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Title: 'in-between' Architectural Drawing as Interdisciplinary Spatial Discourse

Discursive Formations and Architectural Projections

In *The Archaeology of Knowledge*, Michel Foucault defines a process of de-naturalisation through the study of discursive formations.¹ He considers how knowledge was produced, in particular by an empiricist approach that, he argues, was embedded within the ideological construction of the 'norm'. His archaeology of the human sciences demonstrates how 'norms' structure and construct discursive fields. Fundamental to Foucault's conception is that a naturalised discourse loses its ideological character and this allows it to appear neutral.

Architectural design representation has its own set of 'norms'. To work at the interdisciplinary level of architectural design permits the opportunity to question its neutrality. It also develops an understanding of how the architectural drawing operates as a medium of exchange.² It is precisely the drawing's re-presentation that can interrupt that which is accepted or known. This method of disclosing the drawings' modes of specialisation and limitations raises another discourse. It dispels the routine knowledge contained within architectural projections. This essay argues that the site of interdisciplinary art and design research – where the object or drawing artefact becomes the site of spatial discourse – is a potential avenue to liberate architectural projections because it allows them to contain other disciplinary knowledge.³ Defined as 'in-between' drawings, the work discussed aims to destabilise binary oppositions to create an alternative space of architectural drawing.

According to Robin Evans architectural drawing is a medium of exchange that involves the act of projection, 'which means that organized arrays of imaginary straight lines pass through the drawing to corresponding parts of the thing represented by the drawing'.⁴ For Stan Allen 'projections are the architect's means to negotiate the gap between ideas and material'.⁵ With the relationship between 'ideas and material' established and prioritised within architectural drawing Evans argues that architectural drawings were not always like that. Formerly they included other kinds of spatial information. For instance, in 'Translations from Drawing to Building' Evans shows how domesticity, seen as relations of 'privacy, comfort and independence', was projected into architectural drawing.⁶ We then ask, what other kinds of information might contemporary architectural projections embody and how might new methodologies in architectural drawing research, understood as discursive formations, emerge?

In 'New Methodologies in Art and Design Research: The Object as Discourse', Alex Seago and Anthony Dunne argue for employing very different techniques for alternative art and

design research projects. They are to “adopt and adapt methodologies developed in other academic disciplines or [...] to concentrate upon developing original methodologies which recognise the distinctive quality of discovery in [...] “ your own art and design discipline.”⁷ The argument presented here is that it is possible to do both.

Still, traversing disciplinary boundaries can be difficult for both educators and practitioners. According to Julia Kristeva, ‘Many academics are locked within the specificity of their field [...]. Specialists are often too protective of their own prerogatives, do not actually work with other colleagues, and therefore do not teach their students to construct a diagonal axis in their methodology’.⁸ Jane Rendell argues that: ‘Engaging with this diagonal axis demands that we call into question what we normally take for granted, that we question our methodologies (the ways we do things) [...]’.⁹ As researchers teaching in a School of Architecture, our interest is in ‘teach[ing] [...] our] students to construct a diagonal axis in their [drawing] methodology’.¹⁰ The practice-based research projects presented here were produced by two of our postgraduate students, Ileana Liaskoviti and Eleanor Atallah.¹¹ We argue Liaskoviti and Atallah use original design research methods that pursue both avenues proposed by Seago and Dunne. Both students use the practice of drawing and their drawings as a method and site respectively of discourse analysis. In their architectural design research, the drawing is seen as a text and used as a method of textual analysis.¹² The analysis of spatial discourse is made possible through what Kristeva describes as ‘institutional interdisciplinarity in theory and practice’.¹³

Liaskoviti and Atallah’s approach to textual analysis and architectural drawing contrast markedly with each other because their architectural drawings emerge from their use of disciplinary practices outside architecture. What is experimental about their work is their transformational experience of interdisciplinary design. This produces a potentially destabilising engagement with conventional architectural drawing epistemology that, returning to Foucault, allows the emergence of new and unconventional forms of knowledge. The opportunity to creatively experiment with the architectural design research process has been through a Research-led Design studio in which Liaskoviti and Atallah were enrolled.

Research-led Design is a post-graduate design studio where students spend an academic year pursuing a research and design project of their own choosing, guided by their supervisor-tutor (Carless, Troiani and others) and the module leader (Troiani).¹⁴ Developed by Troiani, the studio uses an open framework. It does not prescribe a defined and known way to research and design – challenging what most students have learned in their undergraduate studies – but deliberately invites students to experiment through unknown interdisciplinary methods. The studio sets out to challenge the conventional process of

design typically taught in schools of architecture – sketch design, design development, contract documents – and brings into question the studio master-pupil relationship. Research-led Design encourages students to engage with conventional textual research practice (arguably defined as theoretical or historical research) and more unconventional modes of architectural writing (borrowed from other disciplines such as literature, poetry, autobiography etc.) It also asks that that knowledge be intertwined and interrogated through new techniques of interdisciplinary drawing and making. Students are not taught what architecture and architectural drawing are but rather are invited to challenge their own and the discipline's knowledge of what these are understood to be. Conventional orthographic drawings are not abandoned but rather, interrogated.¹⁵ Knowledge and practices from 'other' disciplines – including geology, archaeology, fine art practice and ethnography – open architectural knowledge up to alternative 'in-between' discourses and drawings. Through the shared exchange, the drawing becomes the site of disciplinary blurring and possibility. The interdisciplinary nature of these two projects and their discursive drawing practices are also considered as a potential ground for a feminist practice with an increasing engagement with the site of otherness and a potential repositioning of marginal spatial representation and occupation.

