Tangible Thinking: Methods in the Work of TAKA Architects

A thesis submitted in fulfilment of the requirements for the degree of Doctor of Philosophy

Alice Casey
Bsc Arch, Dublin Institute of Technology/Trinity College Dublin

School of Architecture and Design
College: Design and Social Context
RMIT University

September 2017
Methods

2.1 How We Work: Drawing as a Proto-Building
   *A description of our work and design processes, through an examination of the artefacts we produce, to help situate the reader in the context of our practice*

2.2 How I Research: Small Things
   *An examination of the research methods I have developed over the course of the PhD and how they reflect our work process and design thinking*

2.3 How We Practice: Learning by Doing in Venturous Practice
   *A look at how we make difficult or unusual things; using Concrete as a case study.*

2.4 How We Design: Distilling, Exaggerating and Intensifying Character
   *An investigation of a shift in practice focus and identification of fundamental practice design methods*

2.5 Research Conclusion
   *Identification of the discoveries I have made and their effect on our practice*
How We Work
I have included this description of how we work to give insight into our design and work processes, and to help situate the reader in the context of our practice. As my research is based in the fundamentals of our work, practice and design methods, a clear description of how we actually work is invaluable to contextualising the research.

In this chapter, I will examine how we produce and represent our buildings through drawings, images and models, and how this relates to our daily work and design processes. Through a close examination of the artefacts we produce, I will demonstrate how our work processes inform and reinforce our thinking process, and vice versa.

Drawing

Introduction

In his essay, ‘through the window’¹, Anthony Caro discusses the difference between the Sculptor and Architect. According to Caro, some Sculptors find difficulty in the move from the directness and spontaneity of a studio sculpture to large-scale public work. There is a danger that a small scale maquette is merely ‘blown up’ to urban scale, without consideration of the difference, in terms of the making of the object or its spatial implications in relation to the viewer.

He sees the ‘working shorthand’ of the Architect’s drawings as the key to the Architect’s ability to work at a large scale. The Sculptor tends to work with the material directly, making changes spontaneously. Due to the inherent size of the subject and because fabrication is usually not under his direct control, the Architect makes drawings to test ideas and visualise the subject, but also to communicate his intentions clearly to the fabricator.

In Caro’s thinking, the fundamental difference between a Sculptor and an Architect is their drawings. Robin Evans² comes to the same conclusion, but is more ambivalent about the advantages that drawing may give the Architect. He observes a disassociation that occurs, as an architect never works directly with the object of their thought; always working at it through some intervening medium.

---

¹ (Caro, 1991)
I think that, with the aid of modern CAD drawing methods, we can overcome this potential disassociation. I intend to demonstrate how, for us, the drawing IS the building (that is, until it’s not).

In our practice, drawing is not an artistic endeavour; nor is it solely a tool to aid the design and construction of the building. It is not an image or a picture of a building. For a while, in our minds and on a computer hard drive, the building exists; without a brick being laid or a foundation excavated.

**Drawing Process**

Like most architects, drawing is intrinsic to our work process. In the early stages, we tend to sketch (Cian more than I) over print-outs of digital maps or survey drawings. I prefer to work on the computer screen with AutoCAD - but this has its limits in the early period, when a freer examination of potentials is required. I force myself to sketch when required.

As we go through the process – from planning, to tender and production information – the majority of work is done through digital drawing, with problems being worked through in overlay hand sketches. We tend not to veer from the traditional forms of orthographic projection drawing very often – working mainly in plan, section and elevation. When needed, we use axonometric drawings to visualise in three dimensions.

*Fig 2 Overlay hand sketch, Belvedere Sports Grounds*
2.1

How We Work

Early Design

Every project (without exception), for us, starts with drawing a plan. This gives form and scale to the brief and establishes the spatial relationships between the required accommodation. In tandem with the plan, a section or elevation may be developed to understand the physical manifestation of the building. The plan and section/elevation usually embody the fundamental ‘idea’ of the building. For a small to medium sized project (which most of ours are), these drawings are usually at a scale of 1:100.

For example, in Merrion Cricket Club, for pragmatic reasons the new pavilion had to replace the existing clubhouse, sitting on virtually the same footprint. The new plan developed out of a reaction to the existing entrance experience, which was poor. In redrawing the existing plan, we reconfigured the relationship between site entrance, the bar and the changing rooms, to improve the spatial sequence and resulting views to the playing field. We set up a view to the cricket pitch from the car-park, framed by an entrance portico, which gave a public entrance to the relocated bar on the northern end of the new building. The changing rooms were then moved to the more private southern end.

In conjunction with these straightforward plan moves, we developed an elevation drawing which helped articulate our attitude to the cricket pavilion typology. We felt strongly that the new building should be recognisable as a cricket pavilion. For us, that implied that the form should be characterised by a pitched roof and a viewing colonnade facing the pitch.

These 2 or 3 drawings (plan/section/elevation) usually succinctly capture the idea or concept of the building, which for us, once established, rarely changes in any significant manner. Although the basic ‘idea’ of the building might be quite direct, as set out above, complexity usually comes out of applying the simple moves to the site; or out of thinking about what the character of the building might be. We tend to develop a 1:500 site plan drawing and a partial 1:20 section drawing at the same time.

3 The proximity of a drainage wayleave, rights of way, car parking restrictions, playing field requirements, etc.
4 You arrived at the rear of the existing pavilion and walked past changing room windows to enter the bar.

Fig 3 ‘Idea’ in Plan and Elevation, extract from Competition Board, Merrion Cricket Club, 2011
How We Work

We make 3D visualisations (or have them made by an external visualiser); but these tend to be for the client. They are not a design tool. The 1:20 section is where we develop the character of the building; establishing what the building ‘is’. This is the drawing where we visualise the nature of the project to ourselves.

The section drawing is always partial\(^5\) and realises an important aspect of the project. It is generally taken through an external façade and explores aspects of the internal/external relationship. The section tends to have an idea about the relationship of structure to envelope, the character of the interior and the external materiality. It is usually inhabited by at least one person, to give scale and to indicate the potential inhabitation of this fragment of the building.

In Merrion Cricket Club, we drew the section through the viewing terrace, as much of our initial idea related to improving the viewing relationship from the site and pavilion to the playing field. Looking back at this very early section\(^6\), it is interesting to see that the fundamental principles of construction in the finished building remained remarkably similar to the competition stage section – a lightweight traditional roof construction on a supporting concrete ring beam and columns, the interior lining concealing insulation, windows that open away from stray cricket balls with external seating below, a concrete viewing terrace with seating at the edge.

The 1:20 partial section is fundamental to our design process. It features in almost every competition presentation we have made. Even when not presented to the client, this section is in the background somewhere, informing all the design decisions we make. By drawing this section at the early design stage, we ‘fix’ our vision of the project in our mind’s eye. It enables us to view the potential project as a building, rather than an idea of a building.

By developing an attitude to the matter of the building at an early stage, we become connected to and protective of the building – even before we are actually appointed to design it. In PRS 02 we made an attempt at explaining the relationship of tender stage drawings to our buildings. We drew an iconographic diagram showing the tender drawings like

---

\(^5\) Although may form part of a key complete section

\(^6\) see Fig 4
2.1 How We Work

Key
1. House 01, 2009
2. Wynnward Park, 2010
3. Europan, Competition, 2009
4. Glanevin Chapel, Competition, 2013
5. Etsy Office Fit-Out, Design Proposal, 2014

Fig 5 Partial Sections
By drawing everything in great detail, we prevent unforeseen architectural circumstances changing the design. This early 1:20 partial section is the vanguard in our protective force. It starts to encase our architectural ideas in a tangible armour.

**Axonometric Ideas**

We tend to draw axos in the early stages to communicate ideas. This came about because we don’t like (and aren’t very good at) making 3D visualisations. We prefer to work in line drawings. A line drawing allows you to edit what you communicate, in a way that a 3D render does not. By its nature, a 3D image insists that everything visible in the image is designed and on show. Only the cropping of the image allows you to assign weight to a particular aspect to which you would like to draw the viewer’s attention.

An axonometric line drawing allows you to draw a project in its entirety (or only partially) without designing all aspects. Forms can be simplified, materials omitted - without losing meaning in the communication. In fact, we find the drawing of simplified, diagrammatic axos helps us to graphically distil the significant aspects of a potential project to a client, and to ourselves; they help draw the viewer’s eye to what’s important.

We tend to draw the significant poetic ‘moments’ in a project in axonometric. These are the parts of the project which we can see clearly in our mind’s eye and which form the basis of our early design. This has developed over the past 7 years.

In the 2011 competition boards for Merrion Cricket Club, an axonometric is used to communicate the ‘idea’ – of an over-arching roof with colonnade and relocated accommodation beneath – but in a direct and non-poetic manner. The more poetic ‘moments’ are visualised in rendered 3D images.

In the intervening years we have become more adept at using the axonometric to communicate the poetics of a project. This is in part due to the reflective process of the PhD. We have realised that these poetic...
2.1

How We Work

Key
1. Window Detail, 4House, 2011
2. Exploded spatial and tectonic diagram, 4House, 2011
3. Exploded tectonic diagram, Wynnsward Park, 2010
4. Exploded tectonic diagram, Magennis Square, 2012
5. Screen formats, Waterloo Lane, 2013

Fig 7 Axonometric Explanations
moments’ are the key to the projects and are the scaffold around which we assemble the building. We have found that the axonometric drawing is the easiest way to communicate these, sometimes subtle, messages.

It is also significant that these are quick and easy drawings to generate. Myself or Cian can make them without having to resort to instructing a member of staff or an external visualiser; when aspects can be ‘lost in translation’. The act of making these important drawings ourselves ensures our connection to the design.

In the 2015 competition presentation for a new Sports Pavilion for Belvedere College in Dublin, the booklet we submitted was, in part, composed of a series axonometric drawings which summarised the main ideas, under a section titled ‘key design moments’.

We linked the typological origin of ‘the Belvedere’ as an elevated vantage point, through the existing school building ‘Belvedere House’ which sits at the top of a hill in inner city Dublin, to our idea for the new pavilion as a belvedere, raised above the landscape, offering unobstructed views of the playing fields. We then drew 3 key ‘moments’ in the proposed design – the entrance sequence, the relationship of the changing rooms to the playing field and the vantage point at 1st floor for viewing the games.

Each important idea was drawn in a simplified axonometric style. The booklet was to be submitted without a presentation in person, so clarity of communication was essential. The diagrammatic axo gives us the ability to distil the ideas for the reader, ensuring misinterpretation was minimised.

I have come to realise that the separation of ideas into ‘moments’, and the distillation of those moments through drawing, is not merely a communication tool for presentation; it is an intrinsic part of our design process. Through the process of the PhD, I now understand that, when designing we distil and enhance aspects of our buildings, to create intense architectural ‘moments’. I discuss this in greater detail in later chapters.
An axonometric drawing maintains the dimensional ‘truth’ of the plan, section or elevation, in a manner that a perspective line drawing would not. A perspective drawing is more faithful to the ‘truth’ of how the object is viewed; but it distorts the accuracy of the measured dimensions. The distortion of the measured form sets the perspective apart from the other orthographic drawings. We favour the axo over a perspective because it is part of the same ‘family’, allowing easy comparison with 2-dimensional drawings. It becomes part of the ‘proto-building’, as discussed in the section below.

Detail Design and Production Information
Once planning permission has been received, we start the detail design work. As a starting point, the architectonic decisions made in the 1:20 partial section are applied to the relevant part of the plan. This usually throws up a myriad of problems; which are then resolved in plan, and redrawn in the section. This cycle continues until we have a partial plan and section which works. We then apply all the lessons learnt in the partial plan/section to entirety of the plan and a whole section. We draw another part of a section; and set the cycle in motion again, until a series of detailed plans and sections are generated.

The drawings are digitally made in AutoCAD. Problems are sketched by hand on overlays of 1:10 or 1:20 print-outs; but everything is then tested and redrawn in the AutoCAD base drawings. These drawings are not ‘to scale’, as digital drawing is scaleless (or at least simulates drawing at a 1:1 scale). We can zoom in to the level of a 1:1 detail, zoom out to a 1:100 general arrangement scale, (or to 1:10,000 if necessary); all within the same drawing.

The ability to digitally draw at a 1:1 scale, and use that drawing at all scales, is where we diverge from a purely traditional form of drawing. The traditional draughtsman made a series of drawings at differing scales, showing increasing levels of detail. By necessity, the detail was separated from wider drawings relating to the general arrangement of the building and the site plan. The plans were separated from sections and elevations.

We can now draw all aspects of the building – plan, section, elevation,
detail, site plan, drainage, services – within the same theoretical page. The plans, sections and elevations can be overlaid on each other in the same drawing, without loss of clarity. We can see the entirety of the building in one place, through the layering and arranging of the various orthographic ‘slices’ through it.

The Drawing is the Building

This is perhaps where we overcome Evans concerns about the drawing producing a disassociation from the ‘building object’. To me, the drawings are an object; a kind of proto-building. They are not a design or representation of a building; they are a building composed of lines and hatches, which will one day become a building made of bricks and concrete.

Eva Prats recently talked eloquently about learning to draw in the office of Enric Miralles and Carme Pinos. In trying to draw the difficult flowing geometry of a spiral staircase, Miralles impressed on Prats the care which must paid to the radius of the curves. She must think of the flowing balustrade not as lines but as curving metal, and to adjust her drawing accordingly.

In the last 2 years, we have started to employ full-time staff. The most fundamental lesson we have to teach them about working in our office, is to respect the drawings. Not because they are some sort of precious artefact which must be held at arm’s length, but because the lines and hatches are the material of the building (or proto-building). To erase, move or delete a line is to fundamentally affect the building.

A new staff member is made to understand that a rectangle is a brick (and not just an idea of a brick); a double line is glass; solid hatch is a pavement; all of which have fundamental physical properties which must be respected in the drawing. By stretching the rectangle to longer or shorter than 215mm, to satisfy some sort of dimensional requirement of the elevation, the brick becomes ‘off-standard’; either a cut brick or a ‘special’. ‘Specials’ need to be specially ordered and made; cut bricks require additional effort on the part of the bricklayer. But more importantly, the inclusion of special or cut bricks has an effect on the overall character of the building.
2.1 How We Work

Fig 11 Development of a Technical Section, Belvedere College Sports Grounds, 2015
Evans says that ‘architecture...is brought into existence through drawing. [Unlike Art] the subject-matter (the building or space) will exist after the drawing, not before it.’ I would argue that, for us, the building exists during drawing.

Orthographic Projection Drawing vs 3D Modelling
If the drawing is the building, and we employ digital drawing because it enables us to see the entirety of the building as an object, why do we resist using 3D modelling programs; which allow the construction of a virtual building which far more resembles the actual building?

I think it has something to do with the fact that drawing an orthographic slice though a building (a plan, section or elevation) restricts your focus to that particular view. As with 3D rendered images, the 3D virtual model insists that the designer consider all aspects at the same time. There is a danger of being over-whelmed by the design task; but also by the pragmatics of the virtual object tectonics.

Although we like to think of the drawing lines as materials, there is a potentiality in a line which there is not in an object. An object by its nature has an internal, almost inevitable, logic and weight. The line has no weight or inherent tectonic logic so it can bend itself to have many (or no) properties.

The restriction of orthographic projection to a horizontal or vertical planar view allows the designer to consider only that which is apparent in that particular drawing, without the distraction of trying to find resolution in 3 dimensions. Only the problem in front of you needs to be solved - for now.

To have a conception of the object or problem in 3D, you must switch between plan, section and elevation, each time readjusting your focus and mentally stitching together the disparate views. For me, there is something about this process, taking mental effort to achieve a 3D assessment, forcing the brain to make connections, which seems to help the creative process.

It has parallels with the choice between hand-sketching or taking a photograph. Arguably the photograph is a much quicker and more accurate means of recording something. But the sketch takes mental effort; forcing you to make judgements about the subject of the drawing. A 3D virtual model is a more accurate (or more realistic) version of the eventual building. But (and I see it all the time with students), it is easy to become overwhelmed or distracted. In my opinion, the ability to constantly rotate the object and look at all angles, rapidly changing the view and perspective, confuses the eye. Subtlety can be lost; resulting in projects which can be overly form-based in nature.

