

between field and form

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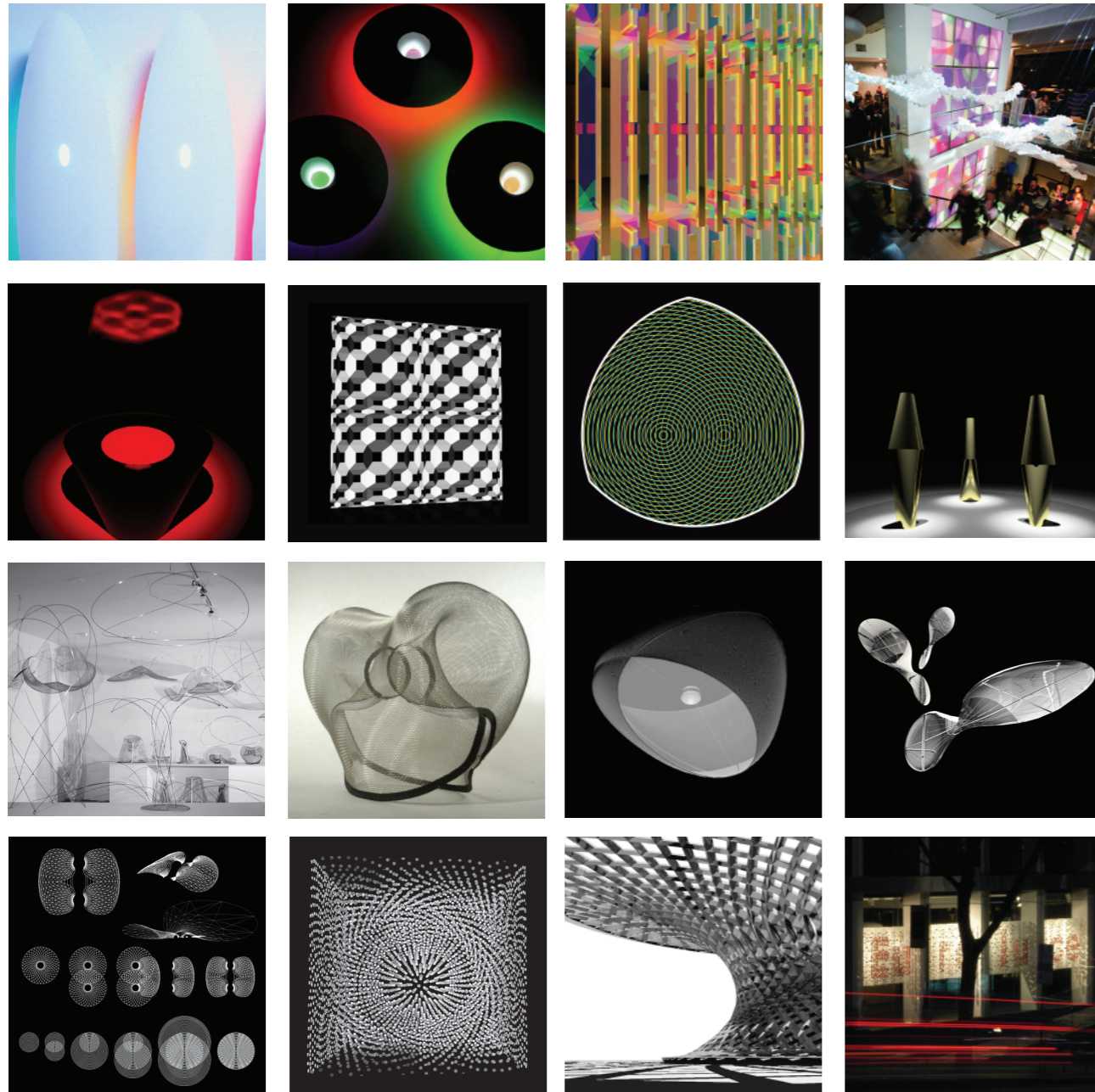
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The PhD considers how an intimate understanding of the wave-like properties of light, sound, form and materiality can inform the practice of interior design. As a designer and design educator my practice involves a constant questioning of the basis of creative thought and the ways that ideas can be manifest into reality. Such a practice requires a continuous expansion of the perceptual and cognitive tools that are brought to the manipulation of objects and spatial phenomena. Over the last decade, my activities as a designer and lecturer have involved the development of a theoretical and perceptive base to design, which eschews the conception of materiality and physical form as the central concern in the fashioning of objects and spaces, and embraces the comprehension of the physical fields that shape sensorial experience as its primary concern. In this process the conceptual base for design is envisaged as the harnessing of fields of energy rather than the shaping of inert matter. Addressing the foundations of the design process in such a way has exposed a creative methodology in which the consideration and manipulation of the material and immaterial aspects of the physical world transcend the traditional boundaries that lie between the distinction of matter and phenomena.

