Imaging Space: an Appendix to Experience
Imaging Space; an Appendix to Experience

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This thesis contains no material which has been accepted for the award of any other degree or diploma, except where due reference is made in the text of the thesis. To the best of my knowledge, this thesis contains no material previously published or written by another person except where due reference is made in the text of the thesis.
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fig. 01
Untitled (falling man)
DRUS Image
1999-2001
Tokyo, Japan
photo: C. Kaltenbach
Abstract

The purpose of this Master’s degree by thesis and project is to investigate a body of lens-based imagery generated while living in Tokyo. Through this investigation, the thesis analyzes how meaning is derived from the cognitive, perceptual and emotional experiences of living in different cultural and built environments as experienced by this American national, while living in Tokyo, Japan and later Melbourne, Australia.

The cognitive, perceptual and emotional experiences are theoretically defined, providing a basis for further exploration within a wider analysis of historical and contemporary perspectives of Japan’s built environment and its evolving technological infrastructures, and how these factors shape daily experiences. This thesis proposes that the different, latent spatial and temporal experiences of living in and negotiating Tokyo’s built environment with its interfacing technological networks, including transport and communication, unconsciously affected not only my technical approach to image making but also the choice of subject matter, the composition, and more complexly a new exploration of spatial and temporal consciousness.

Drawing on research into the effects that constructed spaces and technological infrastructures have on people’s spatial and temporal consciousness, I created a new project within a Melbourne underground thoroughfare, linking a train station with the interior of Melbourne’s Central Business District (CBD). This installation responded to the specific spatial and temporal experiences of commuters entering and exiting the city through this subterranean passage. A review of this installation, which explores possibilities for the physical and sensory integration of digital information, including web-based content, into the transitory spaces of city travel, forms the conclusion of this thesis.
Abstract

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Note: The Japanese names used in this thesis are given as they are in, a Western literature tradition, with the given name first and surname second. Typically Japanese names are given in opposite order.
Introduction
The title of this thesis, *Imaging Space: An Appendix to Experience*, is a play on the notion of the role of a supplement to the main body of a piece of writing. This thesis and the art/design work generated in tandem function similarly to an appendix; that is, as an addendum to the cognitive recollections of an idiosyncratic experience of a four-year residency in Tokyo. Implicit in the word ‘imaging’ is the body of work from which this thesis builds its argument; a body of lens-based imagery, whose subject matter is the temporal and spatial condition of ‘space’ in Japan. However, it is not the representation of physical space that is in question, even though the majority of imagery discussed is situated in Tokyo. Rather it is the cognitive, perceptual and emotional spaces of that environment, represented in the three key themes, which are ultimately the appendix to my experience and the main focus of this thesis.

As an analysis and theoretical critique of a body of work from a three-year period of my practice, this thesis begins with the initial experimentation with the mini Digital Video camera,¹ and ends with the development of an information display prototype set in an underground passageway linked to a train station. While the developmental work is significant to the thesis, it is the exploration of the ideas and process that provides the foundation for the theoretical examination – a process of identifying what the work is and what is to come from it.

The notion of theoretically examining the effects of experience within the developmental process of art and design has been recently discussed in a workshop by the Graduate School of Architecture, Planning and Preservation, Cambridge University. Under the title *Pragmatist Imagination*² various critics, theorists and designers came together to debate the issues surrounding, ‘what is it today to think or to imagine, to construct or to design, in relation not to “things made” but to “things in the making”?³ Open-ended and grounded in a political philosophical discourse of American pragmatism, a philosophy established in the 19th century, this workshop demonstrated the desire to locate a new position which to examine the global shifts impacting on our understanding of the world and, more specifically, the built environment. As with the Cambridge workshop, this thesis too attempts to understand ‘things in the making’ not necessarily from a position of an overarching political or philosophical proclamation but from making sense of the unknown: the unknown of an experience in a new country, and the work that came from it. To attempt to understand the unknown is to think or imagine in a different way - for myself, this is what living in Tokyo has done. It also requires using language that is ‘multilayered and metaphorical, metaphysical and qualitative’,⁴ to articulate those things in the making originating from the personal and the affective.

The investigation of the unknowns produced three key themes, Cognitive Integrated Services Digital Network or CISDN plus Mediated Space, and Anticipation. These key themes are defined using not only the relation of images to the spatial and temporal conditions of Tokyo, but also the social, cultural and economic forces that have shaped the metropolis. Furthermore, this thesis investigates how meaning is extracted from the built environment. What is understood from that meaning? And how is it used? These questions and their relationship to investigations into historical and contemporary examples in built form, and to the reflective narratives on experience, support the three key themes CISDN, Mediated Space, and Anticipation.

In 1996 I moved from Albuquerque, New Mexico in the United States to Tokyo at the invitation of a relative. Arriving in Japan with only a vague understanding of the country and its people, I began work teaching English and then gained employment at an American international school working in set design and video production. What began initially as a short-term experience overseas in an unusual cultural setting became a four-year experience and a profound indoctrination into the spatial and temporal condition of Tokyo.

¹ miniDV imagery refers to the use of Sony video cameras that use mini Digital Video technology.
I experienced Tokyo’s spatial and temporal conditioning in my first accommodation, a small one-room apartment in a foreigner dormitory. Little did I know that, I was being introduced to a spatial typology unique to Japan. This was typified in an 1997 article in an English newspaper, The Japan Times, when a young Tokyo resident proclaimed ‘Japanese live in rabbit hutches, but we’ve lived in places like that for hundred of years… It’s our culture, we’re used to it’. As with most dwellings, the size of a room is delineated by a divisional standard known as one ken, 1818 mm by 909 mm, or six shaku by three shaku in dimension. This is represented in the tatami, a grass woven mat and these are arranged according to the function of the room. In the foreign dormitory, my room was six ken or six tatami: 10 squared metres.

One large window sat at the end of the room, giving it the initial impression of an enlarged space, however, rather than being clear the window was translucent. A soft glow passed from the side of its drawn blind. The only view offered was milky silhouettes of outside tree limbs; privacy was not an issue. Later I realised the window represented the contemporary adaptation of the shoji, paper and lattice window screen, more specifically representing the ambience of shadow. The semi-opaque qualities created a soft glow that held light, suggesting a continuation of illusionistic space rather than an obstacle. I would, after a time, adjust to living within the perceptual expanse within the minimal floor space. This signaled the beginning of an acclimatisation process typically referred to as enculturation.

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fig. 02
A private room in a geijin dormitory. Inokashira, Tokyo, 1997
photo: C. Kaltenbach

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This process of enculturation is articulated by architecture and urban design theorist, Amos Rapoport:

   In its most general terms the environment can then be seen as a teaching medium. Once learned, it becomes a mnemonic device reminding one of appropriate behaviour. If one accepts the view that environments are somehow related to culture and that their codes have to be learned, since they are culture specific, then the role of the environment in enculturation (and acculturation) follows as very likely consequence. In turn, this learning influences the degree to which the environmental cues can be decoded easily and behaviour adjusted easily to various settings.⁶

In essence, Rapoport explains the gradual psychological transition an individual undergoes over a lengthy period of time in a foreign cultural setting: moving from a state of confusing bewilderment to a state closely akin to the unselfconscious resident.

This change in a ‘state of being’ describes the experience I underwent, which involved a shift from the knowledge of my birthplace, the desert southwest United States, to the unrecognisable cacophony of Tokyo. (Refer to Appendix A, page 14, which pertains to statistical information comparing the two cities.) As the city and its inhabitants modelled rules, patterns and language, inadvertently aspects of Japanese culture were learnt; the former gave insight to the latter and visa versa. The day to day experiences infiltrated the physical and mental behaviour of my everyday actions and slowly, I adjusted to accommodate the social demands of Tokyo’s order. The process of enculturation neither negated nor erased my existing environmental conditioning. Rather it added a thin film of new cues that gave an understanding of the latent cultural codes of Tokyo.

The negotiation between past conditioning and the demands of a new cultural environment is in a consistent state of imbalance. When one is placed in a new environment whereby that person is aware of activities that will be repeated in the future, like taking the same train from the same location on a platform, a layer of new information is read and recorded. In a new environment of permanent or semi-permanent habitation, one is in a process of enculturation and layers mnemonic activity. Different layers of the city are comprehensible to the different demographics within it. For long-time residents of Tokyo, issues of population density, transport and landmass may be of lower priority compared to volatile social, economic and political issues. Yet for the new resident, the initial reactions to a city like Tokyo are affected by the temporal, spatial and emotional cues that are most apparent in a city’s mobility, legibility and size. The responses to these facets of a city are most clearly revealed in the inhabitants’ actions and activities. My responses to the temporal, spatial and emotional cues of Tokyo’s built environment infiltrated aspects of the imagery I was generating. Working as a set designer and video instructor at the international secondary school, I began to shape a different body of lens-based imagery. Diametrically opposite to my previous photographic work, this imagery mirrored the cognitive, perceptual and emotional experiences I had had in the physical environment of Tokyo. The differences were manifested in the imagery’s subject matter, composition and rendering technique.

With the commencement of my Master’s degree in 2000, a reflection, analysis and critique of the imagery unfolded as it related to both the impressions left by the experiences of the city, and the wider social and cultural forces shaping its physical environment. I set out to analyse and develop a theoretical critique of this body of work through the use of functional aspects of knowledge that was defined by three questions: How is meaning extracted from the built environment? What is understood from that meaning? And how is it used? This inquiry is explored in the four chapters that comprise this thesis.

Chapter 1 explores the strategies and conceptual frameworks that underpin this thesis. Strategies assist the designer or artist as they negotiate understanding of various kinds of information through different processes. A conceptual framework is a clear outline that defines the motivations and directives of an investigation’s argument. The first conceptual framework in this thesis is drawn from architectural and urban design theorist Amos Rapoport, and the other from Japanese novelist Jun’ichiro Tanizaki.

In Section 1 of this chapter, Rapoport’s conceptual framework is defined. It represents a communication process of cause and effect. Represented in his diagrammatic model Encoding/Decoding of Environmental Information, the built environment acts as the conduit for the transference of mnemonic cultural meaning through the everyday experience with objects and environments by the user/inhabitant. Encompassing five characteristics: meaning; source and received, the conduit for the transfer of meaning; the built environment, a receiver of meaning and an action from the recipients. From those characteristics, two strategies for decoding meaning from the built environment are defined: one is based on comparing previous experience with the present and the other is based on continuous use and exposure to objects and environments.

In Section 2 of this chapter, Tanizaki’s allegorical conceptual framework is presented through the description of a Japanese lacquerware bowl. The symbolic representation of Tanizaki’s experience using the lacquerware bowl identifies three strategies for deriving meaning from the built environment: cognitive organisational activity, perceptual spatial depth, and heightened emotional responses. These assist in identifying latent temporal, spatial and emotional cultural codes and gives insight for exploring the experience of everyday life in Tokyo.

The exploration of conceptual frameworks and subsequent strategies assist in expanding the understanding of meaning from the self-generated body of miniDV imagery as it relates to my lived experience in Tokyo. Chapter 2 expands upon the conceptual frameworks and strategies identified in Chapter 1 by examining the three key themes to understanding the built environment of this thesis, Cognitive Integrated System Digital Network or CISDN, Mediated Space, and Anticipation.

Through its identification of latent codes, CISDN, Mediated Space, and Anticipation are defined.

Historical accounts and perspectives are drawn upon to support the three key themes while substantiating my cognitive, perceptual and emotional responses to the contemporary and historical examples. This historical account echoes culture theorist Megan Morris’s historical research perspective, which states:

My preference is to turn to history for a context prolonging the life of the ephemeral item or “case”, saturating with detail an articulated place and point in time, a critical reading can extract from its objects a parable of practice that converts them into models with a past and a potential for reuse, thus aspiring to invest them with a future. 

The ephemeral item or case that Morris refers to is, in this thesis, the three key themes: CISDN, Mediated Space, and Anticipation. They are imbued with details pertaining to a place and time, and establish precedents that may have the potential of further use. These are defined in three sections.
In Chapter 2, Theme 1 CISDN examines how Tokyo's built environment is mentally organised, reflecting the time-saving efficiencies found in the services offered to its resident, from the high-speed bullet train, Shinkansen, to the Japanese convenience store, konbini, to a trivia game advertising wall for Virgin Atlantic Airways by Klein Dytham Architects. These represent a logistical supremacy creating hidden orders in the surface chaos of Tokyo.

The thesis argues that, systems of logistical efficiency do not reside only in the physical world but may also be reflected in the mental spatial organisational patterns separating visitor and resident. Integrated System Digital Networks (ISDN), have enabled telecommunications, electronics and computing to merge. The integration of information technology (IT) into the built environment, demonstrated in the Japanese convenient store, the Virgin Atlantic Airways billboard and the mobile phone, is a hidden veil of electronic logistical efficiency not visually apparent in Tokyo. Ultimately, this allows Tokyo’s inhabitants to function, negotiate and plan with the assistance of peripheral tools in a landscape of continuous revision.

In Theme 2, Mediated Space defines a particular spatial understanding in which space, from the development of urban centres to the layout of vernacular dwellings, is perceived and used in Japan. Atmospheric modelling, pervasive horizontality and an immense density lie at the centre of a perceptual realm in the everyday life of Tokyo residents. This section examines two concepts of Mediated Space. First, the notion of a space drawn into density and, second, a density that extends into space. Architect and theorist Fumihiko Maki uses this concept, which is defined as ‘oku’, an innermost space, to give a historical lineage to a specific Japanese spatial orientation based on a perceived depth in built density.

Lastly, Theme 3, Anticipation examines the emotional and connotational meanings of foreseeing or dealing with something before it happens. These notions are bridged into my emotional affect, a layered optimism of having an intimate association with different social values. These values, I argue, are embodied in the moving carriage of a train, and are simultaneously drawing from a society placed in the now and tomorrow characterised within the impermanence of Tokyo’s buildings, and the conscious and unconscious planned obsolescence within its built environment. This is exemplified by the long distances commuters travel between home and work, the fires and other natural manmade acts of destruction that have plagued the city for over 200 years, and the enigmatic building ritual of one of the oldest shrines in the country, Ise Jingu. All these examples define an urban condition that facilitates decentralisation and continuous movement for its inhabitants.

Chapter 3 discusses the body of miniDV work created between 1999 and 2001 and deconstructs the various thematic, technical and conceptual aspects of the work using the three key themes of this thesis (CISDN, Mediated Space, and Anticipation) as indicators for interpretation. This work, which began in Tokyo, used a new tool for capturing images, the Sony miniDV (Digital Video) camera. Although primarily used to record and playback motion imagery, when it was used to play back paused footage, pertinent still frames of content were revealed. This was the primary tool used to create imagery over the three-year period.

The first section, Theme 1 discusses a short video titled Grip. Filmed in the interior of a rock climbing gym, it records a young climber scaling a wall. With no specific reference to Tokyo in this video, the correlation between the setting of the gym and of the city is based on similar conceptual readings of the two environments. This correlation in settings is based on issues of navigating the physical space of a wall in a rock climbing gym and Tokyo’s built environment - those of a persistent visual foreground and moment-to-moment decision-making based on reading environmental clues. Grip explores these characteristics as they relate to cognitive mapping: the mental process of organising the environment into abstract patterns. As active experiences, in both the rock climber and city pedestrian are put to memory, cognitive maps not only reveal patterns of navigation but also reveal an ability to mentally play out a number of different scenarios before actually physically committing to a direction of movement. Both environments represent mental and physical negotiations.

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Theme 2 of Chapter 3 describes the self-defined image rendering technique, Digital Reciprocity Under Sampling (DRUS), as it relates to the two-dimensional representation of the spatial and temporal experience of Tokyo. The still images made using the miniDV camera enabled this relationship to be identified through its content and the developed image technique. Conceiving the concepts of a Mediated Space as an articulation of the physical and perceived space of Tokyo matched with the acknowledgement of an image process diametrically opposed to emulsion-based, single lens reflex photography, in which I had previously been grounded. The DRUS technique, that employed capturing, processing and distorting processes aligned with digital imaging and video capturing, assisted in conceptualising a completely different notion of perceived and physical space within Tokyo’s urban environment.

Theme 3 is a comparative critique of what meaning is read in the interiors of two trains from the train lines of two cities. Still images from the Chuo Line, Tokyo and a short video of the Sandringham Line from Melbourne built that critique. In both projects, the still images and the video, the position is of a voyeur in moments of uninterrupted commuting consciousness. However, when in Tokyo, a meaning was imposed on the slightest shifts in people’s facial and body movements seated or standing directly in front of me. This was absent in my experience of Melbourne trains. In Japan, I could only speculate on the meaning of interaction or lack thereof in the trains and, within that speculation, an infusion of psychological energy represented my emotional state of occupying Tokyo’s urban environment - Anticipation. As the word suggests, Anticipation relates to an array of similar meanings and emotional states associated with the act of seeing or dealing with something before it happens. This noun and its relation to the miniDV still imagery from Tokyo’s train carriages became a term for describing the decentralised condition of Tokyo’s inhabitants which was propelled by the ephemeral nature of the city’s built form. In turn, the cultural, socio-political and socio-economic issues concerning Tokyo’s urban condition informed the images.

In the final chapter CISDN, Mediated Space, and Anticipation are discussed as they relate to corresponding aspects of the design and construction of an installation in the Campbell Arcade of Melbourne’s Flinders Street Train Station completed in early 2002. Titled Persistence in Foreground: A Prototype Web-Based Information Board, the installation aimed to recontextualise the three key themes in a subterranean passage running between the Central Business District of Melbourne and a major train station, and simulate a different cultural temporal experience to that of Melbourne in an environment with a similar interiority to Tokyo. In addition, it aimed to present an information display prototype that would improve the existing information system in Flinders Street Station.

Besides a description of the site and the design and construction of the installation, Chapter 4 includes three segments under headings that coincide with the three key themes of this thesis. The Prototype Web-Based Information Board was defined from the perspective of CISDN, The Matrix from Mediated Space and The Gym from Anticipation.

Theme 1 of Chapter 4, An Installation, questions how technology and certain architectural structures can expedite the cognitive organisational activity of the pedestrian, and create environments of efficient and logistically simplified operation.

Theme 2, The Matrix, discusses the Flinders Street Station installation as it relates to the two concepts of Mediated Space or persistent foreground, a space that is drawn into density and a density expanding space. The visual content in the Campbell Arcade display cases explores these two spatial tensions through the use of matrixes. The first matrix creates a perceptual experience of limitless depth in the finite space of the display cases. This was achieved through the construction of the moiré panels. The second involved the integration of particular pictorial elements in the design of the information displays content. This aimed to generate a similar perceptual space as the moiré panels.
Lastly, Theme 3, titled The Gym, discusses the final level of content in the installation – video footage of individuals walking/running in a fitness gym super imposed into the background of the information display. This footage is discussed as it relates to the notion of Anticipation.

In this thesis, the four chapters have been developed with the aim of delivering a clear narrative to a period of research, and art/design development and production of images and installations. This narrative, however, does not articulate my process of working, which is always nonsequential – that is an entirely different thesis in itself. Yet, upon reflection, the aims of exploration with images and environments, and the conceptual intent of analysis, converge in this thesis. The act of describing it to a larger audience, well, that is the stuff of good theses and is an art all of its own. Besides my cultural production, the art of the thesis is what I have mastered with this document.

(See Appendix B, page 114, for a further definition of cultural production.)
Chapter 1
Strategies & Conceptual Frameworks
Defining Strategies and Conceptual Frameworks

This chapter introduces the strategies and conceptual frameworks that have defined the ideas in this thesis. These strategies and conceptual frameworks are required to understand the latent meaning within the self-generated body of miniDV imagery as it related to my experiences living in Tokyo between 1996 and 2000.

A strategy is a plan put forward in pursuit of reaching an objective. An objective may be achieved by adopting a number of different methods. These may include methods from the social sciences, such as, observational or behavioural studies, or empirical data expressed through statistics or graphs. Strategies accommodate the designer or artist, as they negotiate understanding of various kinds of information through different processes. Writing on the nature of cultural production, the architectural theorist Peter Downton argued:

For a designer to begin making design moves complete knowledge is not necessary. All designers work with imperfect suites of knowledge displaying varying degrees of support and coherence and a certain amount of slippage. Uncertainty or inadequacy of knowledge can be potent in creating something: both misreadings and partial readings can lead to fertile invention when making design propositions.

As methods may be the parts to a strategy, so strategies can make up the sum total of a conceptual framework. A conceptual framework clearly outlines an investigation, and explains the motivations and directives of an argument. Two conceptual frameworks are proposed here to give a rationale to the structure of this thesis. One is a clear diagrammatic illustration from the field of environmental psychology, and the other is an allegory from a Japanese essay on spatial aesthetics. The former demonstrates a cause and effect, while the latter demonstrates a rationale by symbolic representation. Like an architectural plan, a quick bird’s-eye glimpse of all rooms in a house, both cause and effect, and symbolic conceptual frameworks give a ‘zoom out’ view, making only those prominent features visible. As a conceptual framework is an abstraction of an argument’s case, and of the sequence of time in which that argument unfolds, so too are the various approaches to conceptually explaining an argument’s rationale.

The process of identifying the three key themes of this thesis, CISDN, Mediated Space, and Anticipation, from the researcher’s body of miniDV imagery produced while in Tokyo, was to locate authors, architects, urban designers, historians, cultural theorists or artists who had identified not necessarily Tokyo, but the city in general as the central theme of their practice. Furthermore the aim was to find authors who had investigated spatial and temporal notions as they relate to the built environment of Japan. Two authors, the architecture and urban design theorist Amos Rapoport, and the Japanese novelist Jun’ichiro Tanizaki, offered conceptual frameworks that worked as strategies for investigating the source and meaning in my miniDV imagery. Although Tanizaki was writing some thirty years before Rapoport both discuss the importance of meaning gained from the relationships with objects and environments in everyday lived experience, and this helped to identify the three key themes. This first chapter outlines the strategies and conceptual frameworks as derived from Rapoport and Tanizaki and how they relate to this thesis.

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Section 1 introduces Amos Rapoport's *The Meaning of the Built Environment: A Nonverbal Communication* (1982). In this seminal work, Rapoport explores the subject of meaning in the built environment. He investigates how meaning is placed in objects and environments, and how the users or inhabitants of objects and environments understand meaning. He argues that various facets in a communication process encapsulate these issues in a conceptual framework that brings together unrelated findings and facts into an understandable rationale. As a conceptual framework for investigation, Rapoport's diagram *Encoding/Decoding of Environment Information*, (fig. 03) illustrates how meaning flows from the inhabitant into the built form, be it an object or a building, through that environment and out again to a recipient of meaning, and finally leads to an action.
Although simple in nature and devoid of complicated social, economic and political inferences, not to mention the possible impacts from the natural environment, the diagram *Encoding/Decoding of Environment Information* offers a stepping stone into revealing latent currents of meaning within the built environment. Rapoport’s diagram is composed of six characteristics:

- the source messages/schemata
- the conduit for the source messages/schemata
- the built environment
- the mode of reading the messages/schemata
- interpreted messages/schemata
- an action.

Within the characteristics of Rapoport’s conceptual framework that directed the investigation of this thesis, two strategies were identified. These strategies are classified as ‘perceptual’ and ‘associational’ aspects of the environment. They define how meaning from the built environment can be deciphered from one’s self, be it from contrasting previous experiences and knowledge (‘perceptual’), or from the examination of behaviour from continuous use and exposure to objects and environments (‘associational’). These strategies, in addition to Rapoport’s conceptual framework *Encoding/Decoding of Environment Information*, have been employed in this investigation.