Due to the drawing process which produces the artefact, in my mental space the building is not a resolved 3 dimensional object; it is a series of consecutive 2-dimensional slices through it. I think this has an effect on how we view and record the final built object. I will explore this in more detail in the section relating to photography below.
Models

Virtual Models
Although we have reservations about the value of virtual models, we do sometimes make them. Generally, they are fairly simple and made in Sketchup\(^{15}\). Most of the time we use the virtual model to take perspective views of a project to form the basis for a montage or render – usually for a client presentation. But, again, these aren’t design tools so are not part of this research.

Occasionally we make a Sketchup model to test the external form of a building. In Merrion Cricket Club, the model was invaluable in testing the geometry of the proposed building and its roof form. For us, this is where virtual models excel.

The plan form of the building is irregular, on top of that we needed to locate the roof apex off-centre, to accommodate an apartment in the attic over the changing rooms. The difficulty was in finding a rational volume, which could cope with the irrational plan form, whilst ensuring no ‘twisting’ of the roof planes.

The sketchup model enabled us to test different options for the potentially complex geometry. The various options could certainly have been drawn. But the properties of a virtual model, where planes can be pushed, pulled and cut, make it much easier to intuitively search for appropriate solutions. Calculating and drawing complex geometry, in this case for us, is more struggle than necessary.

However, it is interesting to note that we settled on a final form which was easy to draw. The application of a rational external form to an irrational plan form gave a complex object; but one which had fairly simple geometric fundamentals. Even while testing ideas in a 3D virtual world, we were aware of the necessity of translating this into 2D drawings.

\(^{15}\) A 3D modelling program for people who don’t like/aren’t good at modelling

Key
1. Virtual Sketchup model testing building forms for Merrion Cricket Club
2. Testing apex positions and roof geometry to avoid geometrical ‘twisting’ of roof planes
3. The final form – a regular volume with offset roof apex, cut to fit site constraints

Fig 12 Sketchup model to test external form and geometry, Merrion Cricket Club, 2011
2.1

Physical Models
We make physical models – usually in card. Sketch models are in grey
card or foam board (as they are cheaper and more robust); presentation
models in brown or white card (as it’s finer). Myself and Cian are fairly
bad at making models, so the physical making tends to be handed over
to a summer student or a member of staff. As we have full-time staff now,
we are making more models than we used to.

However, I’m not sure that, historically in our practice, card models are
da design tool, per se. We tend to make a model when we have designed
something and want to see what it looks like in 3 dimensions. We look
at the model to judge whether what we have drawn is good or bad. But
we tend to go back to the drawing to decide what the changes might be.
The model is a confirmation (or not) of whether the decisions we have
made in the DRAWING are correct or accurate.

I know this is different to how other practices use physical models.
Working for Tom dePaor16 I observed how models were an effective
design tool for him. He liked to have large (1:25/50) foamboard models
made, usually taking a few weeks for a staff member to make. Once
complete, he would immediately start to draw on the model, cut it with
a scalpel or rip faces off (much to the heartbreak of the model-maker).
It generally resulted in lots of change to the design and redrawing; but
perhaps more subtlety to the form and spaces.

Clancy Moore architects17 speak eloquently about their use of models;
how they look at their models closely, allowing even chance defects or
deformations in the making process to inflect the design of the building.
Their models are usually beautiful things, even the sketch models; as
are their drawings.

I think we sit somewhere between Tom dePaor and Clancy Moore in
relation to model-making. We are not using them purely as a design tool,
like Tom, and I think we are less interested than Clancy Moore in the
drawing or model as an artefact in itself.

To us, the drawings are a ‘proto-building’; with all the pragmatic and
poetic associations of an actual building. They must work on both
levels; even to the detriment of the beauty or resolution of the drawing.

16 dePaor Architects, an employee from 2007-2010
17 Andrew Clancy and Colm Moore
How We Work

as an artefact. The drawing may not be beautiful, but it might make a great ‘proto-building’. The model might be rough or ugly, but it helps us refine our thoughts. Both help us communicate with a client or contractor.

I think our attitude to models may be changing however; perhaps as a result of observing during the PRS process how other practices benefit from a close engagement with the models they make. For the Belvedere Sports Pavilion project, carried out during the PhD, we made many more models than we usually would. Although this is, at least partly, due to the building being our largest and most complex to date, I think the PhD process has allowed us to be freer in our approach to how we design.

The realisation that we have a spatial agenda; that we design in ‘moments’; that tectonic ‘truth’ is perhaps no longer a priority, has meant that model-making has become more important to testing ideas in 3 dimensions. We feel more comfortable with the notion that design can be at times ‘irrational’. When higher tectonic ‘truth’ falls by the wayside, judgement becomes of primary importance. Models lend themselves to the ‘up a bit, down a bit’ style of decision making which is required when trying to make the more subtle spatial decisions.

In Belvedere Sports Pavilion, we made partial models of the important moments in the building design – the entrance, the changing rooms, the roof overhang and viewing terrace. We used these models slightly differently to how we had previously. While they were still testing tectonic decisions we had made in the drawing, we were also using them to judge the spatial impact of the decisions. We felt comfortable in changing the structure because it felt ‘too heavy’ in the model. We removed or added columns because they were needed aesthetically – to charge or clarify an entrance sequence.

Our new realisations, enabled by the PhD, are changing the way we think and carry out our work.

Key
1. Presentation site and proposal model, white card, 1:250, Sep 2015
2. Roof form tests, white card, 1:250, Sep 2015
4. Testing of roof structure, painted grey card, 1:100, Oct 2015
5. Partial model of roof overhang to viewing terrace, grey card, 1:25, Nov 2015
7. Presentation model, white card, 1:100, Apr 2016

Note: Models (2)-(6), (8) & (9) were process models. Many of them are partial, relating to important fragments or moments.
Photographs

Although photos aren’t necessarily a design tool, I think I can show below how they are directly related to our design process; that they enhance and expand our thinking, enabling us to see our work more clearly and becoming a valuable source of inspiration in themselves.

Process

The photos we publish of our buildings are usually taken by the same professional photographer: Alice Clancy. (A confusingly similar name to my own, which has resulted in many mix-ups in Irish architecture circles).

Alice likes to wait for a sunny day – a difficult past-time in Ireland – as light is important to the character of her work; as it is to ours. Depending on the size of the project, we might meet at the building for a half or a full day. Usually myself and Cian meet Alice in the morning to have a look around the building and discuss any shots which we feel are important. We also assist with any client interactions and logistics on the day. We try and make sure the client is absent, if possible.

It’s a fairly loose process, as we trust Alice. We like the way she works and want to give her enough space to bring her own interpretation to the building. Although this may sound noble, our reasons are fairly selfish: we want to see how someone else sees the building. Alice consistently surprises us with images of our buildings which help us see them in a different or clearer manner.

We try not to edit the inhabitation of the building out of the photograph; only moving the inhabitant’s belongings if they jar or distract from the focus of the photo. This is a fine line though, and sometimes we have to force ourselves to stop moving things out of shot. For a practice whose ambition is for architecture to be ‘a frame for life’, we have to make ourselves comfortable with the fact that sometimes ‘life’ is messy (or chooses a really awful chair to sit in).

Alice takes a range of photos over the course of the day or half day. She tries to explain to us the different types of equipment she uses and their effect on the photograph – but most of it goes over our heads. A
few weeks later she sends us a contact sheet to choose the final images. Myself and Cian sit at a computer together and argue about which photos to choose.

We send back our selection, for her to carry out some correction work on. Her post-production work is generally very subtle; on rare occasions we ask her to edit something out – a distracting stain on the ground surface, a slight correction to the perspective of the image. The photographs are then issued to us in varying sizes (for web publishing, emailing and other publications). Copyright is shared between Alice Clancy and TAKA.

**Character**

After our PRS 2 presentation, Jo van den Berghe\(^1\), asked us about our photos; why they are the way that they are. He pointed out that a lot of the images were frontal and partial; cropped and flat. We hadn’t really noticed this before. We responded that the images were taken by a photographer and that these were the type of images she liked to make.

However, we hadn’t taken into account, as Jo pointed out, that we select the images from a range of photos which the photographer offers us; that our selection may say something about how we see our buildings.

In thinking about why we select the images that we do, and therefore why we like to view our buildings a certain way, I realised that there may be a direct link to the way we design and draw.
Cropped and Partial

During the PhD process, we realised that we like to design in fragments – physical ‘bits’ or building details which we incorporate into the overall scheme - and in moments – discrete spatial experiences which we link together, to form the scaffold around which we construct the building. We also like to make intense architectural experiences, which I discuss more in other chapters.

I have come to realise that the framing of some of the photos is unconsciously reinforcing these latent ideas.

In simple terms, the partial nature of the photographs reflects how we see and think about buildings; breaking our work down into moments or fragments. However - it is not necessarily a conscious ambition to frame the specific moments or fragments incorporated into the particular piece of work being photographed.

Alice Clancy frames the photograph. I think we then choose the images which correspond to how we like to see buildings. The framing of the photograph may not relate directly to a particularly important or significant (to us) fragment, but it enables us to see other, maybe incidental, pieces of the building, which in turn shows us something new about our work.

In Merrion Cricket Club, Alice Clancy made a photo of a part of the rear elevation showing a very unimportant security gate. It had been designed as a bit of an afterthought during the construction process, as the gate as tendered wasn’t secure enough. I think we liked the photo because of the combination of flatness and depth which it conveyed. But it also showed us that this, perhaps forgotten, gate was something of value.

I think we must have looked at it quite closely because we made a similar, if more refined, version of it in a project which was being designed at around the same time as we received the photos from Alice Clancy. The green painted screen in Waterloo Lane bears a striking resemblance to the security gate in Merrion Cricket Club.

20 It’s also possible that this screen was designed before we got the photos, but I’m not sure that matters, as it works both ways. Potentially we chose the photo of the gate because it resonated with the current project we were designing.
Alice’s photo had revealed a fragment of our building, which we then incorporated, in a distilled and refined form, in another project.

Through examining the photograph contact sheets which we received from Alice Clancy for Merrion Cricket Club, I have realised that when we are given a choice between similar shots, we consistently choose the more closely cropped images.

I think the close cropping of the photos has 2 purposes: to abstract and highlight fragments of our buildings in the manner as set out above, and also to increase the intensity of the experience of the photo. In the same photo of the security gate, I can see that the, already closely framed original shot, was cropped even further at our request in the final image.

The framing of the shots, generally without the distraction of a middle or background, has a sense of immediacy; like standing so close that your nose touches the building, intently and intensely looking.

My research in later chapters reflects these observations: that we take ‘bits’ of buildings, be they our own work or other references, distil their essence or meaning to intensify the experience of them, and incorporate them into current projects.

I had not realised until now that the photography of the buildings is one of the mechanisms through which we do this. The photographs help us analyse our own work and to, unconsciously, identify elements which may be worthy of further development or investigation. The cropping increases the intensity of the experience; restricting our focus, in pursuit of the closest possible analysis.
2.1

How We Work

Fig 18 Galvanised metal security door, Merrion Cricket Club, 2013, Alice Clancy

Fig 19 Original shot selected from contact sheet

Fig 20 Extract from construction elevation drawing in AutoCAD

Fig 21 Painted metal screen, Waterloo Lane, 2014, Alice Clancy

Key
1. The flat and frontal photograph of this very unimportant metal security door enabled us to view it as something of value.
2. A distracting stain is removed from the ground
3. The colour contrast is tweaked to emphasise texture, highlighting flatness and depth
4. The image is more closely cropped to increase the abstraction and intensity of the experience
5. Extract from construction elevation drawing, cropped to match photo.
6. Drawing can be cropped to exact photo size by counting bricks and steps of concrete ring beam. Drawing is a ‘proto-building’.
7. Abstraction, achieved through frontal view and cropping of foreground in photo, enables us to view the building like our drawings; which helps us analyse and identify fragments of future buildings
8. The door was distilled and refined to become a privacy screen to a public window in a private house.
Frontal and Flat

We like to draw through orthographic projection; as most architects do. But our resistance to virtual models and our ambivalent relationship to physical models may signify a deeper relationship to orthographic projection than other architects.

Evans speaks of ‘the wall [becoming] a petrified drawing’ through orthographic projection. The phrasing of this sentence is interesting. It seems obvious to me that, because the drawing is made in the service of producing the wall, the drawing should be considered a flattened wall. But Evans made me stop and think: the wall is a petrified drawing (rather than the other way around). Perhaps sometimes for us like Evans suggests, the relationship of the drawing to the building is reversed; maybe the building is, in a sense, produced in the service of the drawings?

I have said that in our mental space, the digital drawings make a ‘proto-building’ composed of lines and hatches and that, for me, this isn’t a resolved 3 dimensional object; instead the building is composed of a series of flat, horizontal and vertical slices.

We are very protective of our buildings before they are built. We make constructional sections at a very early stage (even before we are appointed by the client), to ensure the project is a tangible thing in our minds. We don’t like things to change – the building design is fixed as soon as possible. We make many, many detailed drawings to avoid potential unforeseen circumstances having an effect on the building. For a while, we think of the drawings as a building.

The construction, and even the actual experience of the building, is often short-lived – in comparison to the drawn-out design process. It makes sense to me then, that the photos we choose, show our buildings in the way that we are used to seeing them in our minds – frontal and flat – like in a drawing produced through orthographic projection. This is how we have envisaged, and grown connected to the building, for the majority of the life of the project.

We tend to make physical models to confirm the decisions we have already made in the drawings. The photos we select of our buildings are part of the same process: the flat and frontal photographs of the building are a physical confirmation of the drawings we have made.


22 Sometimes we may only visit the finished artefact a couple of times, especially in the case of private houses.
2.1 How We Work
2.1 How We Work

2012
2.1

How We Work
Methods

In writing this essay as an explication of our work and design methods, I think it is important to make clear that the insights contained within it were enabled by the reflective process of the PhD. It is written as an introduction to how we work, to help situate the reader in the context of our practice and our methods. However, my research over the past 3-4 years has coloured it and allowed me to be explicit about how and why we do things the way we do; in a way which would not have been possible before this.

Prior to this, I think if asked, I would have given fairly mundane answers: we draw in 2D because that’s the way we’ve always done it; we make lots of drawings because we like to be organised; we don’t really make models; and the photographs are the product of the photographer. My research in later chapters has permitted me to see past the mundane; or, in fact, to question the mundanity of the mundane. It has enabled me to see that there is method in our particular brand of madness.

At the outset of this research, I was floundering around trying to think of what I might do. I happened to watch a documentary on David Hockney²³. I knew very little about Hockney, other than a few of his most famous paintings. But over the course of the film, I was astounded by his range and depth of work, and at how articulate he was about his work processes.

I began watching other similar programmes²⁴ and could see the same qualities in many other artists. The programmes followed artists in their daily work lives, performing everyday tasks in the production of their artworks. One memorable scene involved an artist meeting the postman at the door of her studio, to receive an envelope of small, flattened, stuffed birds, which she then filed laboriously in labelled drawers in a filing cabinet, for use in sculptures at a later date.

What struck me about these windows into the work-lives of artists, is that the beautiful and intensely creative end-product seemed to be produced by an accretion of small, mundane acts; carried out with a methodical rigour, in the service of a higher purpose. Hockney’s description of his ‘joiner’ works, carried out by polaroid and later by fax, is particularly illuminating of the self-awareness and rigour of method required to be creative.

While I am not suggesting that this essay and the later writings are at the level of Hockney, I think they are the first step in approaching a level of self-awareness of our methods which will allow us to enhance our intuitive creativity. By becoming aware of how and why we do the small, everyday things, we are articulating a type of conscious intuition.

The articulation of this to ourselves, enables us to communicate and share these insights with other designers and practitioners.

Chapter References


Wollheim, B. (Director). (2009). David Hockney: A Bigger Picture [Motion Picture].

²³ David Hockney: A Bigger Picture (Wollheim, 2009)

²⁴ “What Do Artists Do All Day?” (BBC, 2015-2016)
How I Research
The following essay is an explanation of some research methods I developed over the course of carrying out the PhD. The methods were developed to try and find ways of looking closely at our Work. They reflect our day-to-day work process, and developed out of previous experience of trying to understand other cultures and practices we encountered.

**Context**

I have said that I am trying to look at our buildings to see them as they are and, from there, trying to understand how they came to be that way. In thinking about why I have taken this approach, I have realised that there are significant precursors in our Practice and in my teaching experience, which have informed this way of thinking and looking.

In 2007, we made a 4-month trip to Asia\(^1\) – a particularly exotic place when you’re Irish. A lot of that trip was spent trying to understand the vernacular buildings we saw; trying to put our finger on what in the local environment or culture had made these strange (to our eyes) buildings.