Rediscovering the Island: Experiments in Architectural-Geological-Archaeological Projections

There is a famous story about the Casa Malaparte on the island of Capri. Malaparte recounts how Erwin Rommel visited the remote house in 1942 [...]. He asked the writer if he had bought his house ready-made or designed it himself. Pointing toward the sea, Malaparte replied that the house had been there, but he had designed the landscape. "Any work of architecture before it is an object, is a transformation of the landscape".¹⁶

Liaskoviti's *Rediscovering the Island* is a written Masters dissertation and an architectural design project that develops from the interdisciplinary research in-between geology, archaeology and architecture. Titled 'House-laboratory of Nissology', Liaskoviti's architectural design evolves and emerges through experimental, interdisciplinary digital drawings. These drawings form the primary site of critical textual analysis in which her written research into island colonisation is embedded. Rather than aim only for the design of a building, the focus of Liaskoviti's study is what constitutes an island condition. The research for, and design of, a building is the method or tool through which 'islandness' is critically examined.

Through discourse analysis, in particular reading Colin Renfrew's *Islands out of Time: Toward an Analytical Framework* and Patrick Kirch's 'Introduction: the Archaeology of Island Societies',

Liaskoviti sees there are many different attitudes as to what makes 'islandness' a phenomenon worth investigating in this architectural context.¹⁷ Through research she establishes the following architectural design research questions: 'What is an island and how do we experience and perceive it? What kind of knowledge do we need to understand it? How is architecture affected by it and how does architecture affect it?'¹⁸ In order to respond to these questions Liaskoviti uses an architecturally unconventional methodological approach to her natural landscape site.

From the outset of the project, Liaskoviti adopts a fictitious persona, that of architect-explorer. She produces a collage drawing of her sitting on a low ha-ha, dressed in safari gear and hat, looking out from the island beyond toward the ocean [Figure 1]. The digital drawing is a composite collage made as part of her fieldwork. Born in Greece, Liaskoviti chose as her site the remote Mediterranean island of Despotiko (36°58' N 24°59'E), an isolated island for which one needs to obtain permission from the authorities to visit and which is normally inhabited only by one shepherd and his sheep. The strategy of adopting an architect-explorer persona emerges in part from Liaskoviti having been in The Greek Guiding Association but also because she is an enthusiastic sailor. On a practical front, it allows Liaskoviti 'the opportunity to architecturally rediscover the present, mark out the origins and estimate a future scenario of the island'.¹⁹ During the low season, from the 17th January 2012 Liaskoviti embarked on a five-day field visit to Despotiko. She writes:

I had sought this strange land with a view to being its discoverer. When I found my sail I had to navigate myself to the Island. During the journey I could feel every motion of the vessel. [...] When I finally dragged my boat onto the remote shore it was with the last of my strength. I threw down my bag and sat on a rock. I needed a shelter. [...] I quickly put up my tent as rain started to fall heavily. I withdrew into it for the night.

In order to be able to explore the layers of generational terrain of the Island I had to work with methodologies borrowed from two main scientific disciplines, geology and archaeology. On Wednesday the 18th I decided to take an experimental walk around the island. I had already completed the journey from the port/entrance/point to the camp site/shelter. But now I had to cover the remaining significant sites, the perimeter, the highest point, the geological quarries and the archaeological ruins. Concurrently, by using basic topographic skills I would map the land [Figures 2 and 3].

I took a journey to the extents of the island. I have recorded what I have seen in drawings and what I have said in writings.²⁰

Taking on the persona of a geologist who has just landed on the island, Liaskoviti discovers several tons of metres of white to yellowish white fine-grained dolomite marble. She goes about collecting artefact fossils that have been displaced from their original setting. While on site, she records her collection using photography and collaged rock sketch drawings [Figure 4]. Back on the mainland, she undertakes geological drawing analysis of the samples in order to retrieve information about the island's substance. This is done in light of her limited knowledge of geological drawing gained only during this studio. Due to the topic of research Liaskoviti turned to a theoretical understanding of the relationship of architecture and geology and from there began to experiment with the possibilities of drawing 'in-between' the disciplines. That knowledge of geology is therefore an outsider's understanding. The precise method of drawing geological samples, cartographic mapping techniques and the concept of drawing geological layers are not used literally because it was not possible for Liaskoviti to learn fully these methods in such a short period of time. Therefore her use of geological drawing is an early experiment in future disciplinary exchanges.

At the ruins on site, Liaskoviti works as an archaeologist identifying two past generations that previously inhabited the island; she is the third. She imagines that the ruins are the remains of a prominent monumental building, with spaces formed by carving out the landform rock. Through her fieldwork and drawing research practice of the archaeological ruins Liaskoviti uncovers imaginary nautical instruments, a deconstructed sailboat keel. The remains are from an explorer who she revives via research narrative as herself.