Section 2 introduces Jun’ichiro Tanizaki (1933). His essay on the nature of shadowy space in Japan, *In Praise of Shadows* describes his experience as it relates to the objects and environments of traditional Japan. Defining a particular aesthetic, his personal affinities become rich sources of meaning from which he identifies the character of the Japanese people and the environment they occupy. His essay provided strategies for deciphering meaning in the built environment, and a conceptual framework for rationalising the structure of this thesis’s investigation.
In Praise of Shadows offered me a conceptual framework that symbolically encapsulates the thesis on a number of levels. It illustrates how lived experience can bring forth the abstract cultural meaning represented in objects and environments by revealing how a simple activity, like eating soup, can communicate non-verbal meaning. Here, Tanizaki’s poetic description of the experience of a lacquerware bowl is broken into three segments and integrated throughout the thesis. It is referred to as an allegory that parallels the three key themes: CISDN, Mediated Space, and Anticipation.

Tanizaki’s description of the experience of using a lacquerware bowl, symbolically demonstrates the exploration of meaning within the lived experience as it relates to the built environment. It suggests three strategies:

- cognitive organizational activity
- perceptual spatial depth
- heightened emotional responses.

These three strategies provided avenues for investigating the acts of everyday occurrence, those habitual and repetitive activities (such as those associated with consuming food) whose origins have become blurred against the goals and ambitions that motivate our day-to-day lives. (These strategies will be defined and explored in the second section of this chapter)

Rapoport and Tanizaki articulated strategies and conceptual frameworks that have set the rationale of this thesis’ investigation. What follows is an exploration of the strategies and conceptual frameworks that have been used to define the ideas of this thesis as they relate to Tokyo and my experience of the city as it relates to the body of self-generated miniDV imagery.

Section 1 Introduction to The Meaning of the Built Environment

In The Meaning of the Built Environment: A Nonverbal Communication, Amos Rapoport argues that latent cultural meaning can be understood through the built environment. The argument is derived from lived experience and the user/inhabitant. These two aspects draw from the field of environmental psychology where conceptual frameworks and methodological approaches establish areas of scientific research in behaviour and wellbeing as they relate to the socio-physical environment. The micro-level stimuli and intrapersonal processes, such as perception and cognition, environmental psychology links the multidisciplinary fields of environmental and behavioural research. This underpins Rapoport’s investigation into ‘how one thinks and what one considers’ with its insights into how meaning is shaped by the users/inhabitants’ experience in the built environment, and how latent meaning specific to a culture is communicated to the users/inhabitants.

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10 Rapoport, p.10.
From the users'/inhabitants’ perspective, lived-experience is based on emotional responses to hidden functions of physical elements within the built environment.\textsuperscript{11} Rapoport argues that the meaning the environment and aspects of it have for people is partly a result of people’s interactions with it.\textsuperscript{12} Furthermore the notion of environmental function goes beyond interaction on a purely instrumental or manifest level. When latent aspects of function, from such elements as furnishings or buildings, are used in the presentation of self or in establishing group identity, meaning is central to understanding how environments work.\textsuperscript{13} Although not all environments communicate the same meaning for all people, and the meaning of places changes depending on social, economic or political forces, it none-the-less communicates facets of cultural meaning.

Rapoport’s rationale for understanding the meaning users and inhabitants assign to the built environment lies in ‘the nature of the mechanisms that link people and environments’.\textsuperscript{14} The users’/inhabitant’s ‘associational’ meaning is, Rapoport suggests, unlike the ‘perceptual’ meaning designers assign to environmental elements. This argument pivots on what he identifies as ‘perceptual’ and ‘associative’ terms of reaction to the built environment. He states:

\begin{quote}
Perceptual [reactions are] noticeable differences (reinforced by redundancy) that in themselves have some significance and meanings by drawing attention to themselves through contrast and through the selection of which cues are made noticeable.

Associational [reactions are] the decoding of the meaning of elements, their associations with use and behavior, derived partly from consistent use, partly from the cultural rules associated with settings, that is, the context and the situation.\textsuperscript{15}
\end{quote}

Rapoport argues that designers react in a perceptual manner through the contrast of regular and consistent patterns. By assigning metaphorical use to physical elements in a subtle and idiosyncratic manner, designers relate physical elements or their context in inappropriate or neglected ways.\textsuperscript{16} On the other hand, non-designers react associatively via their relationships with the objects and within the environment they use regularly. How those objects and environments makes one feel, based on how they are used, drives my understanding of them, thereby calling into question the nature of function in the built environment. As Rapoport suggests, when latent aspects of function apply to economics, to consumption, to all artefacts and social possessions, even food, these meanings become more important; no longer does the meaning reside in its instrumental or manifest functions.\textsuperscript{17} Whether these distinctions hold true for both parties placing meaning on objects and environments, Rapoport’s ‘perceived’ and ‘associational’ aspects of the environment, identify two important strategies for decoding meaning from the built environment.

\textsuperscript{11} Rapoport, p.13.
\textsuperscript{12} Rapoport, p.14.
\textsuperscript{13} Rapoport, p.15.
\textsuperscript{14} Rapoport, p.11.
\textsuperscript{15} Rapoport, p.197.
\textsuperscript{16} Rapoport, pp.17-19.
\textsuperscript{17} Rapoport, p.15.
While the separation of the production of meaning between designer and user/inhabitant may have been the rule for the Modernists of the early 20th century, in the context of the 21st century, architects, industrial designers and urban planners have employed associational strategies that were once seen as pertaining solely to the user/inhabitant. Rapoport’s argument is a response to the practice of architecture and urban design that for the majority of the twentieth century left the user/inhabitant needs out of issues of design, and social and cultural requirements in issues of housing and city planning centred on rationales emphasising contemporary architectural trends of internationalism rather than the specifics of the local vernacular. The large social housing estates of New York and Chicago, as well those dotted across Europe, are clear examples of that paradigm. In the last twenty years, a commitment to inclusiveness and the focus on lived experiences have produced some of the world’s most innovative projects, such as Renzo Piano’s Jean-Marie Tjibaou Cultural Center Noumea, New Caledonia and MVRDV’s WOZOCO, 100 apartments project in Amsterdam for ‘55 plusers’. These take into account local custom to enrich the users/inhabitant’s experience. Rapoport’s argument has relevance for designers and artists who use the built environment to generate ideas.

Rapoport’s melding of social science and environmental theories into a conceptual framework confirms the ‘lived experience’ of the user/inhabitant as a valued source of meaning in the built environment.
A Conceptual Framework for Identifying Meaning in the Built Environment

Rapoport’s *The Meaning of the Built Environment: A Nonverbal Communication* presents the diagrammatic model *Encoding/Decoding of Environment Information*, which illustrates how meaning flows from the user/inhabitant into the built form, be it an object or a building, through that environment out again to a recipient and finally leads to an action. The origins of this diagram began in mathematics of the late 1940s, specifically in the development of telephone communication. The encode-message-decode model was primarily concerned with the quantity of information that could be sent without distortion down a line of given characteristics. This mode of extrapolation developed by engineers has proven to be an appropriate model for the investigation into the flow of information. Rapoport’s interest in this model is not surprising given that it works as an analogous path of communication between inanimate objects and humans. Accordingly, his diagram (fig. 03) demonstrates limited cultural variables and context within cohesive groups in a given society.

*Encoding/Decoding of Environment Information* is predicated on objects and environments communicating clear information pertaining to function, purpose and cultural positioning. It seeks to show how environments maintain group memory as a continuity that ensures user understanding. Rapoport imagines the effectiveness of his diagram working within this set parameter:

...mnemonic function of the environment is equivalent to group memory and consensus. In effect, the setting “freezes” categories and domains, or cultural conventions. In effect, information is encoded in the environment and needs to be decoded. But environments can only do this if they communicate - if the encoded information can be decoded. This is usually considered on small scales, but whole landscapes and cities can have that function, as is the case of...traditional, particularly preliterate and vernacular environments, [where] this process worked particularly well, whereas in many contemporary environments it works less well.

When considered within the context of changing social habits in work and communication to the internationalisation of architectural and urban forms, Rapoport’s model does not lend itself well to such forms of meaning transfer. The notion that some aspects of the environment ‘freeze’ categories and domains of meaning none-the-less holds some truth. How would one otherwise interpret the small oden (stewed vegetables in soy-based soup) carts, or yatai that dot the streets in Tokyo, or the prolific use of the barbeque in Australian social gatherings? Although ‘categories, domains or cultural conventions’ are in continuous flux, with each new era a new set of ideals moves up the generational ladder of time. The idea that a mnemonic function exists in the built environment speaks directly to the importance of ‘lived experience’ and the user/inhabitant for identifying ‘group memory and consensus’.

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The conceptual framework of Rapoport’s diagram *Encoding/Decoding of Environment Information* raises questions about how groups and individuals receive meaning, and whether the meaning represents an environment’s mnemonic function. What is read in the built environment? How it is read? By whom? And what is the interpretation? These, in turn, raise questions about who was the sender? Who were the groups and individuals who first attempted to encode the environment, consciously and subconsciously? In this case, the flow of mnemonic cultural communication through the built environment can be divided into the following headings:

- the source messages/schemata
- the built environment
- decode: the mode of reading the messages/schemata
- interpreted messages/schemata
- an action.

Rapoport indicates (in the notes to his illustration) how constraints brought about by ecology, resources, economics, politics, and climate affect implementation. Research into these constraints of encoding meaning into the built environments are beyond the scope of this thesis. Rather, focus is maintained on the five headings, which are used as the conceptual framework of the thesis, and the strategies of perceptual and associational reactions.

### The Source Messages/Schemata

The source messages/schemata are the first component of Rapoport’s diagrammatic model *Encoding/Decoding of Environmental Information*. As frozen categories and domains of cultural meaning, source messages/schemata are, Rapoport states, ‘Shared, negotiated meanings [that] follow certain rules. These involve certain social conventions and form a cultural code’. They are the latent meanings, common to a society or cultural group, that flow through the built environment and generate ‘appropriate emotions, interpretations, behaviours, and transactions’. Appropriate, in this context, means the user or inhabitant can understand implicitly how they should feel, interpret, behave and interact within the specific locale.

The understanding of an environment’s source messages/schemata requires knowledge of the intentions of city dwellers, architects, planners and public policy makers, who encoded particular cues of meaning within a built form. The values expressed in messages/schemata such as ‘health, recreation, “humanism”, egalitarianism, or material well-being’, planned obsolescence, efficiency and equilibrium, may reveal particular spatial and temporal states specific to that culture.

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19 Rapoport, p. 81.
20 Rapoport, p. 82.
21 Rapoport, p. 80.
22 Rapoport, p. 80.
23 Rapoport, p. 28.
This thesis used source messages/schema to examine the researcher’s emotions, interpretations, behaviours and transactions, to a particular experience of spatial and temporal states in the built environment of Tokyo. Once identified, they were matched against other Japanese and Western contemporary and historical accounts of Japan and Tokyo, such as architects’, writers’, travellers’ and theorists’ accounts of their responses to cues and meaning in the built environment. These individuals had sighted transferred schema via ‘cues’ in the built environment, offering historical precedences for my observations.

The Built Environment

The city is a passion of many writers whose obsession with the descriptions and accounts of the users'/inhabitants' experiences in cities suggest a much closer and deeper relationship. This indicates that the use of the term ‘built environment’ articulates a multitude of relationships. As Rapport states ‘[T]he environment can be seen as a series of relationships between things and things, things and people, and people and people… space, time, communication, meaning’.

As with any city, Tokyo represents a plethora of relationships. This thesis explores a range of relationships with Tokyo between myself and its objects and environments, my miniDV imagery and the meaning in the environment, and between contemporary and historical examples of spatial typologies. These investigations aim to understand the city of Tokyo beyond its physical elements, and begin to understand it through its channelling of cultural meaning.

Decode: The Mode of Reading Messages/Schemata

Decode: the mode of reading messages/schema is the third component in Rapoport’s diagrammatic model. To decode messages/schema is to decipher meaning from the built environment, to make clear the meaning of those objects or spaces despite their obscurity of comprehension. However, deciphering meaning from the built environment, I would argue, is not a conscious activity. As Rapoport states ‘environmental evaluation…is more a matter of overall affective response’. A user or inhabitant attempts to make sense of what they have been confronted with by way of reaction, which suggests people react as Rapoport states in ‘perceptual’ and ‘associational’ terms.

The perceptual and associational reactions to the built environment are strategies for decoding or interpreting meaning. In Rapoport’s perceptual strategy, contrast is an important factor in recognising differences beyond the surface of a city. For example, in the United States, the convenience store is a large franchise incorporating petrol filling services in a medium-size, stand-alone retail facility. However, in many districts in Tokyo, the convenience store focuses solely on the pedestrian rather than the motorist. Its floor space is small and it is usually located on the ground floor of larger buildings. These types of differences carry the latent messages/schema that reveal culturally specific meaning, which are a product of the continuum of conditions that perpetuates certain behaviours.

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25 Rapoport, p. 178.
Similarly Rapoport’s second strategy, deciphering meaning based on associational aspects, demonstrates an additional part of decoding meaning from the built environment. Through examining my ‘use’ and ‘behaviour’ as they relate to the elements in the context and situation of Tokyo, cues for strategies of converting the coded message into intelligible information are identified. Tokyo’s convenience store location demonstrates new ideas to a familiar form. Having become a pedestrian, the convenience store was a reliable and reoccurring sight for me. This shop with products packaged in small amounts in close proximity to my apartment brought ease to my shopping. It also demonstrated an abstraction of space and time by virtue of bringing together many previously unrelated services. It is analogous to a type of all-purpose shopping centre, where I could buy food and household products, pay bills, receive and transmit faxes, and send my luggage to the airport. It was open twenty-four hours a day, seven days a week. It became part of my daily routine. My use and behaviour, an organising of time for doing specific tasks, were reflecting cultural rules based on the setting.

To decode meaning in the built environment is to decipher those elements that are coded. As two strategies for decoding the coded information, perceptual and associational reactions have been employed. By contrasting previously known environments and examining ‘emotions, interpretations, behaviours, and transactions’ as they relate to prolonged use, these strategies not only reveal latent meanings in the elements of the built environment but also how the built environment affects an individual.

The Interpreted Messages/Schemata

Interpreted messages/schemata is the fourth component in Rapoport’s diagrammatic model. This, for Rapoport, is the link in the chain of information that defines whether the elements in the built environment have communicated their intended ‘emotions, interpretations, behaviours, and transactions’.

As Rapoport argues, meaning is read via cues from the environment, yet the meaning is not always understood, as demonstrated by my initial experience in Tokyo. Many elements in Tokyo’s built environment, such as the convenience store, are recognisable but have dramatically different meanings. What one element of the environment represents by way of its use, purpose and cultural standing can differ from person to person, and area to area. This represents the variation of meaning of elements found in all cities.

Rapoport believes the most affective environments, where its inhabitants easily understand meaning, are (those that are) small in scale and preliterate or original in origin. I would argue that most environments communicate an understanding of what is intended. This is evident in the relative comfort and ease by which people move through the city. The exceptions lie with those people to whom the experience is novel. These individuals give new meaning to the elements in the environment.

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26 Rapoport, p. 13.
27 Rapoport, p. 80.
In my first two years of living in Japan, the majority of spaces, objects and human gestures experienced, transferred meaning that I did not understand. My interpretation of Japan’s built environment was informed more by my experience outside the country than the realities taking place in front of me. However, I was in the process of being educated not only in the customs of the country, but also by a different spatial and temporal reality. After four years I was at ease in my foreign surroundings and producing a body of work unlike work previously created. In the transformation of enculturation or acculturation, as Rapport describes:

[C]odes are learned that allow the decoding of the cues present in the environment...For immigrants and during periods of rapid culture change or cultural contact, this process may occur later in life and is then known as acculturation.

My response to the elements in Tokyo’s built environment had changed from a ‘perceptual’ reaction based on comparing them with similar aspects to the United States, to an ‘associational’ reaction based on continuous and prolonged exposure where meaning was now based on behaviour and use. As discussed in the section ‘Decode: The Mode of Reading Messages/Schemata’, I moved from Rapoport’s perceptual to associational reaction to the environment.

An Action

Action, the unspecified verb in the fifth and final component of Rapoport’s diagrammatic model, is defined as production based on interpreted messages/schemata. Within the ideal scenario, ‘action’ would appear to be synonymous with the ‘encoding’ source message/schemata. If messages/schemata were clearly interpreted, mnemonic cultural meanings would then be ‘recoded’ into the built environment via the ‘action’. Why ‘action’ is outside the closed circuit cycle of meaning is not identified by Rapoport.

The notion that an action follows learnt or understood meaning is elaborated on by physicist Phillip Morrison, and author Phylis Morrison, collaborators on the film and book *Powers of Ten* (1977). Describing Charles and Ray Eames’s design practice, they state:

>[It] is the belief that knowing what we have learned is not the most useful test of learning. Rather, our new knowledge should be productive, that is it should allow us to make something new, if only small, with what we learn.

I would argue that knowledge is a continuous process where the end result is significant and the process or ‘action’ is more significant. The end result of the ‘actions’ described in this thesis is the installation at Campbell Arcade. This installation reasserted interpreted messages/schemata from one cultural setting into another. The set of actions that gave those interpreted meanings form are explored in Chapters 3 and 4.

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28 Rapoport, p. 80.
29 Rapoport, p. 65.
Summary

Rapoport’s *Encoding/Decoding of Environmental Information* is a conceptual framework for locating meaning in the built environment. As stated, the five primary elements of this conceptual framework are:

- the source messages/schemata
- the built environment
- decode: the mode of reading the messages/schemata
- the interpreted messages/schemata
- an action.

Rapoport argues that meaning flows from the inhabitant into built form, be it an object or a building through that environment, out again to a recipient and finally leads to an ‘action’. It is these components that will be further explored in the thesis, as will be the two strategies of perceptual and associational response.

The use of Rapoport’s conceptual framework, *Encoding/Decoding of Environmental Information*, for locating meaning in the built environment provided me with the necessary confidence to pursue the investigation. Hence, this thesis proposes an understanding of the origin of ideas as drawn from a lived environment. In conclusion, the five characteristics of the conceptual framework of my research are:

- Source messages/schemata are substantiated by Japanese authors
- Tokyo’s built environment is the conduit in the flow of meaning
- Two sources of decoding through non-verbal communication are defined perceptual and associational. Associational is primarily utilized
- Messages/schemata are interpreted in three key points: CISDN, Mediated Space, and Anticipation
- Action is created, illustrated by the installation at Campbell Arcade.
Section 2  Introduction to In Praise of Shadows

As stated in the introduction to this chapter, both Rapoport and Tanizaki provide the foundation for this thesis's conceptual frameworks. This section explores Tanizaki’s conceptual framework and the strategies that are employed in it.

Tanizaki’s In Praise of Shadows explores meaning in the ‘everyday’ of Japan’s vernacular dwellings. Published a decade after Japan’s great earthquake of 1923, Tanizaki’s treatise on the shadow yearns for the Tokyo of his childhood when many of the physical and social remnants of Edo (Tokyo before 1867) flourished, especially in the oldest section of the city, Shitamachi. His sentiments struck an emotional cord with a generation of Japanese witnessing sweeping social changes that irreverently manifested themselves in the look of the city: in the increasing use of western materials and architectural forms, and in the residents’ apparel as the dress and suit began to replace the traditional kimono.

In Praise of Shadows could well have been read as a ‘what to live in guide’ for the Japanese. For Tokyo’s residents, easing into their new ferro concrete surroundings would have been a reminder of what the city had been. Tanizaki draws inspiration from various features in the physical environment: lavatories, glass and room configuration to name just a few. He focuses on the psychological and spiritual associations between the interaction of a particular luminous quality of light, material and form. Revealing a spatial aesthetic in the areas of shadowy ambience, his stream of consciousness illuminates not only observations from a period in Tokyo’s history, but also architectural signposts of latent spatial affinities.

This spatial aesthetic is illustrated most succinctly in a passage describing the use of lacquerware bowls. This passage, explored in the next section, illustrates the symbolic strategies and conceptual framework that have defined the mode of decoding meaning from the self-generated body of miniDV imagery as it relates to my lived experiences of
With lacquerware there is a beauty in that moment between removing the lid and lifting the bowl to the mouth when one gazes at the still, silent liquid in the dark depths of the bowl, its color hardly differing from the bowl itself. What lies within the darkness one cannot distinguish, but the palm senses the gentle movements of the liquid, vapor rises from within forming droplets on the rim, and the fragrance carried upon the vapor brings delicate anticipation.  

Introduction to Lacquerware and Soup (Suimono)

Surrounding Jun’ichiro Tanizaki’s description of lacquerware experience are a number of its settings’ formal and environmental details that have not been included. Specifically, they are the interpreted contents of the lacquerware bowl, the interior colour of the bowl, and the setting itself. Unapparent, these will give the necessary insight into understanding why this passage has been chosen as an allegory. For within its lines is a conceptual framework and three strategies for deciphering meaning. Both the conceptual framework and three strategies assist in explaining the ideas and objectives of this thesis.

As with many meals in Japanese culture, suimono (a clear soup) is served in bowls finished in lacquerware. Generally made from minimal ingredients, it retains a clear, watery appearance, and is commonly mistaken as mere water by those unfamiliar with this dish. Drunk throughout the meal, it is usually the first dish tasted: it is seen as the essence of the meal. Just as unfamiliar to Western palates as the soup, the container used to serve it contradicts not only Western form but etiquette as well. Unlike the ubiquitous Western-style ceramic soup bowl – wide opening, shallow depth and white glossy surface, a spoon always bridging its contents – suimono is generally served in a black lacquerware bowl. Resembling a cup, with a narrow opening and taller in volume, the black interior patina (they can also be found in red and brown) of the bowl creates a strong contrast to the clarity of the soup. The bowl is constructed of wood, and this patina is made from building up layer upon layer of lacquer. This makes for a striking experience as one bypasses utensils for the tactile experience of the smooth-surfaced edge on the lips.

However, the qualities of the bowl as they relate to the soup are mainly apparent within the soft confines of traditional Japanese dwellings, and the defused ambiance of light is the primary factor. Although Tanizaki indicates a preference for candle light as the primary source of illumination when using lacquerware, subtle effects are still discernable in a low watt, non-direct light. In traditional vernacular architecture, where the low-wattage incandescent has not been replaced by the fluorescent light, one senses the ambient context from which these customs of daily life take place. Furthermore, the interior elements of the room – stuccoed walls detailed with unpainted timber divisional members and windows with shoji, lattice and paper covered screens – soften any reflection that may create unnecessary glare on the surface of the lacquer.

Lacquerware and Soup (Suimono): A Conceptual Framework and Three Decoding Strategies

Tanizaki’s contemplation of the Japanese propensity for shadow as captured in his passage describing the experience of drinking from a lacquerware bowl – an object of delectation and function - and the set of meanings imbued in this experience gives insight into strategies that can be used in understanding and deciphering meaning from the built environment. As a complete passage it reflects a conceptual framework and introduces particular spatial perspectives: how space is organised, seen and felt in Tokyo’s urban milieu. The lacquerware bowl passage, read as three isolated segments, represent strategies for deciphering meaning from the built environment.

As a conceptual framework, the lacquerware passage offers two levels of understanding the built environment. First, it shows how the lacquerware bowl and its contents, a household object that is used daily, support the notion that meaning is found in the lived experience of a user/inhabitant. Second, this demonstration of three types of meaning (defined as strategies) can be understood from the objects and environments of a city:

- cognitive organisational activity
- perceptual spatial depth
- heightened emotional responses.

The following is an examination of these meanings as they relate to corresponding segments in the lacquerware bowl passage.