One of the most enigmatic was the Tibetan window (Fig 1); a familiar window, always framed by an unfamiliar black trapezoidal shape. This shape appears around all traditional Tibetan windows – from temples to farmhouses. It was obvious that it had some sort of symbolic function, but we couldn’t shake the feeling that there was more to it than pure symbolism or iconography. We had come to learn, during our travels in the preceding months, that even the most elaborate of decoration usually stemmed from a pragmatic source; even if that source had been forgotten over time.

We were so curious that we researched the window online, while traveling. We found an explanation\(^2\) which detailed the religious symbolism – but it still felt wrong or, at least, inappropriate, especially when looking at the surrounds on the most rural of farmhouses.

After a few weeks in the climate of the Tibetan plateau, we finally understood the practical underpinning of the black surrounds. It was disarmingly simple and obvious, once understood. The black paint around the windows reduced the harsh glare of the sun on the high altitude plain, at the same time, absorbing heat to reduce heat loss at the weakest point.

---

1 Cian extended the trip to 12 months and visited many other places, which he discusses in detail in his research

of the thick walls: the window.

This insight was enabled by looking closely and trusting an intuitive understanding of buildings.

In 2010, we were involved in the curation of the Irish Pavilion for the 2010 Venice Biennale. The exhibition was a re-presentation of the work of eminent Irish architects, de Blacam and Meagher. As part of the curation, we had to examine the practice’s drawing archive (Fig 2).

DeBlacam and Meagher dislike rhetoric, so there is very little written about the buildings by the architects themselves. It is difficult to get them to talk in detail about their work, other than funny stories about difficult clients. We had to piece together the story of their Practice from the drawings they made.

We found some amazing things: a project list of thousands of projects, ranging from betting shops to churches; drawing after drawing of a dresser at 1:10 with specific household objects, painstakingly drawn to scale on the shelves; a beautiful coloured section drawing of soil pipes and wastes in an apartment building; hand-drawn, free-flowing perspectives for competition presentations.

In both situations, we were looking at artefacts to try and understand how they came to be the way they are. In both cases, there was little or no rhetoric or theory to distract us from looking closely. We learnt that an examination of the small, everyday things of a culture, or a Practice, enables a deeper understanding of the subject as a whole.

I used to teach in the Master’s course in Queen’s University Belfast. At the beginning of every year the students used to have an assignment in which they must recreate in a model, a particular photo of a part of a seminal building (Fig 3) The students carry out their search for understanding in a similar manner to us, when travelling or looking through DeBlacam and Meagher’s drawing archive.

In the absence of visiting the buildings, they examine and interrogate existing drawings or photographs; looking closely. They make beautiful

---

Key
1 An ‘outline’ plan, without technical information. The students only draw what can be experienced.
2 Photograph of the final model, recreating an existing photo of the actual building. The model is achieved by looking closely at existing drawings and photographs to understand how the building is the way it is.
‘outline’ drawings (Fig 3) to help them understand the subtleties of the spaces they are trying to recreate. They are looking at an artefact and trying to understand how it came to be that way.

**Reduced Drawings**
In the early stages of the PhD, we were making reduced, analytical drawings to try and represent aspects of our practice (ref. icon drawings – fig 5) and to investigate parts of our buildings (ref. outline sections – fig 7). We had also shown examples of our working drawings (ref. technical sections - fig 6).

It was remarked that our working drawings seem to embody some of the qualities of the buildings themselves (flatness and richness), in a way that the reduced drawings did not. We were challenged as to whether our analytical drawings should always be reduced and simplified.

We made the series of ‘icon’ drawings for PRS 01. They were an attempt, in the early stages of the PhD, to communicate our Practice interests, by distilling a set of ‘values’ from buildings or things that we liked. For example, we took an image of the reference, Tikal (Fig 4) - a temple compound in the jungle of Guatemala that Cian had visited, and examined it to see what we liked about it.

The temples rose above the canopy of the surrounding jungle. In this case, it wasn’t the physical building we were interested in; it was the fact that the building enabled a shift in perspective. By leaving the close and familiar surroundings of the jungle and climbing to the top of steps of the ziggurat, you emerged into another unexpected and unfamiliar world above the treetops, with a clear view of the distant horizon.

From the reference photo, we made a drawing (Fig 5) of a circle representing the jungle (or the familiar world), with a simplified elevation of the pyramid breaking through the circular boundary. The icon represented to us the shift in perspective, or change in the way of living, a building can enable in the occupant; a building helping you see the familiar world in an unfamiliar way.

The drawing of the simplified image or ‘icon’ allowed us to extract and...
communicate this value in a succinct manner. Through drawing, the essential meaning of the reference (to us) is distilled and intensified from the photo to the icon, in order to articulate our relationship to it. The analytical drawing is reduced and simplified.

In 2.1 How We Work, I discuss how in our day to day work we use simplified, diagrammatic axos in much the same way – to distil and communicate ideas.

For PRS 03, I wanted to look at the spatial implications of the technical details we make. I took a technical section (Fig 6) of each project, and in the manner of the Queen’s students drawings, I drew an outline around the profile of the section, removing all technical detail (Fig 7). I was left with a series of simple outlines of the complex drawings.

In the same way that restricting your view to an orthographic slice through a building (plan/section/elevation) means that only the problem in front of you needs to be solved, the drawing of the outlines enabled me to restrict my focus to the profile of, and therefore the space created by, the technical junction detail.

The comparison of the reduced and simplified drawings enabled me to analyse our projects to try and find common spatial threads. The reduction to a simple outline narrowed my focus and helped me make new insights into our work.

Additive and Reductive Process
We make very detailed drawings of our buildings. We draw in CAD; all technical detail is therefore included in the drawing at a scale of 1:1. We also include some sense of the inhabitation of the building: light fittings, people, furniture, etc. This makes the drawings, especially the sections, feel layered, rich and dense. In contrast, our analytical drawings are sparse and 1-dimensional.

Over the course of the PhD, I realised that our design and drawing process is both additive and reductive. The drawing of a technical section is a good example of this. When working on the drawing, we break it down into small decisions or fragments: an eaves detail, the entrance
step, the staircase. We take this fragment, edit it through drawing and redrawing, and then move on to the next. The drawing is then created by an accretion or layering of the edited fragments. The arrangement of the accretion is dictated by the overall idea of the building.

The editing usually consists of reduction - thinking something is too elaborate, too heavy, too complicated; needing to be more direct, simpler, more effective.

It has parallels with the drawing of the icons. Through reduction, we are trying to communicate the essence of the detail or idea, as succinctly as possible. The layering or accretion comes out of an urge to create densely and intensely inhabited spaces.

I can demonstrate this process through a ‘time-lapse’ series of drawings for the Belvedere Sports Pavilion (GIF 1 - Technical Drawing - please open separate GIF file). I recorded each iteration of a key section, from the initial first CAD ‘sketch’, up to the final construction drawing; a process taking place over the course of 2 years.

Cycling through the drawings clearly shows how we concentrate on and rework small pieces of the drawing - the overhang, the roof form, the terrace, the shower rooms – designing and editing each in isolation, and reworking them back into the overall section. At times, like at planning, all the technical detail is removed and the drawing is reduced to an outline, to ensure it is easier to read and communicates what is essential at that point.

Our technical drawings embody some of the qualities of our buildings because our drawing process parallels our design process. Our analytical drawings are the distilled fragments or ideas, which accrete over the course of designing, drawing or researching.

**Small Things Method**

For PRS 04, I attempted to explain the relationship of the sparse, flat analytical drawings to our layered, rich day-to-day technical drawings; and in the process, to demonstrate how we design in general. I made a drawing series, called ‘Small Things’ (GIF 2 - Small Things - please open separate GIF file).
open separate GIF file), to explain how we think when we design, and when making the dense technical drawings.

I took an image of a window (Fig 8) we designed for the refurbishment of the house at Waterloo Lane. Through drawing, I broke the window down into the separate elements (Fig 9) which make up the overall composition; corresponding to the fragments in our design and drawing process. The drawing of each is reduced and outline in nature; in reflection of the reductive editing process which each fragment goes through during design. The reduced drawings are then layered on top of each other to represent the complex whole which has been created by an accretion of the edited fragments.

Below the drawing is a text which builds as the drawing layers up. The text is poetic; describing the impact or use of each of the fragments. By the end, the text is a narrative of the life which is framed by the window. By looking closely, what started as ‘A Window’ has now been transformed into a nuanced object.

The ‘Small Things’ drawing is both a metaphor for how we think when designing and drawing, and also a useful research tool. In the next PRS, I used the drawing method to analyse our work. During the PhD process, I had discovered a potential shift in our Practice’s thinking; from an interest in tectonics towards a more spatial sensibility. Through the examination and comparison of the ‘outline sections’ described in the sections above, I had identified a series of recurring spatial themes in our Work.

I analysed, under the previously identified spatial themes, some photos of projects which I thought were related, using the ‘Small Things’ drawing method (Fig 10). The analysis enabled me to chart how our work has changed in the pursuit of a more spatial agenda. It also allowed me to identify the physical mechanism though which we develop themes from project to project. This is described in more detail in 2.4 How We Design.

I then used the method to analyse a project, Merrion Cricket Club. I wanted to show how our design process works in parallel – how form

---

**Key**

1 **Reductive**
   The reduced outline of each element or fragment of the window composition

2 **Additive**
   The outlines layer and accrete, with a poetic text beneath, to make a nuanced object

---

Fig 9 Explanation of ‘Small Things’ drawing
and tectonics are separate but inter-related; both having spatial and poetic ambitions. I took a section and elevation from the project and re-drew them in the manner of the ‘Small Things’ drawing (GIF 3 - Parallel Design Processes - please open separate GIF file). The drawings describe the same object, in the same manner, but through the differing lenses of form and tectonics.

The method, developed as a way of explaining our design thinking, has enabled me to demonstrate my new insights into our Work.

Research through ‘Small Things’

Not only is the ‘Small Things’ drawing a metaphor for how we design, and a specific method employed in the analysis of our Work, it is also a reflection of how I research. I have looked at small, real things - a series of junction details in section; moments in the construction process of concrete; how a standard roof joist is stretched and distorted from project to project - made a close examination of them to find their meaning, and recorded my findings. The observations themselves are simple and modest. But there is power and poetry in the accretion.

In 2.3 How We Practice, I describe, using vignettes of conversations, the process we went through while making concrete for a project. On the surface, this could be seen as a prosaic examination of the practical skills required for an architectural practice to design and make concrete. But each vignette is a reduced version or distillation of important aspects of our practice.

Examining the small, tangible moments enables me to articulate some of the fundamentals of how we practice. In the same way, looking at a series of profiles of building details, as illustrated in 2.4 How We Design, allowed me to focus intently and then extrapolate out to how we design.

In the window drawing and its accompanying explanation, I show how a complex artefact is in fact an accretion or layering of disparate, simple ideas. The act of gathering together and the arranging of the relationship between the various elements, gives a ‘higher’, coherent meaning to the object as a whole. This is how we think about and design our buildings, and this is how I have made my research.
Chapter References


How We Practice


2.3 HOW We Practice

Learning By Doing in Venturous Practice

Venturous: willing to take risks or embark on difficult or unusual courses of action

“The venturous practitioner seeks to shift...the boundary of the discipline and thereby to extend it in some substantial way.”

In the RMIT definition, a venturous practice is a practice who has achieved peer recognition, through awards and publications, and is seen as contributing to the discipline.

But what does it mean to be a Venturous Practitioner? In this chapter I will examine how we, TAKA Architects, practice venturously.

In the following essay, I look at how we make difficult or unusual things; using Concrete (the most difficult of materials) as a case study. I will look in detail at one project, Merrion Cricket Club, to demonstrate the manner in which we overcame the uncertainty of the final outcome of concrete.

By looking at how our Practice deals with difficulty and uncertainty, I can identify fundamental strategies which we have developed while learning ‘on the job’. These strategies have come to define How We Practice.

Learning By Doing

Introduction

During the PRS process, one of the early criticisms laid at our door was that our presentations were “too polished”. Part of the problem was that we were presenting our buildings as fait-accomplis; as if they had arrived perfectly formed in our minds and manifested themselves without apparent effort on site. We weren’t describing the indecisions, wrong paths, dead-ends and mistakes which are inherent in Practice in general, and are especially significant in a practice which is so concerned with building, and with practicing venturously.

We found it difficult to change our presentation ‘mode’ from the polished professional, who harbours no doubt about the outcome of the design

Key

1  ‘When is something resolved?’, question posed by Leon Van Schaik

2  ‘Only resolved when dealing with pragmatic issues in a elegant way’ response by Cian for PRS 04

Fig 1 Sketch in preparation for PRS 04, Cian Deegan, April 2015
process, to the more revealing approach required by the PRS process, which embraces and acknowledges the uncertainty inherent in Practice.

In Cian’s presentation for PRS 4, he made an examination of design decision-making in our work (Fig 1), looking at when we, TAKA Architects, consider things to be ‘resolved’ and how we make that judgement. He looked at instances of when we allow a design to be inflected by external influences – place, budget, client – and still consider the projects to be successful, and situations in which similar inflections are considered (by us) to be unsuccessful.

Cian’s research discovered that, for TAKA architects, resolution seems to occur “when pragmatic issues are dealt with in an ‘elegant’ manner” (Fig 1). But for us to be fully happy, we also require something else - a foil to the elegantly pragmatic. Cian describes it as “space for an alternative ‘elaborate’ agenda”. We like to make elaborate things; an aesthetic sensibility which we had not acknowledged until that point.

For example, in the case study below I discuss the making of a concrete ring beam in one of our projects (Merrion Cricket Club, 2014). The expressed ring beam was a pragmatic resolution of the structural forces of the roof; the flush detailing and concealment of gutter made it elegant. But we needed more.

The beam is cast on top of a brick wall which, in turn, is built on a concrete wall (Figs 2 & 3). We decided that instead of cutting the brickwork to follow the slope of the underside of the beam, we would leave the bricks intact and cast the beam directly onto the stepped (uncut) brickwork. Our justification (to ourselves) was that the module of the brick is important and that, as a result, we don’t like to cut bricks.

This is true – and we generally avoid cutting bricks wherever possible. However, through the reflective process of the PhD, we also realise that there is something else at play. Our aesthetic sensibility was pushing us to elaborate and articulate.

Casting the beam directly onto the stepped brickwork seemed to satisfy

---

4 ‘Inflection and Resolution’, PRS 04, Ghent 2015, Cian Deegan

5 Waterloo Lane, 2013; Clonskeagh Road, 2013; Merrion Cricket Club

6 Wynnsward Park, 2010, Clonskeagh Road, 2013

---

Fig 2 Elevation drawing of stepped beam and wall, Merrion Cricket Club, 2014

---

Key

1-3 The beam is cast on to the brick, which is in turn built on a concrete wall

4 Instead of cutting the bricks to the slope of the underside of the beam (along the dashed red line), the bricks are left intact and the beam is cast directly onto the stepped (uncut) brickwork

5-6 The ziggurat-like junction between the beam and the brickwork contrasts pleasingly with the flat junction between brickwork and concrete wall below
our urge for elaboration. The ziggurat-like junction between the beam and the brickwork contrasts pleasingly with the flat junction between brickwork and concrete wall below. The stepped underside of the beam also does something good to the tautness of the building-object.

But decisions made on a computer screen or ideas (like an ideological aversion to cutting bricks) are abstract. There is a certainty to these ideas. In a Practice which is concerned with assembly and the expression of the tectonic, of course bricks shouldn’t be cut; obviously we should cast the beam flush with the stepped brickwork below. There is a certainty to drawing as well – we can draw it, so of course we can build it.

Ideas can be abstract and certain. But what happens when the contingencies of site and construction invite doubt. How does an idea about construction or a building become an actual building? What does it take to make the abstract tangible? Finally - How do we, TAKA architects, practice?

Concrete as a Case Study

Back to our overly polished presentations: ironically, outside of a formal presentation situation, we freely discussed the mishaps and struggles we have when designing and making buildings – usually as an exchange of funny stories or cautionary tales over a pint with colleagues (but really seeking reassurance that building is hard for everyone). By viewing the PRS more like these informal exchanges, as an examination of imperfect or contingent situations, we stood to gain useful insight.

With this in mind, I decided to make an examination of the use of concrete in our practice. By making a study of the way we design and make concrete, I hoped to illustrate our wider practice methods in a venturesome context.