Central to the development of this design ethos was the embracing of the idea that the manipulation of our physical environment can be enacted through the shaping of fields of wave-like phenomena. The elaboration of this thinking involved the investigation of the origins of physical thought and the philosophical and cultural influences that surround the physical comprehensions of the world. Interpretations that define the physical world as a manifestation of specific pulsations, vibrations, rhythms, forces and energy fields can be found within: the roots of archaic knowledge and belief systems, the geometric principles of sacred art and architecture, the hermetic foundations of natural philosophy, the rationalist explications of modern scientific method and the sublime conundrums of contemporary physics (see appendix 1). In appreciating the complexities that such diverse models of the universe hold, it became apparent how the poetics and metaphors inherent in these descriptions can resonate with the modern psyche and how archetypal and symbolic comprehensions of the physical world lie at the base of contemporary western thought. Within the scope of the project, the eisegesis of the perceived links between physical knowledge, symbolic representation, cultural meaning and human perception served as a guide from which to manifest a contemporary design practice.

In developing a design methodology that could embrace the expanse of the history of physical thought and be seamlessly integrated within the creative process, the project explored the interactions between the technical understanding of the manipulation of forms, materials and phenomena and the ability to engender meaning that lies within the shaping of the physical world. Through the production of experimental design pieces the project illuminated how interpretations of the physical world could be appropriated to inform the act of design in which the understanding of the nature of physical phenomena becomes a technique to elicit deeper perceptual resonances. In this methodology the technical manipulation of media and the manifestation of its expressive potential were considered to operate simultaneously.

While the act of design requires a theoretical and critical framework to work within, the nature of the design process is iterative and involves the honing and development of skills and perceptions toward the manipulation of media used in the shaping of the built environment. Within the project the development of such expertise grew from the establishment of a conceptual understanding of the physical principles at play within a range of design proposals and the testing of these assumptions through the experimental exploration of the nature of specific phenomena and materials. In investigations such as these the intention was to expose the physical qualities of the phenomena and media being manipulated and refine the perceptions that can be brought to the act of design. In such an approach the creative act is seen as both the mechanism and the product of the research.

An important aspect of this methodology was the development of a series or collection of works around each phenomenon. These series of works manifested themselves through the use of specific media and materials, the concentration on particular working techniques and the referencing of external metaphors in the adoption of a finite form of expression. The individual works produced from this approach were conceived as essential and iconic sculptural forms which displayed a clear relationship between their material form and the phenomenal field which they manipulated. Singularly the works exposed a particular nature of the phenomenon they engaged with while collectively they built a complex understanding of the manipulation of spatial experience. This development of the practice through the production of a series of interrelated works and a series of complimentary series introduced a narrative of concerns and principles that over time extended into a vocabulary of design. In this process the narrative threads of a series of works and the rigor and expertise developed to execute them constitute a body of design knowledge.

The core of the project engaged with the manipulation of light, sound, form and materiality as four separate yet interrelated areas of investigation. Each investigation was founded on an appreciation of the phenomena being manipulated and involved the development of design briefs and conceptual scenarios in which techniques for the manifestation of physical effects, sensorial affects and expressive properties were tested. While the works were used to identify the nature of the medium being employed and the parameters of its manipulation, they also sought to invoke an experience that seemed contradictory to one's preconceived knowledge of spaces and objects. In seeking to produce works that expressed themselves as fields of energy the pieces sought to generate powerful effects that extended the viewers' perception beyond the scope of the everyday and into the qualities of the extraordinary. In this way the works acted as provocateurs of the senses confronting the viewer with the conundrum of experience, challenging them to question their understanding of the physical world. In the adoption of such a research methodology the aim was not to seek definitive answers or proofs or to construct an argument for the application of such techniques, rather the aim was to broaden the perceptive base from which approaches to design evolve and to develop a body of work and knowledge that ultimately begins to reference itself in the generation of design responses. Through the development of works around the specific investigations of generative processes and innovative use of media the intention was to define the scope of an ongoing design oeuvre.

The *Phenomenology of Light* projects explored the wavelike properties of spectral colour and developed an approach to the manipulation of fields of light which uncovered the relationship between phenomena and perception. Informed by the development of scientific studies and colour theories of the eighteenth, nineteenth and twentieth centuries, the projects sought to expose the nature of the band of radiation wavelengths perceivable by the optic nerve and develop a particular approach towards the dichotomous relationship between darkness and light within this perception. This involved an appreciation of additive and subtractive colour effects, the observation and generation of coloured shadows and an engagement with perceptual qualities of vision such as complimentary contrast, apparent colour, after image and gestalt. The pieces generated within this study sought to master the manipulation of visual affects that subtly shift as they are experienced through the eye and in the mind of the viewer. From the development of startling experiential gallery-based pieces through to proposals for more permanent architectural lighting scenarios these investigations evolved a sensibility that can engage with the principle manipulation of lighting technologies and uncovered the expressive potential of light and colour as an emotive and communicative tool.