Cognitive Organizational Activity

In the first portion of the passage,

‘With lacquerware there is a beauty in that moment between removing the lid and lifting the bowl to the mouth…’

Tanizaki introduces two points in a linear timeline: removing a lid and lifting the bowl to the mouth. Like quotations signifying an invisible event or rather a moment of beauty, space and time are given a special allowance. What generally is an ‘instance’ has now become a ‘moment’, and indicates a lengthening of time and further filling of our consciousness. The removed lid and the lifted bowl, taking place during a regular, habitual action in Japan, indicate a cognitive activity outside the usual focus of simply eating.

With the interest in a cognitive space as it relates to Tokyo, the two object-oriented actions are transposed as an analogy for mentally negotiating any multiple points of activity; for example, going from work to the convenience store on route to one’s home. This leads to the question: how does Tokyo’s urban condition influence the cognitive ordering of its environment?

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32 Tanizaki, p. 15.
Rapoport’s assertion that meaning is derived from the built environment, dependent on an idiosyncratic interpretation, affirms the notion that each person develops an abstract mental map of the place where they live and the places they have visited. As theorist Sergio Correa de Jesus’s articulates in ‘Environmental communication: design planning for wayfinding’ (1994), the cognitive dimension is that of user behaviour: how people negotiate their way through spaces, what patterns are systematically manifested in their interactions with the built environment. Patterns available for recalling at a moment’s notice are integral to the investigation into the cognitive processes of personal navigation known as cognitive mapping.

As active experiences are put to memory, cognitive maps not only reveal patterns of navigation but also an ability to mentally play out a number of different scenarios before actually physically committing to a direction of movement. Based on the transference of previous environmental experiences into future experiences of assumed or known similarity, this pre-navigation or planning can create alternative, and possibly more expedient, paths of movement.

While living in Tokyo, I perceived inhabitants having ‘patterns of stored information’; that is, directed movements of a hidden order. In the train stations the majority of people moved with little hesitation through labyrinthian passages. Lines of people formed on train platforms where no visible markers existed and, when a train arrived, the queue split with people moving left or right as the doors of the train opened, filing in only after the last person had exited. This brought an investigation into my cognitive mapping in Japan as to how the abstract mental maps of Tokyo and surrounding areas created a sense of expediency and ease in the face of obstacles. As a source of non-verbal communication, cognitive maps revealed latent patterns of expediency in temporal space. This, therefore, makes it possible to see a model for investigating notions of cognitive mapping in Tokyo’s urban condition.

**Perceptual Spatial Depth**

Continuing with the second segment of passage, Tanizaki states:

‘when one gazes at the still, silent liquid in the dark depths of the bowl, its color hardly differing from the bowl itself. What lies within the darkness one cannot distinguish, but the palm senses the gentle movements of the liquid, vapor rises from within forming droplets on the rim, and the fragrance carried upon the vapor...’

Again, an instant passing between two punctuated moments in time are descriptively analysed by employing sight, sound, touch and smell. An experience in a reverberating foreground, it defies spatial boundaries and leads the subject to be drawn into a spatial metaphor.

Tanizaki gives atmospheric qualities to the bowl by emphasising the lack of light, its darkness. The clear soup placed in a black lacquerware bowl is an introduction of a dominant colour that changes the perceptual focus of the figure/ground. Added to this the action of lifting the bowl to the lips, the eyes attempting to adjust, very quickly, for a slight moment, fall out of focus. This shifting of perspective from the soup to the bowl sets an analogy for discussing a visual phenomenon that challenges notions of spatial depth found in the built environment.

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34 Correa de Jesus, p. 43.
37 Tanizaki, p. 11.
The elements of the built world – material, form, structure and projected light – all become malleable elements that mediate an individual’s experience in the built environment, and add to the perceptual challenge of density. How then, in the context of Tokyo, does the built environment influence our perceptual space?

The notion of a visual spatial depth offered by Tanizaki’s lacquerware bowl passage, can be used for decoding non-verbal information in the built environment through form, material and pattern. These aspects of the physical world reveal not only particular information about occupied space but also our inclination toward preferred spatial boundaries. Asserting that physical elements in the environment can be decoded, Rapoport states ‘physical elements of the environment do encode information that people decode… while people filter this information and interpret it, the actual physical elements guide and channel these responses’.  

Be it in the density of people per square kilometre of Tokyo or Melbourne, Australia, demographics like these indicate possible different spatial characteristics that form cities. In Tokyo, not only did the city pattern communicate latent information, but the ordering and division of built space described a particular spatial depth.

Heightened Emotional Responses

The third and last segment of Tanizaki’s lacquerware bowl passage:

‘… brings delicate anticipation’.  

This conclusion pre-empts any nutrition; the bowl never reaches our lips. The mind is held, not ravishingly but excitingly delicate, in limbo. Tanizaki’s ‘anticipation’ of something unintended is likewise not pertinent to this argument just as the two actions of the bowl. What is important is the emotional connotations applied to the experience of looking into unfocused darkness. Seeing only what your mind imagines, unrelated to the actual activity at hand, is as if in the middle of a conversation a distraction infiltrates one’s thoughts: one’s body occupies one space but the mind operates in another.

‘Anticipation’ acts as an indicator for defining one’s emotional response to an object, ‘anticipation’ becomes personalised to represent not only an interiority of emotion but also a perception of persuasibility that recontextualises the gestures and expressions of others. A parallel with the emotion ‘anticipation’ could be the hyper consumption of Tokyo’s built environment: a continuous ‘anticipating’ or looking to the future. The question that arises is: how does the emotion of ‘anticipation’ affect the experience and understanding of Tokyo’s urban environment and its inhabitants?

Tanizaki’s passage is an investigation into the subjective emotional response to the environment. As Rapoport indicates ‘people react to environments globally and affectively before they analyze them and evaluate them in more specific terms’. That is, there is an initial ‘gut-reaction’ to an environment, which in Rapoport’s ‘perceptual’ definition would be a response in contrast to a former, more dominant environmental experience. My emotional ‘anticipation’ to Tokyo was based on my experiences of growing up in the desert southwest of the United States.

38 Rapoport, p. 19.  
39 Tanizaki, p. 15.  
Summary

The entire lacquerware bowl passage by Tanizaki offers a conceptual framework that introduces particular spatial perspectives: how space is organised, seen and felt in Tokyo’s milieu. This conceptual framework drives three strategies for experiencing the everyday: cognitive organisational activity, perceptual spatial depth and heightened emotional responses. These are, in turn, defined by the following questions:

- How does Tokyo’s urban condition influence the cognitive ordering of its environment?
- How does Tokyo’s built environment influence our perceptual space?
- How does the emotion of ‘anticipation’ affect the experience and understanding of Tokyo’s urban environment and its inhabitants?

Intended as reflective, these questions give rise to a set of metaphors and analogies. Under the headings of CISDN, Mediated Space, and Anticipation, these questions are the three key themes of investigation in Chapter 2. These structural signposts give further insight into the body of development work in Chapter 3, and a description of the final installation in Chapter 4.

The exploration of conceptual frameworks and subsequent strategies assist in expanding the understanding of meaning from the self-generated body of miniDV imagery as it relates to my lived experience in Tokyo.

Conclusion

Chapter 1 has explored the conceptual frameworks and strategies that underpin this thesis. The two conceptual frameworks are drawn from architectural and urban design theorist Amos Rapoport and Japanese novelist Jun’ichiro Tanizaki. Rapoport’s conceptual framework represents a communication process of cause and effect, where the built environment is the conduit for the transference of mnemonic cultural meaning through the users'/inhabitants' everyday experience with objects and environments. Tanizaki presents a conceptual framework through a description of the experience of drinking from a lacquerware bowl. The symbolic representation via Tanizaki’s experience gives insight into three areas of meaning: the cognitive, the perceptual and the emotional.

The five characteristics of Rapoport’s diagrammatic model Encoding/Decoding of Environment Information were identified in Section 1. The characteristics of this conceptual framework are: meaning; source and received, the conduit for the transfer of meaning; the built environment, a receiver of meaning, and an action from the recipients. From those characteristics, perceptual and associational strategies for decoding meaning from the built environment were identified. Rapoport’s model offers a conceptual framework that uses the built environment as a conduit for the transference of meaning.

In Section 2, the strategies identified from Tanizaki’s conceptual framework were: cognitive organisational activity, perceptual spatial depth and heightened emotional responses. They offer a latent temporal, spatial and emotional schemata for exploring the experience of everyday life in Tokyo.
Chapter 2
Defining Three Key Themes
Introduction

[Space, like any other object influenced by humans, develops a specific expression in the interchange between the technological, production and social conditions…]41

This chapter examines three key themes of this thesis. Based upon the subjective interpretations of observations made in Tokyo during the period 1996-2000, these key points are CISDN, Mediated Space, and Anticipation. Each coincide with strategies for deciphering meaning from the built environment as outlined in Jun’ichiro Tanizaki’s lacquerware bowl passage: cognitive organisational activity, perceptual spatial depth, and heightened emotional responses. This chapter will interweave personal accounts of living in Tokyo with Tanizaki’s lacquerware bowl vignette, and with examples of particular historical and contemporary built forms that support my assertion – that the latent spatial experience of Tokyo’s environment affected the subject matter, composition and image capture technique of my lens-based work.

Each theme is explored from a different vantage point. The first section, ‘Cognitive Integrated Systems Digital Network’ begins with a personal narrative. ‘Mediated Space’ recounts the urban condition of Tokyo, (Edo) of the 18th century, and ‘Anticipation’ begins with the discussion of the nature of the ‘gaze’. Although disparate, the tone of each section attempts to create a fresh perspective for the reader. While these themes are inseparably linked, they require different avenues of introduction for each section. Ultimately, this chapter explores how particular meaning was derived through the experience of living in Tokyo. Before exploring Cognitive Integrated Systems Digital Network, Mediated Space, and Anticipation, some basic facts pertaining to Japan are required.

For over 250 years until the mid 19th century, Japan was closed off to most foreign activity by order of the ruling warrier clan, the Tokugawa Shogunate. With his courts situated in Kyoto, the emperor resigned himself to traditional ceremonial and religious leadership. Around 1867, a combination of mounting pressure from powerful lords close to the emperor, the death of the shogun of that period and the growing upheaval over a split government, led to Emperor Meiji sequestering Edo from the Tokugawa Shogunate. It thereafter became known, drawing its name from the former capital Kyoto, the Eastern Capital, as Tokyo. 42 Divided by a social and geographical order that had arisen during Edo, the Shitamachi, ‘Low City’, the oldest area in the city, literally located in the depression surrounding the rivers that fed into Tokyo Bay, had flourished with the original townspeople who were craftsmen and artisans. The Yamanote or ‘High City’ had developed with the rise of the military class. Built on the surrounding Musashino plateau, it signalled the slow development of the city away from its central origins.

As Tokyo grew, so did Japan’s imperial expansion throughout Asia. The signing of the armistice by Japan in 1945 not only concluded World War II but also began sweeping social, economic and political changes. By 1954, two years after the Allied occupation ended, Japan regained pre-war economic levels. The remarkable period of economic development reached its pinnacle in the late 1980s when bubble-related loans, deflation and non-restructuring in the financial sector sent Japan into a slow economic recession. 43 Now in the 21st century, Japan, along with Tokyo, appears to be on the verge of another great social shift. As over half the population will be fifty years or older by 2025, this will no doubt bring social, economic and political changes to the country and its cities.

As with many of the overreaching characteristics of Tokyo, an environment has been generated that places its inhabitants in a physical reality unlike any city in the Western world. Among the obvious visible differences, unprecedented built density, the proliferation of new technologies and a community of long-distance commuters, there exists a hidden dimension. This dimension gives organised form to a city that frequently is interpreted as having ‘labyrinthian clarity’, or a ‘local order within a chaotic whole’. This hidden dimension is based in the cognitive, spatial perception and emotional activity of its inhabitants. The geographical and historical facts of Tokyo and the region explored in this chapter help illuminate many of the ideas originating from my experiences.

44 Kural, p. 78.
Cognitive Mapping

As I sat on my hotel bed that evening, surrounded by the contents of my bag, going through every pocket twice, the unbelievable fact remained – my rail pass was lost.

I had arrived in Tokyo three days earlier, and had planned to begin using the pass the next morning. I remembered as I had filled out my contact details that the woman at the ticket office of Tokyo Station explicitly pointed out that if this pass was lost or stolen no refund would be given. Knowing the huge savings I had received by buying it before I arrived in Japan, a cloud of devastation came over me as the realisation set in: come tomorrow morning, I’d be buying tickets for over 800 kilometres of travel.

At 9:00 a.m., tapping my credit card to the announcements of trains departing, the ticket agent, through the perforated Perspex, circled the printed disclaimer verifying that no verbal coaxing or proof of purchase could replace the pass. Aware of my pathetic attempt at finding some consolatory gesture, the agent finally gave away that a full refund would be given only if the pass was found.

With fresh tickets, a sizeable debt and a faint optimism that I may find my rail pass, I arrived in the northern city of Sendai. That afternoon I received a call on the mobile phone I had rented. Through my poor knowledge of Japanese, a police officer from a koban (police box) in a central ward (suburb) of Tokyo, notified me that my pass had been found. Unable to understand all the details of our conversation, such as the time I’d be able to pick it up, most of the information was lost on me. My Japanese is never as good as I think it is.
So I telephoned an acquaintance, Hisako, and explained the situation. She then called the koban to confirm my information. Ringing back a few minutes later, she reiterated the details adding the part I’d obviously missed: the koban would close at 5:00 p.m., which was in an hour, and would remain closed for the next few days. There would be no way I’d get back in time, as I was standing on a street corner in another city two hours away.
Understanding my dilemma, Hisako offered to pick up the pass as her office was just one station down from the koban. But before I apprehensively agreed, she made one more call.

Having begun walking back to the train station, Hisako rang again. She could be at the koban in ten minutes. The only thing was the police needed a letter giving her authorisation to pick up the pass on my behalf. Now, I thought to myself, how can I possibly get a letter to her in less than an hour? Before I could finish airing my exacerbation over the impossibility of the police’s request, she reminded me of the konbini, the convenient store: ‘Fax the letter to me, it will do!’ Still in the direction of the train station, with pen and paper in hand, I composed a letter. In minutes, I came upon a konbini: I faxed, received confirmation, paid and resumed walking to the train station without missing a step.

That evening at Tokyo Station, Hisako met me with pass in hand. After getting the full refund from all the tickets purchased earlier that day, I commented on how lucky I had been to get the pass back and how much I appreciated everything she had done. She replied that it had been no trouble. She was happy to have helped. As we exchanged bows, she paused and said, ‘The Japanese temperament makes many aspects of Tokyo livable’.

fig. 07
The distance between Tokyo Station and Sendai Station (to the north along the coast) is 325.4 kilometre
illustration: F. D. Leung
Whether Hisako was insinuating that the Japanese people, through their zealous consideration for others, attempt to
make up for the obvious discomforts faced in Tokyo, or that they have created the mental capacity for coping with their
environment, or a combination of both, either way this unfortunate situation forced me to envision and mobilise myself and
others in ways that my former residence, the western United States, had not permitted. This episode represented a
utilising and arranging of people in a ‘just-in-time’ execution. The familiarity of Tokyo and other Japanese cities, the
availability of public faxes, the use of mobile phones, spatial knowledge of the region, an understanding of time allotment
for carrying out certain tasks and already established relationships resulted in the return of my rail pass. More importantly,
however, this episode represented something that went beyond the usual coping mechanisms one uses to resolve a
problem. It revealed an expediency in mental processing, a kind of ‘thinking-on-one’s-feet’, that redefined the notion of
multi-tasking. This had been clearly augmented by the mobile phone and fax machine. Yet had I simply been fortunate at
that moment? Or was the aid given by these devices, and by my acquaintance, the reason why this situation was
resolved? Either way, the setting of Sendai and Tokyo represented environments where technology, service-oriented
infrastructure, and a social condition assisted me in creating a pattern of efficiency from the incongruent tasks and the
gerorous actions of others. This mirrored a cognitive order or mental mapping that penetrated the visual cacophony of
Japan’s built environments. Could this have been the temperament Hisako was speaking of?

I was experiencing the cognitive ordering that results from living under a specific infrastructure existing in Tokyo and its
surrounding cities and most specifically three sectors within Tokyo’s urban environment: the ‘electronic networks’ of
telecommunications and computing, the public rail transport and urban design. These infrastructures parallel
characteristics of a specific mental processing. Described as cognitive mapping by Roger M. Downs and David Stea in
Maps in Minds: Reflections on Cognitive Mapping (1977), it is the mental organising of the environment that is
represented as an abstraction of space and time. Inseparably linked to place, it allows for the mental process of choice,
and ensures the most convenient option is taken before the destination is committed. Integrated System Digital Networks
(ISDN) have opened up a digital revolution enabled by the merging of three previously separate industries,
telecommunications, electronics (including the electronic media) and computing. This integration, known as information
technology (IT), has come about due to the ‘power of computers to store, manipulate and transmit information in the form
of speech, data and video more compactly, more cheaply and at greater speed than ever before’. The technological
devices and their networks that collapse space and time and maintain decentralisation, which have integrated themselves
into the plethora of external options of time maximisation echo and influence the mental processes of cognitive mapping in
Japan.

The scientific investigation, which began in the mid 20th century, into cognitive mapping, a theory born from psychology,
coincided with changes that swept through western cities of the United States. Ushering in a new urban form, this period
saw the expansion of freeways, suburbs and automobile use in ways unimaginable before World War II. A new spatial
organisation, represented in track housing, light industry parks and elevated freeways brought with it two
comprehensions of space. One was conceived in decentralised city forms, and the other in personal mobility that was
characterised in the speed, efficiency and independence offered to the automobile driver. This dramatically affected the
way people lived, played and worked in cities. It also brought about new areas of research in psychology and sociology.
Whether these changes to the built environment were directly responsible for the upsurge of interest in the spatial and
temporal comprehensions in the brain is not yet known. However, this assertion does allow for a parallel rationale to be
suggested that by placing of oneself in a new physical environment one encounters and builds a new set of mental
activities.

45 I lived in the state of New Mexico from 1974 to 1995.
48 Track housing is a term used in the housing industry in the United States to describe developers who duplicate the same floor plan in a
subdivision.
Yet, in built environments where traditional, classical organisational patterns (for example, the grid city plan, do not exist), an understanding still resides with its inhabitants. The clear communication of all environments, including those in Japan, rely more on the occupants’ continuous environmental conditioning than any considered formal organisation of urban design. Although the physical, operative approach of using maps as well as signage aids multi-variant movement, it is the cognitive exercise of the learned individual that reveals a hidden order; a clarity that resides in the mind of the beholder rather than the rendering in words and icons. While an environment is read clearly by one person, another may find it bewildering. This paradigm perplexed Roland Barthes during his armchair tour of Japan, discussed in Empire of Signs (1970). It led him to focus on the drawn navigation instructions of his hosts and ponder the experiential knowledge of the resident.

As active experiences are put to memory, mental maps are kept as references for future actions. These cognitive maps not only reveal patterns of navigation, but also reveal an ability to mentally play out a number of different scenarios before actually physically committing to a direction of movement. Based on the transference of previous environmental experiences into future experiences of assumed or known similarity, the pre-navigation or planning can create alternative, and possibly more expedient, paths of movements. For example, learn that a sequential numbering system is mirrored on parallel streets in a grid city layout, and any newly visited city with its streets set in a similar pattern becomes quickly discernable. If your destination is on the next street up, however, you’re numerically further down from the address. By travelling along a parallel street and crossing perpendicularly within a block of reaching the address, navigation becomes discriminative.

Essentially, the active personal experience in a city defines one’s knowledge of place. The more varied the experiences an individual has in different cities, the more they trust patterns and are able to apply them to new surroundings. Ultimately, cognitive mapping assembles isolated areas of the actual physical environment into temporal representations, and gives forth a context for narratives of rehearsed future actions. It is the telecommunication and computing devices that continue to reassemble those cognitive maps.

Although I had recognised the different temporal ordering in my surroundings, aided by the multitude of electronic devices, it was not until I encountered Tanizaki Jun’ichiro’s description of using a lacquerware bowl that I became conscious of another inflection in spatial and temporal occupancy. As new technology is integrated into our day-to-day lives, its initial ingenuity easily dissolves into everyday expectations. This poses the question: do moments exist in which we are reminded of the extent to which we have built our expectations for continual technological advancements? In Japan, the dichotomy between realms of existence appear heightened by the juxtaposition of the past and the future, and bring to the foreground those things overlooked in the process of innovation. The opening lines to Tanizaki’s vignette on lacquerware introduce a particular spatial ‘beauty’ in a moment between two actions. ‘With lacquerware there is a beauty in that moment between removing the lid and lifting the bowl to the mouth…’

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50 Barthes, pp. 33-37.
51 Tanizaki, p. 15.
As part of Tanizaki’s wider treatise on the nature of shadowy space in Japanese vernacular architecture, the lacquerware bowl acts as an object for abstracting space and time. Its dark recesses imbue spatial depth and temporal length, and relies on the imagination to place interaction with the bowl out of sequence with normal activity. As a momentary detour of heightened sensory consciousness, Tanizaki’s notions of spatial beauty bring the reader to an unexpected episode in what is otherwise a fleeting moment of habitual activity. More importantly, however, the lacquerware bowl introduces an anomaly in the cognition of an activity, and suggests sensory devices other than shadows may cause deviance in the here and now. Located between and during other actions, moments of physical spatial and temporal abstraction such as receiving a call as you board a train, joining a Internet chat room with friends halfway around the world, locating the quickest driving route on a Global Positioning System (GPS), exceed even Tanizaki’s imagination.

Telecommunications and computing devices allow us experiences that alter our perception and no longer astonish us. Where dark recesses slowed space and time between two actions, the mobile phone and computer completely eliminates the distance of space and time. If we are to take Tanizaki’s notion of spatial beauty, inferring beyond a cognitive abstraction of expansion to one of compression, the way we work, play and live has not only changed but has also altered the way we approach those activities, and inadvertently echoes the speed, simultaneity and interconnectedness of electronic networks. One no longer has to rely solely on the imagination to experience abstracts of space and time; rather, these abstractions become mere negotiated options in work and communication. This leads one to ponder more pertinent parlous negotiations of spilling soup – ‘between removing the lid and lifting the bowl to the mouth’ – on the mobile telephone receiver that dangles during a hands-free mode conversation.

In the opening narrative to this section I described the not-so-unusual episode of finding oneself organising multiple tasks in multiple places, being simultaneously ‘here’ and mentally ‘elsewhere’, is the result of the convergence of telecommunication and computers into affordable consumer goods. The accessibility to these new devices is creating other noteworthy scenarios of organisation among individuals in various places. Joel Garreau in the Washington Post (cited in The Age), discusses a new age of spontaneous political rallying brought about by the mobile phone. Quoting Howard Rheingold, Garreau sees this social shift as ‘amplifying human talents for co-operation’. The simultaneity of one-to-one or one-to-many points of interaction creates frequent opportunities of being in multiple places at once. This cooperation gives new meaning to the mechanisms of logistics. With wireless technology creating less dependence on landline infrastructures, the centralised activities of home and work have become ever more decentralised. This condition is neither new nor unique to Tokyo. However, what is unusual is how Tokyo residents respond. Be it through wireless technology, the multi-tasking portable media devices or through architecture, such as the konbini or capsule hotel, these changes not only demonstrate how various commercial industries have responded to this urban condition, but how we think ourselves into a city.

These points relating to the notion of space and time collapsing will be explored further by examining Japan’s rapid train system, the konbini (convenience store) and the mobile phone’s integration into wireless internet services.