But why concrete? Concrete is a homogenous material which is easily drawn and envisaged. It can appear deceptively simple. However, concrete is a difficult and deeply contingent material. It requires extensive practical knowledge to use elegantly and the success of the final outcome is far from certain.
An Apprenticeship in (Beautiful) Concrete

Introduction

Concrete’, unlike many other construction practices, is a dark art. Technical literature tends to be dense and difficult to penetrate. More than any other building material, the quality of the final product is dependent on site specific or temporal factors.

Unlike other building materials, the qualities to which an Architect pays attention – colour, texture, form, finish, detail – are almost impossible to establish prior to making. In a process in which off-site standardisation does not really exist, control of on-site making is the only mechanism to achieve a desired result.

By their nature each site is different – contractors have varying skills and knowledge, suppliers change, weather and temperature are unreliable, forms vary between projects. To add further pressure, the making of concrete is unwieldy, time-consuming and expensive. Concrete must be right first time.

The Architect’s drawings and specification don’t reflect the difficulty and uncertainty which are inherent in the making of concrete. Drawings and specification are abstract. To make concrete you must ‘do’ rather than ‘think’.

The title of this study is ‘An Apprenticeship in (Beautiful) Concrete’. I am making the distinction, ‘beautiful’, for a reason. Anyone can make crap concrete. ‘Beautiful’ implies doing something well and offering it for judgement; as does ‘venturous’ when applied to practice.

A Catalogue of Trial and Error

In order to understand how we learned to use concrete, I decided to make a catalogue of its use in our Practice; hoping to show the progression of our ‘doing’ with each project.

I set the projects (which contained concrete in some form) against a timeline. I redrew the concrete elements within the project (Fig 5) and listed the skills and lessons we learned over the course of construction. I then graded the learning experience, giving a value between 1 and 10. Some lessons appear a couple of times in different projects – sometimes

In this essay, when I refer to concrete, I am generally talking about in-situ reinforced concrete, cast on site by a contractor.
we need to learn things more than once…

In our 1st project (2009), we were using concrete like a product, where building or furniture elements (Figs 6 & 7) were cast off-site in a factory by a specialist subcontractor and then built into the works - like you would a kitchen or window. Our first breakthrough with the material came when we were trying to design the fireplace. We didn’t know how, and were struggling to figure out how to make the flue gather (the part of the fireplace, above the fire opening, to which the flue attaches - 1A).

The contractor suggested casting it on site out of concrete. We realised that this great material fulfilled all our requirements – it was relatively cheap, fire-proof, could be designed to be load-bearing, could make the required custom shape and was self-finishing, i.e. the material could be exposed to the room. We drew the form, specified a fair-faced finish and let the contractor proceed with the casting, with little or no input from us. The result was faultless - not necessarily an accurate indication of the normal result for concrete.

It’s also worth noting that we still weren’t casting ‘in-situ’; although the flue gather was cast on site by the contractor, it was poured into formwork on the ground, cured, struck and then lifted into position above the fireplace.

In House 02 (TAKA Architects, 2009), built concurrently with House 01, we demonstrate our lack of knowledge of ‘in-situ’ reinforced concrete to an even greater degree. To my shame, what appears to be a reinforced concrete structure, replacing removed ground floor walls, is actually a steel structure which is clad in mass concrete (Figs 8 & 9). We needed fire protection to the steel beams and columns and had decided that plasterboard would be unsatisfactory (we didn’t like the thinness of it).

The pouring of the concrete fire-proof ‘cladding’ was actually very complex and difficult (not that we realised it at the time). We specified a board-marked finish for the columns - but the contractor had no experience of how to achieve the finish. One of the columns had to be cast 3 times before the finish was acceptable. We were lucky though; the contractor freely admitted his inexperience (we were less free in
admitting ours) and was willing to keep recasting until the finish to the columns was right.

In the next new-build house (4House, 2011) our confidence grew. We were still using concrete like a product (ref. windows sills) but now we started using it as landscape (Figs 10 & 11); to make stepped floors and a terrace with a bench and wood store.

Included in the timeline is a project, I was involved with which isn’t by TAKA architects. While we were building our first three projects, I was working for another Practice at the same time. I was project architect for a large house (Garryhill, 2011) whose complex ground floor structure was exposed reinforced concrete. We worked closely with the contractor and specialist concrete subcontractor to ensure the correct procedures were adhered to – formwork setting out drawings, sequencing, on-site testing, samples, etc. I learned that concrete is all about preparation.

However, despite the thorough preparation, the concrete in places was far from successful and required extensive remedial and repair work. The specialist subcontractor was less experienced with high quality concrete than he implied at the start of the contract. Repair work in concrete is never satisfactory and, if the subcontractor lacks skill or experience, no amount of preparation will compensate.

We went to a lot of trouble to expose the concrete finish in internal rooms and to ensure it was of high enough quality to withstand daily scrutiny. However, we hadn’t really made the client aware of the internal finish and they didn’t like it. Plasterboard was applied over all internal concrete surfaces. A hard lesson to learn about communication with your client.

Despite the failures, I learnt a lot from this project and carried that experience forward to the next few projects in TAKA. We continued to expand our use of concrete. We were becoming more comfortable with trial and error and made sure to include in the specification document for multiple samples to test finishes and details. We also made sure to include for time to make these samples.

Fig 12-13 The retaining wall holding back the garden, Sandford Ave, 2012 (before and after)
Fig 14-15 Complex concrete structure and walls, Merrion Cricket Club, 2013 (before and after)
Fig 16-17 Concrete wall protecting timber structure, Sandford Mews, 2013 (before and after)
We refined our specification to clearly identify what ‘defects’ were acceptable or unacceptable, giving a clear standard of finish which allowed us to condemn work which had too many faults. Part of the learning process of working with concrete (and perhaps construction in general) is that there is no such thing as ‘perfect’ – just an acceptable level of imperfect.
Merrion Cricket Club

*An A Case Study of Trial and Error*

We designed the most complex concrete work to date in a new sports pavilion at Merrion Cricket Club in Ballsbridge, Dublin (2014). I had recently learnt that my research is most effective when it looks at something specific or particular – so I decided to focus on some particular ‘moments’ in the construction of the pavilion.

It is impossible to describe a whole process in full so I hoped that the focus on these ‘moments’ would provide effective insight into the contingent realm of Construction in general, and our venturous practice in particular.

Advice

But before I delved into the nitty gritty of site, I needed to look at one more important element – Advice. When thinking about ‘trial and error’ as a working method, I realised that advice forms an integral part of the process; by asking other people you take advantage of their experiences in similar situations. I decided to look at the advice we took in relation to the concrete for the Cricket Club – both at design/specification stage and during construction.

The idea of looking at advice in Practice (in fact, the whole idea of focussing on concrete as a case study of trial and error) came from an email (Fig 24) we received from a small, recently-formed practice in London. They were asking advice about the specification of the waterproof concrete in the Cricket Club. They were asking advice about the specification of the waterproof concrete in the Cricket Club.

I sent a short enough reply (Fig 24) and attached a general concrete specification document; which, rather appropriately, we had been given by another Practice. But after sending the email, I recognised the insufficiency of the reply (of any reply which wasn’t 20 pages long) and felt a sense of dread for the practice and for the ‘trials’ and ‘errors’ they were about to go through.

The email exchange encouraged me to look at the advice we ourselves took for the concrete in the Cricket Club. By looking at the advice for this particular project, I could then extrapolate to how we as a Practice use advice in our practice (and perhaps even to how architects use...
Over the course of the study, I realised that I could categorise the advice we took under 4 headings (Fig 25):

- **Advice from Within**: our own experience of concrete in previous projects, detailed above
- **Advice from the Profession**: asking other architects and colleagues
- **Advice from the Industry**: asking other professions and professional bodies
- **Advice from the Maker**: asking the people who are making the concrete

General advice from the Industry tends to be, by its nature, unspecific. Advice (like my research) is most helpful when it is particular. But being particular carries risk (especially in the litigious construction industry), which is why Industry advice is usually either vague and generalised or incredibly technical and difficult to access.

A more useful port of call may be your professional colleagues – as they are usually less concerned about you suing them for misinformation.

As a practice TAKA are very lucky. As described in previous chapters, we work within a close-knit group of architects, based in Dublin, who exchange information freely. I asked Andrew Clancy of Clancy Moore Architects for his advice on casting the columns in the Cricket Club (fig 26), as I knew Clancy Moore had completed a project (Extension to the Lake House, 2009) with similar concrete elements (fig 27).

Andrew very kindly gave me lots of detailed technical advice about testing of formwork and clamps and the value of specialist input at design stage. The information was very interesting but (and this may be a characteristic which differentiates our practice from theirs and is, in no way, a commentary on the information itself or their practice) we chose to ignore his advice; we tend not to want to engage with construction at...
2.3

that kind of level. We prefer to be willfully naïve.

A NOTE ABOUT KNOWLEDGE IN PRACTICE

“The key is knowing enough to make intelligent decisions but not so much that you’re inhibited by how difficult something is to do.

or

Be willfully naïve”

*Extract from presentation for PRS04, Alice Casey, Ghent, April 2015*

We later asked the advice of another colleague, Ryan Kennihan with similar useful/useless results. (See construction case study on later pages.)

Advice from Makers is more difficult to assess. It rarely comes without a subtext, i.e., the advice is more often than not coloured by the implications of decisions on cost, time or difficulty. But rather than try to describe this here, I think the construction case studies, on the following pages, illustrate it more effectively.
CONSTRUCTION CASE STUDIES
A look at difficult moments in the construction of Merrion Cricket Club

Introduction
Contract drawings and specification establish the form and technical aspects of concrete elements and set the parameters for the finish. However, the CHARACTER of the concrete is established on site through the negotiation of the particular qualities below:

FORM
Detailed setting out, Complex geometry

FINISH
Colour, What do we mean by fair-faced, ground finish, etc?

MAKING
Control of the impact of the making process on the final product – tie-holes, formwork joints, day work and expansion joints, etc.

REPAIR
Which defects are acceptable and which are not?, How/When do we repair?

How are these difficult and uncertain qualities communicated/negotiated between the Architect and the Contractor (Maker)?
DRAWINGS AND SPECIFICATION

The ‘contract’ drawings and specification (the information the Contractor receives to enable him to build the building) establish the form (the concrete’s general shape) and technical aspects (how it stands up, holds back water, etc) of the concrete.

For tender and construction, we make a very detailed series of drawings and accompany them with a detailed specification document. The contractor has all this information at tender stage.

On the left are some samples of the types of drawings we make (the concrete is highlighted in yellow for this document). The concrete is drawn as an outline; a simple shape without reference to reinforcement or formwork.

Our specification document details the mix (with reference to colour, etc), the different types of finishes we require and what is, and is not, acceptable in terms of visible defects.

Despite all this detailed information, considerable on site testing and negotiations take place in order to establish the character and detail of the concrete.

The following case studies illustrate some of the processes involved in the making of (beautiful) concrete for Merrion Cricket Club.
CASE STUDY 1

Understanding Limitations (or failing at being wilfully naïve)

THE PROBLEM
There was a problem with the setting out of the building form. We didn’t know how to set out the complex geometry we had designed and we kept ignoring the foreman when he told us it was a problem.

The complex geometry of the built form was derived from the simple geometry of an abstract form. We thought the contractor could use these theoretical points to imply the geometry of the building.

We thought that locating the main setting out points in 3 dimensions was sufficient and that all other setting out issues were the contractors problem. We didn’t want to become responsible for mistakes which weren’t under our direct control.

(Contractually we were correct but, in practice, he needed more information and we were best placed to provide it)
2.3

CASE STUDY 1

DISTILLED CONVERSATIONS
For the purposes of this study, I used a technique of remembered conversations as a research tool. They are an effective means of communicating both the tone and content of the exchanges on site. However, they are not direct transcriptions of actual conversations.

TAKA and CONTRACTOR

C – Those points are fine for setting out in plan, but I’m not sure we can set out the volume using points only

T – Why not?

C – How do we mark a point in space and keep that point marked during construction?

T – The setting out methodology is the Contractor’s responsibility but… can you use poles and string? ¹

C – No. The poles and string would get in the way of formwork.

T – The setting out methodology is the Contractor’s responsibility… can you use a Total Station? ²

C – No
C – There’s another problem anyway...

Key
¹ It’s never any harm to ask a stupid question
² We didn’t really know how a total station works

Fig 4 Construction Conversation 01
2.3

CASE STUDY 1

Key
1 One of the setting out points was located on neighbouring land and could not be accessed by the Contractor

Fig 5 Extract from setting out drawing indicating problematic setting out point, 2013

TAKA and CONTRACTOR

C – One of your setting out points is inaccessible.

T – But can you not set out all other points, and imply the inaccessible one?

C – No

(We trusted the foreman and so had to believe him when he said it wasn’t possible)

T – Maybe a model will help you understand the geometry?

Fig 6 Construction conversation 02
2.3

CASE STUDY 1

Key
1 Maybe this might help? We can make a model of it so why can't you make the building?

TAKA and CONTRACTOR
C – That doesn’t help.
C – Maybe if you told me the slopes of each roof plane?
T – OK. But the setting out is still your responsibility
2.3

CASE STUDY 1

Key
1 We (grudgingly) gave the contractor the pitches of the roof slopes. However, we still wanted the contractor to infer the building form from the abstract form, as we felt this was the only way to ensure accuracy of the geometry. We still didn’t really understand what the problem was though.
2.3

CASE STUDY 1

Key
1 We drew a series of outline sections through the building form to try and understand what the Contractor was talking about.
2 The problem immediately became obvious. As you moved along the length of the beam (which wasn’t perpendicular to the roof pitch) the slope of the top surface of the beam changed.
3 When we drew sections through the beams themselves we realised that with the changing top slope (3A), stepping bottom surface (3B) and recessed gutter detail (3C), the beams were extremely difficult objects to set out.

Fig 11 Series of outline sections through building form, TAKA, 2014

Notes
- We felt like idiots

Fig 12 Series of sections through concrete beam, TAKA, 2014
CASE STUDY 1

TAKA and CONTRACTOR

C – I need sections through the highest and lowest point of every beam type.

T – But that means you’re reliant on the accuracy of OUR drawings, in terms of ensuring the geometry will be correct.

C – I can’t think of any other way to do it

T – OK … but it’s still your problem if anything goes wrong

Key
1 Our drawings don’t take into account any potential misalignments or changes due to site issues or features. We were worried. There was potential for the drawings to be correct in relation to themselves but not in relation to the object as constructed on site.
2 We decided, in the interests of the project, to take the risk and to set out each beam.
3 But we still told the Contractor that it was his responsibility (this was an obfuscation of the actual contractual liability – which was ours; as we were the ones who would be issuing the information)

Fig 13 Construction Conversation 05

Fig 14 Setting out of each beam in section, TAKA, 2014
CASE STUDY 1

Key
1 A correct, smooth transition of beams
2 Cian looking worried
3 In places the beams were misaligned. We’re still not sure why.
The mistakes weren't repaired though as they weren't visible at ground level

Notes
- We spent a lot of time and effort in the Cricket Club trying to communicate how the beams should be made/set out.
- In the end, only a few are actually visible from ground level. Those that ARE visible are generally the ones where the geometry wasn't really a concern.

CASE STUDY 1

Conclusion
It is easy to fall into the trap of thinking that just because you can draw (or model) something, then it can be easily built.

We tried to close our eyes and ears to the problems the Contractor was having, only engaging enough to state his responsibilities and give minimal information. (It was the beginning of the contract and we didn’t want to set a precedent for having to solve every little problem on site.) We were trying, and failing, to be ‘wilfully naïve’.

I think the strategy failed because we didn’t fully understand the problem. It is significant that we only began to understand the issue when we started to search for the answer through drawing. Drawing was both the problem AND the solution.

The next Case Study will show how ‘being wilfully naïve’ can be a successful strategy.
CASE STUDY 2

*Being Determined (or succeeding at being wilfully naïve)*

**THE PROBLEM**

On the rear elevations of the cricket pavilion, we wanted to cast the structural ring beam directly on top of the stepped brickwork wall below. We wanted the outer face of the beam to be flush with the outer face of the supporting wall underneath. The combination of tautness and elaboration was important to us.

For tender, we drew the wall as we wanted; annotating the unusual arrangement but without giving any direction as to how it might be achieved. (see following page)

We hadn’t realised what a difficult detail it was; especially having the concrete beam flush with the outer face of the brickwork. The main problem was in ensuring the formwork was watertight (and didn’t leak concrete on to the brickwork) while maintaining the flush junction with the brick and seamless face of the beam.