The *Archetypes of Sound* investigations sought to uncover the intrinsic order that lies within the propagation of sound. The tracing of the deep connection between the comprehension of the nature of sound and its role in defining the fundamentals of musical theory, mathematics and geometry informed an approach to the conception of sound as a sculptural and spatial medium. The visualisation of sound fields as standing wave interference patterns and the appreciation of the resonant properties of particular forms and materials forged a conceptual platform from which to create dynamic acoustic interactions of sound, object and space. The development of these perceptions allowed for the conceptualisation of sounds and tones as physical entities with specific size and pattern making properties that can be shaped as a tangible spatial physical field. The works that evolved from this thinking expressed different aspects of sound wave-based phenomena while drawing upon the metaphors inherent within their historical references to infer an expressive poetic dimension in the final pieces. The knowledge gained from the sound installations acted as a guide to comprehending architectural and urban space not only for their acoustic potentials but as opportunities to create complex, dynamic and dramatic juxtapositions of sound and space.

The *Gravity of Form* series considered the shaping of form as an expression of a field of forces and explored the potentials that the adoption of such thinking would bring to the conception of sculptural objects and their interaction with architectural space. The project grew from an ongoing fascination with the subtleties of three-dimensional curvaceous organic forms which has been one of the hallmarks of twentieth century sculpture, design and architecture. In exploring the roots of organicism a link was made to the developments of the combinatorial mathematics of calculus which formed the foundation of the principles of engineering, differential geometry and topology and which was adopted by physicists to shape the abstract and theoretical descriptions of the unseen forces of nature. The parallels in the comprehension of field-like qualities of material and immaterial phenomena fuelled the sculptural exploration. These concerns were developed through the manipulation of stainless steel rod and mesh constructions in which tensile elements were carefully balanced to create elastic transformations of surface planes into three-dimensional objects. The pieces are expressions of the forces that bind them together while alluding to the essential and familiar nature of organic form. This understanding of the energies contained within an object was then expanded to encompass how such works can interact with the dynamics of architectural void spaces either as monolithic floating forms, as fields of geometrically arranged arrays or as compositions of spatial trajectories that challenge and compliment the existing energies of an architectural volume.

The *Transient Materiality* works were developed through the study of the geometric principles and physical representations observed in optics and acoustics which were brought together to explore an approach to the development of structural form and perceptual gestalt. Initially the works produced were generated by the conceptual overlapping of specific curvatures and frequencies of compositional elements to produce compelling three-dimensional marriages of decorative pattern and structural logic.

This approach to the generation of form was then extended so that the arrays of structural elements not only produced decorative surface patterns but began to create effects which played upon the perception of the object and dissolved the solid forms into overlapping fields of interference patterns. These projects synthesised the essence of field-like phenomena by creating works that seem to alternate between solidity and immateriality. This design approach sought to extend the transparent and translucent nature of the contemporary city by transmuting the boundaries of materiality into pulsating, structural, optical fields which hovered at the edge of physicality and illusion. In addressing the transient materiality of the urban realm and creating works that continually change with the shifting light of the city and the relative movements of the viewer, the projects sought to develop an approach toward the act of design which placed the viewer's perception as the primary medium that is being manipulated.

The work that was generated in developing these sensibilities was considered as a continuous spectrum of creative practice which traversed the nexus between art and design and led to the development of new and hybrid forms of expression. These hybrid conditions work on many levels throughout the project and are manifest through the consideration of seemingly polar opposites. On one level the works express the bringing together of the concepts and principles of art and science in order to develop methodologies that can consider matter and energy as manifestations of a unified continuum of conditions. Intermingled with the cross fertilization of these physical properties is the potential that lies in a form of practice that challenges the distinctions between art and design. These distinctions are questioned through the blurring of boundaries between interior design and installation art, furniture and sculpture, and sculpture and architecture. In these situations the expressive and confrontational nature of an artwork and the functional intent of a design solution form a simultaneous fusion of concerns.

The works contained within this document expose a design methodology that moves back and forth between research and production. The interpretations of the nature of the physical realm were translated to inform the production of experimental investigations and sculptural pieces, while the knowledge gained from these works was then extended into strategies for the shaping of phenomenal affects in urban spaces. In a sense the project itself is a field-like construct which does not seek to give a lineal narrative description of the development of the work and which does not assign more value to any one point within the field. Rather the project derives its power through the uncovering of the potentials that exist in the interrelationships of its discrete elements. The separate works within each series have a profound influence upon each other yet stand alone as independent and complete entities, while each series borrows observations and principles from the other series to inform its development. In this way the works that constitute the PhD can be considered as nodes within a field of ideas which create certain consonances between themselves from which new insights are generated and new works are conceived.