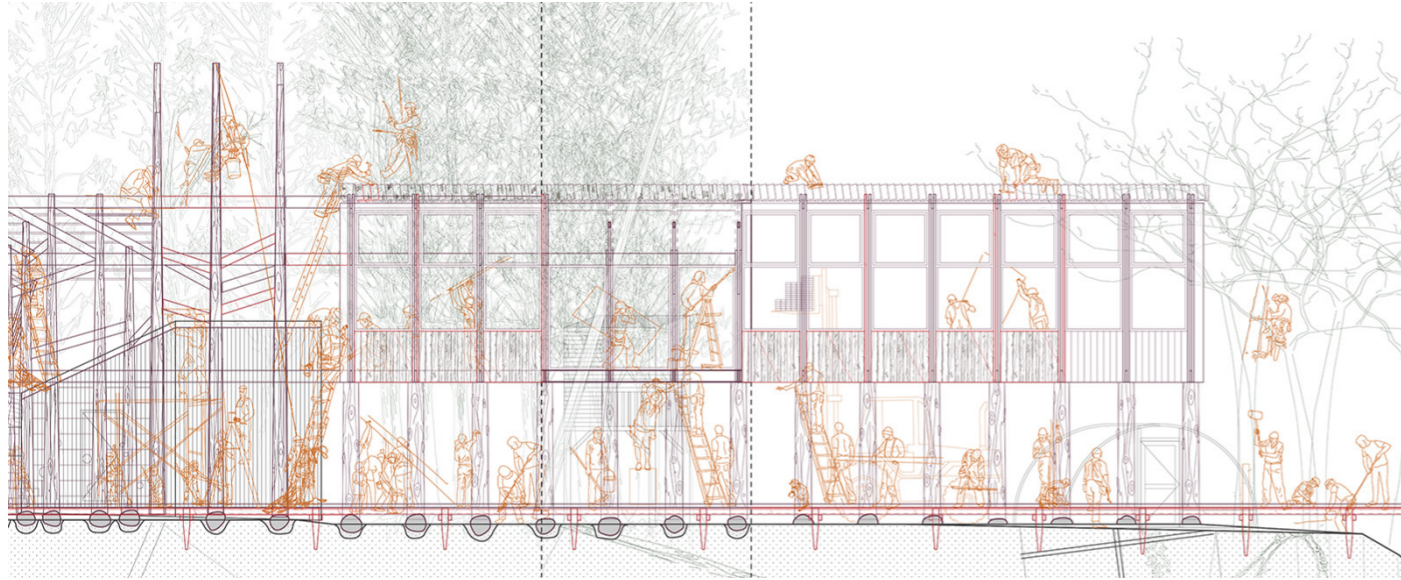


fig.18 Sample of interim review drawing showing inhabitation in ORANGE only.