---

**Key**

1. The concrete ring beam
2. The stepped brickwork

*Fig 1 Card model showing rear wall of Merrion Cricket Club, TAKA, 2014*
CASE STUDY 2

Key
1 Annotation indicating unusual arrangement of concrete beam cast directly on to stepped brickwork
2 Section drawing showing outer face of concrete beam flush with outer face of brickwork below

Fig 2 Extract from General Arrangement elevation construction drawing, TAKA, 2013

Fig 3 Extract from Detail Section construction drawing, TAKA, 2013
TAKA and CONTRACTOR

C – We know you don’t like tie-holes and repairs. We can’t think of a way to cast the beam on top of the sloped masonry without visible tie-holes.

T – Can you clamp the formwork above and below the beam?

C – Clamped formwork isn’t really water-tight. We’re concerned you’ll get overspill on to the brickwork below.

T – We’ve definitely seen beams cast onto masonry without tie-holes before.

C – Where?

T – A friend of ours has done them like this…

T – I’ll ask him how he did it

CASE STUDY 2

Fig 5 Vita House Family Centre, Roscommon by Ryan Kennihan Architects

Key
1 Concrete ring beam cast flush with wall below, in project designed by our friend and colleague, Ryan Kennihan
CASE STUDY 2

TAKA and COLLEAGUE (Ryan Kennihan)

T – You’ve cast beams without tie-holes on to masonry walls before. How did you do it?

R – I don’t know actually. The Contractor just did it.

T – Do you think he clamped the formwork?

R – Yeah probably

T – Clamped formwork isn’t as tight as tied formwork. How did you get over the problem of overspill onto the wall below?

R – We didn’t really. In any project where we’ve done it, the beam was over-cast so that the wall could be rendered below. The render then covered up the overspill from the formwork.

T – Ah…that doesn’t help us at all. Thanks.

Key
1 Ryan obviously had succeeded with ‘Being Wilfully Naive’
2 Concrete ring beam without tie-holes by Ryan Kennihan
3 Beam overhangs wall by c.30mm to enable wall to be rendered below, concealing any leakage or overspill from the pouring of the concrete beam.

Fig 6 Construction Conversation 06

Fig 7 Leaguen House, Galway by Ryan Kennihan Architects
CASE STUDY 2

TAKA and CONTRACTOR

C – Also because of the problem of overspill, we need to cast a chamfer into the bottom of the beam to make a proper seal between the formwork and the wall.

T – Can you cast us a sample on to brickwork, making the formwork the way you think it has to be?

TRIAL AND ERROR

Our strategy at this stage became one of trial and error. ‘You cast us a sample and we’ll see if we like it’.

We had included for multiple samples in our tender documentation, so the cost of this was not an issue to the contractor. However time WAS becoming an issue.

We (and the contractor) needed to find a solution quickly in order to avoid delaying the progress of the works.

Allowing the contractor to choose how he cast the beam sample also made him take ownership of the result.
2.3

CASE STUDY 2

Key
1. The chamfer cast into the bottom of the beam, to ensure water-tight seal against formwork.
2. Tie-holes at each step in the beam. These were to ensure the formwork was firmly attached to the wall.
3. Cian and John (the structural engineer) looking at the back of the sample.

TAKA and CONTRACTOR

T – That’s pretty ugly…

C – Yeah it’s not great…but we think we may have found a way to seal the formwork against the wall without the chamfer. Look at the back of the sample.

Fig 9 Site photo of stepped beam sample, TAKA, 2014

Fig 10 Construction Conversation 09
CASE STUDY 2

MAKING PROGRESS
The concrete subcontractor had tried, on the rear of the sample, an alternative method of sealing the formwork to the brickwork. Instead of the chamfer, he was proposing to use silicone to seal the formwork. We still had tie-holes though.

It was much better... but we still had concerns.

Key
1 The junction between the concrete formwork and the brickwork was sealed with silicone or mastic instead of a chamfer bead. This allowed for a 'flush' junction with the brickwork.

Fig 11 Site photo of rear of stepped beam sample, TAKA, 2014
CASE STUDY 2

TAKA and CONTRACTOR

T – That’s much better. Are you confident that the silicone won’t leak at all?

C – Not as confident as with the chamfer detail.

T – The chamfer will have a big effect on the Architecture of the beam.

T – But we still don’t want overspill on to the brickwork. I don’t want to instruct the silicone detail then have them (the concrete subcontractor) tell me it’s not their fault if the formwork leaks.

C – Why not give them the choice between the 2 details, then they’ll have to take responsibility for whichever one they choose? ①

T – What if they choose the horrible one?

C - To be honest, I think it’s much easier for the Concrete subcontractor to do, so I think they’ll prefer the silicone detail.

T – OK – good plan.

Extract from Site Meeting Minutes

- Beam sample showing junction between brick and concrete inspected. Rear face shows mastic joint, front face shows chamfered joint (chamfer had not been filled with mortar). Tie-holes noted at each step in brickwork.

- Either junction detail is acceptable. M&P to confirm which will be installed. New tie-hole detail to be confirmed.

Key
1 We had a good relationship with the contractor but hadn’t had time to develop the same sort of relationship with the concrete subcontractor.
2 Giving the subcontractor the choice between the sealing details (even though we really only wanted one) was a calculated risk. We needed them to take responsibility both technically AND aesthetically for the detail.
CASE STUDY 2

TAKA and SUBCONTRACTOR

T – The tie-holes in the 1st sample are a real problem, visually.

S – But we can just repair them afterward…

T – You and I both know that repairs in Concrete are always visible. It would only look slightly better after repair.

T – You have loads of experience. Surely there’s another way? 1

C – Well….we could try using a wire, run through the brickwork mortar bed and the bottom of the beam to tie the formwork to the wall, instead of standard ties.

T – Will that still leave a hole in the beam?

C – Yes but it will be much smaller.

T – OK – let’s see it in a sample

Key
1  Being wilfully naïve. We don’t really want to know how they do it, just that they can.

Notes
Our strategy seemed to work. The subcontractor came up with creative solutions for both the sealing detail and the tie-hole problem.

We contributed no technical knowledge to this discussion, other than asking the subcontractor to think harder about the detail and enabling an environment which allowed him to test potential solutions.

Fig 13 Construction Conversation 11

Fig 14 Site photo of the final successful sample, TAKA, 2014
CASE STUDY 2

Conclusion

Our abstract decision to leave the bricks uncut and to make the concrete ring beam flush with the wall below, was made on the computer screen. We made the decision for ideological (we don’t like cut bricks) and aesthetic (we like elaborate things, the building form should be taut) reasons.

We could have succumbed to the pressure to simplify the detail for ease of construction. But part of being venturous is being determined; not letting pragmatic difficulties overwhelm the poetic ambition.

Of course, there are instances where the difficulty outweighs the ambition – the recessed concrete lettering was one. But we weigh the loss to the project as an idea or object, against the loss to the project as a prosaic entity – in terms of budget, time, client expectations, etc.

We pick our battles.

Part of being ‘Being Wilfully Naïve’ means only engaging with the technicalities of the process enough to facilitate others finding a solution to a problem. (This also decreases the professional risk of being wrong)

We learnt enough through the ‘trial and error’ of making samples, and through seeking advice from our colleagues, to be able to guide the process; but not so much that we felt obliged to solve the problem ourselves.
How We Practice - Conclusion

Heuristic Strategies

I have come to realise that the concrete study (preceding pages) is a distillation of our practice methods; it is a microcosm of the Practice in general. The skills (inter-personal, practical, professional) employed in the service of learning to design and make (beautiful) concrete, are the same skills we employ every day, in other aspects of our practice. Our apprenticeship in (beautiful) concrete is a metaphor for our apprenticeship in (venturous) practice.

Creativity is inherently full of failure and being venturous is full of risk. Both are difficult and uncertain.

But, on a day-to-day basis, TAKA Architects is careful; careful not to be sued, careful not to take on more work than we can resource, careful with our clients, careful to do everything well. However, as a practice, we have completed a relatively high number of buildings for our age; we are also risk-takers. Building anything is a risk. But we would rather build and risk being wrong, than not build at all.

So how do we reconcile our careful nature with our risky ambitions?

The first step in dealing with risk and uncertainty is preparation; something which all practices must carry out, to one degree or another. We tend to prepare a lot, drawing and specifying as much as we can in advance; but this is not (except in a lateral way) the focus of my research. My investigation into the use of Concrete in our practice has enabled me to identify some heuristic methods we use to deal with risk, uncertainty and difficulty. These have developed over time into strategies which we now consciously employ in our daily work.

Strategy 1 – Trial and Error

On site, we use the literal ‘trial and error’ of casting and recasting samples, to establish the desired character of concrete – something which no amount of pre-site preparation can accommodate. We ensure our documentation specifies that enough time is assigned by the Contractor in the building programme for this process. Overcoming failure takes time and patience.

Trial and Error also inflects how we view our projects. In the next chapter, I show how we test physical aspects of our buildings; stretching and distorting physical qualities from project to project. In the same manner as casting samples on site, when we make something, we look at it; usually a part or fragment of a building, and sometimes through the examination of the professional photographs we commission. We then go on to try and make a better/different version in the next project. I show how this process can proceed until the original element being tested or examined is almost unrecognisable. Trial and error is a design method which allows us to develop our design thinking from project to project.

Strategy 2 – Advice

When thinking about advice, I see that it can be viewed in both narrow and broad terms.

The concrete study describes the different types of technical and professional advice we seek in our day to day practice. In simple terms, we talk to people who have done similar things to what we’re hoping to do. But this can come with difficulties, so we also filter that advice (see ‘being wilfully naïve’ below), and tailor it to suit our needs or ambitions.

 Asking for advice on a construction site is a double-edged sword. To seem too naïve is detrimental. We seek advice without actually asking for it – involving the subcontractor in fabrication decisions, without acceding control of the final product to him (see ‘strategic minutes’ in
construction case study).

On a broader spectrum, our urge to visit buildings can be seen as a form of advice-seeking. We are asking the buildings which have gone before us, how they managed to do something well (or badly). For Merrion Cricket Club, we asked Siza in the Boa Nova teahouse about how to make a beautiful roof overhang. For House 01 and 02, we asked Lewerentz in Klippan about brickwork. We continually ask Kahn about windows and form-making.

Paradoxically, a lot of our advice-seeking comes out of bloody-mindedness; of being told that something is not possible or too difficult. We don’t seek out difficulty (we appreciate an easy life) but if something is important, we ask and ask until we find an answer we can work with.

**Strategy 3 – Being Wilfully Naive**

The third strategy ‘Being Wilfully Naïve’ is both complementary and contradictory to the preceding strategies, ‘Advice’ and ‘Trial and Error’. We want to know, but we don’t want to know too much. We ask advice but are careful not to be over-whelmed by information. Naïvete is an inherent component of the trial and error method; not knowing something is as important as knowing. ‘Not knowing’ leaves space to find out new ways of doing things; a vital aspect of venturous practice.

I define ‘Being Wilfully Naïve’ as knowing enough to make intelligent decisions, but not so much that you’re inhibited by how difficult something is to do; or ‘too much knowledge can be a bad thing’. It is a way of being aware of the risks and difficulty, but not being intimidated by them. Rather than turning a blind eye, it is like wearing an eye patch, which can be lifted when you choose.

**Heuristics**

A heuristic method is any approach to problem solving, learning, or discovery that employs a practical method not guaranteed to be optimal or perfect, but sufficient for the immediate goals. For me, this is the definition of what it means to be working in Practice.

Rather than making a complete study of what we mean to do and then choosing the best option, we jump in and choose the most expedient course which achieves our ambitions. We make mistakes and we learn from them. We don’t pretend that we’re experts.

We have developed our heuristic methods while learning on the job. While they are conscious methods we use, up to this point, we have not articulated them in any clear way. They began as a series of ad hoc responses to situations we found ourselves in, and have since matured into a sort of ‘professional wisdom’. They have been established over time in our practice, through an experiential learning process. The PhD has enabled me to articulate them as strategies; learning by (reflection on) doing.
Chapter References


How We Design
How We Design
Distilling, Exaggerating and Intensifying Character

Introduction
Over the course of my research, I carried out a series of enquiries into the character of our work, and how it came to be the way that it is. In the following essay, I will summarise the sequence of the investigation and the insights which arose.

These findings form the main body of my research and were carried out during the period from PRS 03 to PRS 06 in which I was working separately from Cian. They have inflected and influenced all other parts of my research, and have begun to influence our practice thinking.

The focus of this chapter is the character (or the tangible presence) of our work. The physical experience of the building is the driving force behind much of our design decisions. What follows is an examination of the development of our attitude towards this tangible presence and, as a result, the identification of some of our Practice’s fundamental design methods and aims.

Rejecting the typological view
In the early stages of the PhD, to dissect or analyse the work, usually the first instinct is to try and find connections or common threads between different projects within the practice. Some have called this ‘playing Happy Families’ i.e. trying to find families of projects. This can lead to categorisation of projects under certain typologies.

However, I found it difficult to classify our projects in this way. Initially, I found the idea of grouping of our projects under types to be too simplistic. I felt I would be forcing a typological connection where there may have been none.

We like to think of our buildings as assemblies (Fig 1) and are interested in the tectonic expression of those assemblies (Fig 2-3). A key factor in the physical experience (or character) of our buildings is the tectonic; the physical expression of how a building is made.

So, instead of making families of buildings, I had an idea that it might be more productive to make families of building details. I felt the ‘common ground’ between projects was in tectonic, rather than typological, terms.
Key
1. Sketched section fragment of eaves detail in House 01
2. Note the ‘ghoosly’ fragment of the Ise Shrine in Japan, which is re-imagined in the House 01 detail. We were visiting Ise when we drew these sketches.
3. A developed sketch of the eaves detail in axonometric. The form of the detail has developed primarily to express the layered nature of the roof and wall construction, as a response to what we saw in Ise.
The Expression of the Tectonic in a Building Detail

When we talk about detail we are often really talking about profile. We are looking to create shadow (profile) or not (flatness). Shadow is the physical means by which the eye distinguishes between elements. A Practice which is concerned with the expression of a Tectonic seeks to create shadow, to clearly express a distinction between constructional elements.

We create profile (shadow) by ‘pushing and pulling’ the surface of the detail (Figs 4-5), by carving out space between elements, by creating gaps between things. All to create a visual differentiation between building components. But why do we want to create this visual differentiation between parts?

Initially the desire for our buildings to have a clear tectonic expression was a reaction to the almost paper-thin quality of some contemporary Architecture. It felt unsatisfying to work on projects where the primary focus was on making beautiful Surfaces. The experience of some of these paper-like spaces was like floating in a void – with no edges to enclose you or projections to grasp on to. The spaces feel like you can easily slip from one to the other without much sense of passing through anything.

We were interested in making buildings which had thickness and weight. Tectonic expression is really the expression of the passage of Gravity. By expressing something’s weight and how that weight is borne by other elements, we communicate the intrinsic nature of the Building.

So, in showing how one element bears on another, we make gaps between elements by creating profile in a detail. Gaps then express thickness, which results in particular spatial qualities.

For example, by placing a gap between building elements or components, we make a space or void between them. This void can be at the scale of an eaves detail (House 01) (Fig 4); or at the scale of a large threshold space like the viewing terrace in Merrion Cricket Club. Both instances occur because of the desire to make a visual differentiation between parts, and are founded in our interest in tectonic expression.

In reflecting on tectonic expression, I came to realise that there is a spatial agenda at play in our work. In basic terms, I began to think that the expression of the junctions was making particular types of spaces. This was a new realisation for us, as a Practice, and required further exploration.

Profile in Section

As discussed above, weight and thickness are important to us. They are communicated through the expression of the tectonic and by creating profile (Fig 5) in a detail. Profile is best expressed in Section. Of all the drawings we make, the technical construction drawings best demonstrate our interest in tectonic expression; and the technical section drawings best demonstrate our interest in profile.

So I thought that, in trying to find connections between projects and to explore my new realisation regarding spatiality, perhaps it may be more useful to compare projects using the technical section drawings. Perhaps the sections would tell the story more clearly of how our interest in assembly leads to repeated architectural and spatial themes or motifs?

Taking a technical section of each of our significant (to us) projects, I examined the junction details in terms of their spatial rather than tectonic qualities. The idea was to challenge our notion that the tangible presence of the buildings was solely a result of our interest in assembly. I wanted to explore what Simon Pendal refers to as the ‘Material Space’ of the buildings.