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The Train-Stretching Cities

In Japan, time and space collapse through the availability of many modes of public and private transportation. The most widely accessible mode of fast, efficient, land-based transport is the high-speed train. This commitment to bridging the physical distances between a great number of its population represents one of Japan’s most technologically sophisticated developments. Through the development of high-speed rail transport, although limited in reaching all areas of the country, creates multiple city corridors that dramatically change the way people understand and use cities. It is between the two points of boarding and departure that the collapsing of time and space, seen through the window of a moving train, is revealed by the blurring landscape.

The use of high speed trains, like those found in France, Italy and Germany have for decades collapsed notions of time and space into a continuum of movement between cities hundreds of kilometres apart. Reaching maximum speeds of 300 kmph, these rapid transit trains reveal logistical networks that have overcome land boundaries, population density and safety regulations to create an infrastructure where efficiency meets high-speed movement.

In Japan, this high-speed train system known as the Shinkansen, the bullet train, developed in the 1960s, was part of a major urban renewal scheme brought about by the staging of the Tokyo Olympics. Showcasing the achievements of the world’s top athletes, the Olympics also reintroduced the world to Japan and, through it, proposed Tokyo as a modern metropolis. As preparations for this event began, concerns over how the city would transport the thousands of visitors and participants to the various venues through its congested narrow streets propelled city officials to widen many of the streets, create elevated express routes, and add rail lines above and below ground. Besides the improvements to the transport infrastructure of Tokyo’s twenty-three wards, the government also had the daunting task of improving accessibility to the games for its Japanese residents. A portion of the Olympic budget was given to upgrade the public transportation routes feeding into Tokyo from outlying regions.

fig. 08
The 500 series, Nozomi, Shinkansen passing through Yurakucho Station, Tokyo, 1999.
photo: C. Kaltenbach

One of the most heavily travelled intercity corridors in the world, the Tokaido line was the obvious choice. Linking the other two most populated cities, Osaka and Nagoya, a third of the total funds borrowed for the Olympics were put forward for the upgrade. The most sensible choice in terms of benefiting the largest number of the population, it also ensured the quickest monetary return. Running on an east-west axis from Tokyo, the Tokaido line follows the southern shores of Honshu, the main island of Japan, and curves north through Nagoya and returns south again through Kyoto to Osaka. Before the Olympics this stretched ‘S’ route covered a little over 560 km and it took seven hours to travel between Osaka and Tokyo. When the new line was completed, it had decreased railage by almost 515 km, and stopped at fewer stations. The trip had shortened to just under four hours. Reaching maximum speeds of 210 kmph the new Tokaido line, devoid of guarded crossings, received a new right of way exclusively for passenger traffic. It allowed people in the Kansai region, Western Honshu, to travel to any one of the sporting events in Tokyo and return home before evening. This was to be the event that proved to the world that Japan had come into its own, having a public transport service that rivalled Europe in speed and efficiency, and demonstrated the extraordinary organisational and technical skills that have become synonymous with Japanese technology.

With this train line and others that shoot out from Tokyo in multiple trajectories, changes in the Japanese perception of space were dramatically altered. The linking of Osaka, Nagoya and Tokyo, the three major urban centres, into one continuum of space, inevitably was given its own name. It become conceptually more manageable and cognitively easier to negotiate. Just as urbanist Jean Gottmann coined the term ‘megalopolis’ in 1961 to describe the vast urban corridor between New York and Washington DC, an area that spanned more than 230 km and encompassed residential, commercial and heavy manufacturing, so the Japanese have ‘konjuka’. Translated as ‘fields, factories and workshops’ it expresses a similar amalgamation between multiple regions. It reiterates how the Shinkansen has not only collapsed notions of space and time physically but conceptually as well.

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Companies used to have giant warehouses stocked with material goods. Now, electronic scanners at the point of sale transmit instant up-to-the-moment information on reorders to suppliers, who then manufacture the products in hours and days and deliver them directly to the retailers, bypassing the warehouses altogether.

Rifkin, p. 33
Illustration: C. Kaltenbach

Konbini

As the Shinkansen collapses time and space between two points, the konbini, convenience store, accomplishes this from a central, stationary locale. Rather than depending on the infrastructure moving you to get you where you need to be, to get what you want, the konbini has an infrastructure in place that delivers and dispatches from a central point near your home, office or main public transport departure and arrival point. Clustered around train station complexes, residential neighbourhoods and business districts, the 24 hour, 7 day a week, konbini resembles the Western form of the convenience store in all of its physical manifestation, cool neon illuminates narrow shelves of food, household and a variety of other types of ‘in transit’ merchandise. Apart from the obvious differences in text signage, close observation of the type of products available leads to the realisation that the convenience store in Tokyo is a very different franchised retail outlet to those experienced in the Australia or US.
The Sony Corporation’s Walkman, personal cassette player, of 1979 may have revolutionised the access to private music anytime anywhere, but it is the konbini that maintains the Walkman’s and other portable entertainment, communication and recording devices. On the shelves, toilet paper, milk and candy, earphones, mini-digital video cassettes and miniturised coin lockers for charging mobile phones sit side by side. It reminds you that you are not only moving through a culture that is consistently in transit, but also a retail store that, too, is in a constant state of visible and invisible flux.

As the pedestrian’s shopping habits are meticulously monitored, an electronic total production, distribution and sales management system is operating in the shadow of omni-present foodstuff and household products. The only indication of the store’s efficient physical distribution network and state-of-the-art information system is stocked shelves and the quick pace by which people enter and leave. However, beyond the rice balls, beer and blank mini discs, a wide range of real and virtual services can be found. These small retail stores have not only changed the way people shop, but also how people use their services in relation to the city.

For almost 30 years the convenience store has echoed and enhanced the developments in efficient consumer technology. Due to the general characteristics of density that typically define Tokyo – narrow roads, limited floor space and a large population density – the average convenience store, including sales floor and storage area, covers no more than thirty square metres. State-of-the-art information technology to manage the complex logistical issues of this urban environment has been the key to its survival. Employing a point-of-sale (POS) system, commodity and customer information is monitored and tracked via ISDN or satellite communication. Information from the retailer’s scanner, such as when an item was sold, at what price and at what time, even the customer’s age group, is carefully monitored. Assisting with the incredible influx of goods and services, technology originally introduced by Procter and Gamble keeps high-volume items stocked twenty-four hours, seven days a week, and the POS system inexpensively exercises item-by-item control. In addition delivery trucks are installed with GPS systems that allow inventory to be tracked in real time through the various stages of evenly controlled temperatures. Ultimately, the entire streamlining of a multiplicity of products in small lots affects everything from stockroom space and inventory tracking to replenishment.

Functioning as a loop in a long chain of product movement, the konbini has taken advantage of its store’s ability to move and distribute its products. This has opened other forms of shopping. Fitted with small multimedia kiosks, a touch panel display allows customers to scan products and purchase airline and concert tickets, as well as vacation tours. In addition, Internet sites, multimedia stations and mobile phone web access to the real world of the store. The konbini has created a network of synergies with other companies that go beyond the original 24 hour 7 day concept of the stand-alone store. It becomes a distribution nexus in real time that offers anywhere shopping.

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For the customer, the konbini is a welcome sight in the city. It accepts payment for gas, electric, phone and television charges. Its role as a service centre for the pedestrian extends to offering phone charging lockers, photocopiers and fax machines. Every type of service seems possible within its small confines. It is an example of Japan’s relentless implementation of convergent technology. This means additional technology that increases sales, brings ease to the customer, and makes companies operate more efficient, is eagerly welcomed. The konbini not only represents a re-appropriation of an efficient logistical system based on IT, but as Tomomi Ashikawa, in charge of public relations for Lawson Co., another chain of convenience stores, states, ‘[They] offer services that match the Japanese people’s lifestyle.’\(^{61}\) The collapsing of time and space with use of efficient consumer technology creates a condition of efficient customer performance with one encouraging the other. The daily lives of Japanese represent not only the influences of electronic networks, but the constantly changing nature of life in Tokyo’s metropolis.

As the Shinkansen created efficient, fast and convenient logistical transport operation that negotiated issues of safety, city borders and a consistent infrastructure over multiple locations, so too does the small franchised convenience store overcome particular logistical issues. In a similar mental amalgamation to that of the ‘konjuka’, the amalgamation of wireless-based information technology and service packed ease has encapsulated itself in thousands of mini-service and self-serve stations. The rapid-speed train physically moves its customers as the konbini sends and transmits goods, money and information throughout Japan.

The konbini sends what you need to deliver from a central point near your home, office or main public transport departure and arrival point, while the Shinkansen collapses time and space by moving you to get you where you need to be to get what you want. Both exemplify how the urban condition of Tokyo maintains and encourages its inhabitants in a continuous decentralised state of movement. However, another hybrid to this notion of an environment that collapses time and space is the multiple use of the mobile phone and an instance when it converged with architecture.

Phone Quiz for Flights

Among the many manifestations of the synergy between new technologies and the built environment of Tokyo, the mobile phone has compressed time and space unlike any other publicly used infrastructure. The bullet train, Shinkansen, speeds up time between locations in contrast to the konbinis that maintain a consistent and rapid flow of product/information and services based at one central location. However, the mobile phone has truly created the simultaneity of being here and there by collapsing time and space to one place by projecting to another. In combining the cell phone, hand-held computer and wireless technology into one device, the implementation of a promotional campaign quiz by Virgin Atlantic Airways revealed a new paradigm of information technology in the built environment.

Like the elevated billboards that advertise phone-in give-a-ways that line outward- and inward-bound freeways in the United States, the architecture firm of Klein Dytham addresses both the condition of pedestrian flux and a built environment of consistent rejuvenation. Converting what normally is a make-shift temporary partition for a site under construction into a ground level billboard, Klein Dytham designed an interactive media board for Virgin Atlantic Airways.

In the winter of 2000, British architects Astrid Klein and Mark Dytham were commissioned to design a campaign phone-in give-a-way billboard to advertise Virgin’s new non-stop services to London. Designated for a high retail district of Tokyo, the signature acrylic red of Virgin Airlines was painted as backdrop to the static information of the campaign rules and guidelines and combined with a 20-metre long light-emitting diode (LED) ticker-tape display. Like the elevated billboards that advertise phone-in give-a-ways that line outward- and inward-bound freeways in the United States, it addressed the condition of pedestrian flux and a built environment of consistent rejuvenation, as a make-shift temporary partition for a site under construction into a ground level billboard, was converted into an interactive media board for Virgin Atlantic Airways. As each hour passed, a different general knowledge question scrolled along in Japanese script. Passing pedestrians could take part by logging onto the campaign website through their mobile phones and submit their answer. As the pedestrian went about their business, every hour, all correct entries that had been drawn were eligible for that day’s prize or one of the monthly pool of prizes, which included round-trip flights from Tokyo to London. After each hour, entrants’ mobile phones automatically received an email notifying them if they had answered the question correctly and whether or not they had won a prize.

fig.13
The ubiquitous connectivity of mobile phone networks.
illustration: C. Kaltenbach

Unencumbered by the mobile phone and invisible network running the billboard campaign, one’s involvement was neither dependent on being stationary for any length of time or needing other devices, such as an entry application, pencil, stamp or exterior infrastructure such as the postal service. For an individual to take part in the campaign, they only had to see the board for the general knowledge question, submit their answer via the mobile phone Internet site, and the phone at some later point would receive a message.

Behind this project is the wireless Internet service made available through one of the leading mobile phone companies in Japan. In the spring of 1999, telecom giant and industry leader Nippon Telegraph and Telephone (NTT) DoCoMo (which translates as ‘everywhere’) developed an affordable user-friendly access to the web. It was offered under the name ‘i-mode’ (i = information). In August 2001, 25 million subscribers signed on, one-fifth of Japan’s population. It is a proprietary service that is specifically designed for Japanese users that offers i-mode customers free access to websites and has no extra subscription fee. As Takamatsu Hiro, chairman of DoCoMo has stated:

Customers get headlines from Bloomberg or Nikkei or the People’s Daily. You can take a virtual tour of the Universal Studios theme park in Osaka. You can access city guides to places like Tokyo, Kyoto and Kobe. Check your bank accounts and transfer funds. Make hotel and flight reservations, sometimes at a big discount. Look for a job, an apartment, and a car. Buy and sell stocks. Check the weather.

This demonstrates further how Tokyo is an extension of the multi-tasking experience of the office or home – shopping, telephoning, emailing, even wining free flights to London, all while in a state of continuous motion. The human capacity for perception and thought are highly attuned in the environment of Tokyo.

64 Rose, p. 33.
Summary

This section, Cognitive Integrated Systems Digital Network, examined how Tokyo’s built environment is mentally organized, and reflects on many of the time-saving efficiencies found in the services offered to its residents. It argues that from the Shinkansen to the konbini and finally a trivia game/advertising wall, logistical supremacy creates a hidden order to the surface chaos of Tokyo. This order is reflected in the mental spatial organisational patterns separating visitor and resident. ISDN has opened up a digital revolution enabling telecommunications, electronics and computing to merge. However, through the integration of information technology into the built environment such as the konbini, Klein Dytham’s Virgin Atlantic Airways billboard and the mobile phone, new hybrids will continue to be apparent if not registered consciously in Tokyo’s built environment. This leaves Tokyo’s pedestrians to function, negotiate and plan using a set of spatial and temporal parameters in a built environment of continuous revision.
The Japanese, whose society has long been characterized by a fairly high population density compared with many other societies, must have been impressed with space as something finite and dense, and in consequence early developed a delicate sensibility with which to distinguish relative distance within a limited space.  

Deciphering the Soup from the Trees: Defining an Optical Depth

Trees that clutter up space from one viewpoint are, from another, the means by which a special awareness of space is created, for the trees stand one behind the other as far as the eyes can see, and they encourage the mind to extrapolate to infinity.

This description of a forest by spatial anthropologist Yi-Fun Tuan introduces an optical spatial understanding found in Japan. It is predicated not on pastoral notions of the tree but rather the dense proximity of their placement. As in the density of a tree-filled forest, for centuries Tokyo has been a densely inhabited city. During the rule of the Tokugawa Shogunate in the early 18th century, when official census taking began, Edo’s population was approximately 1.3 million. Covering between 63 to 70 square kilometres, central Edo was divided into specified socio-economic zones. These included: an area for the warrior class, another for temples, shrines and surrounding communities, a zone for commoner townships, and a small portion set aside as open space.

Maki, Fumihiko. ‘The city and inner space’. Japan Echo, 6(1), 1979, p. 93.
Tuan, Yi-Fu. Space and Place; The Perspective of Experience. Minneapolis, University of Minnesota Press, 1977, p. 56.
By 1725, the zone allotted for commoner townships, which made up only 12.5 percent of the entire area of Edo, reached critical mass. In an area about one-tenth the size of the whole city, 600,000 people crammed into its single- and double-storied, timber-rowed dwellings. This was a population density of around 70,000 people per square kilometre. At the same time, the zone allotted for the warrior class, which had one-fifth of the population density, and the area for temples and shrines had a third of the population to that of the warrior class at less than 5,000 residents per square kilometre. Therefore, the average Edoko (the name given to those living in the townships of Edo) would have managed regardless of space limitations and hence would have developed a specific optical spatiality.  

Although the existence of zones can still be found in present day Tokyo, they are no longer demarcated on strict socio-economic boundaries but rather by virtue of wards or districts know as ‘ku’. The largest population per square kilometre in the 23 central wards of Tokyo is Nakano-ku, located in the western section of the city. Based on 1995 Population Census Report, Nakano-ku has a population density of 195,000 people per square kilometre. At almost one-quarter the size of the commoner township zone of 1725 and brimming with a built density, it is hard to image this density existing. Although Tokyo has changed in its height and population dispersion since that time, it continues to retain a critical mass of assiduous decorum. In an area of 1,055 square kilometres a population of 12 million surge through its wards and cities where long hours are worked, local karaoke bars belt out anthems and intimate moments are shared. This social environment maintains similar spatial sensibilities to those experienced by inhabitants two and half centuries ago.

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67 Akira, Naitoo. ‘Planning and development of early Edo’ Japan Echo, XIV (Special Issue), 1987, p. 38.
One’s understanding of spatial depth is generally linked to the physical parameters set by the natural and built environment. I argue that within Tokyo’s built environment, the space between oneself and the physical surroundings is more accentuated by the sheer lack of space. In contemporary Tokyo, the eye continues to develop an acute sense for recognising spatial depth as did the Japanese two and three hundred years ago. This is supported by Fumihiko Maki who suggests that inhabitants of Edo:

must have been impressed with space as something finite and dense, and in consequence early developed a delicate sensibility with which to distinguish relative distance within a limited space. 69

As space is generally more foreshortened in Tokyo’s milieu than the space one occupies in Australia or the western United States, those buildings or objects that block or hinder one’s view tend to preoccupy our attention. Yet imagine adjusting your focus to the actual space between yourself and the visual obstacles rather than the markers of your sight line. Gauging the relative distance or even the altered visual space made by the obstacle when not completely opaque, what one sees, as the obstacle is being looked upon or through, impacts on the perceptual experience relating to structural form, physical mass and atmospheric effects of visual foreshortening. Similarly, it impacts on what materials are used, how space is organized and how form is structured. This defines the parameters from which spatial optics are set and, in this case, a Mediated Space.

This spatial experience forms the second key point of exploration in this thesis: the existence of a Mediated Space in Tokyo’s built environment. The notion of a Mediated Space is defined by two experiences. The first is in the existence of a space drawn into density. It is observable, for example, in Japan’s vernacular architecture, where the interior to the 17th century Tea Pavilion in the Imperial Katsura-Villa of Kyoto 70 exemplifies not only layering of contained space, but also an unveiling spatial depth. The spaces inside the Tea Pavilion are made up of adjoining rooms from which depth is understood. Lightly partitioned by the fusuma, sliding paper doors, the body is prevented from penetrating the density of the interiority of the building, yet the eye is drawn in. The second experience of Mediated Space is located in the notion of a density that extends space, a medium to create perceptual depth. This is seen in the facade of Jun Aokis’ Louis Vuitton boutique in Tokyo’s Ginza district. Employing a double-glazed glass wall that is screen-printed with an offset checkerboard pattern, the exterior becomes a light partition of optical illusion. Here, movement and an ever-expanding space of the glass exterior allow the eye to transcend the membrane into an illusionistic depth. Both of these spatial forms strive to generate a perceptual experience of limitless depth in finite space.

69 Maki, p. 93.
One does not have to look solely at constructions in the built environment to locate parallel definitions of perceptual space between illusionistic partitions. American choreographer Merce Cunningham’s insight into the differences between performing in front of a camera and an audience, is described as ‘space seen by the camera differs from that seen by the spectator in a theatre: a triangle that widens from the camera aperture as opposed to a rectangle that narrows’. The notion of Mediated Space is similar to the spatial perception principles used by Cunningham. Where the stage proscenium frame and the camera lens are the membranes from which one moves into or out of, the density of Japan’s built environment functions on similar principles. These spatial understandings centre on a persistent physical or atmospheric density or rather a persistent foreground, which becomes the medium, the Mediated Space, from which one visually moves towards or away from. As Yi-Fun Tuan put it, ‘encouraging the mind to extrapolate to infinity’. Both Tuan and Tanizaki’s vignette’s indirectly introduce us to the two experiences of Mediated Space.

The vignette on the cluttered effects of a forest by Yi-Fu Tuan can be said to articulate the first principle of Mediated Space — the existence of a space that draws one into its density, and the second, a density that extends space. The lacquerware bowl experience described by Jun’ichiro Tanizaki, exemplifies these principles as well:

> when one gazes at the still, silent liquid in the dark depths of the bowl, its colour hardly differing from the bowl itself. What lies within the darkness one cannot distinguish, but the palm senses the gentle movements of the liquid, vapor rises from within forming droplets on the rim, and the fragrance carried upon the vapor…

Tanizaki, like Tuan resting his eyes on the edge of a liquefied forest, senses the soft collapsing of spatial depth. However, where Tuan’s description of a compressed visual field of limitless depth relies on the long, vertical, repetitive forms of trees in a large area to draw one into the space, Tanizaki’s lacquerware bowl experience, an inner space no deeper than the palm of a cupped hand, foreshortens and expands distance between the translucent property of the clear soup and the flat black of the bowl. This is a Mediated Space, a medium, which creates perceptual depth. However, the perceptual depth may not be experienced solely with the eyes. Between an overriding foreground and the atmospheric properties of hot liquid and lacquer, Tanizaki’s employment of tactile, olfactory and auditory senses reaffirms his eyes’ inability to establish complete equilibrium. This allows the reader to viscerally understand the visual response without knowledge of the subject.

Both Tuan’s and Tanizaki’s allegories demonstrate how the atmospheric effects of colour, tone, patterning, movement and heat are responsible for generating a sense of boundless space in close visual proximity to their respective environments. These examples relate as much to what one sees with one’s eyes as what one must trust with one’s senses and inevitably one’s mind. Tuan’s and Tanizaki’s allegories, as they represent both experiences of Mediated Space, complete the notion of a personal spatial perception in the density of Tokyo’s built forms. I will draw from not only my personal experience but also from Japanese observers who have identified a latent awareness of optical spatial depth in the collective unconscious of Japan. Furthermore, in this chapter, I will explore the existence of a space drawn into density and a density that extends space.

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The Inner Most Area: Space Drawn into Density

With the last remaining breaths drawing the Metabolist movement in the Okinawa Marine Expo of 1975 to an end, Japanese architects and a group of researchers, put forward a treatise for a new understanding of architecture and urban design in Japan. Fumihiko Maki makes reference to a report titled *The Quality of Place and Its Specifically Japanese Features* (1978), in an essay published in *Japan Echo*, that articulates the existence of a specific spatial quality in the vernacular of Japan’s built environment. The essay from that report ‘The city and inner space’, incorporates a number of passages that define a multi-layered nature of space that support the first example of Mediated Space. This essay demonstrates the notion of comprehending a space that is drawn into density.

Maki predicates his argument not on trans-continental movements, as Metabolism had done with Britain’s Archigram but rather an ethnological history of Japan’s spatial anthropology. Maki’s rationale is rooted in identifying mnemonic cultural meaning through the built environment, a genealogy of spatial attitude dating back to the centuries that straddle the dawn of the Christianity, the Yayoi period of c. 200 B.C.– c. 250 A.D.  

Maki establishes a latent spatial attitude grounded in the concept of ‘oku’, referring to an innermost area. He uses abstract notions of depth within compressed spaces as they relate to mental conceptions, spiritual digressions and concrete manifestations in built form and are present in other concepts based on the root word ‘oku’; ‘oku-yuki’, or spatial depth, ‘signifying relative distance within a given space’ and ‘oku-sei’, or inwardness, ‘the concept of centrifugal center.’, Maki states,

‘Inner space is the mental touchstone for those who observe or produce it. In this sense inner space can be called the invisible center, or more precisely, a convenience devised to take the place of the center in a spiritual climate that denies any absolute, including the notion of center. The center in this sense can be freely set by anyone concerned and need not be explicit to others. The characteristic Japanese pattern of a multi-layered structuring of space should also be seen as having been gradually fostered by this kind of perception.’