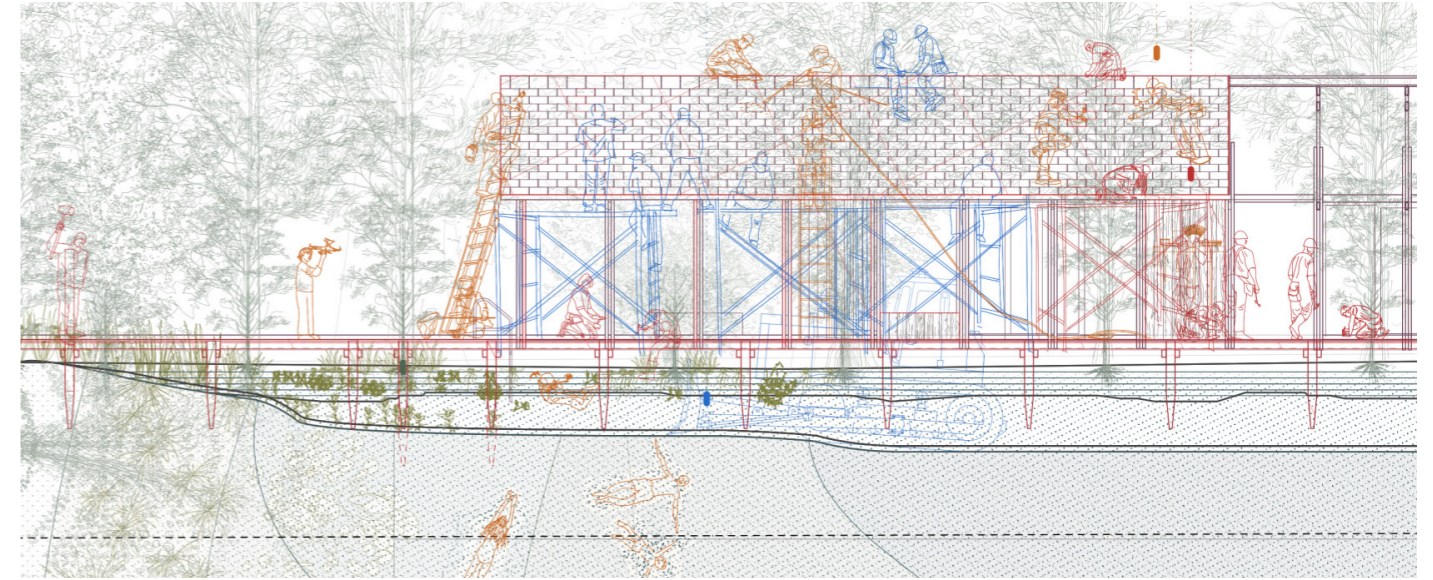


fig.19 Sample of final drawing inhabitation categorised into BLUE - construction, ORANGE - maintenance, and RED - repair. 'Revellers' can also be seen in the plan segment in ORANGE.

06 METHOD

Collage

At an interim stage, it became clear that the sectional elevation alone was not enough for first time viewers to interpret the project correctly, and I was frustrated by not showing some of the design considerations that had been made with maintenance in mind, such as the access to the extension roof from the external first floor walkway. To remedy this I reintroduced an element of collage, showing a reflected plan of the site below the section and two further floating cross sections in relation to the plan. This plan also became a way of showing the enjoyment of the proposal by its community, with swimmers in the pond as important to the narrative as the replacement of timber roof shakes.

Layering and Separation: FILM

Of Tufte's representational tools, I made use of 'Layering and Separation.' Tufte himself advocates for the method of 'Layering and Separation' as "Among the most powerful devices for reducing noise and enriching the content of displays...visually stratifying various aspects of the data" (Tufte 1990). The series of sections were approached first with layering, as has been outlined, in the hope of encapsulating both the three facets of time as discussed and their intersection. It emerged from the research that while the cognitive process of layering a new drawing for every 5 years was informative to me through drawing it, this layer of information was lost when represented to others in a collapsed image. Film and digital means became a clear necessity to disseminate this separation, or building effect, as 25 drawings pinned alongside each other for spot the difference would be ungainly. I therefore began a process of testing first GIF animations, and then further editing techniques. This output will be discussed further under dissemination.