In order to explore the idea of junctions making space further, I needed a fresh way of looking at our technical drawings. In one of the universities (Queen’s University Belfast) in which I taught, the students have an assignment in which they, as a cohort, create a taxonomy of a particular building element – window, floor stair – drawing and modelling archetypal examples.

The drawings (Fig 6) they make are standardised and are usually beautifully descriptive. They omit all technical detail (usually due to lack of available information) and focus on the tangible presence of whatever precedent is being studied. A book is made at the end of the

---

4 From Pendal’s presentation for PRS 01, ‘Unfurling worlds and lingering impressions’, Practice Research Symposium (Australia), 2013

Key
1. Section through ‘The Casino at Marino’, Dublin
2. All technical detail is omitted. The drawings focus on the tangible presence or physical experience of the building

Fig 6 Extract from ‘The Elaborated Window’, Queens Architectural Press

Key
1. The original technical construction section, illustrating the building as an assembly
2. The profiled outline section which helped me examine the spaces created by the technical details

Fig 7 a technical construction section, House 01, 2007
Fig 8 a profiled outline section, House 01, 2014
semester with these standardised drawings and sometimes more poetic models and impressions. The comparison of the standard drawings (at the same scale) can be revelatory.

In the spirit of the students’ drawings, I took the primary technical section (Fig 7) of each ‘significant’ project and removed the technical information, leaving the profiled outline of the section only (Fig 8). The goal was to step back from viewing the section as purely an expression of the tectonic assembly. Somewhat paradoxically, removing the idea of construction helped me examine the ‘material space’.

I made a chronological array (Fig 9) of the ‘profile sections’ to enable me to compare projects and looked closely to find similarities in the form or intention of the building junctions. I marked and colour-coded the similar building details on the array (Fig 10) and found I could group them together into families (which I call ‘Spatial Devices’), and then the families together under themes (which I call ‘Spatial Intentions’).

It is worth noting that while the Spatial Devices (although unnamed until the PhD) ARE conscious physical mechanisms which we use while designing, the Spatial Intentions were not - but are nevertheless apparent throughout our projects from 2007-2014.

**Spatial Devices and Intentions**

A Spatial Device is a physical arrangement with a particular spatial intention. A Spatial Intention is the purposeful production of a particular type of spatial experience. The Spatial Devices are the mechanism through which the Spatial Intentions are realised.

A simple example of how this works can be demonstrated in the Bar room in Merrion Cricket Club (T AKA Architects, 2014). The internal cladding forms a distinct line around the edge of the room, connecting the top of the bar servery, window sills and alcoves for the WC’s and entrance (Fig 11 – in blue). This device, I, rather obviously, call ‘Datum’. The spatial intention of the device is ‘Scale’; the datum ties together a large room and provides scale.

I have included below a short summary of the spatial intentions and

---

6 These are my own definitions of these terms, and are used here in a technical sense in relation to my own research. See 1.2 Document Terminology
devices I encountered during my examination of the Profile Sections.

As they are not conscious goals during our design process, I think the spatial intentions themselves are of limited relevance to my research – further study could probably unearth a lot more. But I have included them here as they give insight into how we consciously use the Spatial Devices. See following pages.
Datum and Assembly producing Scale

It is significant that each of the profile sections in the array (Figs 9, 10) was drawn with the outline of a person. The person is a shorthand for showing how specific junctions relate to the scale of the body and for comparing relative scale between projects.

Tectonic expression (or assembly) inherently scales a form or space. For example, the projecting bricks and eaves detail in House 01 (TAKA Architects, 2009) (Fig 12) gives an easily understandable domestic scale – the bricks through repetition of a hand sized object and the eaves through creating a heavy cornice to top off the elevation.

In Merrion Cricket Club (TAKA Architects, 2014) (Fig 13), we added benches with a filigree support structure as a counterpoint to the massiveness of the concrete. The intricacy of the benches gives scale to the heavy form of the building.

Key
1 The tectonic expression (assembly) of the eaves and brickwork gives a domestic scale in House 01
2 The filigree expression of the green timber benches contrasts in scale with the heavy concrete structure of the Cricket Club

Fig 12 front elevation, House 01, 2009
Fig 13 viewing terrace, Merrion Cricket Club, 2014
2.4

Structure as Pattern, Thick Edge, Light or Shadow at Junctions and Reflection producing Immersion

When I try to envisage an immersive space, I see a room in the Topkapi Palace (Sinan, 16th Century) (Fig 14) in Istanbul. The interior is richly patterned on all surfaces. The lower windows are recessed in a thick wall, with hand basins set in the reveals. Upper windows are flush with the internal wall surface and filled with blue, patterned stained glass. The couch is low and the ceiling is high.

To me, immersive space is an interior which enfolds you. It doesn’t necessarily detach you from the outside but views to other places are controlled and framed. I think by controlling the view you are dislocated from the outside world. This enables you to be both ‘present’ in the room but aware of a distant ‘out there’.

Dimness seems to be a constituent part of immersion. Shadow is important. Either shadow to create dimness or to create pattern (Light/Shadow at junctions, Structure as Pattern). Both of which seem to distract the eye from the edges of the space. A thick edge, like the window reveals in the Topkapi Palace or the lining of the ground floor in 4house8, (TAKA Architects, 2011) (Fig 15), seems to imply a space (or gap) between the inside and outside – making the interior feel like a place apart.

Niall McLaughlin’s essay ‘A Royal Gittern at the British Museum’ (McLaughlin, 2007) gives a wonderful description, if slightly different to mine, of immersive or ‘thicket’ space.

By coincidence, the ground floor of 4House bears a striking resemblance to the room in the Topkapi Palace, even down to the sink in the window reveals.

Key
1 Light/Shadow at junctions or dimness is a constituent of immersion
2 as is (Structure as) Pattern
3 Both spaces contain a ‘Thick Edge’ which imply a space (or gap) between the inside and outside
4 Mirrors (reflection) can distract the eye from the edges of the space, increasing the sense of being enfolded

Fig 14 prince’s room, harem, Topkapi Palace, 2012
Fig 15 ground floor, 4House, 2011
Fig 16 mirrored 1st floor landing, 4House, 2011
Suppressed Eaves, Window as Wallpaper producing Tautness

Tautness is generally found on the exterior of the building. Tautness can relate to a façade or a form.

We tend to make taut forms when the building is an object; when it can be seen from all sides. In these cases, the interior spaces are usually ‘pulled away’ from the external skin and are independent from the external form [ref (Merrion Cricket Club, 2014); (4House, 2011), (Venice Biennale, 2008)].

The exterior is a tent assembled around the internal rooms. The tent usually relates to the site and its context. We seem to use the ‘tent’ as a sort of public or civic gesture. The rooms are then free to be interiors, relating to the person or the function inside.

In a taut façade we tend to supress the eaves detail so that the wall or screen is expressed in favour of the roof (Figs 17-18) [ref (Magennis Square, 2012); (Merrion Cricket Club, 2014)] We also play with the depth of the façade by applying the window to either the inside or outside face of the wall (Figs 19-20). We either emphasize the thinness or thickness of the wall or screen.

Key
1. The eaves of the object is suppressed to give Tautness to the form
2. The window is pulled tautly, like wallpaper, across the external façade
3. In 4House, the window was applied to the inner face of the wall to allow the skin of pebbledash render to fold into the window reveals

Fig 17 Armature for 2008 Venice Biennale, TAKA Architects
Fig 18 Merrion Cricket Club, 2014
Fig 19 Magennis Square, 2012
Fig 20 4House, 2011
Overhang, Compression and Sky producing Projection

Projection is about pushing you out into a landscape or bringing the landscape into the interior. An overhang creates a dark space between inside and out – highlighting the bright landscape beyond the interior. [ref (Merrion Cricket Club, 2014), (Tearooms at St. Patrick’s Park, 2015) (Fig 22) (Sandford Ave, 2012)]

‘Compression’ and ‘Sky’ are opposites but work in a similar way. They both cut off the middle ground – ‘Compression’ focusing you on the space immediately in front of the opening [Ref. (Purple, 2012), (Sandford Ave, 2012) (Fig 23)] and ‘Sky’ projects you beyond your immediate context [ref (Magennis Square, 2012)(Fig 21); (Waterloo Lane, 2013)].

‘Compression’ allows the interior space to take ownership of the immediately adjacent area – extending the interior space outside. ‘Sky’ connects you to the wider world beyond – but it is a disjointed connection, not reachable from the interior.

Key
1. The middle ground is cut-off, projecting the view through the high window towards the Sky
2. The window façade is recessed from the arch, forming an overhang which creates shadow and highlights the bright park beyond
3. The deep beam compresses the view and cuts off the middle and background

Fig 21 Kitchen window, Magennis Square, 2012
Fig 22 Cafe window, St Patricks Park, 2015
Fig 23 Kitchen façade, Sandford Ave, 2012
The Development of the Spatial Devices

The spatial devices (described on previous pages) have developed from our observation of things we like in buildings - both in reference projects and our own work. They relate directly to buildings or places we have experienced and are fragments of our enjoyment of other buildings.

Cian’s research eloquently discusses the role of ‘fascinations’ - buildings or things we have visited or enjoy - in our work. I think I can show, on the following pages, how these fascinations are directly incorporated into our buildings and are related to the development of the repeated use of spatial devices.

For example, we often use overhangs above windows to either project the view out into the landscape or conversely to bring the landscape into the room. This spatial device is directly related to our experience of looking at the sea from beneath the overhang in the Boa Nova Teahouse (Siza Viera, 1963) (Fig 24) in Porto. Or the idea of using ‘stuck-on’ windows (window as wallpaper) to emphasise the flatness or depth of a wall (and hence the tautness), comes from visiting St. Petri Church (Lewerentz, 1963-66) (Fig 26) in Klippan.

On the other hand, there are devices which developed as a result of our primary interest in assembly or tectonic expression. They are generally as a result of ‘unforeseen’ characteristics which we observed and liked in our first two projects.

The use of datum in rooms can be observed developing chronologically over the projects - although in the first instance it was merely a by-product of expressing how a roof structure bears on a beam or wall (House 02, 2009) (Fig 28). The expressed beam and top of wall gives a natural datum within a room. In a more recent project, the Datum is separated from being characterised by an expression of structure and develops into a device to make sense of a larger more complex room (see the Bar in Merrion Cricket Club – Fig 29).

In the Dining Room in House 02 (Fig 30) there is an expressed roof structure with a large rooflight above. Instead of cutting and trimming...
Key
1  The application of the window to the surface of the external facade emphasises both the flatness and depth of the wall
2  Something we were interested in examining in a small kitchen extension project in Wynnsward Park, Dublin

Fig 26 'Stuck On' window, St. Petri Church, Klippan
Fig 27 'Stuck On' window, Wynnsward Park, 2010

Key
1  In the dining room in House 01, the datum appears purely as an expression of structure.
2  In Merrion Cricket Club the datum is separated from structural expression and is used as a spatial device to tie a large room together.
the roof structure around the rooflight, we ran the roof joists through underneath it. We wanted to express the primacy of the Structure. However, once the room was built we were surprised by the beauty of the light falling through the structure and how it was reflected off the joists. The devices ‘structure as pattern’ and ‘light/shadow at junctions’ developed as a direct result of this ‘unforeseen’ consequence (Figs 31-32).

Although the devices themselves are generated by an attitude to the expression of Construction, their purpose is actually spatial. The ability to group the devices together as Spatial Intentions reinforces this idea.

In examining the junctions in our technical sections, we realised that the primary focus of tectonic expression has developed beyond a pure expression of the gravitational path and material qualities.

While I found the idea of grouping projects into typologies to be reductive at first, the process of rejecting the typological view helped me develop methods for discovering previously unexpressed characteristics of our practice.

I did find a common tectonic sensibility - but I realised that we weren’t just making technical details out of a desire to communicate the way a building is made. We were making details which generated certain types of spaces and that (especially in the later work) the spatial consequences of a detail were becoming the driving factor in the design. The discovery of this latent spatial sensibility has charged my research, and changed our practice.
Towards a spatial sensibility – charting the shift in thinking
To document and analyse the perceived shift in focus of the Practice (from tectonic expression towards a conscious spatiality), I thought it might be useful to look at some intervening projects between our first project, the Dining Room in House 02 (2009), and the Glasnevin Chapel competition entry (2013) (Fig 33- top and bottom), completed during the PhD process and at the beginning of our awareness of a spatial ambition in our work.

I looked at three intervening projects which I thought could show the ideas developing. They were: a breakfast room extension to a house (Wynnsward Park, 2010), a new-build house in Firhouse (4House, 2011) and a model of a theoretical space/form for an exhibition in the Royal Hibernian Academy (RHA Exhibition, 2012). (Fig 33)

Wynnsward Park developed directly out of The Dining Room in House 02. The roof structure and large ‘stuck on’ window are developments of similar elements in House 02. However, there was the beginning of a tectonic ‘problem’: how does a Practice concerned with ‘honest’ tectonic/structural expression cope with the need to line (i.e. conceal) certain types of construction?

In a new house in Firhouse, Dublin (4House, 2011), this ‘problem’ resulted in the first significant instance, that I can document, of our interest shifting away from pure tectonic expression towards something new.

The constricted dimensions of the site meant that we had to use the thinnest construction method possible. In this case, it was a structural masonry outer leaf with an insulated internal lining. The lining, which concealed the wall insulation, was now free from structural expression and had to ‘become’ something else. (Fig 34)

It ‘became’ an expression of the inside, defining the character of the internal spaces. The lining was expressed differently at ground and first floor, to differentiate the character of the two floors. At ground floor, it wrapped the space, expanding and contracting to contain kitchen units, storage and to define seating areas. At first floor, the ceiling was pulled away from the underside of the roof joists to make plasterboard ‘tents’ of...
each room – individual retreats from the outside world. At ground floor the lining was birch-ply – warm and enveloping. At first floor, it was painted plasterboard – calm and soothing. We were starting to try and make characterful space.

In the model for the RHA exhibition, we consciously combined the tectonic elements of the two previous projects (Wynnsward Park and 4house) to make an examination of the potential of the space they could create. We exaggerated or distorted tectonic characteristics of both – the deep roof joists of Wynnsward, the awkward plan form and structure of 4house – to try and examine their spatial potential, without the constraints of brief and site.

The 2013 Glasnevin Chapel competition entry was designed after we had begun the PhD process. We were becoming conscious of an ‘other’ in our work. Although it still fulfilled the function of holding up the roof, the primary purpose of the roof structure became experiential rather than structural; the capturing of the changing nature of the Dublin sky in a cloud of structure. The lining and datum are divorced from an expression of the wall construction and are spatial – a means of reducing the scale and increasing tactility at eye level, to increase the effect of the abstract, cloud-like roof above.

My examination of the intervening projects, between House 02 and the Glasnevin Chapel, has shown how the process of the shift towards a spatial sensibility is incremental. Although the shift feels conscious in retrospect, I’m not sure it was at the time. We certainly hadn’t articulated it in any way to ourselves – up until the Chapel design.

However, I have also realised that the shift is not necessarily ‘away’ from an interest in tectonic expression. In 4House, the ‘problem’ of the lining was a tectonic one (Fig 34) and was ‘solved’ with a more developed attitude to its tectonic expression - rather than a rejection of it. The space of the RHA model was tested through the exploration of the tectonic elements of previous projects. Our more conscious spatiality has been developed through the lens of tectonic expression. The refinement of our attitude to tectonics has allowed us to develop a new spatial awareness.

---

Key
1 The external wall is composed of a structural block wall which is drylined internally, concealing the materiality and structure (tectonic expression)
2 Ground floor plywood lining concealing insulation. The lining expands and contracts to make kitchen units and storage
3 The ceiling ‘pulls away’ from the roof structure at 1st floor, to make ‘tented’ rooms

Fig 34 Technical Section, 4House, 2010
Charting the shift - can I draw it?
So, I have identified a shift in thinking, described it in relation to some of our projects and have related it to our initial practice urge towards tectonic expression. But can I identify the physical mechanisms through which we developed our thinking? And, in the process, demonstrate some fundamental design methods of our practice?

We design through drawing; so, I thought I would go back to this to try and demonstrate HOW we design.

Taking images of the five projects described above, I made a series of layered, reduced, spatial drawings – using the ‘Small Things’ drawing method. The images were laid out vertically in chronological order and analysed horizontally under the title of four of the Spatial Devices I had identified in my earlier research – ‘datum’, ‘structure as pattern’, ‘light/shadow at junctions’ and ‘window as wallpaper’.