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72 Tanizaki, p.15.
73 A group made up of architects: Kiyonori Kikutake, Kisho/Noriaki Kurokawa and critic Noboru Kawazoe dedicated to constructing cities within cities, mega structures so fluid and free that they would encompass shopping, housing, entertainment and public transportation facilities all under one large form. Even more importantly, these mega structure shells would be able to reconfigure themselves based on any new demands placed on them from technological developments and, even more importantly, demands placed on them by an ever-changing global market, see Robin Boyd, *New Directions in Japanese Architecture*, Studio Vista, London, 1968.
75 Maki, p. 94.
76 Maki, p. 93.
77 Maki, p. 92.
78 Maki, p. 96.
As a space that draws one into a density or rather, in this instance, an interior, the combining of notions of ‘inner space’ and ‘centre’ creates a spatial conundrum. To articulate a centre one must identify the space in question, and the parameters that define its centre. A centre also does not necessarily constitute a space but rather a concentrated point. On the other hand, inner space suggests a space in an interior, which may have undefined parameters and may not occupy a centre at all. Ultimately this allows, as Maki states, for the centre to ‘be freely set by anyone’. This abstraction to an interior centre may be seen as a direct result of obstructed visual space and, consequently, a source for unusual wonder. Describing a visit to a traditional merchant’s town house, a ‘machiya’, Maki is amazed by its vernacular architecture:

Light entered from the road, which ran parallel to the vestibule through which I had entered. This section of the house was used for receiving guests. Behind this room was a second 4.5-mat room combining the functions of kitchen and bedroom. I was amazed at the complexity of orientation and density of floor space of less than 8 tsubo [about 26 sq.m.]... accentuated this complexity and strengthened the feeling of inwardness and depth.  

Based on whether one space has been opened onto another by the fusuma, the interior space maybe configured in a multitude of orientations. Hence, the centrality of space consistently altered is based on the accretion of space or subtraction. This does not solely lie in the inhabitant’s home but can be seen in traditional inns such as the ryokan or minshiku.

Maki makes reference to the Japanese painter and essayist Eiji Usami as having written one of the earliest essays in the discovery of the existence of ‘oku’ and sheds further light on the notion of an inwardness set by an individual. Referring to Usami’s essay *Meiro no oku (The Inner Labyrinth)* Maki tells us that through Usami’s investigation of Japanese-style inns, presumably ryokans, the winding effects of its corridors lays claim to the Japanese propensity for labyrinths:

Usami speculates that this complex division of space not only results from the gradual accretion of extra rooms and extensions or from architectural considerations necessitated by topography and landscape and also conforms to and reflects…a propensity for labyrinths.  

Maki then quotes Usami:

[Is it that the changed aspect presented by every turn and the slight irregularity in the rhythm of our footfalls in going up and down stairs gradually lures our minds from reality toward illusion? Does not this sense of distance signify how far we have strayed into the world of fantasy?]

Whether or not the interior world of Japanese inns, ryokans, generates the feeling of a world of fantasy is questionable, but what Usami confirms is that these labyrinthian interiors generate ‘abstract connotations, including profundity and unfathomability’. The general accretion of spaces in the interior of this building is synonymous with profound or deep conceptualisation. ‘Oku’ becomes a word that describes not only a physical but psychological depth. Material, form and structure, the sum total of buildings becomes those membranes from which a Mediated Space is perceptually negotiated in urban Tokyo.

79 Maki, p. 94.  
80 Maki, p. 93.  
81 Maki, p. 93.  
82 Maki, p. 93.
fig. 18
Interior detail of the escalator at Tokyo Station taking commuters from the top platform of the Chuo line down several floors to the central concourse of the ground floor. Are we experiencing Usami’s spatial shift from reality to illusion?
photo: C. Kaltenbach

Images have been removed due to copyright laws.

fig. 19
Could this room encourage Yi-Fu Tuan’s mind to extrapolate to infinity? Interior view of an apartment in Japan, from Universe for Rent, 2001, p. 5.
photo: unknown
Meiji Jingu

The notion of a density drawn into space is further exemplified in Maki’s assertion that oku, an innermost area, is horizontally spatial. This horizontality is illustrated in the labyrinthian characteristics of the ryokan and in the spatial arrangements of Shinto shrines and its surrounding area. Horizontal spatial depth is experienced at Meiji Jingu. A Shinto shrine located on one of Tokyo’s plateau ridges, it is one of the largest shrines in the country. Completed in 1920, it enshrines the Emperor Meiji (1867–1912) and his wife. Of all the Shinto shrines in Tokyo, Meiji Jingu has maintained, as Maki stated, an innermost space as an ultimate destination lacking a climactic quality. ‘[I]t is in the process of reaching the goal that drama and ritual are sought,...’ delineating both the pilgrimage one must make from the outer tori gate, to the base of the temple, but also the horizontality of space integral to the experience. The series of frames in the form of toris, perspectively narrows to the final steps of the area for prayer and offering. From the first to the second tori, to the steps leading into the opening and finally the dimly light interior, ‘[T]he Shinto shrine as the ultimate destination is an object to be seen, not a space to be entered’. When one is surrounded by Tokyo’s hyper urbanism, the journey along the gravelled path into the forested seclusion is all that more sublime and relevant to this notion of ‘inner space’.

Meiji Jingu was built on an axis. Maki’s essay suggests, this is similar to the pattern on which many traditional villages were built (see fig. 20). The village is joined with the tori, the shrine temple and an ‘oku-sha’ or inner shrine placed in the recesses of a mountain. Although no mountains encircle this area of Tokyo, the heavily forested surroundings function on a similar level to the natural surroundings in more mountainous regions. The axis or sando, is the approach road observable at the broad intersection Aoyama Avenue. This sando to Meiji Shrine begins at a point marked by two huge stone lanterns. The main approach road, known as Omote Sando, is the path leading to main edifice. This gave religious significance through orientation, as Maki states, ‘indicating the direction to the seat of deity’. This journey into an inner space takes on certain religious connotation, and adds a heightened awareness of being drawn in. This is still observable in other shrine complexes such as Senso-ji Jingu in Asakusa, which is located in Tokyo’s Shitamachi region.

fig. 20
Aerial view of Meiji Jingu.
From the Shinto:
Japan’s Spiritual Roots,
1980, p. 50.
photo: Diawa Kookuu Corporation
Online: Available at:
http://www.meijijingu.or.jp/
[accessed 15 October 2003]

fig. 21
Redrawn illustration from
Maki, p. 95.
illustration: F. D. Leung

83 Maki, p. 99.
84 Maki, p. 98.
Optical Spatiality: A Density that Extends Space

Fumihiko Maki’s essay not only discusses the existence of a space drawn into density but also alludes to the second form of Mediated Space, the notion of a density that extends space.

Maki describes, ‘Shrines deep in the mountains often disappear in a veil of mist, drawing pilgrims into a world of illusion and impermanence’. A modality of convergence between the atmospheric qualities of moisture and light with built form shifts the shrine from figure to ground, and causes it to disappear as a visual marker. The atmospheric qualities surrounding the shrine optically generate spatial depth void of ground. While the atmospheric effects of veils of mist exemplify Maki’s notion of oku, it reiterates my theory of an optical spatiality as in Tanizaki’s lacquerware episode. One’s senses are none-the-less raised to a heightened level of engagement with the environment; the lacquerware bowl filled with clear soup. Colour, light, materials, scale, tone, sound, kinesthetic, temperature and smell are the affected perceptions. This generates the sensation from which an experience is sensually understood, which then produces a meaning. Residing in the unexplainable, these atmospheric effects connect associative meaning with a mood.

When physical mediators such as walls, facades, doors and windows move beyond obtrusive or transparent functionality and are constructed from translucent or semi-opaque materials, the interaction between material layer and atmospheric elements create possibilities for a perceptual experience that extends depth. This is at the heart of Tanizaki’s spatial experiences.

Images have been removed due to copyright laws.

fig. 22

fig. 23

85 Maki, p. 98.
Ginza’s Limitless Space

As with all commercial buildings in Japan, signs either advertise their store’s name from the illumination of flat opaque color, or from the pulsating amplification of neon and incandescent lighting. Yet, on the northwest corner of the Japanese department store Matsuya, in one of Tokyo’s oldest shopping districts, Ginza, is a building whose exterior oscillates to a very different rhythm. The Louis Vuitton store is designed by Japanese architect Jun Aoki who treated its exterior with a spatial quality that addresses the perceptual condition of Tokyo and creates an inexplicable silent depth in glass.

This design drew reference from Aoki’s façade designs for the Louis Vuitton Store in Nagoya. Using a dual-paneled glass wall, screen printed with an offset checkerboard pattern, he envelops the outside of this building in a reverberating foreground. This optical space creates a type of motion by the movement of the eye, or optical motion. It is a movement that is present in any fixed arrangement of forms. It is a phenomenon of the transferability of movement. Both real motion and optical motion are transferred to a static object, as when a simple figure or shape placed against a busy or pulsating background will appear to move. Aoki’s exterior is the contemporary expression of Fumihiko Maki’s notions of okuyuki and maintains a historical lineage with regards to spatial perception. Unlike Tanizaki’s preoccupation with the hidden depths of shadows, Aoki responds to Tokyo’s present condition where, out of the darkness of night, the glow of the façade creates a depth of space unrivalled in contemporary Japanese buildings.

Aoki’s extraordinary effect juxtaposes two checkerboard patterns: one on the interior, the other on the exterior glass. By constructing a gap of 700mm between the two sheets and inserting lights hidden below the base of glass partitions, a ‘moiré’ effect, found in the optical effects of two sheets of silk, is generated. When viewed from across the street standing motionless on the corner of the intersection the pattern rests. However, as soon as the traffic lights change and one crosses, the entire surface of the building vibrates in syncopation with one’s movement.

Although one desires to immerse one’s entire body into the physical space through the facade, Aoki restricts the pedestrian by keeping the glass wall as a veil floating above the street. At just below chin level to the average Japanese, a sheet of black painted aluminium rises from the pavement and meets the glass façade at a level that is, as it were, an exact dictum to Tanizaki’s lacquerware. Aoki gives us the historical transgression from a depth in shadow to a depth in pattern.

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Summary

Mediated Space gives a particular understanding for the way space is used in Japan, from the development of its urban centres to the layout of vernacular dwellings. Atmospheric modelling, pervasive horizontality and the immense density of Tokyo’s built environment lie at the centre of perceptual realms of everyday life. This section, Mediated Space, examined two ideas of space stemming from Tokyo’s density. The first was space drawn into density, and second was density that extends into space. This was supported by Fumihiko Maki’s notion of ‘oku’, an inner space, and reflected in Jun’ichiro Tanizaki’s discussion on the shadowy moments of quiet reprieve, either through the physical progression through narrowed space or visually into the folds and surfaces of the built environment, the minds space expands.
‘A moment of mystery, it might almost be called, a moment of trance.’ 87

**Living in Movement**

>[A]s a surface of projection for consciousness or the unconsciousness, either as a mirror or as a mental image objectified in the randomness of matter… 88

In discussing vertical obstacles, walls, that separate realms of public and private behaviour, theorist Sandra Alveraz de Toledo alludes to the emotional impositions placed on other surfaces on which we gaze, from the ephemeral expressions of the individual’s face, to our reflection in a mirror, and to the windows, doors and walls that create openings and divisions of our built environment.

87 Tanizaki, p. 15.
This section discusses the notion of Anticipation to bridge an emotional imposition placed on Tokyo by the researcher with a decentralization perpetuated by the socio-economic condition of its city. Through the emotion of Anticipation this researcher is able to proximate a feeling that is generated by being transported through this foreign city by train. For it is in the interior of the train carriage, video recording (and subsequent use of the DRUS technique) the faces of foreign commuters that this emotion is represented. Furthermore, as Anticipation is linked to the experience of the train, a decentralised lifestyle epitomized by the expedient train network adds to this notion of Anticipation. The lack of emphasis on a central location of habitation, the ‘home’, caused by the decentralisation is inclusive of a historical condition of uncontrollable and planned obsolescence of its built environment. These connotational meanings of Anticipation has gained insight from the miniDV imagery and the experience of living in Tokyo.

The term Anticipation connotes an array of meanings and emotional states that can be said to fall under the act of foreseeing or dealing with something before it happens. For many, it generates a high emotional state of expecting, as in the feeling experienced just before arriving at one’s holiday retreat. In Jun’ichiro Tanizaki’s words, anticipation articulates an emotional resonance within a physical object as in the last three words from the lacquerware bowl passage ‘…brings delicate anticipation’. The result of a particular moment in the experience of drinking from a lacquerware bowl, Anticipation becomes associated with spatial beauty. A few lines later, this moment of beauty becomes enigmatically charged with descriptions of mystery and trance. While metaphysical nuances can be attributed to Tanizaki’s statement, they also could describe the emotional sensation of being transported by train through Tokyo’s built environment. Although the physical experience of the lacquerware bowl and the train are entirely different, the spatial and temporal perceptual experience (absence of background, limited visual space and the juxtaposition of static objects in relation to movement) are similar and, hence, impute similar abstract connotations.

As lifting the lacquerware bowl creates a sense of Anticipation for Tanizaki – the container’s effect on its contents – so a similar feeling is generated in the inter-city train of Tokyo. As context based on movement, speed and efficiency, the train brings legibility and a predictable pattern to an environment that was otherwise unfathomable. For this American from the western United States, used to traveling by car, Tokyo presented a daunting yet exciting navigational challenge that was not dictated by the automobile. The exuberance of Tokyo train travel was associated with living in a new environment, a feeling that did not wane over four years. As Ernest Hemmingway and the pre World War II American expatriate generation found Paris to be the hub of a cultural renaissance, Tokyo’s built environment had become, in my eyes, the equivalent, only I was taking in the entire city of Tokyo via the train system rather than just climbing Montmartre’s hilltop. It became the symbol of my fascination with the city and subsequently the feeling of ‘anticipation’.

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As I travelled the entire rail network watching people in the confines of an individual train carriage, the variety and prolonged activities undertaken by other passengers revealed intimate physical and psychological states, ‘a modality of being human’. In Tokyo, my observations of commuters made up for my inadequate understanding of the language. Relying on the facial expressions and gestures of the men, women and children to understand the meaning of their interactions, the narratives and affinities deciphered from my observations revealed more of my disposition and aspirations than any cultural insight I assumed I was making. The faces of others became a surface for mirroring my unconscious. Although I observed people sleeping, reading newspapers and gazing through me, the layered optimism of having an intimate confrontation with an entirely different society resulted in a feeling of anticipation. Having had the choice to live in Tokyo rather than the United States, my interpretation of this urban condition overshadowed many of the unpleasant realities that residents have had to bear since birth. The speed, timeliness, scale and logistical efficiency that melds into habitual repetitiveness of daily train commuting is, for any long-standing resident, an unavoidable fact of life deserving very little thought. However, the potency of its impact among Japanese designers still remains.

Japanese architect Toyo Ito observed in the late 1980s that the notions of home were becoming blurred. Attributing this to the increase in consumer culture and people’s mobility, Ito believed an inverse effect of decentralisation was being created. Describing the urban condition of school children, he states ‘(children) attend school far away and have to travel long distances, thus dividing their time between home, travel and school and not merely home and school’. For him, this was symptomatic of how home was mixing with other ‘concepts and relationships’. His implication was that travel/commuting, in terms of symbolic strength, is equivalent to home and school. Furthermore, the idea of home, as it is a mental construct, could very well reside outside the physical parameters of a dwelling. This assertion, supported by statistics from 1995, indicates children were not the only ones who were susceptible to this condition. Almost 40 percent of workers in Tokyo spent anywhere from two to three hours a day commuting, and 16.5 percent spent between three to four hours, and 4.8 percent spent over four hours a day on trains. With over half the working population commuting anywhere between two to five hours a day, this physical experience, equivalent to waiting, could be said to render itself equal, by default of time demanded, to the departure and destination points themselves. Leaving the occasion to ‘nest-rest-live in, emotionally speaking’ to specific moments of extracted pausing between departure and arrival points.

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90 Tanizaki, p. 15.
93 Facts and Figures of Japan, ed. Foreign Press Center, Tokyo Japan, 2000, p. 83.
Ephemeral Environments

In Tokyo’s urban condition, the idea that trains represent similar attributes to those associated with home and dwelling seems reasonable. The inverse assertion that buildings are able to break free of their foundations and find grounding in similar transient notions synonymous with trains, is just as plausible. ‘[Tokyo] is in a perpetual state of revision’. Tokyo is ultimately a city in transit; a city in the future tense; a city in which the process of becoming is more important than what it is now or what it has ever been before. are descriptions from Japanese and Western observers who have attempted to articulate the abstract condition of Tokyo’s built environment. As a surface for projected meaning, its dwellings and shops are a conscious mental image of objectification. Before a building is constructed, its lifespan is planned. As New Zealand architect Thomas Daniell, working for a Japanese firm, discussing the use of particular building techniques, put it, ‘We designed the building out of certain materials because we’ve anticipated its short lifespan.’ This expectation by the client is dictated more by the property taxation laws set forth by the Ministry of Finance than by any mandate from the design community, and appears uninfluenced by the economic determinism of property values. No matter what forces are at work on property speculation, the cyclical nature of building and tearing down is nothing short of planned obsolescence. Yet this condition of ‘anticipating’ change in the built environment, although for completely different reasons, suggests that other forces that have not been so easily controlled have shaped Japan’s collective unconscious.

The ephemeral nature of Tokyo has a long historical precedent. Chronicled in the 17th century, Edo and its greater urban area of eight kilometres were decimated to ashes in 1657. So accustomed were the residents to the frequency of fires that thereafter it became part of the city’s attractions, referred to as the ‘flowers of Edo’. Although new firebreaks of earthen walls, lot clearing and street widening were put in place to prevent the same large scale calamity repeating itself, fires still plagued the city. Areas that were safe were set aside for temples, shrines and daimyo offices, including the castle grounds: however, the vulnerability to the tightly packed rows of timber nagaya (longhouses) and machiya (townhouses) remained. The risk of combustion was still an unavoidable reality as the swell in population and area grew exponentially in the following decades.

fig. 28
An urbanscape in continuous rejuvenation. Roppongi, Tokyo, 2003. photo: C. Kaltenbach

95 Noenning and Knabe, p. 91.
97 Information given during a office presentation at the office of FOBA in Uji, Japan, April 12 2001.
98 Akira, p. 38.
Until the later part of 19th century, as recounted by Edward Seidensticker in Low City, High City (1993), the ravages of fires swept through the city and forced residents to accept the continual destruction and rebuilding process as an unavoidable cycle of life. It, however, wasn’t until almost 15 years after the Meiji emperor took power that regulations were established. In 1881, in conjunction with the rebuilding of the Ginza district, the Tokyo Fire Prevention Ordinance was declared. Ordering the dismantling of traditional timber construction with modern materials of stone, brick and tile, the old city of Shitamachi became a zone of fireproofing. These preventative measures could not stave off the most brutal natural and manmade attacks that would afflict the city in the 20th century. The great earthquake of 1923 and the bombing raids of 1945 saw large areas of Tokyo reduced to mere footprints. Each time the city rebuilt itself, larger and grander. Returning life to normality after those destructive episodes was neither special to the Japanese nor unique to Tokyo. What was unusual was the frequency of earthquakes and fires. The occupation years, 1945–1951, following the war brought great social change but also a virtual end to the threat of fires. The last large-scale fire occurred in 1963 to an area of 36 buildings in the northern part of the city. Today, in the 21st century, discussions about moving the seat of government to a city outside of Tokyo is a frequent topic in the news and illustrates the sense of ‘anticipation’ the city has toward the next major earthquake.

**Ise Jingu**

The ephemeral nature of Tokyo’s built environment may not be solely symptomatic of long hours spent away from a centralised area of home or even the devaluation of buildings in the face of land speculation. Other examples exist in religious architecture, specifically Shinto shrines, which suggest that the physical form of a building takes precedence over its actual material. As observed by Murielle Hladik for the French architecture magazine *L’Architecture D’Aujourd’Hui* (2002):

> In the West, the original materials of a work, even deteriorated, testify to its authenticity and enable us to discern the real from the fake, the original from the copy. But the identical duplication of the sanctuary of Ise is a conservation of the original form to the detriment of matter, which is eminently perishable. At once eternal and ephemeral, the sanctuary attests its authenticity by the purification rituals that accompany its reconstruction.

![A procession of Shinto priests at Toyukedai Jingu (Geku). Geku, established in A.D. 477 is the second shrine sanctuary at Ise Jingu. Jan. 2003. photo: C. Kaltenbach](image)

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4. Fujimori, p. 46.
The shrine complexes of Ise Jingu, located two hours south of Nagoya on the Shima-hanto Peninsula, represent an architectural typology that transcends an occidental association with authenticity in material and verifies the eternal in the ephemeralness of matter. Having existed since the 5th century, Ise Jingu is the oldest Shinto sanctuary in Japan, and it has maintained a unique tradition since its inception of being rebuilt every 20 years. Like many aspects of the Shinto religion, not everyone agrees upon the motivations behind these actions. Dr Sokyo Ono, Professor at Kokugakuin University, has stated:

Shinto is more than a religious faith. It is an amalgam of attitudes, ideas, and ways of doing things that through two millenniums and more have become an integral part of the way of the Japanese people. Thus, Shinto is both a personal faith in the kami [native deities] and communal way of life according to the mind of the kami, which emerged in the course of the centuries as various ethnic and cultural influences, both indigenous and foreign, were fused, and the country attained unity under the Imperial Family.

Like the Shinto faith whose practice is steeped in ambiguous mysticism, which Fumihiko Maki describes is ‘an amalgam of animism and shamanism’, Ise Jingu’s renewal ritual has no rational basis. The Kotai Jingu Gishiki-cho (Record of Rituals for the Imperial Shrine of Ise), written in 804, proclaims, ‘A new shrine shall be constructed once every twenty years’, but gives no reason for this. Ise Jingu’s homage to the spiritual ancestors, Amaterasu Omikami and Toyuke Okami, after which the two shrines are named, may be embodied in maintaining the newness of the shrines in light of atonement to these spiritual ancestors.

Ise Jingu’s main sanctuary, Kotai jingu (Naiku), is divided into eastern and western sectors. Two identical plots of land are set side by side upon an elevated area of earth. While one sector is in use, the other is kept empty. A layering of built space delineates the sector in use. A series of walls enclosing this space is never penetrated by the general public, and enshrouds the main sanctuary building, Goshoden.

Covered by bed of white gravel, a wide fallow plot sits adjacent to the shrine. A small wooden pillar, the ‘shin no mihashira’, or heart pillar, is buried in the old shrine compound where the floor of the previous inner temple was located. When the old structure is removed, this pillar is left standing in the ground, and a small structure (oi-ya) is built over the heart pillar to protect it from the elements during its 20 year retirement. It is customary to realign the pillar just before the new inner shrine is completed. After it is rebuilt, the heart pillar remains under the floor of the shrine for 20 years, after which it will once again be left standing alone.

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107 Maki, p. 95.
109 Watanabe, p. 98.
For scholars who have investigated Ise, rationales such as, ‘more than a means of perpetuating the freshness and beauty of the ancient shrines, periodic rebuilding has the advantage of preserving continuity of style and form’, ensure the replication of the original form. Preservation also of long standing construction methods, which at the end of the shrine’s second decade mean four generations of craftsman could have been present. One may speculate whether the form itself is transient in its ability to be transferable to another site. The symbolic nature of ephemeralness, embodied in the Shrines of Ise, is not a typology of Japanese architecture but rather allusion to a condition of the general built environment.

As with many cultural and religious events all over the world that have been associated with an aspect of renewal or regeneration, one could find connections with feelings of ‘anticipation’. However, to say that this is part of the psychological or emotional make up of the Shinto priest is only speculative. Although there is no Shinto explanation for this continuous regeneration, it does bring to mind an intriguing parallel with the assertion of a transient architecture, and a culture that perpetuates the renewal and regeneration of Tokyo’s built environment.

**Summary**

This section examined the emotional and connotational meanings of the notion of foreseeing or dealing with something before it happens – Anticipation – as it relates to the planned obsolescence of Tokyo’s built environment.