Drawing Time

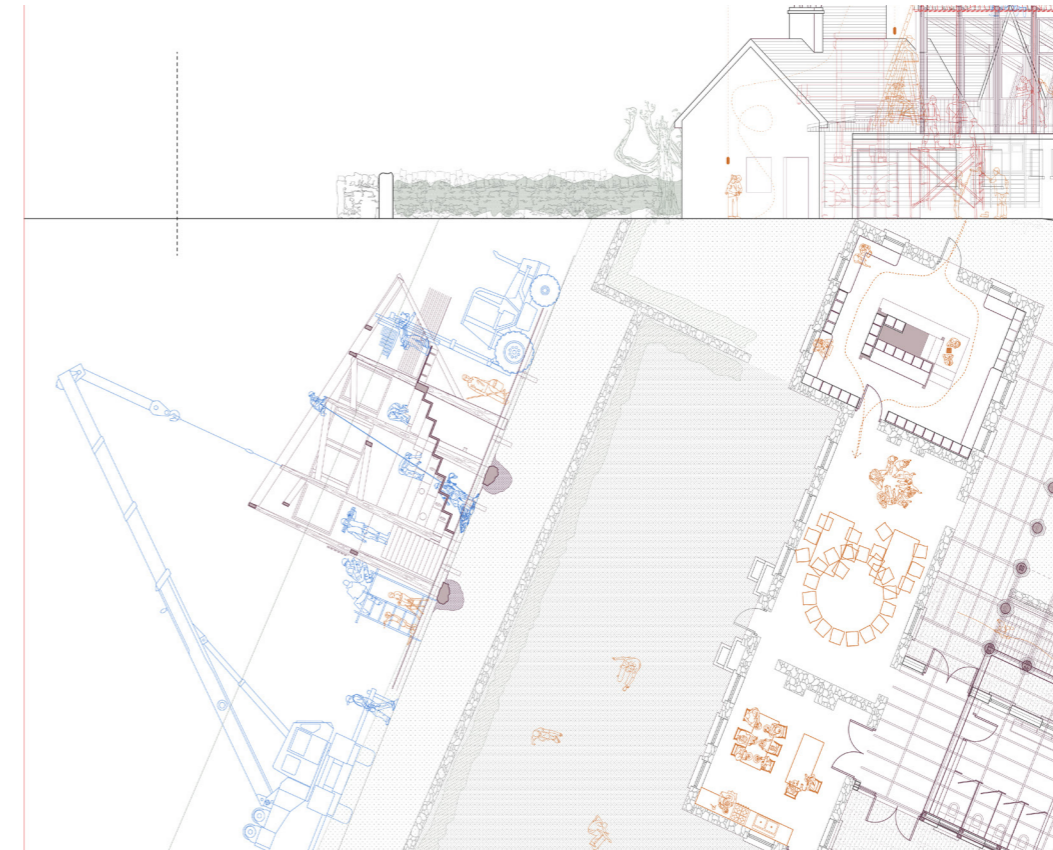


fig.20 Sample of final drawing illustrating collage technique

06 METHOD

Colour:

To aid in deciphering these timescales from each other within a single layered drawing, the use of colour was employed. To begin with, the three original colours I had used to represent Body, Built and Landscape Time, orange, purple and green, were used respectively.

However, with the emergence of separate roles within the inhabitation element, I introduced further colour of blue for construction workers, and red for both those figure undertaking repairs and the elements of the buildings that had been replaced. Orange remained in use for the maintenance people, or 'caretakers' and this was also deliberately used to depict the users enjoying the spaces in plan, so as to highlight that the community itself were the caretakers of their site.

I conducted another experiment with colour that changed hue for each of the time layers. However on completion I felt that while visually attractive, it muddled the information presented as opposed to clarifying it.

Annotation:

In order to achieve the 25 drawing layers representing 100 years of the school, continuous cover forestry, development of the pond and the maintenance of all these elements, research had to be undertaken into material lifespans, rate of species growth etc. It was evident that the illustration of these processes alone did not fully represent this information, and so at first it was trialled as a table in the bottom right hand corner of the print drawing, but ultimately this information was refined into summary key notes, colour-coded as aforementioned, and integrated into the drawing itself. This heavy annotation is highly informative, and reinforces the credibility of the proposal that might otherwise be lost.