When I compared the layered, additive drawings of the first (Dining Room, House 02) and last (Glasnevin Chapel) projects, the shift towards a conscious spatiality is evident. However, I think the intervening projects demonstrate the gradual process of the change and, perhaps, how nascent the conscious focus on space is.

Learning about HOW we design
In addition to evidencing the tectonic/spatial shift, the drawing series helped clarify something about the way in which we design; something we knew intrinsically but had found difficult to express (until now).

By omitting the layering sequence, it became easier to see the physical development of the devices over time (Fig 35). Drawing them in chronological order over the five projects, it became obvious that we tend to stretch or distort qualities from project to project. We like to exaggerate; both the qualities of the physical elements and the qualities inherent in the devices.

For example, in the ‘unlayered’ drawings (Fig 35), you can observe the development of the ‘structure as pattern’ device. The roof joists are stretched and distorted from project to project. So much so that in the
Intensification through Distillation/Exaggeration

Enhancing the character of the thing

In a visit to our office our PhD supervisor, Richard Blythe, asked us a question:

“Why do you (TAKA) paint steel but not plywood?”

A fairly mundane query on the surface, but one which went to the heart of our practice and confused us for a few months.

We had convinced ourselves that we paint steel because it is an ‘artificial’ material but not plywood because it is ‘natural’. Both products are highly engineered and manmade. But we had allowed ourselves to think of plywood as natural - probably for no better reason than it was a bit like timber. In struggling to answer Richard’s question we realised that the reason we paint steel (and not plywood) is because steel looks better painted (gloss, if possible) and plywood looks better with a transparent finish (oil, if possible).

We realised that, perhaps, rather than being true to the nature of the material, we wanted to instead intensify its character.

But intensification of character also applies to spaces, as I discovered in the drawing exercise of the five chronological projects. Just like when the flatness and accuracy of steel is enhanced by a glossy finish, perhaps the refinement of the roof joists has nothing to do with making something more structurally efficient, and everything to do with enhancing their spatial character. By making a gap between inside and outside in 4House we make the interior feel more internal and the exterior more external. By doubling the width of the steep stairs in House 02, the stairs becomes a stepped landscape; a stairs on steroids.

I would like to expand further on this; to demonstrate that not only does the idea of intensification apply to materials and spaces but also to forms, typologies, moments...in fact, it is a fundamental design principle of our practice. It is the ‘how’ of how we design.

It is both working method (distillation/exaggeration) and design goal (intensification).

final project (Glasnevin Chapel), the joists are almost unrecognisable in the cloud-like structure.

There is also an act of distillation – in that we select the quality or aspect we want to stretch or distort (exaggerate). I think we use these twin tools of distillation and stretching/distortion (exaggeration), as a method for developing ideas across projects. In the case of the roof joists, the physical properties of the building elements are stretched and distorted from project to project, in pursuit of the exaggeration of their spatial effect.

12 My 1st Supervisor up until PRS 06, and my 2nd supervisor for completion
Distillation/Exaggeration as a working method

I use the term *distillation* here to denote the extraction or selection of a quality which we like or are interested in. In my mind, the act of distillation implies intensification. I could also use the term ‘reduction’ - but not in the sense of simplification. I would use reduction more like a chef might. In reducing a sauce, the flavours are distilled and made more intense.

*Exaggeration* was identified as a characteristic of our work in the early stages the PhD process. The observation was insightful and correct - but perhaps the term requires more thought;

- **Augment**: to make larger; enlarge in size, number, strength, or extent; increase.
  - (In music) to raise by a half step.

This feels too timid and a bit passive for what we do.

- **Amplify**: to make larger, greater, or stronger; enlarge; extend.
  - to expand in stating or describing, as by details or illustrations; clarify by expanding.

A better term – I like the thought that something is clarified by expanding (or reducing and adding in our case). So there is definitely an aspect of amplification in our work. However, the term lacks the act of stretching and distortion which is inherent in our working method.

And so back to *Exaggerate*...

When I look at the alternatives, I realise that *Exaggerate* may, in fact, be appropriate. Even if I have reservations about the term, it is still the...
closest I can get to what it is we are doing.

Exaggerate  to magnify beyond the limits of truth; overstate; represent disproportionately to increase or enlarge abnormally

Looking at the definitions for exaggerate above, the descriptors ‘disproportionate’ or ‘abnormal’ also seem appropriate when I realise that to enhance something is to highlight a particular aspect of it - perhaps abnormally or out of proportion to the thing itself.

For instance, if I take the previously described example of why we paint steel rather than plywood – we coat steel with gloss paint because the shine of the gloss finish exaggerates the flatness and hardness of the material. The qualities of hardness and flatness are abnormally or disproportionately emphasised, to communicate something about the character of steel (i.e. it is harder and flatter than other materials).

So, we choose to distil the essence of something (in this case – steel) by exaggerating an aspect (in this case – the qualities of hardness and flatness) to intensify the experience of the thing.

We want to make steel more steel-y, plywood more plywood-y. We also want to make stairs more stairs-y, faceted forms more taut and remembered spaces more vivid.

I think it goes to the heart of what we are trying to do in our Practice.

We take qualities we like – be they spatial, experiential, tectonic – and exaggerate them to enhance or intensify their character.

Examples of Intensification in the work of TAKA Architects

We like to make intense situations within our buildings. We do this through the twin tools of distillation and exaggeration. Not only do we distil/exaggerate the qualities of materials and spaces, but also the qualities of forms, typologies and moments. We tend to intensify within the project itself, and chronologically from project to project.

The following pages are intended to illustrate some of the different types of intensification present in our work.
Structural/Spatial Intensification

On the facing page is an isometric drawing demonstrating the chronological development of the spatial character of a roof structure, through the stretching and distortion of its physical characteristics from project to project.

The roof joists in the original project (House 02, 2009) are themselves an intensified version of a standard joist. We used twinned sections of engineered timber, with a gap between, to achieve a sense of refinement within the 44mm width of a standard joist. Light comes from above and shines through the twinned structure.

In the next project (Wynnsward Park, 2010), the joists are distorted and stretched to become deeper, thinner and much longer. The structure spans the ‘wrong’ long way in the north-facing space, to allow east/west light to enter from the sides. The twinning becomes a structural solution at mid-span, to allow the plywood joists to span further than their standard 4.8m sheet length. The joint detail was designed to emphasise the thinness of the joist over the length of the roof. Light and shadows are subtle and calming.

The model for the ‘Made’ exhibition in the Royal Hibernian Academy (2012) was a conscious exploration of the spatial capacity of some of the tectonic elements of Wynnsward Park and the later project, 4House (2011). In terms of the roof, the joists are deeper again, making space within the roof itself. Light now comes both from above and the sides. The resultant shadows are deeper and more intense.

In the final project in the sequence, Glasnevin Chapel (2013), the joists disappear into a cloud of structure. With light being admitted from all sides, the 2-way spanning net of thin structural elements captures space and light to imitate the changing nature of a cloudy Dublin sky. Shadows are fleeting and dispersed.

In the first project (House 02), the effect of sunlight falling through structure was almost accidental. However, we consciously recreated this situation in subsequent projects – exploring its tectonic and spatial potential. The physical characteristics of the structure are stretched and distorted from project to project, to achieve an intensification of the spatial experience which we observed in our first project.
Formal Intensification

We like to make taut forms. There are a number of projects [ref (Venice Biennale, 2008); (Merrion Cricket Club, 2014); (4House, 2011)] in which we paid close attention to the physical detailing, in order to exaggerate the quality of tautness in the external form.

In Merrion Cricket Club, the final ‘irrational’ form of the building is generated by ‘cutting’ a theoretical rational form. We emphasised the tautness of the ‘cuts’ through the physical detailing. Junctions between materials are flush. Projections, such as gutters, are concealed within the structure. The underside of the ring beam stepping with the brickwork, makes the wall feel like it’s been ‘sliced’. At the end of the colonnade, the final column folds away from the side elevation, creating a sort of surface tension. (Figs 41, 42)

The faceted, taut form of the pavilion building is enhanced and intensified by the careful design of its physical characteristics. As a result, the faceted geometry feels sharper and more taut.
Typological Intensification

In Cian’s research, he discusses how the spatial history of Dublin inflects our projects; how Dublin is a largely consistent context, made up of small differences between buildings within the same type.

In the project for a new house in a suburb in Dublin (4House, 2011), we took the surrounding 1970’s suburban house typology and tuned it, to make the new house not only ‘of’ its context but also of its time. We used small differences in the treatment of materials and form to make a distilled and exaggerated version of the typical neighbouring house.

We maintained the front and rear building lines and roof profile of the surrounding houses but allowed a subtle distortion in the overall building form. The form was intensified by the suppression of projections; gutters are flush and window sills concealed. The typical suburban wall material (pebbledash) was exaggerated by applying it extensively, running into window reveals and openings. Its finish was rougher, and stones larger, than its neighbour. (Figs 43, 44)

The resulting house is materially similar, but experientially vastly different, to its neighbours. The exaggerating of certain fundamental aspects of the typical has made an intensified type within type.

Key
1 ‘The character of the typical suburban material (pebbledash) is intensified through its extensive application to the façade; running into window reveals
2 ‘The stones used in the pebbledash are larger, giving an exaggerated roughness to the finish
3 ‘Custom-made window sills are concealed to allow the pebbledash to throughout the facade.

Figs 43 axo drawing of window detail, 4house, 2011
Fig 44 the intensified suburban typology, 4house 2011
Spatial Intensification – Outside/Inside
The Irish climate instils in us an innate difference between inside and outside. Outside is potentially cold, wet and uninviting; inside should be warm, hospitable and enveloping. Irish buildings must mitigate between these situations, making a distinct threshold between outside and in.

Before we built our first projects (House 01 and House 02), we made an exhibition piece for the Venice Biennale in 2008, entitled Tectonic Mnemonic. In looking at this piece again I see that, despite the fact that it’s not a building, it is still conceived with the Irish (or maybe just northern European) sensibility of distinguishing inside from outside.

The intense difference between the external form and internal space was emphasised by pulling the internal ‘room’ away from the inner surface of the external form. The external surface was faceted, white and explicit; the internal surfaces were reflective, designed to ‘confuse the eye’ from the edges of the space.

We (unconsciously) used very similar strategies in the house in Firhouse (4house, 2010) described above. We differentiated internal and external materials in a similar manner. We created thresholds or gaps between the internal space and external form by pulling the internal linings away from the inside of the external shell. The outside is taut and uncompromising, inside surfaces have depth and shadow.

We intensify the experience of crossing the threshold; of moving from the outside in. Outside feels more ‘outside’, inside feels more ‘inside’.
Experiential Intensification – Exaggerated Moments

When I say that we tend to intensify chronologically from project to project, sometimes we do it very directly. We take physical experiences or moments from a previous project and re-imagine them in the new project. I have already partially demonstrated this when discussing the intensification of the experience of light and structure (Structural/Spatial Intensification).

In a recent project, Belvedere Sports Grounds (2017 uncompleted), we directly referenced some characteristics or moments from a previous project, Merrion Cricket Club (2014). We took aspects of this building and intensified them for the design of the new, larger project.

Both buildings have a viewing function. In Belvedere, we omitted the colonnade along the viewing terrace (a key feature of the cricket club) to intensify the experience of the wider, higher view in the Sports Pavilion. The unsupported roof edge overhangs the terrace, with the roof running inside to outside; pushing the viewer further out into the landscape.

The physical elements of the entrance portico in Merrion (the ramp, the column and beam, the overhang) have been stretched and distorted. The roof overhang feels more precarious; appearing to be unsupported at either edge. The ramp has become steep steps. The column is off-centre.

We have pushed the physical characteristics of the spatial moments to create an intensified experience in the new project.
2.4

Conclusion
The basis for our practice was an interest in tectonic assembly. Our first projects (House 01 and House 02) were a reaction to the suppression of constructional detail. We were looking at Kahn and thinking about the qualities of materials and how to express the construction of a building. We were interested in buildings that communicate. We still are.

Although the urge to intensify seems to be focussed towards an experiential goal - which has little to do with ‘honesty’ - it does come out of the fundamental interest in ‘honest’ tectonic expression. For us, it started with Kahn’s ‘what does a brick want to be?’ (The starting point for a lot of naïve, young architects). But is now moving towards the more compromised, but perhaps richer, ‘faithfulness to effect’ of Loos.

14  Actually the quote is ‘What do you want, brick?’ Louis Kahn, Masterclass at Penn 1971

15  ‘In Colour’, Charles Holland, saturatedspace.org, 2014

16  Or space, or form, etc.

‘In the principle of cladding, Loos manages to make painting a surface an issue of honesty and ethics. But his honesty is of a complex kind. A faithfulness to effect is as important as a faithfulness to material or to structural logic’

We are interested in enhancing the physical character of the material (or constructional element, or space, or form, etc.), rather than communicating a constructional truth. We select qualities that interest us, to distil the physical essence of it.

This is why we stretch or distort physical aspects of building elements from project to project. We are testing the physical qualities of the material or element, distilling essences and enhancing the intrinsic character, in the service of intensifying the physical experience.

Distillation selects the essential aspect; exaggeration turns up the dial on that particular quality; which results in an intensification of the experience of the whole thing. Stretching and distortion are the physical means by which we achieve this.

In my essay at the start of this document, ‘Compound Living’, I describe my spatial history; of how I lived and re-lived in our family homes, which TAKA then re-imagined in refurbishments, extensions and new houses. In our pre-PRS presentations we showed a series of images (Fig 53,54) which demonstrated how moments in my original family home (the stairs, the dining room, the living areas) had been incorporated into
2 new homes. We took personal remembrances and distilled them to create new intensified experiences.

When I look at the images on previous pages, I see that we are continuing to do this – at all scales. From the lowly timber joist to the suburban typology, our design method can be said to be a process of distillation, exaggeration and intensification.

The images of my old and new family homes had been put together instinctively. We were aware that the spaces were related; but not necessarily aware of the design methods we had used to produce them. We intrinsically knew that they were distillations; but not that their purpose was to create an intensified experience.

Those images of my family homes were some of the first things we showed in the PRS/PhD process. It has taken 4 years of research to understand something which we instinctively felt. But I can see (and have shown) that the growing consciousness of our methods is affecting how we design new projects. The crystallisation of the knowledge of our methods is refining our practice and making us better Architects.

Chapter References

Conclusion
Research Conclusion

The nature of this research is introspective (being an analysis of my own practice’s methods), empirical (based on observation and experience of our work) and personal.

For me, Architecture is a pragmatic discipline. It is an applied Art in which the experience of the artefact is of primary importance. I dislike the over-intellectualisation of Architecture. What a building is like (to visit, to use, to look at), is much more important to me than how well it illustrates some sort of intellectual goal.

In thinking of how my research could be of use to other architects and practitioners, I thought about the architectural texts which have been of use to me, as an architect and practitioner. Books like: ‘Experiencing Architecture’ (Rasmussen, 1959), ‘Townscape’ (Cullen, 1961), ‘Strange Details’ (Cadwell, 2007).

They are texts about looking closely at buildings, which have inspired me to see the built environment differently or more clearly. They are books which examine the fundamental matter of buildings, but which are told from a profoundly personal standpoint.

I am a practitioner, not an academic. I find the density of some academic texts alienating. I prefer ‘Experiencing Architecture’ to ‘The Eyes of the Skin’. Both books are about seeing and experience; both books are told from a personal standpoint. But Rasmussen’s text is accessible and direct; speaking simply, but persuasively, about the phenomenological experience of Buildings and Cities.

In some respect, ‘Experiencing Architecture’ changed the way I thought about Architecture; de-mystifying and de-intellectualising; allowing me to give value to my own experiences and preferences; to give credence to my spatial instinct, as well as my more intellectually-driven architectural training.

The description of how Rasmussen (or Cullen or Cadwell) looks, changed the way I thought about buildings and Architecture.

By describing my own ‘way of looking’, I am hoping to contribute to this body of knowledge; that my description of our practice methods, which arose from looking closely at the artefacts we produce, will inflect the way others see buildings and architectural practice.

I have tried to write, in an accessible manner, of genuine discoveries I have made over the course of my research. I have split my findings into two categories: Misconceptions and Discoveries.

Misconceptions
These are misconceptions we had about our Practice, before enrolling in the PhD, which the PhD and PRS process helped clarify for us.

Misconception 1
The Vernacular
When introducing our work, we described vernacular buildings we have visited as a means of situating our architectural interests. This sat uncomfortably with a succession of PRS panels, who felt that it was perhaps an obfuscation.