The observation of commuters through examining the act of observing commuters during long train trips, together with an analysis of my unconscious and a layered optimism of having an intimate association with an entirely different society prompted a deeper investigation into the temporal associations of an environment and people in flux. This revealed multiple permutations of an impermanent city. Ultimately, Tokyo’s urban condition has maintained a community of decentralisation and continuous movement, characterized historically, through the examination of both the city’s propensity for fire and destruction over more than 200 years and the enigmatic, 20 year rebuilding ritual of Ise Jingu.

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110 Watanabe, p. 51.
Conclusion

Chapter 2 has explored the three key themes of this thesis: Cognitive Integrated Systems Digital Network, Mediated Space and Anticipation. These themes are drawn from historical and contemporary examples of built forms in Tokyo and Japan, and exemplify the cognitive, perceptual and emotional responses to space.

Theme 1, Cognitive Integrated Systems Digital Network, examined how Tokyo’s built environment is mentally organised and reflects many of the time saving efficiencies found in the services offered to its resident. From the Shinkansen to the konbini and, finally, a trivia game/advertising wall, logistical supremacy creates a hidden order in the surface chaos of Tokyo. It is an order that is reflected in the mental spatial organisational patterns separating visitor and resident. Integrated System Digital Networks have opened up a digital revolution and enabled telecommunications, electronics and computing to merge. Whereas by integrating information technology into the built environment such as the konbini, Klein Dythams’ Virgin Atlantic Airways billboard and the mobile phone, new hybrids will continue to be apparent but not conscious in Tokyo’s built environment. This leaves Tokyo’s pedestrians to function, negotiate and plan based on a set of spatial and temporal parameters in a built environment of continuous revision.

Theme 2, Mediated Space, explored the way space is used in Japan, from the development of its urban centres to the layout of vernacular dwellings. Atmospheric modelling, pervasive horizontality and an immense density of Tokyo’s built environment lie at the centre of perceptual realms of everyday life. This section examined two ideas of space stemming from Tokyo’s immense density. The first was of a space drawn into density, and the second of a density that extends into space. These ideas substantiated by Fumihiko Maki’s notion of ‘oku’, an inner space, reflected Jun’ichiro Tanizaki’s contemplation of the shadowy space in everyday objects.

Lastly, Theme 3, Anticipation, examined the emotional and connotational meanings of the notion of foreseeing or dealing with something before it happens – Anticipation – as it relates to construing meaning from the actions of people in train carriages. Observing commuters during long train trips, I began to analyse of my unconscious and a layered optimism of having an intimate association with an entirely different society, prompted a deeper investigation into the temporal associations of an environment and people in flux, primarily the impermanence of a city. Ultimately, characterising historically, through the examination of both the city’s propensity for fire and destruction over more than 200 years and the enigmatic building ritual of one of the oldest shrines every 20 years, an urban condition that maintains a community of decentralisation and continuous movement for its inhabitants.

The role of this chapter has been to firmly establish the conceptual themes for which drive the next two chapters. Numerous aspects from all three themes will be further elaborated as they relate to the production work and the installation.
Chapter 3
The Production
Introduction

"Since all environmental cues are inherently ambiguous to an extent — that is, there is uncertainty — the criterion state, the observer’s willingness to act on the basis of ‘weak’ or ambiguous cues, becomes significant. At the same time, of course, signal strength and clarity, and hence thresholds, are still important;...so are contexts — they help in drawing inferences from ambiguous cues. Since designers cannot change the criterion state, they need to manipulate those aspects they can control: redundancy, clear, noticeable differences and appropriate contexts. It also follows that since environments are inherently ambiguous, they more closely resemble nonverbal communication than they do language. Hence nonverbal analysis provides a more useful model than does language."^111

During the last year of a four-year residency in Tokyo, 1999 to 2001, I generated a body of lens-based art work. I continued this work, which explored the spatial and temporal enculturations of Tokyo for an additional two years in Melbourne. Using a digital video camera, called miniDV, I made a number of short videos and still images. This work provided the impetus for the research undertaken in this masters project and consequently, are visual investigations that mirror strategies for locating meaning in the built environment from Jun’ichiro Tanizaki’s lacquerware bowl passage: cognitive organisational activity, perceptual spatial depth and heightened emotional responses. This chapter discusses the body of miniDV imagery in relation to the three key themes, Cognitive Integrated System Digital Network (CISDN), Mediated Space, and Anticipation. These themes were avenues of inquiry that allowed the various aspects of the miniDV imagery to define conceptual questions visually.

The body of miniDV imagery is divided into three sections. The first forms a discussion of the short video Grip, the second describes a technique for creating image stills, defined as Digital Reciprocity Under Sampling (DRUS). The final section compares two experiences in the interiors of trains from two cities in different countries. This critique is embodied within the still images from the Chuo Line, Tokyo and from a short video titled Sandringham Line from Melbourne.

Each aspect of this body of work - narrative, technique and content - contains elements of CISDN, Mediated Space, and Anticipation. For reasons of clarity, only one key theme will be discussed for each aspect of the miniDV imagery. Grip will be discussed in relation to CISDN, DRUS’s definition will incorporate concepts of Mediated Space, and the section on the Chuo Line and Sandringham Line will illustrate the origin of the notion Anticipation.

^111 Rapoport, p. 52.
Theme 1
Grip

Filmed in mid-2000, Grip is a short video exploring the notion of cognitive organisational activity in an environment of vertical ascent: a persistent visual foreground and the navigation of moment-to-moment decision-making. Unlike the section CISDN in Chapter 2, Grip strips away all macro technological infrastructures that assist in mentally planning and organising the built environment by examining the micro responses that assist in negotiating a different constructed environment to that of the city. Its focus is an environment emulating geological formations, the rock climbing gym.

Shot in the interior of a rock climbing gym, with a miniDV camera, this video follows a young man scaling the wall and ceiling. From a vantage point parallel with the climber, the camera remains focused on the movements of the climber’s individual limbs as he makes his way up the plywood wall and under the ceiling. Hands, fingers and shoed feet fill the frame as the camera follows each movement that leverages on the irregular nodes or climbing holds, like rungs of a ladder. Superimposed over the blood orange coloured imagery is a soundscape of strained breathing and a gradually increasing heart beat. These auditory and visual effects bring a physical proximity to the viewer that discreetly overemphasises the persistence of foreground in the rock climber’s journey.

This video represents my experience of rock climbing in a climbing gym. I saw the physical and mental processes of climbing the rock face an analogous to my own experiences of navigating Tokyo: a persistent visual foreground and a navigation of moment-to-moment decision-making.
Persistent Visual Foreground

In the rock climbing gym one moves up the wall by either moving left or right on various knobs on and depressions in the wall. Many of the navigational decisions can be made before one grasps the first climbing hold as described in a manual on the sport of rock climbing:

Climbing has been compared to chess, because of the planning involved. Look ahead and figure out your movements before you get there. The rock will dictate your movements; you must learn how to read it. Sometimes a move can only be accomplished through a certain sequence of movements. By planning ahead, you can execute that sequence and not become tired or unbalanced. Look ahead and let the rock tell you how to climb.\(^{112}\)

It maybe true that prenavigational decisions are made while on the ground and even in the midst of a climb but, once a path is chosen, many directional choices are made while maintaining balance and generating friction on the frequent minutiae edges of support. Faced with frequently limited options of direction, the field of vision is restricted by the verticality of the space and the strain on the body’s limbs to place oneself in a position to see far enough ahead. Many of the navigational negotiations that are made at each climbing hold are the jockeying of hands and feet for leverage.

As Tokyo utilises technological innovations to create efficient networks of logistical simplicity for overcoming spatial and temporal problems (sometimes augmenting those problems normally afforded by seeing great distances), Grip identifies efficient networks through the body. As a tool for supporting and moving itself, the body becomes a device of kinetic engineering through the even distribution of weight on continuously shifting points of friction that aid in movement and sight lines. The foreground density of the climbing wall is visually persistent, just as one’s field of vision in Tokyo is consistently faced with density. This spatial condition results in generating a temporal staccato experience: one emphasises a mental negotiation while the other a physical.

Navigation of Moment-to-Moment Decision-Making

Navigating environments requires some element of moment-to-moment decision-making. However, in those contexts in which environmental cues are revealed frequently in a limited field of vision, spatial and temporal challenges are rapid. In Tokyo’s built environment, the flow of movement in the narrow streets, sidewalks and elevated foot bridges, and in the subterranean tunnels between stations and department stores, mean mental navigational decision-making is determined by directional indicators that appear with little spatial warning. This requires quick mental negotiations that sharply resembles detached frames of reference. This notion of moment-to-moment navigation is analogous to the climbing gym where moment-to-moment action equates to climbing-hold-to-climbing-hold. What was a primarily mental experience became one heavily dependent on the physical. On the face of a wall, decision-making can be made in advance. However, it is not until contact with the climbing hold by a finger or shoed toe that one is confident in the choice made. Hence, it becomes a moment-to-moment activity of physical negotiation.

These similarities raise questions pertaining to the relationships between the physical environment and cognitive mapping. Firstly, does the mental negotiation of multiple points on the wall of a rock climbing gym demonstrate similar negotiations with the urban environment of Tokyo? Are the mental problem-solving skills and planning of the urban dweller similar to the rock climber? Grip does not set out to answer these questions but rather to investigate an environment with similar characteristics to another: a persistent visual foreground with a navigation of moment-to-moment decision-making based on reading environmental cues.

Summary

The rock climbing wall and Tokyo’s built environment have few similarities except as constructed environments with a persistent visual foreground and moment-to-moment decision-making based on reading environmental clues. Grip explores these characteristics as they relate to cognitive mapping, the mental process of organising the environment into an abstract pattern. As physically active experiences for both the rock climber and city pedestrian are put to memory, cognitive maps not only reveal patterns of navigation but also reveal an ability to mentally play out a number of different scenarios before actually physically committing to a direction of movement. Both environments involve mental and physical negotiations. Only one privileges the physical based on the mere number of contact points.

The mental problem-solving and planning skills in each navigation activity are similar in that each relies on envisioning actions based on reading the environment and utilising previous knowledge. Like the directional signs in a train station or the street names at intersections, the climbing holds emphasise points of direction. Both the sign and the climbing hold are a negotiation of a formation in a relatively shallow depth of visual space, be it either on simulations of natural erosions of rocks or narrow underground passages in a city.
fig. 36
Skills from Grip video, 2000.
photo: C. Kaltenbac
Theme 2
Digital Reciprocity Under Sampling (DRUS)

DRUS defines a technique of image making used for many of the images created with the miniDV camera. This technique generated a pictorial space that assisted in defining the concepts of Mediated Space, a space drawn into density and a density expanding space. The pictorial elements generated from the DRUS technique (physical representations) investigate a perceptual experience of limitless depth in finite space in this case, within the boundaries of the picture plane.

This section defines the DRUS technique using Amos Rapoport’s conceptual framework Encoding/Decoding of Environmental Information. As a schematic for mapping the flow of meaning in the built environment, this is a useful model for explaining the two-part process of image making. However, before I define this technique, a brief explanation of how this technique was developed is necessary.

A New Context and a New Process of Working: The Origins of DRUS

Within the new environmental setting and cultural context of Tokyo, I began working in mediums beyond emulsion-based photography. A job in an international secondary school focused my attention on video production. The facilities combined outdated analogue postproduction equipment, such as 3/4 inch U-matic tape decks, with miniDV cameras. This combination of outdated and cutting edge technology created an environment of experimentation and ingenuity. In the time spent viewing countless hours of videotape, I began to see frames, still moments of captured gestures, juxtapositions and distortions that I had not witnessed in the frame of my single lens reflex.

With miniDV footage shot in the city, I returned to the analogue editing suite and scanned randomly. Single images, frozen by the paused frame, captured the psychological spaces and emotional conditions of the inhabitants of Tokyo. But these were not merely clear frames of imagery, they were semi-complete assemblages of digital information indicating what was to come or what had already been, images caught in process, in flux. The miniDV camera, with its lightweight body and retractable Liquid Crystal Display (LCD) had generated an entirely different relationship between the body and instrument. This camera became an image-capturing device more akin to the actual physical and perceptual experience of moving through Tokyo.

Image has been removed due to copyright laws.

fig. 37
Sony miniDV camera.
Defining Digital Reciprocity Under Sampling

‘...its like looking at the ocean from above and seeing that every island is the tip of the mountain, part of a larger substructure that coheres beneath the surface.’

The mechanics of the miniDV camera are integrally linked to the DRUS technique of image making by the way digital images are made with this device. This camera, is designed for use based on similar conceptual principles to the motion picture camera. It has multiple still frame exposures, and the digital image processing has a different methodology of capture, storage and retrieval of video data. This is what gives the unique look to the DRUS images.

I will use an analogy provided by Rapoport’s conceptual framework, *Encoding/Decoding of Environmental Information* to describe how light waves get processed into digital elements. This will be discussed under two parts, encoding and decoding. Established in Chapter 1, the source message/schemata is the origin of a message. For Rapoport, that was the original intention by those individuals giving built form to a meaning’s function. However, in the case of defining DRUS, the notion of origin is placed by light transmitting off objects in the real world. The conduit, Rapoport’s ‘built environment’, is the medium from which meaning is transferred to the user or inhabitant of that built environment. DRUS’s medium transfer is the videotape. Between the ‘source message/schemata’ and ‘conduit’ is ‘encoding’. In understanding the basic elements in miniDV, we must examine the ‘encoding’ process that takes place before it reaches the ‘conduit’: the video tape itself.

**Encoding**

Encoding is made up of three processes (fig. 37). These take place before any information is transferred onto the videotape. Contained within the video camera’s relatively small housing is a system comprised of three components: a charge-coupled device (CCD), an analogue-to-digital converter (ADC or A/D converter) and a DV codec (compression/decompression rate device). Understanding these three components is necessary to understanding the process of DRUS.

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The CCD is an optical scanning mechanism that generates electrical current in proportion to light input. This allows the simultaneous capture of picture elements with multiple brief exposures. As these picture elements are captured they are simultaneously stored for the ADC converter.

The ADC converter is a device or processor used for converting an analogue signal, which the CCD has stored, such as a voltage level or video signal. The ADC converter works with numerical 1s and 0s rather than voltage to create an image; hence, an image must be converted to numerical form before processing. This conversion process is called digitisation. The image is divided into small regions that are similar to silver halide grain in silver photography, called picture elements or pixels. Within each pixel are a number of discrete bits (short for binary digit) that determine the pixel’s value in terms of the intensity colour and luminance. In addition to the characteristics within the two-dimensional space, the image is divided into horizontal lines made up of adjacent pixels. This common subdivision scheme is the ‘rectangular sampling grid’.

The final component, the DV codec, basically takes the digital data and compresses the pixel information to save storage space. This allows the information to pass faster, and requires less processing time. A compression method based on a ‘lossy codec’, this compression/decompression method device saves digital data files by removing non-critical data per second rather than per frame. Pictures are analysed looking for redundancy and repetition and so it discards unnecessary data. These techniques were primarily developed for digital transmission but have been adopted as a means of handling digital video in computers and reducing the storage demands for digital video tape recorders (VTRs). Digital video is a good editing codec because it doesn’t assign frames of video with partial information known as ‘inter-frame compression’, but rather each frame of video contains all of its information. Thus, every frame is known as a keyframe. Any adjustment to the video in the post-production editing stage will not cause degradation to the quality of the image.

Though these components of encoding – CCD, ADC converter and DV codec – generate the digital signal that is recorded onto the videotape, it doesn’t describe how those digital elements are manipulated. This requires examining the decoding side of Rapoport’s conceptual framework.

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116 Brown, p. 61.
Decoding

The configuration of the digital data on the videotape describes the initial three stages in the framework for video signal, 'source message/schemata', 'encoding' and 'conduit'. This 'encoding' section of the framework controls how the digital data is composed. However, it is in the process of 'decoding' the composition of the individual image frames that DRUS is generated.

For the 'source message/schemata' to be transferred to its 'representational message/schemata', in this case the video display, it must be 'decoded' from the digital video tape. This is the rearrangement of the digital data files into electric currents that transfer it from digital back to analogue information. This is represented in the moving image on a video display. However, due to the way in which that data is decoded, one is never aware of the elements that make up the data. It is only when the data is scanned in the fast forward or rewind function that one witnesses the scrambling of rectangular elements known as 'blocks'. These rectangular areas of picture, usually in two sizes of 8 x 8 pixels or 16 x 16 pixel macroblocks, are artefacts of compression that when subjected to rapid scanning are visible. Additionally, they are also sometimes visible in general viewing. These are described as 'misplaced blocks' that show momentarily as a misplaced rectangular area of picture with distinct boundaries. The 8 x 8 pixel blocks are seen as one of the major defects of digital compression. Its visibility generally depends on the amount of compression used, the quality of the original signal, and the quality of the coder. The 16 x 16 pixel macroblocks are due to the failure of motion prediction/estimation in the encoder or other motion vector system, such as a standards converter.

The objective of the DRUS technique is to locate single frames of abstracted digital imagery. A system had to be developed to deliberately bring these blocks out of the digital video footage and hold them. Recording the digital video onto an analogue video deck created a way of playing back the previously recorded fast forwarding and rewinding actions of the digital video tape. The frames of the analogue video could be analysed one by one, and the appropriate level of image deconstruction could be selected.

Digital Reciprocity Under Sampling defines this technique for creating images. Digital refers to the original recorded medium, a series of 1s and 0s. Reciprocity refers to the fast forward and rewinding action necessary to distort the video imagery. Lastly, 'under sampling' refers to a process in which sampling of the digital data is undermined in the digital to analogue process. The fast forwarding or rewinding movements economises and edits picture elements on the videotape known as sampling functions. The sampling of pixels represents a process of change. In that process, some pixels will default to black, or pixels from the previous frame will remain.

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118 reference compression/temporal artifacts
119 reference: When they appear in ‘general viewing’ they are most likely to be caused by defects in the storage medium i.e. ‘the tape’. In the case of miniDV, this happens often due to: a) the small size of the tape, b) the volatility of the magnetic medium on which the data is recorded, or the physical ‘wear and tear’ on the thin tape medium over the cause of general use (i.e. playing, fast forwarding and rewinding) that can cause abrasions and stretching of the tape.
DRUS’s Mediated Space

Like the membranes or surfaces in Japan’s built environment, described in Chapter 2, such as the fusuma, sliding paper doors, or glass walls with a screen printed pattern appliqué, the DRUS technique creates spaces from which elements in an image’s composition are punctured or pushed forward. These manipulated spatial layers are the result of the digital to analogue process of image making that uses the miniDV camera. Depending on their indiscriminate colour (a function of the DRUS technique), these assisted in defining the concepts of space drawn into density and a density expanding space.

Summary

The use of the miniDV camera (and the subsequent development of the DRUS technique) became emblematic of a much larger shift in the thinking and perceiving of space experienced in living in Tokyo. The abandonment of emulsion-based, single lens reflex photography paralleled the shift away from the cultural influences of the ‘big sky’ scapes of the western United States. The still images made with the miniDV camera identified this spatial and temporal shift through its content generated by the image creation technique, DRUS. Thus the DRUS technique, employing capturing, processing and distorting processes aligned with digital imaging and video capturing, assisted in conceptualising a completely different notion of perceived and physical space within Tokyo’s urban environment.

(See Appendix C, page 114, for a further discussion on the paradigm shift between photography and digital images.)

fig. 40
Untitled (woman #1)
DRUS Image
1999-2001
Tokyo, Japan
photo: C. Kaltenbach

fig. 41
Untitled (konbini #1)
DRUS Image
1999-2001
Tokyo, Japan
photo: C. Kaltenbach

fig. 42
Untitled (platform #1)
DRUS Image
1999-2001
Tokyo, Japan
photo: C. Kaltenbach
Theme 3
The Chuo Line & Sandringham Line

“The guard is down and the mask is off; even more than when in lone bedrooms (where there is a mirror), people’s faces are in naked repose down in the subway.” 121

This section examines two videos that in studying the physiognomy of train travelers in Tokyo and Melbourne, identified and gave form to the idea of Anticipation, one of the central points of this thesis. The Chuo Line, Tokyo and the Sandringham Line, Melbourne were the two main routes of train travel that I used as I conducted my daily life in Japan and Australia. They were also the setting for using the miniDV camera to record my engagement with different built environments. As described in Chapter 2, Anticipation represents not only an interiority of emotion but also the perception of a presumeability of meaning read from the expression and gestures of fellow urban dwellers. The concept of Anticipation is represented here in two projects captured with the miniDV camera. The first comprises a study of a group of fellow train travelers through images generated with the DRUS technique from footage shot on Tokyo’s trains, while the second comprises a short video of an individual traveler as filmed in a Melbourne train. Both are experiments in the representation of Anticipation, the aim of these films was to simply turn the camera on and document people as they were, rather than to manipulating the experience.

There were two reasons for choosing train travel to explore different temporal movement in the city. Firstly, it offers a contradictory state of pause and movement, in which commuters physically stop moving for a period of time but are still in transit. Secondly there is a spatial arrangement created for observing another individual without attention being drawn to the observer. Buses and trams offer similar environments to the train carriage. However, the train experience is generally an even flow of movement punctuated by station stops, whereas other modes of transport are temporal experiences of movement frequently interrupted by abrupt stops and starts dictated by automobile traffic. The temporal experience of trains is based on consistent periods of uninterrupted movement and predetermined stops. In this environment people become enveloped in their own thoughts. I could sit opposite another individual with only a couple of metres of space between us. This created a situation that was conducive for directing a concealed camera on the face of a commuter without drawing excessive attention to oneself. Equivalent to a one-way mirror, this process captured and revealed people sleeping, reading, talking on the phone and with fellow passengers, and eating. In short, it captured a social order that defines notions of acceptable public and private behaviour.

I directed the miniDV camera on my fellow train travelers in order to record what I could only fleetingly remember. The culture of train travel in Tokyo was like nothing I had experienced before. A code of behaviour was for the most part strictly adhered to especially when carriages were filled to capacity. Those seated, took only the room necessary for their backsides with all bags kept on the lap, under the legs or on the shelf above. Legs were kept close together and tucked compactly, directly beneath the knees. Bag packs and other shoulder bags were expected to be removed and handled below the waist. No phone calls or eating or drinking were allowed. Even particular carriages were designated for only women during high commuting periods. These were just some of the rules posted on train platforms and in the train carriages.

When I directed my camera on my fellow Japanese travelers I did not choose to focus on these aspects that could easily illustrate what is readily known about Japanese society but infrequently documented. There were other qualities about the train carriages that I sensed were not so much physically visible as silently felt and expressed through facial features or lack thereof. The qualities accordingly were completely absent when the carriages were devoid of commuters. For me seeking to make sense of a foreign environment the face became a surface with its eyes and over 50 facial muscles communicating an emotion about the interior space of the train or a lack there of. For me the faces as captured on video, were abstracted by the DRUS technique, were imposed with my own emotional presumability of living in the dynamic foreign environment of Tokyo.

In Melbourne the entire train culture was different with its commuters, the carriages, its stations and its management representing a specific set of socio-economic ailments. My cognitive and emotional state was subjected to frequent accosting acts of verbal or physical violence by commuters, train delays and improperly operating station and train equipment. Dealing with this system failure left little mental space to ponder the discrete effects of the interior space of the train carriage or contemplate an optimistic view of the city. The meaning gained from video recording commuters’ faces on the Melbourne trains was illustrative of unambiguous emotional states that required next to no interpretation and consequently not requiring the DRUS technique.
From Documentation to Abstraction

Since the mid-1900s, photographers have used various settings in the urban environment for documenting human activity in relation to everyday life. Informed by the objects and environments they occupy, these have not only become records that animate the built environment, they have also been indicators for a presumed understanding of the inner thoughts of the individuals captured on film through their face and gestures.