Drawing Time

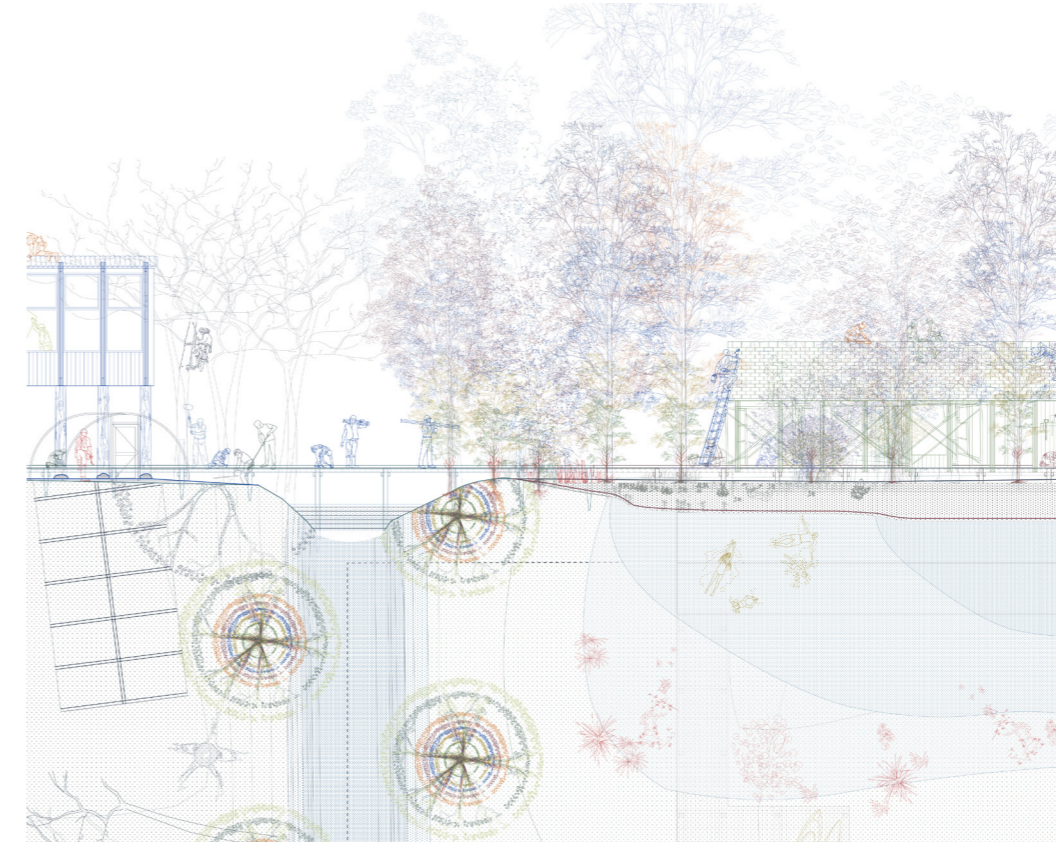


fig.21 Experiment with different colour for every 5 year period.

M00	GROUND WORKS PLANT CONTINUOUS COVER FOREST (CCF)	Y05	ICVP BUILD CHANGING PAVILION + HALL	Y25	ICVP +Selective Harvesting Y21 Maintain cedar roof 2, changing + hall roof
M02	GREEN STRUCTURE	Y10	ICVP Maintain cedar roof 1	Y30	ICVP +Selective Harvesting Y28 Maintain cedar roof 1, Replace decking 1
M04	STRUCTURE 1, DECKING 1	Y15	ICVP BUILD EXTENSION +Selective Harvesting Y14 Maintain changing + hall roof Replace decking 1	Y35	ICVP +Selective Harvesting Y35 Maintain cedar roof 2, changing + hall roof Replace decking 2
M06	ENVELOPE	Y20	ICVP Maintain cedar roof 1, Replace internal ply, decking 2	Y40	ICVP Replace cedar roof 1, internal ply
Y02	Inspection, Cleaning, Varnishing, painting (ICVP) BUILD DECKING 2				
Y45	ICVP +Selective Harvesting Y42 Maintain cedar roof 2, changing + hall roof, Replace timbers structure 1, decking + posts 1, cedar changing roof	Y65	ICVP +Selective Harvesting Y63 Maintain cedar roof 2, changing + hall roof Replace decking 2, cladding changing	Y85	ICVP +Selective Harvesting Y84 Maintain cedar roof 2, hall roof, Replace cedar changing roof
Y50	ICVP +Selective Harvesting Y49 Maintain cedar roof 1 Replace decking + posts 2	Y70	ICVP +Selective Harvesting Y70 Maintain cedar roof 1	Y90	ICVP Maintain cedar roof 1, Replace timbers structure 1, decking + posts 1
Y55	ICVP Maintain cedar roof 2, changing roof Replace hall roof	Y75	ICVP Maintain cedar roof 2, changing + hall roof Replace decking 1, cladding 2	Y95	ICVP +Selective Harvesting Y91 Maintain cedar roof 2, changing + hall roof Replace decking + posts 2
Y60	ICVP +Selective Harvesting Y56 Maintain cedar roof 1 Replace decking 1, cladding 1, internal ply, timbers structure 2	Y80	ICVP +Selective Harvesting Y77 Replace cedar roof 1, decking 2, internal ply	Y100	ICVP +Selective Harvesting Y91 Maintain cedar roof 1 Replace internal ply

DRAWING

This drawing illustrates a 100 year future for the Sligo Sudbury School.

