

# Draw EDward Draw: Atmosphere, Choreography and Context in First Year Architecture.

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## **Abstract**

This paper examines a First Year Architecture Studio project, *Bathe: Atmosphere, Choreography and Context in the Orthographic Section*, conducted at Unitec Department of Architecture, Auckland during the second semester of 2010. Tension between discipline and excess was at the heart of this Studio which used only manual processes to explore and represent the design of what Marco Frascari describes as the “numinous place.” The project was additionally restricted to a particular orthographic view, the section, and was designed to extract from this conventional representational device the maximum communicative potential. The paper will describe the processes used, survey the original intentions of the project and review the success of them in terms of the work produced by the students and the learning that can be generated by the designed use of constraint in Design Studio projects.

**Keywords:** Design studio, habitation, section, constraint.

## **Introduction: Design Studio Context.**

The Bachelor of Architectural Studies programme at UNITEC uses a traditional timetable model where the lecture subjects occupy the mornings. The afternoons, three days a week, are devoted to Design Studio. These days vary amongst the three years in the BAS programme, but the first year studio group meets on Tuesday, Wednesday and Thursday from 1.30pm to 5.30pm. In 2010 there were approximately 90 students in the Year 1 Studio cohort divided into three groups of 30. Each group was assisted by two tutors who, barring one fine artist, were all professional architects with a minimum of 5 years practice experience.<sup>1</sup> Three of these staff were full time or tenured staff members while the other three were part time tutors who came in only to teach in Studio and who were paid on an hourly basis. The projects in the first year are designed by one of the full-time staff members who has the role of Year Leader and they are worked on by the whole cohort of students at the same time.

## **The Project**

The design studio project I will discuss, *Bathe: Atmosphere, Choreography and Context in the Orthographic Section*, was located at the beginning of the third quarter of the first year course and was conducted over three and one half weeks in eleven four hour sessions. The project ran parallel to the lecture course Architectural Technology 1. AT 1 addresses small scale timber frame buildings and their associated material, structural and services technologies. *Bathe* provided the students “with an opportunity to explore and draw out the design possibilities of the collection, treatment and restoration of water for the purposes of cleansing and regeneration of the body.”<sup>2</sup> Thus the students were able to confront some of the water related services issues, in design terms, they were studying in their technology course.<sup>3</sup>

The project was given a futuristic temporal setting but a very direct spatial and experiential one.

It is 2020 and after the Water Crisis of late 2019 the draconian Department of Water Resources (dWAR) has decreed that all water supply to private dwellings will be restricted to that required for cooking and drinking (2 litres per person per day) and that all washing of the body and clothing must take place in communal bath houses located at schools, places of work and in public parks.

You are to develop an architectural proposition for a bath house for Unitec students to be located adjacent to and connected to an external wall of Building 001 at Unitec.<sup>4</sup>

This setting of future time but spatial immediacy gave students the opportunity to dream a response but grounded this response in a physical and climatic milieu that they could experience directly. The project had to cater for a group of about 22 students and it had to be available to them 24 hours a day. There was additionally what might be called a 'sustainability' requirement, but the project was not just about technology.

The proposition must be totally self-contained with respect to water. That is it must collect the required water, heat and/or modify it as required and then restore it - all on the site. Your proposition must temper the internal environment appropriately (heating, cooling, ventilation and lighting) as well as creating what Marco Frascari describes as a "numinous place."<sup>5</sup>

*The role of architecture is to make our life congenial and satisfying, in other words, to make it a numinous place for a vita beata. The proper professional should be concerned with the constitution of these numinous places. The numinous place is a particular place dealing with the canonical dimensions of inhabitation – the holy dimension of dwelling. Such a place emits a sense of well-being.....In numinous architecture, buildings are therapeutic, and within them we can have a beatific life.*<sup>6</sup>