Between 1938 and 1941, American photographer Walker Evans made a series of portraits in the subways of New York. Using a small camera hidden under his jacket, he randomly photographed individuals sitting on the bench directly opposite him. From this vantage point, people from all walks of life sat facing him. It was an automatic position from which to unobtrusively gaze. This situation automatically created the analogy of the sitter and the camera in portrait photography, and yet maintained the crucial anonymity that is sought after in documentary photography, for which Evans had been known.
Evans claimed that the decision to work in the subway had no bearing on preconceived thoughts on the subway itself but rather, as he stated, ‘that [the subway] is where the people of the city arrange themselves at all hours under the most constant conditions’. It would appear that this condition, found only in major urban areas, could spark a more thoughtful examination. Evans, the honest observer of the human condition, would neither offer cultural or sociological insights specific to New York nor to the people living there at that time.

Beyond the slight descriptive comments of the train carriages themselves, the only indication of ‘the operator’s (photographer’s) emotion’ is Evans’ association to the courtroom dynamics of his peers, ‘sobering, startling and obvious: these are the ladies and gentleman of the jury’. Was guilt the strongest emotion felt from these images? Was there a ‘character’ that he was attempting to portray?

Writing about contemporary Swiss street photographer Beat Streuli, Taro Amano, Curator at the Yokohama Museum of Art, discusses the notion of character connoting ‘“face” and “look” in the sense of interior rather than exterior features’. Amano’s assumption that the inner character of an individual can be communicated through the captured gestures and expressions perpetuated the myth that the photographer is bestowed with a power for unveiling the interior intentions of their subject. If the photographer knows no more about the interior of their subject than the person walking down the street, what can images taken of individuals in a specific city communicate?

This was the dilemma I faced with my interior train images. Evan’s portraits of men and women sitting in the subway carriages did represent the sociopolitical and socio-economic issues of New York City of the time and, the possibly, greater United States. This was through neither their psychological states nor their exterior face or look, but rather through their context, the New York City subway. In my own miniDV imagery, a similar allusion to meaning in the built environment was created. As the Chuo Line images represent information about Tokyo, so the Sandringham Line video communicates meaning about the Melbourne environment.

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125 Amano, T. ‘The doubleness of character or the doubleness of photography’, Parkett, no. 54, p. 134.
fig. 47
33/01. Shibuya, Tokyo.
Online. Available at:
http://www.beatstreuli.com/
(accessed 15 October 2003)
Project 1: Chuo Line Images

The first project was a series of still images made from video footage shot in Tokyo and in the train carriages of its subways and trains. Using the DRUS technique, pre-recorded footage was scanned of people sitting directly in front of me on the daily commutes between. This footage was of primary interest because of its subtle spatial and temporal dichotomy.

In the train environment of Tokyo where one feels swept up in a state of perpetual movement. The fact that I and the person in front of me were sitting down but were actually still moving, was a context of investigation. And yet very few facial clues were given by the fellow lone passengers, the eyes remained neutral with only the slightest of change to atmospheric or train capacity change. Open or closed, any movement was minute and hardly discernable. I often presumed the individuals in front of me occupied psychological spaces of Anticipation. These reflections and evaluations revealed more of my conscious state than of those facing me. They were also clues to the socio-economic issues pertaining to train commuting in Tokyo. The DRUS technique offered a vehicle for giving form to the presumed inner, psychological engagements of the fellow commuters and myself. With the block pixels of displaced miniDV data, the single frame image of the videoed individual mirrored my subjective interpretation of what I believed was happening in relation to the subject – an imposed feeling from the experience of the city best articulated as Anticipation.
Project 2: Sandringham Line Video

The second project, Sandringham Line, comprises a short video of a man sitting on a Melbourne train. He is tightly composed within the lens of the camera, the shutter speed of the miniDV camera is reduced, and he is recorded in a mock slow motion as he reads a newspaper hidden outside the video frame. The time abstraction created by the slower shutter speed allowed gestures to be protracted artificially. Besides capturing the muffled sounds of the train conductor, the video camera witnesses the man responding to what he is reading: he grimaces at one point. A moment later, clearly interrupted by an unknown person, his demeanor is cautious. Focused no longer on the paper his eyes peek over the paper at the figure. With moments of extended glance his eyes widen and dilate, and his mouth is frozen slightly open. The train gives a few slight jerks and he folds the paper as he steps out of the frame of recording. Left with only an empty seat, the image fades to black.

When I returned to the studio with this footage, intending to apply the DRUS technique, it was apparent that if any meaning was to be read of this footage it would come from the narrative expressed by the anonymous commuter’s face and DRUS’s fragmentation of the imagery. This prompted a number of questions. Why did the expression on the faces of people on Sandringham Line create more of a narrative than those on the Chuo Line? Was there a feeling of Anticipation associated with the experience of being on the Sandringham Line? What level of abstraction was contained in this imagery? Was it similar to the footage shot on the Chuo Line? It became clear that my interest in generating imagery was not to simply turn the camera on and document people as they were. Rather my interest lay in the interpretations of my different cultural experiences.
fig. 51
Stills from
Sandringham Line video,
2000.
Melbourne, Australia
photo: C. Kaltenbach
Summary

In Tokyo, I become accustomed to the minutiae nuances of the faces of daily commuters. My time was looking for the subtlest nuances in the gestures of body and face. From this voyeuristic state I imposed a meaning on the slightest shifts in people’s general composed demeanour. But in Melbourne, on the whole, there was nothing slight, subtle or discrete about the gestures of both body and face. In addition, there was a familiarity with the spoken English. In Japan, I could only speculate, and within that speculation an infusion of psychological energy representing my emotional state of occupying this urban environment emerged in the form of Anticipation.

These two video projects assisted in defining my theory of Anticipation in this thesis. The train carriage and the commuting experience allowed for the slippage in terminology to encompass my emotional state of living and traveling through Tokyo while identifying a unique urban condition of decentralization for which one observes people using the city to live in rather than just temporarily occupying it.
Chapter 4
A Prototype Installation
fig. 53
Interior view of Campbell Arcade.
Illustration from initial proposal for the installation Persistence in Foreground. May, 2001
Illustration: C. Kaltenbach
fig. 54
Concept Illustration for
Persistence in Foreground
Illustration: F. D. Leung, C. Kaltenbach
Introduction

In major urban centres all over the world, electric display screens are integrated into buildings' facades, train interiors and freestanding kiosks. From the various light-emitting diode (LED) displays, information informs, directs and entertains people as they carry out their day-to-day activities. However, the ways in which these electric display panels are integrated into the urban fabric of buildings, transport and human movement, and how the content displayed integrates itself with the environment, usually demonstrate a secondary concern to that of the primary: the display itself.

Envisage an electric display screen within public transport hubs creating a nexus for the dissemination of information that is synchronised with the flow of human movement. Commuters grasp relevant content streaming along walls using their peripheral vision. As an improvement on existing wall-based information systems where people’s movement is hindered by the need to stop and search for information, this installation proposed to maintain commuters’ flow of movement while they gain information that is important to carrying out their day-to-day activities. Installed from February 1 to February 29, 2002, Persistence in Foreground: A Prototype Web-Based Information Board was an installation demonstrating a prototype for an information display. It was located in the Campbell Arcade, an underground thoroughfare that leads people from the train platforms to the streets opposite Melbourne’s Flinders Street train station.

The Prototype Web-Based Information Board streamed iconographic information, similar to Bloomberg’s stock market quote information, such as, train platform, sports scores and weather forecasts along one wall of the Arcade. The graphic facts and figures, were animated on top of video footage of individuals walking and running in an exercise gym. In short, it was a conceptualised amalgamation of a global media interface within a pre-existing physical structure in Melbourne’s urban milieu.

This chapter discusses the installation Persistence in Foreground: A Prototype Web-Based Information Board under three headings: The Prototype Web-Based Information Board, The Matrix, and The Gym. These coincide with the three key themes: CISDN, Mediated Space, and Anticipation. Each heading will be discussed in relation to these themes. The Information System will be explored from the perspective of CISDN, The Matrix from Mediated Space, and The Gym from Anticipation. The three strategies defined from Jun’ichiro Tanizaki’s lacquerware bowl experience used for deciphering meaning in the built environment: cognitive organisational activity, perceptual spatial depth, and heightened emotional responses also will be used.

Before exploring this installation and its relationship to CISDN, Mediated Space, and Anticipation, it is essential to have background information on the site, Campbell Arcade, as well as the two main components of this installation, the projected display and the moiré panels.
fig. 55
VideoDrum display,
Oasis, Nagoya, Japan.
photo: C. Kaltenbach

fig. 56
SmartGuide, touch screen display for Tram service.
Melbourne, Australia. 2002.
photo: C. Kaltenbach

fig. 57
Display in train carriage of Yamanote Line,
Tokyo.
photo: C. Kaltenbach
The Site

In many urban areas of Asia, underground passages are integrated into a wide range of public transport and shopping structures. As part of the wellbeing and economic strength of a city’s inhabitants, people are led out of congested intersections of pollution and movement in corridors of safety, away from dangerous contact with bicycles, motorcycles, cars and buses. In situations where air pollution is high, the availability of clean air is significant, and in areas where the climate is tropical year round, relief from humidity and heat is at a premium. However, in Melbourne where a large concentration of the population lives outside the central business district, in enclaves of low-rise residential housing void of bustling business districts, underground passages have not been necessary. This is primarily due to the absence of a densely concentrated population. Consequently, the development of underground passages began and ended with Campbell Arcade at Flinders Street Station.

The Campbell Arcade is located on an axis beneath the rail tracks of Flinders Street Station. It is a long corridor that sends commuters to various exits north of the station. One of a number of arteries off the train platforms, Campbell Arcade grew from the station as an underground thoroughfare allowing pedestrians unencumbered movement to various shopping areas. It was built in the early 1950s as part of new urban infrastructure, along with the 1956 Olympics, helped usher Melbourne into a new modern age. Expanding people’s notions of moving through a city, it allowed pedestrians to envision navigating the city underground to emerge at key positions for shopping.

fig. 58
Isometric drawing of Campbell Arcade. illustration: L. Fong

Gutierrez, Laurent and Portefaix, V. Mapping Hong Kong, Hong Kong, Map Book, 2000, p. 87-110.
fig. 59
[interior view looking NW into Campbell Arcade.
photo: C. Kaltenbach

Image has been removed due to copyright laws.

fig. 60
Aerial view of Flinders Street Station in Melbourne’s Central Business District.
Today, Campbell Arcade acts as an important thoroughfare for commuters, and allows ease and access to the CBD, by avoiding the crowded intersections of Flinders Street. At the time of its inception, the arcade would have given Melbourne’s citizens an exciting alternative to the above-ground urban experience. As with many of Melbourne’s urban characteristics - laneways, alleys and this underground passage – a new generation is reclaiming this under-utilised area of the CBD. Campbell Arcade has become an alternative space that is no longer perceived as an economically viable location for business. It is the repository for the voices of subcultures, buskers, artists and designers, and the space is filled with views and ideas of the world that border on the sentimental, the revolutionary and the controversial.
The Installation

Persistence in Foreground: A Prototype Web-Based Information Board comprised two components, projected displays and moiré panels. The design decisions were based on the orientation of the thoroughfare and the structural infrastructure located behind the tiled brick walls. Almost five metres in width and running over 35 metres in length, a series of display cases line both walls. Due to issues of public liability, theft and vandalism, the design specifications, set by me, demanded that all installation work would take place within the display cases or the cavity behind the cases and tiled brick walls. Thick concrete walls are formed directly behind the 10 display cases lining the east wall and the five cases lining the west wall. These walls created a narrow cavity around the display case, behind the tiled brick walls. The concrete walls presented a number of constraints that inevitably influenced the final design (see fig. 68).

fig. 62
Plan detail of wall cavity with projector and mirror installation.
illustration: L. Fong

fig. 63
General plan.
illustration: L. Fong
Installation Component One: Projection Display

The first component was the projection display, which proved to be the most challenging aspect of the entire project. The primary objective was to achieve the largest projected rear-screen image as possible on the back of the glass panels of the display cases. As drawn plans of the site were not available, three plans were considered in an attempt to maximise the space for the largest projection. (The last proposal of three was chosen.)

Proposal 1

The advice of the managers of the arcade, led me to believe a large cavernous space existed behind the cases of the east wall and, possibly, the west wall, which would accommodate the distance needed to fill the entire case window (1050 mm x 2480 mm) with a projected image. The initial proposal for this installation was made on the basis of this presumption. However, after the cases from each wall had been drilled through and an inspection of the cavity behind the tiled brick walls was made, the exact opposite proved to be true. Reinforced concrete walls running directly parallel to what were present, and left no room for mounted projectors (see fig. 64).
Proposal 2

In the new plan, the projector was to throw an image from the side of the case onto a sheet of mirror. The east wall, which offered the greatest depth in its cavity between the tiled brick façade and its concrete load-bearing wall was chosen. The image from the projector would then be rear-screen projected. A distortion of the image known as parallax would be created, whereby the image would be horizontally stretched with the image narrowing at one end. This could be corrected with the aid of a video editing program. On further inspection of the space between the concrete wall and the tiled brick wall, I discovered concrete pillars fixed to the concrete wall. Set in intervals between each display case, they narrowed the interior cavity to a width of approximately 230 mm. This was barely enough room for a person to squeeze through and not nearly wide enough for an angled mounted projector (see fig. 65).

fig. 65
Proposal 2, projector installed in cavity to the left of the display cases.
illustration: C. Kaltenbach

fig. 66
West wall elevation.
illustration: L. Fong
Proposal 3

The final plan used the cavity of space directly above the display cases. This space was higher than the drop ceiling in the arcade indicated. At 1500 mm from the concrete ceiling to the top of the display cases, this proposal gave the greatest depth. With the assistance of a company dealing in projection mounts, the projectors were fixed to the concrete ceiling with specially engineered devices. Aimed down, the image from the projector fell on a mirror set at an unspecified angle, which then reflected the image onto the back of a polyvinyl screen fixed directly behind the glass panels of the display case. Each NEC projector came with a parallax correction function, which corrected the distortion caused by the mirror. The final size of the projected image was approximately 800 mm x 1000 mm. This was a smaller image than the initial objective of 1100mm x 2500 mm. To mask the excess space around the projected image, the sliding glass panels were treated with sheets of white cut vinyl strips, with the adhesive paper still attached. From each of these sheets, a rectangle was cut out that corresponded with the projected imagery. This created a semi-opaque screen around the display.

fig. 67
Section drawing of Campbell Arcade with detail of projection throw.
illustration: L. Fong
fig. 68
Section detail drawing of projection/mirror installation.
illustration: L. Fong

fig. 69
Exploded illustration of mirror/screen installation.
illustration: C. Kaltenbach
fig. 70
Interior detail from bottom of the stairs leading from the Degraves Street entrance, looking toward the west wall. illustration: C. Kaltenbach
Installation Component Two: Moiré Panels

The second component of the installation was the moiré panels. Moiré refers to ‘irregular wavy finish’ created when two similar patterns are brought together, as seen with sheets of silk. The moiré panels were constructed in the display cases of the west wall, for two reasons. As there were only five projectors available and 12 display cases had to be managed, a supplement for the projected imagery on the parallel wall was devised. The second was to experiment with generating the optical illusion of limitless depth in a finite space (to be discussed in Theme 2 of this chapter as it pertains to Mediated Space). The moiré panels were constructed with multiple transparent and opaque layers. The first layer was a poster size image, 700 mm x 2000 mm. It was taken from the background video footage of the projected imagery, pinned to the back wall of the east wall display cases. Each case contained the image of the individual in the video footage in the corresponding projected display on the other side of the thoroughfare. While one wall, the projected displays, depicted these individuals in movement, the moiré wall depicted movement of these individuals in relation to the movement of the commuter.

The second layer was a semi-transparent sheet of Perspex 1000 mm x 2300 mm in size. Hung directly behind the sliding glass panel of the display case, the entire surface of the Perspex sheet was covered with vertical strips of white cut vinyl; each strip 4 mm wide, in 3 mm intervals. The last layer of the moiré panels utilised the existing sliding glass panel of the display case. The glass sheets were applied in the same pattern of white cut vinyl strips as had been applied to the Perspex panels. The final effect, generated by the close proximity of the Perspex and glass panels of vertical strips, concealed and revealed the background poster as the pedestrian moved and stopped in the arcade.

Having now explored the site and the two main components of the installation – the projected displays and the moiré panels – the following three sections will be explored in relation to CISDN, Mediated Space, and Anticipation.

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fig. 72
Plan detail drawing of east and west wall, showing the location of the moire installations.
illustration: L. Fong

fig. 73
Exploded view drawing of moire/image composition.
illustration: C. Kaltenbach
The train stations of Tokyo are hubs for each district of the city. Department stores, entertainment complexes, small retail shops and public facilities expand out from a nexus of departures and arrivals. Functioning more as an architectural typology similar to the public squares or town halls of European cities, the train station is a centralising force that draws people, products and services together. I witnessed how this urban form, in conjunction with various types of technology – the bullet trains, convenient stores and mobile phones – generated new patterns of cognitively organising the city. I defined this process of thinking as Cognitive Integrated Systems Digital Network, this notion was drawn from the analogy of the Integrated Systems Digital Network (ISDN). It demonstrated how expedient temporal processing of mentally mapping Tokyo’s urban milieu echoed ISDN technology’s ability to improve complex logistical situations. As a physical manifestation of that investigation, the Prototype Web-Based Information Board drew on the environment’s influence to alter cognitive organisational activity. In contrast to Grip, the Prototype Web-Based Information Board set out to improve upon current information displays in train stations by altering a portion of the interior to create efficiency in the commuter’s cognitive organizational activity. The commuter would not simply use this underground thoroughfare as an exiting or entering point on the way to their final destination, rather it functions as a transitional space because it also centralises services and information.

Inspired by this experience, I developed a concept for a prototype web-based information display installation for Melbourne. This information display would gather information from various websites and compile them into corresponding animated graphics. So as stocks changed value in real-time from the Australian or New York Stock Exchange websites, so too would the numerical graphic in the information display change. This would also occur for sport scores, as cricket scores were made available from the Australian Cricket Association’s website. This information would scroll along the wall at a pace similar to that of a pedestrian: from 7.00 a.m. to noon following the pedestrian out of the station and from noon to 9.00 p.m. into the station.

On one level, the pragmatic objective of this aspect of the installation was to have the commuter receive up-to-date information, such as weather – sport scores and stock quotes – in tandem with exiting or entering the station. On another level the integration of visual real time content into the train station – an ISDN that simulated a similar technological infrastructures in the urban centres of Japan, such as Tokyo and Sendai. This was in hopes of defining a unique Melbourne space with its own kind of expedited spatial and temporal zone.

The notion for a real-time, web-based information board began with an article in Wired Magazine (2001). "Pocket monster" by Frank Rose discussed how a Japanese telecom had integrated wireless Internet service within the mobile handset. Among the many services offered to consumers by this company, games were sited as an amalgam with the user interface and real-time Internet information:

Samurai Romanesque, a warlord contest set in the 16th-century Japan…can be played by as many as 500,000 people at once. Players enter a world in miniature, travelling from town to town, chatting with other players, waging war, getting married, having children. Dwango [name of Japanese company] updates the game with weather reports from the Japan Weather Association, so when it’s raining in real life it’s also raining on your handset- which means your gunpowder is damp and you can’t fire your musket.  

129 Rose, p. 132.
This game illustrated how an animation could be programmed with a service provider, in this case the Japan Weather Association. The outside environmental conditions would change the conditions of the game in real time. This integration of third party electronic content into a graphic animation appeared to demonstrate the consolidation of content from various sources on the Internet to animated elements in one central website.

To develop a similar system for extracting electronic content from third party websites, like the Australian Weather Association or Australian Cricket Association, software would have to be engineered to capture and deploy this information through a custom-built graphic/video deployment system – the information board. After lengthy consultations with various companies, including internet integrator Gen-i and train company Connex, and individual software programmers, the objectives for developing a real-time web-based information system could not be met. This was due to an insufficient budget and lack of development time allotted for the project. Instead, I constructed a simulation of how a real time information web board would appear. Using this simple solution, individual graphic elements – weather information, train platform information and sports scores, to name a few – were animated against the backdrop of the video footage of individuals in a fitness gym (discussed in Theme 3). Placed in a 30-minute loops, the graphic elements containing the information faded onto the screen, then scrolled to the left as others passed from the previous screen, giving the effect that the information graphics were consecutively connected. This allowed commuters to grasp content as they moved through the arcade.

The Prototype Web-Based Information Board demonstrated how Internet technology with the architectural typology of the train station can expedite the cognitive organisational activity of the pedestrian and create environments of efficient and logistically simplified operation. The Prototype Web-Based Information Board developed for Melbourne’s Campbell Arcade, Flinders Street Station succeeded in demonstrating how an information display might appear.
Theme 2
The Matrixes (Moving and Stationary)

The concept of Mediated Space or persistent foreground is discusses in this section as it relates to the Melbourne installation. Mediated Space explores density as a visual and physical field of expanded space through atmospheric modelling and optical illusions. The content in the display cases in the walls of Campbell Arcade explored Mediated Space through the use of matrixes divided into two concepts – a space drawn into density and a density expanding space.

Like ‘a substance between the cells of a tissue that holds them together’,\(^{130}\) matrix refers to a substance of illusionist depth that is maintained between layers of projected imagery and the layers of oscillating patterns. The matrixes are represented in two elements of the installation. Firstly, one matrix is represented in the perceptual experience of limitless depth in the finite space of the display cases. This was achieved through the construction of the moiré panels. Secondly, the other matrix is represented in the use of a graphic element used to illustrate information. The ‘block pixels’ of the DRUS technique are the pictorial forms for pushing and pulling the compositional space in the imagery. These explorations of Mediated Space addressed the spatial and temporal condition of the Campbell Arcade. This is defined by the compressed horizontality of the underground passage for which two parallel movements of opposite directions is experienced. It also defines clearly the objective of its visitors; one is either entering the city or one is exiting this part of the city- which by the speed for which people move in either the morning or evening represents a particular temporal space. In the morning people tend to walk faster and more purposeful while in the late afternoon (at the end of an 8hr working day) walk slower. Imagery in the display cases echoed any pace of movement of the commuters. This matrix, the moiré panel, simulated movement using the illusionistic effect of optical movement, while the other matrix involved the projected, perpetual preprogrammed motion graphic information. The moiré panel, through its use of two patterns of vertical white strips, and the block pixel of the projected information, the colour-filled pictorial voids, formed simultaneous spaces that were drawn into density and density expanding space. As content and material contained between multiple layers of projected light, glass and Perspex, these matrixes comprised the Mediated Space in this installation.

fig. 76
An example of the moiré effect.
Illustration: C. Kaltenbach
fig. 77
Interior detail of one of the moire/image installations.
Illustration: C. Kaltenbach

fig. 78
Interior detail of east wall.
Illustration: C. Kaltenbach
Moiré Panels: Stationary Matrix

The moiré matrix, a physical rather than virtual matrix, worked to generate a perceptual experience of limitless depth in the compressed space of Campbell Arcade. This echoed Jun Aoki’s use of a double glazed glass wall, screen-printed with an offset checkerboard pattern, in the Louis Vuitton boutique in Tokyo. This informed a similar two-panel pattern construction in the display cases of the arcade. With identical patterns of vertical strips, slightly offset from one another, a visual depth was created. The movement and an ever-expanding space, facilitated by the glass panels, allowed the eye to transcend the translucent membrane into an illusionistic depth, and gave an effect akin to ‘moiré’.