Initial Construction period
Months 00 - 06.
Remedial works + further construction Summarised in 5 year periods.

Elevation and Sections
depict human activity relating to the **CONSTRUCTION**, **CARETAKING** and **REPLACEMENT** of built and organic structures.

Plan depicts community's activities in both indoor and outdoor spaces.
CARETAKERS and **REVELLERS** are both shown in **ORANGE** as they are considered one and the same, two equally important roles in the lifetime of the site and each with opportunities for learning.

KEYNOTES

Keynotes detail the timeline of specific human interventions.

Example:

to be undertaken in year 40 and year 80
Y45, 85
Replace Changing Pavilion roof

Colour Key:

BLUE	construction
ORANGE	caretaking/ preventative maintenance
RED	replacement

Additional Colours:

BLACK	existing 19th C school house, and 20th C add-ons
PURPLE	New build
GREEN	Landscape interventions

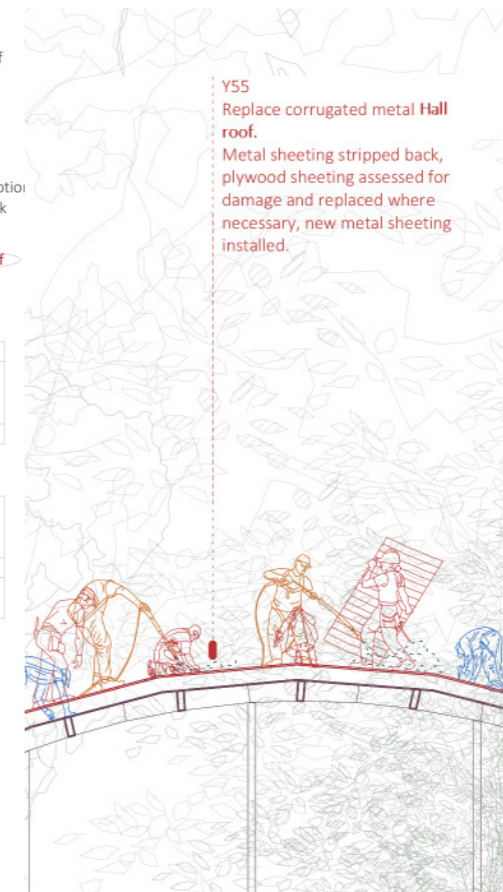
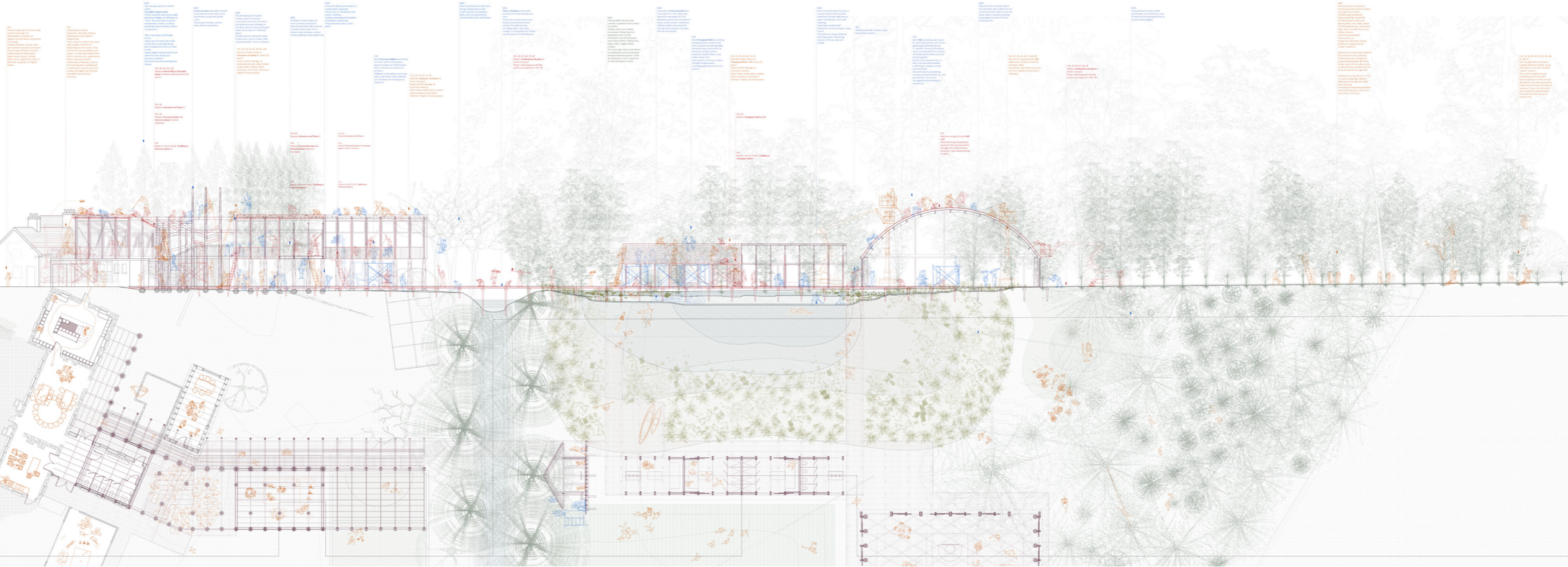