The reading list included Siegfried Gideon's *Mechanisation Takes Command*<sup>7</sup> which was intended to direct the students' attention to the issue of bathing as regeneration rather than just hygiene. A power point introduction based on the last section of Gideon's book was used to give a broad historical over view of the development of bathing and the variations in architectural typologies that it produced. This power point then showed original construction drawings of the UNITEC Department of Architecture Building 001 which was formerly the Whau Lunatic Asylum and built in 1867. The sequence included "The Ground Plan Shewing Drainage" which recorded the delicate matrix of water delivery and removal from the building as well as sectional drawings that would give the students an initial insight into the constructional and structural systems that they were required to engage with. The current building complex has resulted from a series of additions to the original building over the 144 years of its existence. These additions were plotted and presented as power point slides to reinforce the idea of continuous building and the fact that they, the students, would be part of this continuity. The power point lecture then focussed on the orthographic section, reprising the technique for graphically building up a section that had been part of a Week 1 exercise and then giving examples from Claude

Nicholas Ledoux and Gordon Matta-Clark of how the sectional drawing might be enhanced to enrich the information about inhabitation of the spaces.

The project required only two projection types to be used for the main presentation: an axonometric (plan oblique) diagram at 1.50 of the water systems and five instrumentally, hand drawn vertical sections. (The previous year a small location plan at 1.1000 to follow the format shown in the introductory power point was also required but this was abandoned in 2010 because even this small plan proved to be a planning distraction.) The axonometric was intended to be a technical diagram that explained in three dimensions the spatial layout of these technical systems. The orthographic sections were the only projection type available for the students to represent the fullness of their project. The intention was to force the students to draw out, squeeze out, eke out, however you want to describe it, the most information they could about the spatial envelope they were creating, the space they were creating and the context that they were locating within and eventually to present this information by drawing in, squeezing in and so on.

### **The Studio Process**

The students were given a one page double- sided handout at the beginning of the project. An electronic version was also posted on the network drive for later access along with all the other information such as the introductory power point and digitised drawings of the existing Unitec Building 001. Following the power point introduction the students returned to their studios to engage in a selected workshop task with their tutors. In an earlier preparation session with the tutorial staff and following discussions with other colleagues we had generated a series of ways of beginning which might facilitate engagement with the formal, experiential or technical dimensions of the project. These activities ranged from straight research through diary and documentation of water experience to various drawing/modelling activities. The tutorial staff selected an activity that they thought most beneficial to their view of the project. While the project framework and major issues and marking schedules were set by the year coordinator the individual staff members were free to develop the project in a manner

Our tutorial group began with a watery line. Using brushes, pieces of sponge and weak paint solutions the students generated a series of horizontal lines on an A2 page by manipulating the sponge or brush in contact with the paper, varying the tool, the pressure or the action. This exercise was then repeated to generate another page of vertical lines. The students were then asked to select a line or lines by considering edge contour and permeability and any other characteristics that they considered attractive or interesting and to model it. The first model asked for was simply a translation of the painted line into three dimensions and an approximate size 300mm x 60-100mm. These models were tabled and critiqued by the group in terms of the quality of their translation. The models were then remade to collect and direct/distribute water, tested with water and the results discussed. The second iteration required the models to be remade to filter light. The testing of these models involved the students taping their work to the east and west facing windows in the studio and observing the difference in the effects produced by both their modelling and the orientation. The issue of permeability related to light also initiated discussion on that issue with regard to water.

In the next phase of development the students were asked to use their modelled “things” to contain space. In the first instance they were asked to produce a simple single-cell space that might be configured in a way indicated by the formal nature of their model. They were encouraged to draw this new development either by taking their modelled material and stretching and bending it to the new configuration or by photocopying their model and manipulating that element through instrumental hand drawing. A parallel investigation was also instigated; How and where does this containing envelope connect, spatially, programmatically and tectonically, to the existing UNITEC Building 001?

More complex programmatic concerns were then introduced in the second week with a studio discussion generating a sequence of activities, a generalised procession of movement through the bathing project: entry, undressing, cleaning, bathing, dressing and exit. This process was brought to the earlier physical models and the section stretched and morphed through modelling and drawing to contain the sequence of activities. Because they were restricted to working only in section, the students were encouraged to have a conscious strategy about planning and how this would relate to the three dimensions of their project. Being first year students this strategy tended to follow orthographic relationships: either the process was integrated into the already derived section by stretching it sideways or it was accommodated by a variation of the section in depth. Sticking to this orthographic relationship enabled them to represent it in the most direct way when it came to the presentation phase of the project. Equally the project was framed to focus on the section and the design implications on planning that come from this way of working was another lesson for the students.