She takes from the Galapagos Islands the notion of island as natural laboratory and produces a 'House-Laboratory of Nissology'. Liaskoviti becomes both occupant of the house and its designer; she is architect-geologist-archaeologist undertaking scientific research on islandness. The process of drawing sits in-between the imaginary space of possible disciplinary practices, in-between the knowledge she knows about architectural projection and that which she can learn quickly by extrapolating from geology and archaeology. Like Malaparte, her architecture moves towards the landscape and landscape moves towards her architecture. Her preoccupation is with the archaeological footprint and the stone taken from the site, from which to build her home. She creates a drawing titled *Geology of the Laboratory* [Figure 5] that emerges from lithological comparisons between building stones of a sanctuary on the island and geological units mapped on the island. This allows her to distinguish between locally derived and imported materials. The drawing creates a material, site specific, spatial discourse. She produces a collage drawing in which her architectural design object is a stone landform, an extension of the island. It is open to and embraces climatic and environmental changes. Only at the very final stage of her practice-based research does Liaskoviti attempt to produce an architectural plan of her laboratory. The drawing is not bound to architectural, geological or

archaeological drawing conventions but emerges as an original, abstract projection of the plan of her design. The process operates in a domain of non-discipline specific representation, in a potential field of discursive formation. The process is not architectural, geological or archaeological but establishes a discursive space in-between all three disciplines.

Considering disciplinary drawing 'norms' one might rightfully ask: How thorough is Liaskoviti's understanding and adoption of the data collection methods used by geologists and archaeologists? Is it possible to learn the disciplinary drawing practices used by geologists and archaeologists in the short time frame? Is it necessary to be true to the research methods used in the scientific disciplines when operating artistically as an architectural designer?

While purposely inspired by geology and archaeology, Liaskoviti's research is experimental when applied to architectural design drawing. She produces what Alessandro Zambelli terms 'undisciplined drawings'.²¹ In Zambelli's work on the correspondences between architecture and archaeology he acknowledges that while some practitioners such as architects have drawing embedded in their disciplinary practice, others such as 'anthropologists, archaeologists, geographers, scientists' do not 'regularly engage with drawing in some way'.²² Because one discipline does not use drawing to undertake research and practice, Zambelli argues 'between architecture and archaeology lies a potential, interdisciplinary, space of production'.²³ Some new knowledge about the potential of interdisciplinary drawing practice emerges through Liaskoviti's project. What is gained is the openness to create a yet unclear but potentially exciting spatial discourse, one that if the designer is able to gain knowledge in architecture, geology and archaeology may create new forms of creative architectural projection. Liaskoviti's drawing research practice shifts between a rigorous cartographic methodology of data collection to a non-discipline specific graphic interpretation through drawings that are both precise and imprecise. Liaskoviti uses the discipline of architecture – architectural design and drawing – as a method of researching 'islandness' but also as a topic tangential to architecture. Her design research is embedded in a small number of carefully produced drawings and sits in marked contrast to the proliferation of drawings produced by Atallah which set out to rediscover the home through interdisciplinary drawing methods taken from fine arts and ethnography.

Domesticity and Attachment: Experiments in Architectural-Artistic-Ethnographic Projections

Atallah's architectural research has been undertaken through drawing and text and will be analysed here under the thematic focus of *home*. The drawings have been made as part of her design research project, *Domesticity and Attachment: A Study of House, Home, Family and Object in an Age of Social Alienation*.

The research on domestic objects is analysed through collage drawing rather than the user or spatial/site confines. Collage drawing is used as a generator for design, so that *home* becomes a cabinet of curiosities or museum [Figure 6]. This collage was part of a series and was developed from a set of photographs of Robin Hood Gardens Housing Estate designed by the architects Alison and Peter Smithson. The photographs have been taken by Atallah as part of an investigation into the domestication of the public realm associated with the housing. They investigate the site historically and visually as well as develop a discourse of the public spaces of a 1960s housing estate in Oxford. The collages begin to establish a set of spatial practices that might be transposed from one site to the other. Many of the objects recorded in Atallah's collages are non-functional, concerned more with artistic expression and domestic attachment. They are, for example a piece of furniture with a specific history of family use, or a picture, ornament or item of clothing.

To create a site-specific architectural design and through the same collaging process, Atallah relocates the prioritised domestic object to a 1960s housing estate, with the intention of making a new reading of the site in unexpected and unanticipated ways. The set of architectural collages are constructed as drawings. The drawings are a functional analysis of the space with a history of everyday life overlaid. Many of the objects used for the collage are inspired by Atallah's own study of Robin Hood Gardens. Her research pays particular attention to concepts of home through the positioning of objects and the claiming of public space on the estate. The collage drawings she develops take up the methodology posited by Seago and Dunne – who write of another project – that 'attempts to re-examine the potential of closing the gap between art and everyday life by developing objects that fulfil more complex and abstract needs'.²⁴ Atallah's design research drawings also provide 'a more complex solution to the problem of combining academic research with creative studio based projects' where the nature of the text and the studio design production follow a corresponding, fragmented, practice-driven discourse analysis.²⁵ Atallah does not write about the design or design from her theoretical analysis but constructs both as collage discourse.