fig.22 Initial draft of annotation. This key was too cryptic for external viewers.

fig.23-25 Annotation keys on final drawing and sample of Keynote.

fig. 26 (overleaf) Final Drawing

DRAWING
Architectural drawing showing a cross-section of a building under construction, with various structural elements and construction details. The drawing includes a legend, keynotes, and a detailed view of the building's interior structure.



07 OUTPUT + DISSEMINATION

Through this research, I hope I have furthered the investigation into methods of time-cognitive (and/or narrative) design and representation in architectural drawing, and equally the limitations of such. The research project resulted in two interrelated outputs: a drawing, and a film, to explore the subsidiary research question; how might the drawing process be translated from tool to artefact?

The design research constitutes a series of overlaid drawings, predominantly showcasing a sectional elevation, but with aspects of collage of partial plan and cross section, and heavy annotation that together forms a single 'drawing' artefact. The process of drawing this series has undoubtedly acted as a cognitive tool for me, as architect/designer/narrator, to fully engage with the time aspects embedded in my proposal. However, the further ambition was for this series of layered exploratory drawings, as Tufte would put it, to escape "flatland," and serve to illuminate the layers of time within my pre-conceived Design Research Proposal to an external audience, of both architects and future users and/or 'caretakers.' To this end, the project evolved to also explore methods of disseminating a cognitive drawing through the medium of film.

A dichotomy in current architectural drawing practice has appeared between the tangible and the digital. This research would argue that the difference is less a consideration of whether the drawing tool was digital stylus or pencil, but on how the audience interacts with the work, both visually and physically, and the level of autonomy or agency bestowed upon the viewer. To explore the advantages and disadvantages and fully exploit the differing opportunities afforded by each, the same body of research is presented in two formats; print and screen.