I noted earlier that the project was run parallel to the lecture course Architectural Technology 1 part of which deals with the plumbing and drainage, water supply and environmental conditioning and that one of the final presentation requirements was an axonometric diagram of the water systems. These technical aspects of the studio project were supported in the first place by the studio staff who are, all but one, registered/practising architects. Additionally the Architectural Technology Services lecturer Max Hynds worked in the studio as an advisor and critic cementing the connection between Studio practice and the lecture course. The Visual Communications course had earlier exercised the student group with axonometric techniques.

While the discipline of working with only two selected projections was an important factor in the project sensuality, pleasure and regeneration were equally strong rivals. In fact the project could be characterised by the tension between the discipline and pleasure – between the discipline of restricted projection types and restricted water supply and the pleasure of regeneration. It is here that the earlier reference to Marco Frascari and his use of the term *vita beata* or a beautiful life comes back into the frame. This tension between bathing as hygiene and bathing as regeneration had been mapped in the power point introduction and reinforced by direction towards Giedion’s text in the reading list. The task for the students then was to explore and communicate the sensual dimensions of their project using the sectional projection. What are the qualities of light in this space? How are they affected or generated by the qualities of the envelope such as its permeability, its texture, its thickness....What does this space smell like? How warm is it? How do you

communicate wateriness? These now became design and presentation questions for the students.

So far we have concentrated on the project envelope, the technical diagram and the quality of the interior but there was a fourth consideration that we only touched upon earlier; that of connection to the existing building fabric and then as a consequence representation of that context in the sections. Like the interiors the exteriors had qualities that needed to be communicated. My first thinking about this was; that unlike the interiors, the exterior information tended to be constructional and locational through the connective sections and elevations of the existing building. My oversight was shown up by a student, Ji Min An, who started to represent atmosphere as well on the exterior of the building project. She had simply done what was asked of her and read the reading list which included Mark Wigley's article on Atmosphere that had appeared in *Daidlos* xxx where he remarks that atmosphere when occasionally acknowledged in architectural drawings is invariably beneficent. Ji Min included a fraught and frenzied sky in her project that immediately affected her representations of buildings shown in context.

The reading list also contained reference to an article by Jennifer Bloomer that had appeared in the Yale architectural journal *Perspecta* where she describes the section as 'a connection between worlds. The section delineates the here and serves as an interface between theres.'<sup>8</sup> This article provided a useful framework for thinking about the section in that removed it from the basic pragmatics of the drawing technique and introduced a poetic dimension. This enabled me, as I first introduced the project and later as we developed the design in the studio and critique, to talk about this projection type in terms of its contextual design and design development potential rather than simply using it as spatial and constructional descriptor. I found the whole Bloomer article dense and difficult and few students, to whom I spoke, read past the first paragraph but it did enough in that paragraph to expand our thinking. The value of this reading was predominantly in its presence and translation through the project brief while the relationship to the *Atmosphere*<sup>9</sup> article by Mark Wigley was different. It was more directly engaged with and the lessons learnt were able to be directly transferred to the drawing board as described above.

The role of the human figure in the architectural drawing was given importance in the project title as choreography. An earlier project, *Entrance and Aperture* had seen the students practising figure drawing skills at full scale and drawing these figures into their work. In *Bathe* choreography was introduced through several avenues. A colleague from the Interior Architecture course delivered a lecture to the students on Oskar Schlemmer's *Triadic Ballet* which was intended to stimulate their thinking on the relationship between architecture and the movement of the human body. The reading list also contained an article by Marco Frascari on the graphic work of Carlo Scarpa and his former pupil Valeriano Pastor and they way in which they used representations of the human figure to draw attention to "striking empathies"<sup>10</sup> within the work. Scarpa and Pastor were used as examples to emphasize the use of the images of the body during the design process rather than as simple scalar devices for final presentation.