In their mode of recording objects, the collages refer to architectural plans. One set of collages use cast objects from the domestic interior being studied. Like plans, these are then made into surface drawings. They are detailed studies of objects within the domestic interior, represented first as a cast, then as a plan drawing that describes the material arrangement of the objects' surfaces. It is a survey of the space but one that posits the object as critical for inclusion, over and above the fixed architectures of, for example, walls, doors or windows. There are notable parallels here with the work of Liaskoviti and her collection of artefact fossils and drawings of the geological and landscape surfaces. Atallah's method of drawing architecture translates as a craft, like the method of building, construction or making space. A number of strategies are

employed through the collages, like cutting, erasure, casting, etc.. The architectural design is understood to be a set of strategies or actions, of a continuous practice rather than a complete, resolved design. The continuity and multiplicity of drawings and text emerging from this design research have a structure but it is one of the forming of multiple conclusions intended to embrace the subjectivity of the notion of home and to play upon the concept that 'objectivity is what is left when something is finished'.²⁶ As a research and practice this also takes up the value-critique of a fine art practice as a point of departure, with an interdisciplinary approach to both representation and research methodology.

Atallah's use of social anthropology in her architectural drawing research embraces the possibilities of the interdisciplinary as a mode of innovation. She recognises her own significance in the position of *researcher* [Figure 7]. Figure 7 is of her grandfather's photographs displayed in a domestic setting with Atallah and other members of her family in the foreground. She collates and uses such images as part of her own understanding of her immersion in the subject (and object) of her research. This is made apparent through her selection of 'three generations of her family home' that she chooses to study – her grandfather's, her father's and her own houses – and the wider estate that she inhabits as her object of study. She connects with the marginal condition of operating in an interdisciplinary manner and its capacity to generate new knowledge. Atallah writes:

My study is combining text and image, verbal account with visual. In comparing art and anthropology, Schneider and Wright (2010: 1) state "primary divisions between the fields, from either of the two disciplines, often mask an ensemble of heterogeneous discourses that in fact have much common ground". It could be suggested that the same is true of architecture and anthropology.²⁷

While the research is deeply immersed in what Atallah understands to be an 'auto ethnograph[ic]' drawing of objects, family and home, she uses the architectural drawing to frame these subjective readings.²⁸ She has access to the spaces for her photographs but is able to read them further because of her own, and her families', historical relation to the spaces under investigation. She recognises that her insights into the occupation – the roles and functions of the objects within the spaces – offers another layer of analysis for the project. The houses themselves are disparate and in different sites across the United Kingdom but there are objects and memories that are carried across from one domestic setting to another. The architectural drawing here provides a constant reference in an otherwise shifting framework of research. Texts and methodologies are produced by Atallah and used for the research almost in an inventory format. Conclusions to the research emerge intermittently and in a non-linear mode. Her use of Miller's ethnographic approach from his study *The Comfort of Things* begins with

a series working of family homes and their occupation [Figure 8]. Like Miller, she has recorded conversations with the users of the space or relied upon her own knowledge of her family occupation of the spaces. She has then transposed this into the language of architecture through her developed surface drawing, by inserting her photographs onto the scaled orthographic projection. This has also been overworked with the removal of some of the spaces.²⁹ This is a conscious interdisciplinary practice that has a third disciplinary structure overlaid onto the working methods of the fine art critique. The architectural drawing is used to develop the spatial critique rather than as the method to describe a proposed spatial design. It is a practice that proposes architecture as a communication medium.³⁰

Inspired by 'The Developed Surface', a drawing that was used from the mid eighteenth century as an interior domestic representation, [Figure 9] is a selection of multiple photographic elevations of the objects of occupation in the interior of Atallah's grandfather's and family home. In contrast to the traditional architectural section, 'The Developed Surface' drawing 'could show all [...] the inside elevations of any given room folded out relative to the rooms depicted plan.'³¹ The significance of this drawing type for Atallah's research is that it allows occupation to be plotted. The origins of Atallah's research are within an interior and domestic frame. They have the potential to occupy existing inhabitation at an intimate scale and draw it out towards an architectural design research project.

For Atallah *home*, unlike *house*, is understood to be a process and the drawings of home replicate this.. But how can the process of home occupation be drawn? What processes are included and excluded, form the focus of the discourse analysis. Miller's anthropological methodology and accounts of people's attachment to objects have been important in forming the archival approach to the visual and textual research.³² These drawings were Atallah's early research studies into potential ethnographic forms of representation. They represent occupation of the space through the insertion of flat elevation-style interior photographs. The collage as a process of arranging and ordering visual work deploys Miller's declaration: 'But I see no reason to highlight homes and bodies as against pets, lovers, kitchens, friends or religion'.³³

The hand made collage drawings attempt to visualise the qualities of architecture excluded from conventional, orthographic architectural projections. They reference and analyse through drawing, social, anthropological, cultural, political and architectural readings of the space [Figure 10]. Figure 10 is a collage of a proposed classroom that is superimposed upon the public domain of the 1960's housing estate. Her use of a continuous process of working over the drawing allows for a hierarchy of reading of public space. The collages have been produced iteratively and become a visual log of how each architectural drawing

is constructed in a fictional and fixed moment in time. Much like Gordon Matta-Clark's art practice, the constructive and destructive drawing methodology involves accretion rather than removal over time.³⁴ That Atallah's drawings are hand drawn is important in that they work at, and into, the surface of the drawing and emerge within the boundaries of the paper surface.³⁵

Atallah's architectural collage production involves a critical and political process of selection, editing and creation that develops a reflexive and reflective discourse.³⁶ A grid of images is arranged in relation to each other and then through a process of partial erasure, aspects of the home are removed. Their traces remain as fragments and become embedded in the next drawing. This meticulous recording of the collage production means that unlike much architectural design drawing the origin of the drawing remains present. The edges, limitations and boundaries of the home space, its occupation, material qualities and components remain discursive subjects.