From Tool to Artefact: Film vs Print

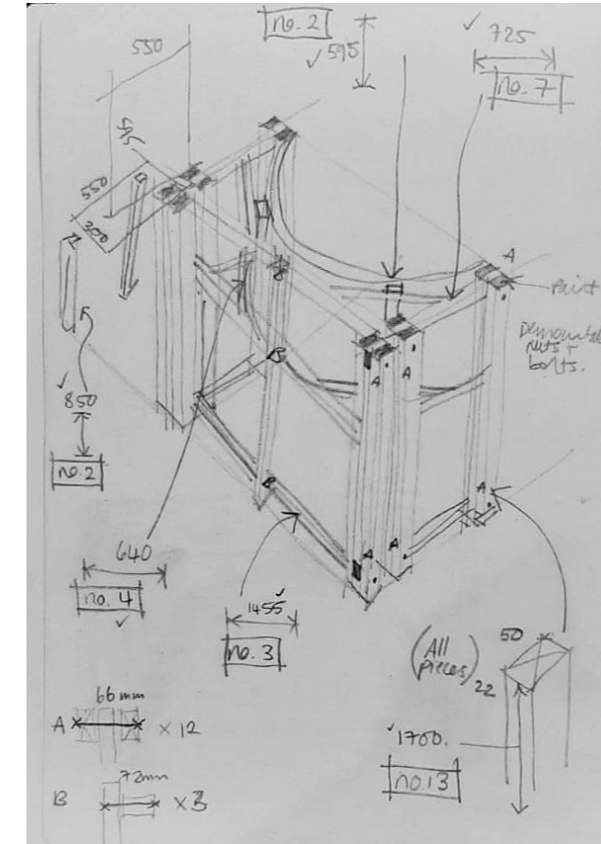


fig.27 Sketch of armature showing lengths and quantities of lumber.

07 OUTPUT + DISSEMINATION

Print

The print version is a 1:100 scaled drawing of just under 2m length. The quality of a paper copy is never to be underestimated; without glare, or an infuriating lack of line definition, the eye can more gently rest and slide over this printed drawing, especially with the tranquillity that comes with a static image. However, especially with its weight of detail, I as illustrator have no option but to delegate the interpretation of the drawing to the viewer.

I was interested in designing a way to counteract this somewhat in order to achieve as immersive an experience as possible for the viewer and attempt to convey the sense of the project as a 'Gull in Flight.' To do so I explored removing one obstacle from the viewer; the necessity to walk along the drawing's length, unable to view the drawing as a whole without stepping too far back to perceive its detail. This led to the design of an armature for the display of the drawing with a curved surface, so that the viewer can absorb the full span of the drawing and its timescales from a single standpoint, and eyepoint (at least peripherally).

The armature also seeks to heighten the atmosphere of the tangible. I took the opportunity to utilise the timber technology of the proposal in its construction, using batten size timbers of 40x22mm to form double column elements; essentially a 1:2 demonstration of the system proposed for the extension's upper floor and the changing pavilion.

This hopes to further connect the viewer to the narrative of the scheme and better inform them as to the manageable sizes of timbers employed, relatively low level of skill and experience required, and most importantly, its reparability.