The final issue that I will discuss is what we have called "programmatically adjacency"<sup>11</sup> which is effectively the programmatic aspect of what is generally referred to as context. What

happens when you place a bath house dressing room on the other side of the wall from a drawing studio. What is the degree of permeability between the two and how do you represent this in a drawing of the project? The project requirement that the bath house was “adjacent to and substantially connected to Building 001”<sup>12</sup> was intended to provoke discussion and design to confront not only constructional/tectonic issues but also programmatic ones such as this. The students were also encouraged to think about less obvious and less formal activities like the presence of people outside the project, passers-by, and how the representation of these people might enhance the reading and hence understanding of the project.

### **Conclusions**

Occupation or habitation of space is, for me, the crucial issue for architecture. This project was framed to direct the students’ attention to this issue. The orthographic section is the projection in which the human figure is generally represented vertically and as a consequence shows surfaces at right angles to the lines of vision. The section is also conventionally used to explain construction in that the cut reveals the interior of the wall, floor or roof; those containers of the space that is occupied. The project began with workshops to generate those containing elements and to understand the experiential impacts and technical potentials of those containing elements. The students in our group were strongly engaged in these workshop processes but then when faced with the programmatic requirements tended to default to larger scale formal solutions designed from the outside despite pressure from the tutorial staff to do the opposite. It seems that, even at first year level, students of architecture are indoctrinated with the belief that architecture is designed from the top down.

This project introduced a wide range of techniques to represent the experience of habitation, some which focussed on representation of the body in space and others on the material and spatial condition of the architectural project. The stronger students in the cohort were able to deal in a complex fashion with both elements but it was noticeable that there was a large variation of quality across the whole cohort as the project severely tested the ability of some of the less able students.

There was no plan requirement for this project and planning, in any conventional horizontal representation, was deliberately reduced to a sequence to as effectively as possible take it out of the equation. Students that accepted this constraint were able to intensively explore the intended issues of envelope, inhabitation and context but it proved a difficult task indicating the degree to which this projection device dominates our organisation patterns. In this sense, this project posed challenges not just for the students but also, and possibly more so, for the tutorial staff working on it. In practice we work with both plan and section; the two orthographic projections in concert giving us the three dimensional picture. It took a certain amount of adjustment to work only in section, to work without the plan. It was noticeable also that the practitioners and academics we brought in to critique the work at the end were disconcerted by the lack of plan and often struggled to read the projects.

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<sup>2</sup> Project Four: BATHE. Handout to students.

<sup>3</sup> The following studio project BLIND FRAMED was focussed on design engagement with the other subject of the technology course – light timber framing.

<sup>4</sup> Project Four: BATHE. Handout to students.

<sup>5</sup> Project Four: BATHE. Handout to students.

<sup>6</sup> Marco Frascari, The Pneumatic Bathroom in Nadir Lahaji and DS Friedman (eds) ,*Plumbing: sounding modern architecture*, Princeton Architectural Press, New York, 1997, p167

<sup>7</sup> Sigfried Giedion, 'The Mechanisation of the Bath' in *Mechanisation takes Command: a contribution to anonymous history*, Oxford University Press, New York 1948

<sup>8</sup> Jennifer Bloomer, 'Vortex and Vertex: A Tectonics of Section' in Robert A.M. Stern, Alan Plattus, Peggy Deamer(eds), *[Re]Reading perspecta: The first fifty years of the Yale Architectural Journal* MIT Press Cambridge Mass., London 2004, p 584-590.

<sup>9</sup> Mark Wigley, 'The Architecture of Atmosphere' in *Daidalos 68*, June 1998. p18-27

<sup>10</sup> Marco Frascari 'A Tradition of Architectural Figures: A Search for *Vita Beata*' in George Dodds and Robert Tavenor (eds), *Body and building: Essays on the Changing Relation of Body and Architecture*, MIT Press, Cambridge Mass., London 2002, p 258-267.

<sup>11</sup> I would like to thank Dr Rachel Carley for bringing this issue to my attention.

<sup>12</sup> Project Four: BATHE. Handout to students.