Interdisciplinary Architectural Projections

This essay reflects on the work of Liaskoviti and Atallah so as to suggest 'generative or propositional modes' for practice-led research in architecture.³⁷ The pedagogical significance of Research-led Design and the two sets of drawings discussed here is that they experiment with interdisciplinary architectural projections or what we term 'in-between' drawings which are inspired by practice-led research methods typically used in art and design. Using alternative drawing methods to record geological and archaeological site data about the island landscape, Liaskoviti develops, as Seago and Dunne argue, an original methodology that recognise[s] the distinctive quality of discovery in [...] architectural design.³⁸ Through the act of projecting information in the mind set of an architect-explorer-geologist-archaeologist rather than architect, Liaskoviti designs an architectural proposition from the ground up through innovative interdisciplinary and undisciplined drawings that challenge and extend conventional orthographic architectural projections. Liaskoviti's drawings are of the image of an architectural island home produced by taking on the persona, skills and methods of analysis used in other scientific disciplines. In addition, Liaskoviti's site is also 'architectural design research'. This is through her physical engagement with it, done through mapping the island and inhabiting it. The in-situ, stone vernacular modern house that emerges from the landscape, 'House-Laboratory of Nissology' uses drawing methods related to the study of land and its historical memory as well as bodily research. Liaskoviti's house-laboratory is designed to concede to all of the environmental changes, erosions and transformations that the island has undergone and will continue to undergo in the future. It reflects her experience of site inhabitation and the fluctuation in climate during her visit to the island. As a form of practice-based research

Liaskoviti, as 'researcher/practitioner [,] is central to the inquiry as is the context in which the research is taking place'.³⁹ Liaskoviti's architectural design research project offers a platform for an innovative drawing and bodily research methodology that could be further extended by other architectural design researchers who prioritise site-emergent architectural design.

Through both her drawings and text, Atallah develops a set of readings of the home. The significance of Atallah's drawings, in this context, can be understood by referring to Florian Beigel's conception of architectural research as 'uncovering the essential meaning, the intrinsic nature, the indispensable quality of things. It means journeys of discovery and struggles leading to redefined ways of seeing' bringing to the fore the role of the designer as both innovator and interpreter.⁴⁰ Atallah's drawings are a spatial practice. She does not merely delineate space, but questions and develops a critique of what is to be valued of domestic and public space. Furthermore her embrace of ethnographic methodology – such as that used by Miller – develops another form of interdisciplinary practice where she sets up a series of conversations about the perception of occupation or dwelling within the spaces under investigation. She is operating as an architect-fine artist-ethnographer. Her aim is to design a domestic space from its objects and where the conception of living is reframed through artistic critique and ethnography.

Liaskoviti and Atallah use the interdisciplinary to develop a critique of architectural drawings. They concentrate some or all of their research on orthographic drawings, understanding that these plans, elevations and sections are selective filters within architectural discourse. The creation of new types of drawing enables a re-presentation of these drawings of space. This is Foucault's process of de-naturalisation in *The Archaeology of Knowledge*.⁴¹ These methods of disclosing the drawings' modes of specialisation and limitations, particularly of materiality and occupation, raise 'Other' discourse/s. This is done here not from a privileged vantage point whereby the architectural reading of materiality and occupation is understood through, for example, line weighting, rendering and other symbolic schemes of architectural drawing production, but rather from beyond the frame of the architectural institution. Once the routine of architectural drawing is disrupted, what is known through the drawing becomes less assured and new orders of knowledge are constructed. In Foucault's conception the configuration of knowledge in a specific episteme is based upon disciplinary language assumptions that prevent those operating within it to perceive it. Foucault writes;

No longer treating discourses as groups of signs (signifying elements referring to contents or representations) but as practices which systematically form the objects of which they speak. Of course, discourses are composed of signs; but what they do is more than use these signs to designate things. It is this *more* that renders them irreducible to the language (langue) and

to speech. It is this *more* that we must reveal and describe.⁴²

Discourse theory is posited here as a tool for critical analysis. The understanding of discourse is one that has been employed by, amongst others, Christine Boyer in her extension of Foucault's work.⁴³ She considers city planning and its representations as another form of cultural practice that contributes to social control and the elimination or removal from the political that is concurrent with its accepted practices. She, like Foucault, cites the regimes of the profession as those that generate the field of knowledge and regulatory institutional procedures to effect discursive closure. Research-led Design considers orthographic architectural drawings as sites of disciplinary power relations in order to identify some of the enduring discursive traits.

Discursive practice of the type analysed here allows for the opening of specific space around power and knowledge, specifically that which is contained within the architectural drawing.

Liaskoviti and Atallah's work prevents the closures implicit in conventional architectural drawing. Often in the architectural studio, the sketch drawing becomes refined, successively, over time as a process of design with the resolved drawing as a conclusion. Here the drawing processes become the resolution itself and there is no final drawing, rather a series of potential spatial design conclusions.