From Tool to Artefact: Film vs Print

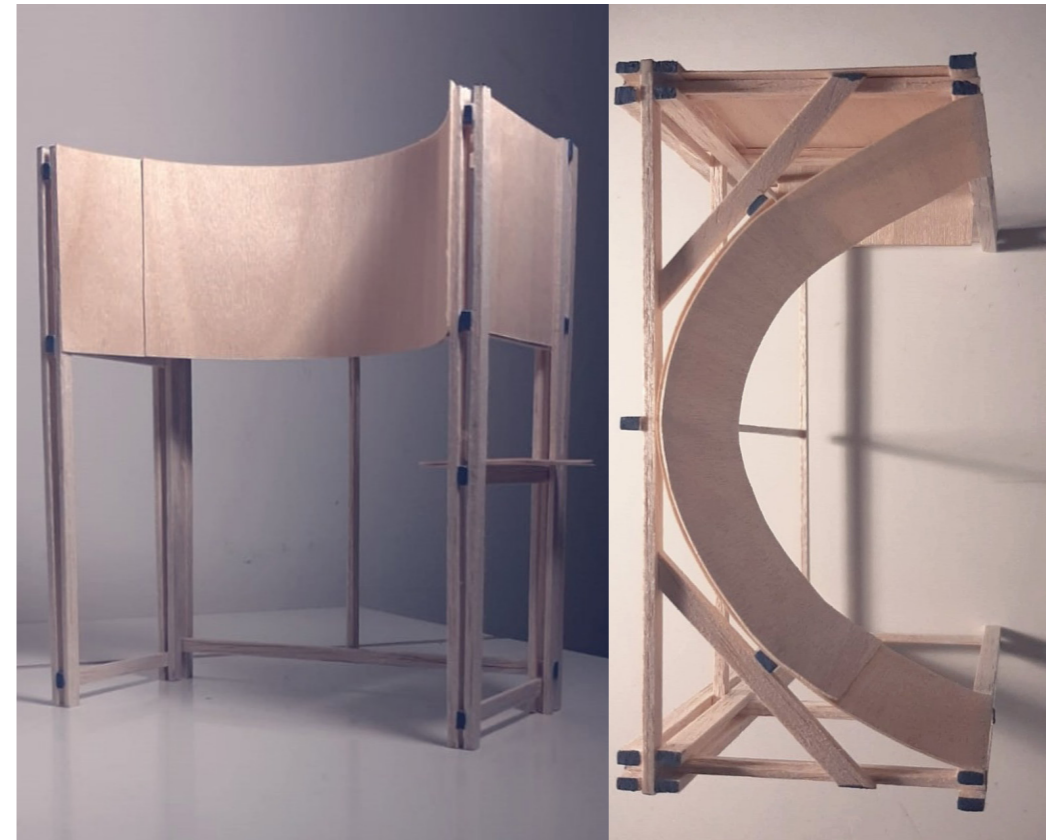


fig.28 + 29 Photographs of 1:10 model of drawing armature design.



fig. 30-32, Process photographs of construction of armature.

fig.33 + 34 Photographs of completed armature.

07 OUTPUT + DISSEMINATION

Film

The advantage of digital representation on the other hand is the opportunity for a dynamic entity. Considering the subject matter, Time, it became pertinent to explore film as a vehicle for communication. However, rather than divulge entirely to another process, this piece explores how the same drawings can be represented to an audience with the agency in the hands of the filmmaker, using time, sequence, movement, and scale change, to orchestrate the viewer's interpretation of the research. Earlier iterations of the film were more rigid in their representation of time, with the sequence of construction accurately relative to the 5 year spans of growth and maintenance which followed. This meant that the film spanned 8 minutes, with the built proposal emerging within the first number of seconds. Having tested this to an audience at final review stage, it became apparent that it would be more engaging for an audience to be more liberal with the representation of time. The final film instead focuses on the narrative side of the design research in conveying the project's rich storyline and hopefully enticing viewers towards the idea of an architectural culture of caretaking. The medium also allowed for a voiceover, which I recorded in replacement of the keynotes present in the print artefact. It is hoped that it will become clear which of the methods of representation an audience, or varying sectors of that audience, are drawn too, from observation of attendees at the exhibition.

This written research will also become part of the exhibition in bound form, displayed alongside the drawing on the armature, to allow viewer's a deeper interpretation if they so wish of the research leading to the film, or drawing, as they observe.

As a final act of dissemination, the design research work in its entirety is available in curated website form for posterity at <https://clarecree.wixsite.com/drawing-time>.

08 REFLECTION + CONCLUSION

On reflection, I am satisfied that this design research process has acted as a cognitive tool for me, as architect/designer/narrator, giving me a tacit knowledge of the time embedded in my proposal and the reality of its maintenance. I also believe that the outputs, of film and the accompanying print and timber armature, together act as illuminating artefacts to an external audience of architects and future caretakers.

In order for this process to really be a useful tool for practising architects, it would be necessary to spend less time in its making. However I feel that if I were to employ this method again, it would indeed be streamlined, and I would follow many of the same principles devised; such as 100 year life span in 5 year increments, use of colour for differentiation, and the combining of this with detailed and informative keynotes. I do think that such a drawing presented to a client body would more likely inspire them to upkeep their buildings and take joy in doing so than an equivalent ring bound text document maintenance schedule. A criticism might be that the drawing is overly romanticised. To that I say, far too many of our predicted futures are dystopian, and we should instead make room for optimism, if we hope to inspire changes in architectural practice, building practices, and our culture at large. The creation of the film, while an undertaking, I do believe has the potential to connect with a wider audience and to be disseminated more easily online etc. For this reason I would recommend it as a tool of dissemination where possible.

Louis Kahn glorified "the beauty of ruins... of things which nothing lives behind." Instead, what of seeing the beauty in structures which only stand so long as life sustains them, to revel in the patchwork repair of a well-loved building? In other words, to avoid timelessness and instead aim for timely and 'Time-full' Architecture, as this research has endeavoured to do.

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PART B - ADRS SUBMISSION

<https://clarecree.wixsite.com/drawing-time>