For us, the potential disconnection of our work from the pursuit of a vernacular sensibility was discomfiting. But the criticism enabled us to define what it was about the Vernacular we found so appealing. At the time, we clarified that when we talk about the Vernacular, we are referring to the work’s connection to place and local construction methods, rather than a reimagining of traditional forms or types.

Since then, I think we have further refined our attitude. The vernacular building is a physical embodiment of the culture that built it. This is what we seek in our buildings. The building should communicate something of its locality, place and environment; but also something of the culture of the people who commissioned, conceived and use it. Our buildings should be the opposite of a generic, ‘international’ style.

The clarification of our attitude to the vernacular has resulted in a broader definition of our interests. It has given us license to pursue other conscious but under-articulated themes. It allows us to be freer in our references and to be clear about our modernist architectural lineage.

Misconception 2

‘Honest’ Tectonic Expression

Our first projects were a polemic against what we saw as ‘paper-thin’ contemporary architecture; buildings covered in plasterboard and external cladding systems, which photographed well but aged horribly. We preferred buildings which had physical weight and thickness; a robustness.

So we designed those first two houses as tectonic assemblies, with the construction and materials ‘on show’. We wanted the building to tell the story of its construction. Details were conceived to demonstrate the layered nature of modern construction, giving physical expression to even the ‘hidden’ elements. We refused to use steel in House 01, as we felt it was ‘dishonest’ in a modest domestic project. As first projects, we wanted to set our stall out; to plant our flag firmly in a big pile of highly articulated bricks.

From my research from PRS 03 to PRS 06, I can see that we moved quite quickly away from our opening polemic. The architectural lessons we took to our next project weren’t necessarily about the tectonic, or ‘honesty’. We were interested in the way light fell through structure and the spatial effects the tectonic expression generated. However, we continued to talk about our work with reference to ‘honest’ tectonic expression. We had intuitively progressed; but our thinking hadn’t yet caught up with our doing.

I see now that, while we may have moved beyond ‘honesty’, we are still interested in tectonic expression as a means of communication. But rather than just communicating the matter of the building, it is more connected to cultural or contextual expression; to the story of the people or the site or the locality.

Misconception 3

Our Buildings are just Assemblies

This is related to our interest in tectonic expression. In the beginning, we conceived of our projects as assemblies of building components. Once we had adequately accommodated the requirements of the brief, our focus turned to the poetic expression of construction and tectonics. In our minds, the resultant spaces were almost just a by-product; voids between the characterful construction.

But the PRS critics could see what we couldn’t. Although we may have started with this attitude, it seemed to be obvious to others (but not to us at the time) that there was a spatial sensibility driving aspects of the work.

Like our desire to encapsulate a culture, the spatial ambitions are achieved through the medium of tectonic expression. Spatial characteristics come directly out of the expression of physical details. The interest in tectonic thickness has generated projects with lots of in-between spaces – overhangs, terraces, alcoves, porches. Constructional expression creates spatial datums. Material expression makes shadows and light. The separation of lining from structure produces rooms.

Over the course of the PhD, I have come to realise that the character of the space has become a primary driver in our projects. This can be seen in early projects (4House) and more directly in later projects (Glasnevin Chapel, Merrion Cricket Club, Belvedere Sports Grounds).

Our Misconceptions were deeply held. It has been difficult to change them. They came out of our first polemical projects, in which we wanted to establish our Practice’s architectural stance. In the intervening years between these projects and starting the PhD we intuitively developed our interests, but hadn’t taken the time or space to develop our thinking.

The reflection required by the PRS process and the carrying out of the PhD has given us the opportunity to allow our thinking to catch up with our doing.
Discoveries
These are new insights into our work and practice which my research uncovered. The six main discoveries are listed so that they loosely connect from one discovery to another, but not in the chronological order of their uncovering. My research was not a linear process; requiring much back-tracking and re-thinking to finally coalesce into a coherent series of insights.

Discovery 1
Spatial History
My personal spatial history has profoundly influenced how we practice and design. The articulation of the layered nature of my spatial history gave insight into how our methods and motivations developed. I learned that, from working for friends and family, and within the physical spaces of our childhoods, we came to want our work to be both poetic and pragmatic. We feel a design is only resolved when both urges are satisfied.

We distilled and intensified essences of my spatial history to create poetic connections in our first two projects. We went through a similar process for Cian in a later project. The process of distilling and intensifying became a fundamental design method of our practice (See Discovery 3). The informal or ad-hoc working processes, making these projects, crystallised into fundamental working methods for our practice (See Discovery 6).

Discovery 2
Tectonic Expression towards Spatiality
We have an aesthetic sensibility which pushes us to elaborate and articulate. This is based in our fundamental belief that Architecture should communicate; should create a poetic connection between the user or visitor and the building. Tectonic expression is the means through which we communicate and create the connection.

I realised that in expressing the tectonics of a building, in showing how one element bears on another, we make gaps between elements by creating profile in a detail. Gaps then express thickness, which results in particular spatial qualities. I came to realise that there is a spatial agenda at play in our work; something we had not acknowledged until the PhD.

I identified a series of Spatial Devices and Intentions which are a direct result of the physical tectonic decisions we make. I could show that we were making details which generated certain types of spaces and that (especially in the later work, and as a result of the PhD process) the spatial consequences of a detail were becoming the driving factor in the design.

Discovery 3
Intensification of Character
In relation to our interest in tectonic ‘truth’ (See Misconception 2), I realised that, perhaps, rather than being true to the nature of the material, we wanted to instead intensify its character. We take qualities we like – be they spatial, experiential, tectonic – and exaggerate them to enhance or intensify their character.

In the process of trying to document the shift of practice thinking towards spatiality, I discovered that we stretch and distort the physical qualities of building elements, from project to project, as a means of testing their spatial effect. I identified this as a fundamental design method in our practice, the motivation of which was to create intensified physical experiences.

The method consists of a number of steps: Distillation selects the essential aspect; exaggeration turns up the dial on that particular quality; which results in an intensification of the experience of the whole thing. Stretching and distortion are the physical means by which we achieve this.

I discovered that not only does the idea of intensification apply to materials and spaces but also to forms, typologies, moments. It is the ‘how’ of how we design.
Conclusion

During the PhD, I realised that our design and drawing process is both additive and reductive. In Cian’s research, he discovered that we think about and design our buildings in ‘Fragments’ and ‘Moments’; which are the scaffold around which we assemble the building. The separating of an artefact into reduced or edited pieces, and the layering and arranging of those pieces to form a complex artefact, is how we draw, and therefore, how we see buildings.

Through reduction, we are trying to communicate the essence of the detail or idea, as succinctly as possible. The layering or addition comes out of an urge to create densely and intensely inhabited drawings or spaces (which is, in turn, influenced by our spatial history, living and reliving in the spaces of our childhood). Our analytical research drawings are reduced and simple, as they are communicating a singular idea. Our technical drawings are layered and dense, as they are a product of the complex artefact.

Our technical drawings embody some of the qualities of our buildings because our drawing process parallels our design process. Our analytical (research) drawings are like the reduced and distilled physical fragments or ideas, which accrete over the course of designing, drawing or researching; overlaying each other to become a nuanced, complex artefact.

This realisation enabled me to formulate the ‘Small Things’ drawing method as a descriptor of how we think and look when designing; and to apply it as a research tool, making further discoveries about our practice.

Discovery 5

Drawing and Photography as a reflection of Thinking/Looking

Before the PhD we knew that drawing was very important to how we work; but we hadn’t articulated or thought about how it influences the way think about and look at our buildings. We often say in our practice that we don’t know something until we draw it. For us, drawing is both thinking and looking. I have realised that the way we make our drawings profoundly influences how we think and look at our buildings.

Our establishing of the *tectonic character* of our buildings early in the design process, through drawing, enables us to view the potential project as a building, rather than an idea of a building. Drawing establishes the project as an autonomous and characterful artefact within our mental space.

Our use of digital drawing enables us to view our drawings as a ‘proto-building’. For us, the drawing IS the building. Drawings are not a design or representation of a building; they are a building composed of lines and hatches, which will one day become a building made of bricks and concrete.

Orthographic projection drawing is fundamental to our work and design process. We tend to resist any form of drawing which strays from the ‘true’ (orthographic) form of plan, section and elevation. Due to the orthographic drawing process which produces the artefact, the proto-building of my mental space is composed of a series of flat, consecutive slices (plan/section/elevation).

In thinking about this, I realised that the photographs of our buildings are a reflection of how we think about and view Buildings. The flat and frontal images are a tangible confirmation of the flat, orthographic ‘proto-building’ of my mental space. The cropped and partial framing of the photographs reflects how we think and design, by separating the object into pieces (or fragments) – (see Discovery 4 - ‘Way of Looking’).

I realised that we use the photographs as a form of analysis of our work; to enable us to look closely at what we have made, providing ‘food for thought’ for subsequent projects.
Discovery 6

*Heuristic Methods*

My investigation into the use of concrete in our practice enabled me to identify some heuristic methods we use to deal with risk, uncertainty and difficulty. These have developed over time into strategies which we now consciously employ in our daily work. I identified three conscious strategies which developed out of a series of informal and ad hoc processes in our first projects: ‘Trial and Error’, ‘Advice’, ‘Being Wilfully Naïve’.

We use ‘trial and error’ in a direct way when trying to understand how to make something which is difficult to do, or which has an uncertain outcome. But I realised that our entire practice could be seen as a form of trial and error. Because of our empirical approach, we (TAKA) aren’t intimidated by the uncertainty of building. The fear of making mistakes can restrict the progress of an architectural practice. I realised that we would rather build and risk being wrong, than not build at all. Trial and error is a method which allows us to develop our thinking from project to project.

Asking advice is a complementary strategy to ‘Trial and Error’. By seeking out people who have done something similar, a few wrong turns may be removed from the trial and error process. My research identified 4 types of technical advice which a practice might seek. But I also realised that our urge to visit buildings can be seen as a form of advice-seeking. We are asking the buildings which have gone before us, how they managed to do something well (or badly).

But seeking knowledge can have disadvantages, so we also employ the strategy of ‘Being Wilfully Naïve; we want to know, but we don’t want to know too much. ‘Not knowing’ leaves space to find out new ways of doing things; a vital aspect of venturous practice.

I have realised that rather than making a complete study of what we mean to do and then choosing the best option, we jump in and choose the most expedient course which achieves our ambitions. We make mistakes and we learn from them. This is the definition of ‘heuristic’ and, to me, the definition of what it means to ‘practise’. These working methods were established in our practice over time, through an experiential learning process. The PhD has enabled me to articulate them as strategies; which is itself learning by (reflection on) doing.
The Potential for Change
We started attending the PRS, and enrolled in the PhD, in the hope that it would change our practice. We were concerned about stagnation; of our practice, of our thinking and of our designing. We wanted to be better at what we do and, in the process, become better Architects.

The process has been a revelation for us; shattering our own misconceptions about our practice, and enabling new discoveries about how we think, work and design.

But none of this is useful unless it changes how we work; making us better at what we do. It is difficult to quantify the extent of change in our practice at this early stage, having only just completed the process.

Although we may not feel the true extent of the change yet, I can identify some small, but important, ways in which our ways of working have altered.

Change 1
I have referred to the ‘micro-community’ of architects’ we work within. TAKA, Clancy Moore and Steve Larkin all began their PhD’s, and started attending the PRS, at roughly the same time in 2013. Prior to the PRS, the individual practices worked side-by-side, teaching and exchanging information together, but not collaborating in any significant way. We were aware of, and admired, each other’s work but had never really considered working together.

Every six months during the PRS, we watched each other’s presentations, learning about how and why we all did things. The experience made us more comfortable and familiar with each other’s work practices and made us consider working together, for the first time.

In January 2015, Clancy Moore, Steve Larkin and TAKA (along with another Irish practice – Hall McKnight) were asked to make individual contributions to an exhibition in The London Festival of Architecture. We decided that, rather than make singular exhibition pieces, the practices should collaborate to design one large pavilion structure.

This was as a direct result of watching each other present at the PRS. The insight the PRS gave us into each other’s practice, enabled us to design and work together; collaborating to produce a jointly designed object.

Since this exhibition, we have discussed collaborating on other, perhaps urban or civic, projects in the vein of Group 91, and are currently jointly designing a competition entry for a Concert Hall complex in Lithuania.

Change 2
In 2015, we were commissioned to design our largest project to date – a new sports pavilion for Belvedere College, a private school in Dublin. As part of the shortlist process, we were asked to submit a document which outlined our vision for the new building. The document was not to be presented in person, and so, needed to be clear and engaging, in the absence of a verbal presentation to the commissioning committee.

It was a large building and we couldn’t design all aspects within the allotted time period. We had recently realised that we design in ‘Moments’ so we decided to design and present 3 ‘key moments’ of the building in detail, leaving the general arrangement of the building as little more than a developed sketch design.

We had also become aware that we take pieces (or Moments) that we like from our previous projects, and re-imagine them in later projects. We knew that the committee liked a cricket pavilion we had designed (as this is why we had been included on the original long-list for the project), so we took pieces of this project and re-made them at a larger, more complex scale in the new design proposal.

These were conscious methods we employed as a direct result of our joint research for the PhD. The new insights into our design thinking, which the PRS process helped produce, meant that we could almost short-cut some of the usual meandering design process, to produce a characterful artefact within a restricted period of time. Being conscious of why and how we were doing things, meant that we could clearly and concisely communicate our ideas to our potential client. We had
become faster and clearer than we were before.

I think that the clarity and pragmatism of our approach to the sports pavilion project, was the main factor in the College’s decision in 2016 to appoint TAKA to develop a Masterplan for the entire school campus. The complexity of the historic site located in the heart of Georgian Dublin is daunting; especially for a practice which has, to date, mainly completed houses and kitchen extensions. But the PhD process has given us the confidence and clarity to know that our work and design processes can be applied at all scales.

Change 3
The realisation that we have a spatial agenda; that we design in ‘moments’; that tectonic ‘truth’ is perhaps no longer a priority; has allowed us a freedom from our self-imposed restrictions. We feel more comfortable with the notion that design can be at times ‘irrational’; that our instinct for producing desired spatial effects is a valid means of designing. We have always designed and worked instinctively, but we did so within a framework of tectonic, constructional and vernacular ‘truth’ which we had set ourselves.

Before the PhD we were concerned that, by analysing and becoming more aware of our methods and motivations, we would somehow inhibit our instinctive design reactions; that the examination would change, for the worse, the very thing that made us good designers. Happily, we found the opposite to be true. Our research has identified the reasons for the instincts, rather than analysing them out of existence. It has made us trust our initial ‘gut reactions’, as we can now see that they are based in tangible motives.

The PhD process has given us the freedom to be more expansive in our interests and aims, and the awareness of our methods and motivations to guide us through the newly opened territories.

---


A PhD must contricute to knowledge. Below are the specific ‘contributions to knowledge’ which my research makes:

Specific Contributions to Knowledge
- The description and articulation of my ‘Way of Looking’
- The ‘Small Things’ drawing method as a research tool and descriptor of how we think and look when designing.
- The identification and explication of the method of Distillation, Exaggeration and Intensification in our design process.
- The Drawing as a Proto-Building, with reference to Robin Evans ‘Translations from Drawing to Building’
- The relationship of architectural photography to the how we see and design.
- The identification of heuristic strategies for managing difficulty and uncertainty in venturous practice, and evidencing of those strategies through a case study of the use of Concrete.

Specific Contributions to Teaching
- The ‘Small Things’ drawing method as a visual illustration of design thinking; that a complex artefact is an accretion of small, edited decisions. How the task of designing an entire object can be broken down more easily digested parts, without loss of coherency of the over-arching architectural idea.
- Parallel design processes as illustrated by Form and Tectonic ‘small things’ GIFS. How design thinking can be composed of separate, but parallel, processes.
- The articulation of the reasons for the efficacy of digital orthographic projection drawing over 3D computer modelling in architectural practice and design.
I would like to end this research with a quote from John Wardle in the Pink Book. Wardle completed his PhD in 2001 and so has had much time to reflect on how the PRS/PhD has affected him. Even at this early stage, I can identify with what he says:

‘For me this research was about confidence, about deeply personal things... It provided me with an important understanding that there is logic to what is otherwise my very intuitive process. It invited me to examine that and feel strongly about it, and to improve my descriptive processes about the methodologies we employ. It gave me greater confidence in finding that what we do is actually really valid.’

**Conclusion References**