Liaskoviti's drawings develop designs for housing islandness and use the island site as the site of architectural drawing. Atallah's drawings develop designs for the housing estate and are themselves the site of architectural design research, rather than the site of the estate itself. Using digital technology, Liaskoviti builds layers of information into the drawing, applying an *additive* interdisciplinary drawing methodology. By hand making her drawings, Atallah conducts her own archaeology of the surface of the drawing, digging through the layers of paper and mark making to retrieve understandings about the spaces of home using *deductive* interdisciplinary drawing methodology.

In the *Illegal Architect* and supporting Kristeva's earlier suggestion, Jonathan Hill argues that 'Architects monitor and patrol their domain in order to exclude critics from within and intruders from without. They deride any threat as ignorant or mistaken and imply that there is a truthful and correct interpretation of a fixed body of knowledge'.⁴⁴ One method proposed by Hill of interrogating the institutional boundaries of architectural production is through the challenge to 'the principal drawings used by architects, such as plans, sections and elevations'.⁴⁵ In Liaskoviti's case it is to draw geological and archaeological knowledge within the drawing. In Atallah's case it is by drawing in occupation or inhabitation. Liaskoviti and Atallah's 'in-between' drawings make important incipient intrusions 'into the body of [the architectural] profession and the body of their architecture'.⁴⁶ The contestation of the boundaries of drawing practice is made possible because their research, methods and practice techniques embrace marginal conditions,

conditions enabled through the epistemological open framework of design practice encouraged in Research-led Design and through the design research expertise of their supervisors. The very nature of what is architectural practice is questioned by the studio tutors as is the prioritisation of the design of form. While the 'in-between' drawings produced convey graphic and artistic beauty, the resultant architectural forms designed are consequential to the design process. The drawings can, but do not aim to reveal, buildable or formally beautiful architecture but instead aim to draw out new methodologies of understanding what constitutes design research and what constitutes an appropriate contemporary mode of architectural pedagogical teaching. Rather than replicate the master-pupil studio model, students are guided and collaborate with their tutors in Research-led Design. This provides them with exciting unknown interdisciplinary ground on which to operate and where new knowledge is valued as much, if not more, than established expertise. In collaboration with their supervisors, the student projects' pursue research in themes that they, not their tutors, are concerned with and which are connected to, but can extend beyond, architecture.

The supervisor's expertise in the disciplinary fields in which interdisciplinary drawing practice is pedagogically developed challenges what a studio master is usually required to know. The Research-led Design tutor needs to be not only skilled in textual architectural research practice but also studio teaching. In addition, they need to want to expand their knowledge of other disciplines. If the tutor-supervisor is both architect and fine artist, as is the case of Carless, who has already personally operated within the potentials of the 'in-between' drawing produced across those specific disciplines, insights into practices can be conveyed to the student differently to supervisors who are not expert in the other non-architectural field/s.⁴⁷ Troiani's greater knowledge of architecture rather than geological and archaeological practices may in part explain why Liaskoviti's work only begins to suggest new orthographic drawing terrain.⁴⁸ A lack of a fuller knowledge of the various disciplinary practices – architectural and non-architectural – impact on the degree of possible exploration within interdisciplinary drawing practice. While in this instance the limited interdisciplinary knowledge has implications, we argue a potentially exciting new space of 'in-between' drawing has been carved out.⁴⁹ Returning to Kristeva's speculations about interdisciplinary research in the academy, we argue that it is not the resistance of us as academics 'locked within the specificity of their field' to 'protect [... our] own prerogatives', to deny collaborative interdisciplinary collaboration that is the obstacle. This research suggests that having tutor-supervisors who are experts in two or more disciplinary fields being intersected or having experts from different disciplines as tutor-supervisors working alongside architectural educators could enhance the possibility of true interdisciplinarity. The openness to the possibilities of collaborative interdisciplinary practice may be because we as feminist educators, outsiders to what is a profession defined and practiced until recently only by men, do not see practice-based architectural design as a given fixed process but as a site of

malleable socio-political contestation.

Unlike their supervisors neither Liaskoviti or Attalah declared a feminist agenda or position in relation to their design work but such a reading can be made of their approach to developing architectural design 'because their work and strategies are characteristic of the marginal spaces, identities, and existences traditionally inhabited by women'.⁵⁰ As Haar writes: 'The feminisation of the profession is not just the result of women entering the workplace but also a transformation in the nature and product of the work itself'.⁵¹ The feminised approaches to other forms of non-architectural drawing, defined here as 'feminist practices in design', is an opportunity to make visible the invisible power dynamics through the bodies of the women.⁵² Liaskoviti's bodily fieldwork and cartographic mapping through island site walking and Attalah's physical handmaking of surface drawings engages the body in a liberating architectural design way. Both women work site specifically through their drawing of the object of architecture. Their work is a form of craft production. These are modest, thoughtful and sensitive interventions. Both projects close the gaps between art, architecture, occupation and the everyday. Both consider the practices of collage at two disparate and extreme ends of spatial examination, one at the furthestmost edges of frontier exploration and the other considering the minutiae of domestic space. They have also combined an initial quantitative approach to data collection that is thrown open to a discursive, artistic practice through the unconventional representations that emerge.