As the glass surfaces of the display cases were transformed into a space that no longer presented a container holding three-dimensional objects, they became spaces that were at once opaque and simultaneously transparent. In a contradictory state, the vertical strips concealed and revealed the horizontal posters of single figures frozen in a moment of their perpetual activity. This is an effect of space drawn into a density, perceived as a rectangle narrowing, and at the same time creating a matrix of perceptual transgression to a density expanding space, perceived as a widening triangle.

Although the illusionistic effect of the moiré panels was conceived originally in response to a spatial density in Tokyo, within the narrow, compressed space of Campbell Arcade it gave physical form to both dual aspects of Mediated Space.

Information Bytes: Moving Matrix

The moving matrix of the information bytes also explored the duality of Mediated Space. As graphic elements or ‘block pixels’ pushed forward and pulled back the picture plane, depending on their indiscriminate colour (a function of the DRUS technique), these represented spaces drawn into density and then expanded back into space. From the DRUS technique, an entire range of hypothetical ‘block pixels’ were designed as graphic boundaries that contained the various types of information. It was the manner in which these graphic elements were integrated with the background video footage that used the DRUS technique as a metaphor of matrix.

Image has been removed due to copyright laws.
Concept development continued, exploring the location relationship between the block pixel elements, the head of the treadmill runner and the information content.

Illustration: S. Greenfield & C. Kaltenbach
Matrix of Origin

The block pixel is maintained between the layers of illusionist depth in projected imagery. The use of the block pixel for containing the information content was designed as parts of a complete form (see fig. 80) for which each information byte was placed in a designated position. Like interlocking pieces of jigsaw puzzle, the information bytes sat hidden in a layer behind the background video footage. This organisation system, never visible in its entirety, assigned a specific position from which the information bytes would fade onto the screen and then scroll left or right out of the picture frame depending on the time of the day. This system was developed to ensure that no two information bytes would overlap. To account for the various speeds from which the public moves through Campbell Arcade, the information bytes were set to three speeds; one speed accommodating the disabled, young and elderly; the second the varying speeds of the pedestrian; and the third those moving hurriedly through the space. These speeds echoed the entire range of individuals moving through the space.

The term Matrix refers to ‘a substance, environment, etc within which something else originates or develops’ besides referring to a substance. This aspect of a matrix describes how the information bytes were integrated into the video footage.

The injection of a quick pulse of either the rewind or fast forward function to the continuously playing video footage, temporarily fragmented the video narrative. This fragmentary moment created a ‘cause-and-effect’ segue. Each time a prerecorded pulse of ‘fast forward’ scrambling of the video footage displayed, an information byte would slowly fade onto the screen, emerging from the individual’s head or body and into the foreground as if pushed forward from the surrounding bytes. The information byte would then stream in one direction out of the picture frame and continue on to other corresponding screens before finally disappearing out of the frame of the last screen.

The development of the DRUS technique and the subsequent effects it gave to digital images enabled this link to be created between the picture plane of the still frame, miniDV imagery and the integration of the information bytes into the video footage. This was due not only to the pictorial elements being physical representations of the concepts of Mediated Space, but also the various processes in its technique that generated the characteristics of the information bytes, their form, movement and organisation.

Theme 3
The Gym

This section discusses the second level of content in the Campbell Arcade installation, the video footage of individuals walking/running in a fitness gym as it relates to the notion of Anticipation. With five display cases, the two levels of content containing imagery were displayed on the west wall, and rear projected onto polyvinyl screens. The first was scrolling information bytes; the second was footage of five individuals, one per screen, walking/running on treadmills in a fitness gym.

Within the five screens, five anonymous people are walking/running in a fitness gym. Two women and three men from various cultural backgrounds face the video camera. Their faces are framed from upper torso or bust up to eliminate any environmental information outside the camera’s frame, including the treadmill on which they move. This framing echoed the still images of the Chuo Line and the Sandringham Line video. The effect was to focus the audience’s attention on facial characteristics of the anonymous individuals. With the camera focused on them for one hour (no editing in post-production), the men and women’s gaze penetrates the lens into the eyes of the viewer. The viewer experiences the slow metabolic changes of sweat forming on their foreheads, their eyes dilating, and breath shortening. Their physiological changes are witnessed in real-time before our eyes. At the end of an hour, each individual dismounts the treadmill, only to immediately return, magically fresh to begin walking again, as the video’s loop playing mode keeps the characters in a never-ending exercise routine.

The framing of these individuals within the fitness gym works with the notion of Anticipation, which in Tokyo was linked to the train interior. The difference is that as an installation, it engages with the specific spatial and temporal conditions of Melbourne’s Campbell Arcade.
The Setting and the Anticipation from a Treadmill

Unlike the interior of a train, the Campbell Arcade is a fixed environment. It replicated the interior of a train carriage by means of the openings of the display cases would negate the arcade’s actual physical space. Hence, the gym was chosen for two reasons. The first was I required an environment, like the train carriage, that would put individuals in motion without actually taking them anywhere; the treadmill in a gym was ideal. Secondly, the relationship of people walking through Campbell Arcade with individuals walking/running on treadmills generated a psychological juxtaposition with the commuters. As they walk past the projected displays, they gaze at individuals walking/running who, in turn, watch the commuters. This strategy is also at work in the Chuo Line & Sandringham Line projects. When these projects were juxtaposed against one another, the reflective engagement of gazing at anonymous individuals in Tokyo and Melbourne revealed one environment that generated an imposed emotion of Anticipation, while the other environment responded to the emotions expressed on the faces of fellow travellers. Hence, Anticipation was rooted in the Tokyo. Persistence in Foreground: A Prototype Web-Based Information Board revisited the spatial relationship of viewer and subject constructed by the seating arrangement of Tokyo trains and subways. In Tokyo, I sat on one side of the train carriage moving through the city. I gazed at the faces of fellow commuters who were stationary yet in transit. They returned the gaze looking through me, without recognition of my presence. A psychology of inner space was transposed from me onto the unknown subject: their face filled my visual foreground. The physical experience was one of surface. I gazed with the faces of fellow commuters, which formed the foreground of my emotional predisposition. The gym footage provided a means to simulate this experience ‘of the gaze’ in Melbourne.
However, a number of questions remain regarding the possible psychological or emotional interaction between the commuter and the individuals walking/running in the gym. As the commuter walks along one side of the arcade, they gaze at faces of individuals projected on the walls who also are walking but yet stationary. The individuals on the treadmills return the gaze but look through the commuter, giving no recognition of their presence. Did this create a situation whereby the commuter and the individual on the treadmill were linked in a psychology of mutually inclusive inner space? Observing this relationship, passing individuals made comments such as, ‘Is this video live?’ ‘Do these people known they are being videoed?’ This indicated a psychological tension was being generated, as the passing audience was unsettled by gazing on what they perceived to be unknowing participants of public display. This demonstrated that the environment of a thoroughfare contains a different psychological environment as it relates to gazing at other individuals than to the train carriage. Therefore, what is it to gaze at an individual who stares directly back unacknowledged in your presence while both are in the midst of waiting for one’s train stop? Ultimately, this leads to questions about the cultural issues of public and private notions of voyeurism.
fig. 84
Interior view with information bytes and gym footage, looking southwest.
photo: C. Kaltenbach

fig. 85
Interior detail view of moire/image panel, east wall.
photo: C. Kaltenbach
Evaluation

An evaluation of the Prototype Web-Based Information Board is necessary to assess whether the objectives were met and what changes would be made for further development. While the initial proposal was to create a real-time web-based information board, displayed on both sides of Campbell Arcade, this was not possible for the following reasons:

• the budget limited the number of video projectors and the professional support needed to fully develop the software for the website
• spatial limitations in the cavity between the tiled brick facade and the concrete, load-bearing wall from which the proposed size of the projected displays could not be met
• time, the nine months from proposal, to concept development, fundraising and installment, limited the development of all aspects of the installation.

As the project could not be fully implemented, its exploration of CISDN, Mediated Space, and Anticipation were limited.

CISDN, to cognitively organise information that aids in the navigation of the built environment, was limited because real-time information was not given on the projected displays.

The creation of Mediated Space using the optical illusion of moire panels to generate limitless depth in finite space met all of the objectives. However, the block pixels or information bytes were minimally legible due to the reduced size of the screen.

fig. 86
1:1 Prototype display case for testing projector and mirror.
photo: C. Kaltenbach

fig. 87
Early 1:1 prototyping concept for installing large panels of glass infront of existing brick walls. This also included testing various new sources of lighting. Sept. 11 2001.
photo: C. Kaltenbach

fig. 88
Detail of early 1:1 prototype concept.
photo: C. Kaltenbach
Conclusion

Based on early developments in my research, an opportunity arose to create an installation that would demonstrate many of the ideas generated from the research and the miniDV imagery produced prior to the thesis being written. An underground thoroughfare connected to Flinders Street Station – similar to the network of labyrinths found at major train stations in Tokyo – was an opportunity to reintroduce many of the notions I construed from a similar built form but separate context.

The Persistence in Foreground: A Prototype Web-Based Information Board installation attempted to recontextualise the themes of CISDN, Mediated Space, and Anticipation. The aim was to simulate a different cultural experience of an environment with similar spatial and temporal conditions of multi-layered labyrinths of Tokyo’s stations and the trains that deliver and collect passengers. The spatial and temporal conditions found in both the Campbell Arcade and the subterranean passages of Tokyo are not supported by similar urban conditions. The inhabitants of Melbourne’s CBD do not expect or require infrastructures that create and maintain efficiency moving in and out of stations. Where as Tokyo residents are continually introduced to new above and below ground thoroughfares, and technology that aids in navigation. As seen in a brochure for KDDI, a Tokyo mobile phone carrier, the availability to global positioning software ensures a user can dial-up the location of a new store and send it to a friend for a rendezvous in the vast density of Tokyo’s 23 wards.

This and other differences in the urban condition of Melbourne generates unexpected uses and responses to ubiquitous technologies in the public realm, many of which are not understood at this time by this researcher. Yet, as I believe it is the role of design to improve upon an existing systems, in this case a proposal for a new information display system, Melbourne’s train stations are in desperate need of redeveloping their train arrival/departure information display system. The prototype I developed for the Campbell Arcade in Flinders Street Station may fall short of an exemplary model, it non-the-less puts forward important questions and propositions for the future of web-based information displays in public transportation hubs.
Conclusion
The work and ideas discussed in this thesis are the product of a search to understand lived meaning as it is experienced in different built and cultural environments, and then expressed in the multi-media projects. Personal accounts and critical responses to living in Tokyo, together with segments from a body of miniDV imagery, laid the foundation for an analysis of how the cognitive activities of organising the city, the perception and experience of spatial dimensions and the heightened emotional responses to Tokyo, were intuitively understood. The review of these experiences through the production of this thesis has resulted in ‘textual elucidation and critical (self-) reflection’,\textsuperscript{132} that involved the idiosyncratic examination of memory, and formulation of three key themes (Anticipation etc) to describe the process of engagement superseding the particulars of any specific city represent possible continued avenues of analysis and cultural production. In summarising each of the chapters I ask ‘where to from here?’ and offer ideas and discussion that could lead to further research and production.

In Section 2 of Chapter 1, Strategies and Conceptual Frameworks, I posed three questions regarding to how meaning exists in the built environment: How does Tokyo’s urban condition influence the cognitive ordering of its environment? How does Tokyo’s built environment influence our perceptual space? How does the emotion of ‘anticipation’ affect the experience and understanding of Tokyo’s urban environment and its inhabitants? These questions led to the identification of three key themes, based on historical and contemporary examples from Japan’s built environment. An exploration of questions about different cultural spatial and temporal consciousness raised by living in the United States, Japan and then Australia. this is not a sentence The project part of the thesis reflects on the body of image based work made in Japan and then Australia that focuses on people in transitory conditions of moving in trains and the underground passage, that links the train with the city, as too technology links us with the (clarify a bit more) abstract dialogues of city commuting.

Within Melbourne’s Department of Infrastructure’s recent report on the strategic urban develop plans leading to the year 2030;\textsuperscript{133} issues of density and mobility are consistently highlighted as those that the city will most ostensibly focus on. With the forecasting of increased density, issues pertaining to the convenience of mobility, legibility and size will no doubt challenge Melbourne’s unique urban culture. It will be therefore necessary for designers to identify latent spatial and temporal conditions of this city.

As discussed in Cognitive Integrated System Digital Network, the manner in which users/inhabitants cognitively organise the city, using technological devices and infrastructures that amplify and maintain movement, could be a field of research for urban designers that considers creative solutions in efficient networks of logistical superiority. Similarly the notions put forward in Mediated Space may assist in developing form and surface treatments to vertical planes of both interiors and exteriors to generate spatial illusions of greater depth within minimised square footage. These two key themes, CISDN and Mediated Space, in Chapter 2, deal primarily with issues pertaining to the ease of mobility and habitation in a densely filled urban environment, and demonstrate ways of understanding and designing to cope with the challenges brought forward in these urban conditions. Understanding the conduits of meaning within the shifting focuses of the built environment may allow for relevant and challenging propositions to the pressurising forces of functional multiplicity and use within the CBD.

\textsuperscript{133} See Department of Infrastructure, State of Victoria’s CD ROM, Melbourne 2030: Planning for sustainable growth, 2002
The development of the *Prototype Web-Based Information Board* proposed possibilities for future actions and investigations. The contextual spatial and temporal issues of public or private electronic displays within transportation hubs is an area of design that has yet to be fully developed. This area of design has the potential not only to represent the necessity to investigate the actual content being disseminated, but also how that information is delivered as it corresponds to a commuter walking through space or waiting stationary at rest. The development of a public web-based information display could focus on the private actions in wireless handsets. This would move beyond the games, text messaging and transference of images. These developments are largely dependent on the infrastructures put in place by the ruling telecom giants. Furthermore, does the content merely relegate itself to the output of information? Could it not create gathering places of roaming anonymity, allowing for the semi-discrete exchanges of knowledge, assistance and the occasional 'pick up' between the one-to-one user or one-to-many?

Lastly as technological transformations, impacting on computing and telecommunications, affect different modes of experiencing the built environment, the ever-growing mutations taking place within the mediums photography and video are also giving way to new effects of meaning clarify. The image rendering technique, Digital Reciprocity Under Sampling, is not just a hybrid technique within the operational functions of the camera, it also illustrates different representations of experiential modes. Within DRUS’s ability to reveal cognitive, perceptual and emotional aspects of experience, as a technique for realising three-dimensional space in the practice of architecture and interior design, it may function as an unorthodox previsualisation tool. Within the various views and dissection drawings used in the practice of constructing space, the DRUS technique, when applied, may reveal spaces of compression and expansion functioning both illusionistically and tectonically. Thus giving possible new insight into a constructed environment oscillating between the analogue and the digital.

This thesis represents the beginning of a journey in which I have explored how we construct meaning within the built environment using a body of miniDV imagery. Through its use of specific strategies and conceptual frameworks it has presented an argued methodology for cultural production. As for my experience of Tokyo, it continues to recede among the layers of activities, interactions and knowledge gained in a new country.
Appendix
A. Tokyo/Albuquerque
(in reference to page 009)

A number of facts regarding both cities/regions of Tokyo and Albuquerque are put forward: area, population and major modes of transport. This will add background information to the position from which my negotiation between spatial and temporal conditions of the Sunbelt region of the United States and the Kanto plain of Japan took place.

Area

Japan is comprised of four major islands: Hokkaido, Honshu, Shikoku and Kyushu, with a great number smaller, more isolated islands surrounding its larger ones. Honshu, the largest island of the archipelago, has since 1954 been the National Capital Region. At the centre of this region is Tokyo, its capital, which is located at the end of a long bay cutting into its eastern cost. As a bubble growing outward, the 23 wards of Tokyo is 62,115 square kilometres. On the other hand New Mexico, located on the southwestern boarder to Mexico, is situated 1,100 miles from the pacific coast. Albuquerque city (Bernalillo County) makes up 469.513 square kilometres (181.28 square miles) of the central section of New Mexico’s total area.

Population

Japan has over 127 million people and ranking eighth in world as the country with the most population. The United States has 280 million. The population density of Japan ranks third in the world with about 340 people per square kilometre. The population density of the United States is less than one-tenth of Japan with 29 people for every square kilometre. Tokyo and its greater surroundings have a population of over 12 million. This makes it the largest populated city in Japan. Albuquerque and its greater surroundings are made up of 448,607 inhabitants and it is ranked as the 25th largest city in the United States.

Mode of Transport

Out of 633,135 workers 16 years and over in New Mexico, 89.8 percent use automobiles as their means of transportation, and 1 percent use public transport. In 1990, the average time for an individual living in New Mexico to get to work was 19.1 minutes. In Albuquerque, the largest city in the state, the only form of public transport is an intercity bus system covering over 84 kilometres of the city.

The Japanese National Railways (JNR) alone operates more than 21,300 kilometres (13,200 miles) of track, and another 5,600 kilometres (3,500 miles) are privately operated. Of the JNR lines, about 27 percent are double-or multi-tracked, and approximately 40 percent are electrified. Diesel equipment is used on the remainder. JNR lines carry more than seven million passengers per year on more than 28,000 daily trains.

B. Defining What I Do – A Cultural Producer
(in reference to page 013)

Ultimately, the theoretical examination of this thesis within the practices of art and design as it relates to experience, fosters cross-cultural work. Work that is cross-cultural has been an important issue in the investigation of this thesis, not only from the perspective of living and working in different countries, but for attempting to articulate my activities in art and design. The term ‘cultural producer’ has come the closest to positioning my activities against a backdrop of rapidly changing perceptions of what it is to be an artist or a designer. Brenda Laurel, a writer and interactive computer designer since the 1970s, has too struggled with her own self-proclamations as artist and political activist. This has led her to define what she does as ‘culture work’:

[My] work relies on [my] understanding of perception, cognition and how people construct meaning. Culture work also functions as research. We are continually informed about our time and our nature through the responses of people to the artefacts of… culture…Culture work excites the will to action."139

Laurel’s definition assists in understanding my own definition of cultural producer. It is a term used to describe my activities in art and design. Cultural producer refers to the notion of transferring and transcending ‘customary beliefs’ and ‘social forms’140 of a given social group into objects, images and actions, for either a production of individual expressiveness or one directed by a client. The activities of my practice, which include two-and three-dimensional work as well as time-based media, falls under this broad definition. Beyond referring to different types of output, it claims no boundaries between self-generated work and projects driven by a client’s brief. As with all work concerned with aesthetics and ideas, the production of objects, images and actions are a by-product of, and reassertion into, a cultural milieu of its origin or transposed to a different context.

C. From Reconfigured Eye to Reconfigured Mind
(in reference to page 068)

We might, of course, choose to regard the digitally encoded, computer-processable image as simply a new, non-chemical form of photograph or as single-frame video, just as the automobile was initially seen as a horseless carriage and radio as wireless telegraphy.141

Describing the paradigm currently occupying photography and those who perceive themselves as photographers, this quote challenges the notions of the photographic object itself, the processes for making a photograph, and its representational ability. For these reasons, the image made from digital technology is drastically different to the emulsion-based mediums of photography. Images taken with digital technology generally are not seen in terms of their printable finality but rather as a source image, as it is generated for the parts or aspects it contains and for the capability to transform or distort. This certainly is nothing new to photography, but this adjustment in use has always been as more a painterly activity that straddled painting or collage. This is now the dominant role of digitally generated images. Rarely are images taken with the intention of being a permanent record embedded on a two-dimensional plane. Images are transferred onto computers where their digital information is compressed so they can be transported via the Internet to another user, or their pixels are selected and modified by the software of Adobe Photoshop.

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However, with the proliferation of digital image capturing devices and the hardware and software that supports them, have come the embedded public expectations that digital images should reach the same level of clarity as their analogue counterparts. Emulsion-based photographic processes are perceived as having the capacity of depicting life with truthful clarity; hence, when we see a photograph, we believe it to be a real representation of that person, object or environment. ‘The [digital or analogue] production and processing of a variety of physical images’ has been based on meeting such objectives, Robert Libbey comments on in Signal and Image Processing Sourcebook(1994):

Only when one or more humans can relate to or learn from these [processed physical] images can they and their processing be considered successful and worthwhile. The final physical image must, in some way, relate to its resulting mental image.142

This notion of a ‘processed image’ replicating a ‘mental image’ is an area of subjectivity when removed from the context of its original, image processing argument. A number of questions results: what is it to relate to an image? What are we to learn from images? And, finally, what or whose mental image relates to the final physical image? Yet, the insistence that the production and processes of digital photography relating to a ‘mental image’ and ‘faithful to a visual reality’, as emulsion-based photography has been afforded, is unattainable as William Mitchell has indicated in The Reconfigured Eye; Visual Truth In The Post-Photographic Era(1992):

[T]he connection of images to solid substance has become tenuous … images are no longer guaranteed as visual truth – or even as signifiers with stable meaning and value – and we endlessly print more of them.143

Issues of truthfulness in images have always had a tenuous grip on reality. From the beginnings of photography, issues of truth were debatable as seen in Hyppolyte Bayard’s 144 self-portrait as a drowned man from the mid-19th century. The representation of an individual was merely that, a representation. The subject matter dictated by pose, clothing, and association and, of course, title communicated a set of meanings that were not necessarily related to reality. Why was it important for Bayard to depict himself not just dead but drowned? One does not need to look back two centuries to find questions of subtle truthfulness; more absurd realities have been represented.

In the famous photograph of Japan’s Emperor Hirohito taken in 1975 with Mickey Mouse at Disneyland 145, do we see a representation of a Japanese emperor as he once appeared before a camera? Or is it of an elderly Japanese man enjoying a holiday in southern California? If we had lived through the 1930s in southern China, what would this image have represented? These are important questions as a photograph displays this information in a manner that allows the eye and brain to visualise the subject itself and meaning is assigned based on our understanding of the objects in the photograph. Yet, what if the actual framed representations of a person, objects or environment were seen as limited by their own virtuosity for describing visual truthfulness. This is the conundrum I see photography faced with.

143 Mitchell, p. 57.
144 Mitchell, p. 194.
Under the broad definition of ‘image’ fall many ‘representations’ not perceivable by the eye. Images from other aspects of our experiences with people, objects and environments are important forms of representation. The physical sensations that are not dependant on vision – such as tactile, auditory and olfactory – communicate information about our experience. So how do we find truthful modes of two-dimensional representation for our experiences that are not solely dependant on vision? As digital image capturing devices are integrated into mobile phone handsets, digital imagery moves one step closer to defining itself as a medium that is very different from photography. A new reality that moves beyond a ‘reconfigured eye’ to a ‘reconfigured mind’ is further indicated in Are Flagan’s essay on the historical development of Photoshop and how it has assisted in writing the evolving definition of digital imagery.

Photoshop is assisting to make images or parts of them interactive, ‘linking it to other sites in the network or other functions, such as contextual menus or image rollovers, performed by code’. The DRUS technique is primarily interested in the notion of ‘chance occurrence’ in the jogging and shuttling out of pixel blocks in the digital video footage. It is my objective to locate metaphoric juxtapositions between the pixel blocks and the frozen imagery, locating representations that do not rely on the accuracy of vision or the image itself.

My use of digital imagery is the deconstruction of experience, in which the miniDV camera captures and the DRUS technique abstracts further. This abstraction that the DRUS technique makes evident, through the square sampling-units (or pixels) and the sampling assemblage of imagery a description of another reality. As digital imagery proposes a new reality so too was my experience in Tokyo and the spatial understanding of the city. It is the miniDV camera’s mode of engaging with the environment and its process for making images that become the representation of a ‘Mediated Space’ in these images.

\[146\] Flagan, p.11.
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