These two projects were chosen to develop this argument on interdisciplinary discourse because they offer a comparable refusal of the conventions of architectural site analysis and representation. There is the antithetical nature of the starting points for both – the subterranean, archaeological landscape versus multiple everyday objects – yet both deliberately avoid the singular, dominant frame of architecture as spatial object. Instead they consider architecture as both a cultural practice and medium of communication. The 'in-between' drawing offers, in this instance, a space of feminine alterity. It offers the possibility of designing architecture in new ways, repositioning female practitioners in what was a male dominated profession, particularly by making drawings outside or beyond the limitations and conventions of the normative architectural schema. It is a research made possible here by the woman architect researcher drawing away from the home ground.

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Figure Captions

Figure 1. *Architect-Explorer Rediscovering the Island* © Ileana Liaskoviti, 2012.

Figure 2. *Exploration Journey* © Ileana Liaskoviti, 2012.

Figure 3. *Cartographing the Island* © Ileana Liaskoviti, 2012.

Figure 4. *In-situ Drawing of Artefact* © Ileana Liaskoviti, 2012.

Figure 5. *Geology of the Laboratory* © Ileana Liaskoviti, 2012.

Figure 6. *Robin Hood Gardens Studies of Home* © Eleanor Atallah, 2012.

Figure 7. *My Grandfather's Photographs* © Eleanor Atallah, 2012.

Figure 8. *Developed Surface Drawing* © Eleanor Atallah, 2012.

Figure 9. *Developed Surface Drawing* © Eleanor Atallah, 2012.

Figure 10. *Classroom* © Eleanor Atallah, 2012.

¹ M. Foucault, *The Archaeology of Knowledge* (London, Travistock Publications, 1972/1969), pp. 47-49.

² R. Evans, 'Translations from Drawing to Building'. *AA files*, 12 (1986 Summer), pp. 3-18.

³ Drawing is but one technique among several that is evident in the work presented in this paper. Other challenging techniques used include collage (which we see as distinct from drawing); ficto-critical approaches such as the architect-explorer figure; and the use of narrative in presenting design project research. This essay does not outline fully the use of each of these alternate representational techniques as the aim is to discuss interdisciplinary drawing practice generally although we acknowledge that a complex mode of design research practice is being performed by the students in the learning environment of the design studio presented.

⁴ R. Evans, 'Architectural Projection'. E. Blau and E. Kaufman, eds., *Architecture and Its Image* (Montreal, 1989), p. 9.

⁵ S. Allen, *Practice: Architecture, Technique and Representation* (New York, Routledge, 2008/2000), p. 2.

⁶ Evans, 'Translations from Drawing to Building'.

⁷ A. Seago and A. Dunne, 'New Methodologies in Art and Design Research: The Object as Discourse'. *Royal College of Art Research Papers*, 2, 1, (1996/7), p. 1.

'Should researchers in art and design adopt and adapt methodologies developed in other academic disciplines, or should they concentrate upon developing original methodologies which recognise the distinctive quality of discovery in art and design?'

⁸ J. Kristeva, 'Institutional Interdisciplinarity in Theory and Practice: An interview'. Coles, A. and Defert, A. eds. *The Anxiety of Interdisciplinarity, De-, Dis-, Ex-*, 2, (London, Black Dog, London, 1997), p. 6.

⁹ J. Rendell, 'Architectural Research and Disciplinarity'. *arq: Architecture Research Quarterly*, 8, 2 (2004), p. 146.

¹⁰ In our practice based studio our diagonal axis intersects not only theoretical/historical research with practice-based design research but also interdisciplinary research methods.

¹¹ Troiani supervised Liaskoviti's research-led design project, 'Rediscovering the Island' and Carless supervised Atallah's research-led design project, 'Domesticity and Attachment: A Study of House, Home, Family and Object in an Age of Social Alienation'. At the time, Liaskoviti and Atallah were enrolled in the Applied Design in Architecture (MArchD) programme and the Diploma in Architecture (Dip Arch) respectively.

¹² Textual analysis is an application of discourse analysis that examines the communication system as a whole. Ordinarily, it is used in relation to language and linguistics rather than architectural design research. Here it is understood to be about architecture as a communication medium, or more specifically to architectural drawing as a communication medium.

¹³ J. Kristeva, 'Institutional Interdisciplinarity in Theory and Practice: An interview'.

¹⁴ There are numerous supervisor-tutors in Research-led Design, generally varying from 4-5. Troiani and Carless were two of five supervisor-tutors teaching in Research-led Design in 2011-2012.

¹⁵ The studio has been described as liberating by former students and it is framed entirely without the expectation that architecture will be realised formally (although it can be) but that the very essence of what constitutes architecture and our experience of it is brought into question.

¹⁶ Malaparte in M. Talamona, *Casa Malaparte* (Princeton, Princeton Architectural Press, 1992), p. 41 in I. Liaskoviti, *Rediscovering the Island*, Unpublished Masters Dissertation, Oxford Brookes University, 2012, p. 14.

¹⁷ C. Renfrew, 'Islands out of Time: Toward an Analytical Framework'. S. M. Fitzpatrick ed. *Voyages of Discovery, the Archaeology of Islands*, (Westport, Conn., Praeger, 2004), pp. 275-294. P. V. Kirch, 'Introduction: the Archaeology', P. V. Kirch ed. *Island Societies: Archaeological Approaches to Evolution and Transformation* (Cambridge, Cambridge University Press, 1986), pp. 1-5.

¹⁸ I. Liaskoviti, *Rediscovering the Island*, p. 11.

¹⁹ Liaskoviti, *Rediscovering the Island*, p. 17.

²⁰ Liaskoviti, *Rediscovering the Island*, pp. 20-21.

²¹ A. Zambelli, 'The Undisciplined Drawing'. *Buildings*, 3 (2013): 357.

²² Zambelli, 'The Undisciplined Drawing', p. 357.

²³ Zambelli, 'The Undisciplined Drawing', p. 358.

²⁴ Seago and Dunne, 'New Methodologies in Art and Design Research', p. 14.

²⁵ Seago and Dunne, 'New Methodologies in Art and Design Research', p. 14.

²⁶ J. Berger, *Berger on Drawing*, (Ireland, Occasional Press, 2005), p. 68.

²⁷ E. Atallah, *Domesticity and Attachment: A Study of House, Home, Family and Object in an Age of Social Alienation*, Unpublished Masters Dissertation, Oxford Brookes University, 2012, p. 6.

²⁸ Atallah, *Domesticity and Attachment*, p. 7.

²⁹ D. Miller, *The Comfort of Things* (Cambridge, Polity Press, 2008).

³⁰ Atallah's project conducts what Frayling categorises as research through art and design, and undertakes research for architectural design through a process where 'thinking is, so to speak, embodied in the artefact, where the goal is not primarily communicable knowledge in the sense of verbal communication, but in the sense of iconic or imagistic communication.'

C. Frayling, 'Research in Art and Design', *Royal College of Art Research Papers*, London RCA Publication, 1, 1, (1993/4), p. 5.

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- ³¹ R. Evans, 'The Developed Surface: An Enquiry into the Brief Life of an Eighteenth Century Drawing Technique'. *Translations from Drawing to Building and Other Essays* (London, Architectural Association, 1997), pp. 200-203. "This was a more comprehensive representation of an internal decorative scheme than could be achieved through the traditional architectural section drawing which could only show in detail one inside elevation of any given room at any one time."
- ³² D. Miller, *The Comfort of Things* (Cambridge, Polity Press, 2008).
- ³³ Miller, *The Comfort of Things*, p. 200.
- ³⁴ P. M. Lee, *Object to be Destroyed: The Work of Gordon Matta-Clark* (Cambridge, Mass., The MIT Press, 2001).
- ³⁵ Atallah's drawings are not continuous and without edge like those of purely digital architectural production. This excludes the knowledge that the frame of the screen provides a boundary for the digital computer drawing. It refers to the drawing represented virtually within the computer screen.
- ³⁶ Refer D. Schön, *The Reflective Practitioner: How Professionals Think in Action* (London, Temple Smith, 1983). D. Schön, *Educating the Reflective Practitioner* (San Francisco, Jossey-Bass, 1987).
- ³⁷ Rendell, 'Architectural Research and Disciplinarity', pp. 144.
- ³⁸ Seago and Dunne, 'New Methodologies in Art and Design Research', p. 1. :
'Should researchers in art and design adopt and adapt methodologies developed in other academic disciplines, or should they concentrate upon developing original methodologies which recognise the distinctive quality of discovery in art and design?'
- ³⁹ J. Malins and C. Gray in collaboration with K. Bunnell & E. Wheeler, 'Appropriate Methodologies for Artists, Designers & Craftspersons: Research as a Learning Process'. *The Centre for Research in Art & Design, Grays School of Art*, (1995), p. 3.
- ⁴⁰ F. Beigel, 'The Thinking Eye: Towards an Architecture of Liberation.' *Architecture Today*, 23, (Nov. 1991), p. 46.
- ⁴¹ Foucault, *The Archaeology of Knowledge*, pp. 47-48.
- ⁴² Foucault, *The Archaeology of Knowledge*, p. 49.
- ⁴³ C. Boyer. *Dreaming The Rational City: The Myth of American City Planning* (Cambridge, Mass, MIT Press, 1983.)
- ⁴⁴ J. Hill, *Illegal Architect*, (London, Black Dog Publishing Limited, 1998), p. 20.
- ⁴⁵ Hill, *Illegal Architect*, p. 20.
- ⁴⁶ Hill, *Illegal Architect*, p. 16.
- ⁴⁷ Carless has a PhD in Fine Arts on Spatial practice and has extensive conventional studio teaching experience.
- ⁴⁸ Troiani has a PhD in Architecture – a history of the evolution of design ideology and has extensive conventional studio teaching experience.
- ⁴⁹ The definition of a feminised space is one that we align with the practice of women in this essay. However it is not deemed gender specific as men also explore feminised practice if they elect to.
- ⁵⁰ S. Haar, 'Shifting the Discipline of Architecture: Transformations in Architectural Education and Pedagogy' in Toy, M. ed. *Sci-Fi Architecture, Architectural Design Profile no.138*, (Wiley, Chichester, 1999), p. ii.
- ⁵¹ Haar, 'Shifting the Discipline of Architecture', p. ii.
- ⁵² L. A. Brown, 'Introduction' in L. A. Brown ed. *Feminist Practices: Interdisciplinary Approaches to Women in Architecture* (Farnham, Ashgate, 2011), p. 7.