

ROUTLEDGE RESEARCH IN MUSEUM STUDIES

Designing for the *Museum* Visitor Experience

Tiina Roppola



'In *Designing for the Museum Visitor Experience*, Tiina Roppola eloquently and expertly explores the museum experience, drawing from an inspiring qualitative analysis of extensive visitor interviews. Tiina's findings certainly "resonate" with my own work in this field and "broaden" our theoretical understanding of the visitor experience.'

—*Jan Packer, University of Queensland, Australia*

'This is an important and timely book, not least because of its very clear recognition of the consequences of the indeterminacies of signification for our engagement with museums and their contents. Roppola offers a sensitive, finely-tuned, and comprehensive account of the actualities of these encounters and their wider contemporary theoretical and social implications.'

—*Donald Preziosi, University of California, Los Angeles, USA*

Designing for the Museum Visitor Experience

Exhibition environments are enticingly complex spaces: as facilitators of experience; as free-choice learning contexts; as theatres of drama; as encyclopaedic warehouses of cultural and natural heritage; as two-, three- and four-dimensional storytellers and as sites for self-actualising leisure activity. But how much do we really know about the moment-by-moment transactions that comprise the intricate experiences of visitors? To strengthen the disciplinary knowledge base supporting exhibition design, we must understand more about what ‘goes on’ as people engage with the multifaceted communication environments that are contemporary exhibition spaces.

The in-depth, visitor-centred research underlying this book offers nuanced understandings of the interface between visitors and exhibition environments. Analysis of visitors’ meaning-making accounts shows that the visitor experience is contingent on four processes: framing, resonating, channelling and broadening. These processes are distinct, yet mutually influencing. Together they offer an evidence-based conceptual framework for understanding visitors in exhibition spaces. Museum educators, designers, interpreters, curators, researchers and evaluators will find this framework of value in both daily practice and future planning. *Designing for the Museum Visitor Experience* provides museum professionals and academics with a fresh vocabulary for understanding what goes on as visitors wander around exhibitions.

Tiina Roppola specialises in design-led education as an Assistant Professor at the University of Canberra, Australia, and began her career as an industrial designer. Her doctoral research examined how people make sense of contemporary exhibition spaces. She is recipient of a Design Institute of Australia Award, and an award-winning speaker.

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For Frank

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Foreword

Customarily, the foreword of a book is a place where a guest (not the author) is given an opportunity to argue succinctly *why* a reader should proceed to read the book. It introduces readers to the author and reminds them what is important about the book's content and particular point of view: what distinguishes this text from others already published that may appear to deal with similar topics or perspectives on a subject. A foreword outlines *why and how* a book matters, while prefaces and introductions are places where the book's author tells the reader how the book came about, how it is organized and how it will proceed to do what it claims to be doing—the *what* of what it is.

Designing for the Museum Visitor Experience is an important and significant book for several reasons. It is virtually unique in investigating and lucidly and comprehensively articulating the actual complexities of our encounters with museums and their contents. In contrast with the vast majority of museum studies (and the museological, exhibitionary and curatorial literature in many places), it begins not only with an acknowledgement of the complex sensory nature of such encounters but reckons with these complexities with great theoretical sophistication. And in stark contrast to most contemporary writing on museological function and organization, *Designing for the Museum Visitor Experience* is solidly grounded in a critical acknowledgement of the essential indeterminacy of signification, the consequences of which the author articulates on multiple levels throughout this remarkable study. In much of what you may have seen to date in books on museum organization and function, museums are frameworks for certain kinds of content, fielded together with viewers and users so as to foster certain kinds of encounters—a fictional artefact operating in what is commonly an imaginary historical and political vacuum.

This particular characteristic of all semiotic activity in any social and cultural environment links the author's investigations and insights to some of the most profound philosophical, political and religious conundrums of our time, the very ground of perennial discussion and debate in societies ancient and modern. To appreciate the implications of the author's arguments is to begin to seriously reckon with how and why our encounters

with the institutions and environments of our times profoundly matter. The subject of this book is more than a particular (and usually abstract) social or cultural *object*—“the” museum, exhibition, collection or artefact; “the” viewer or user and so forth—but an institutionalized system of interpretation in which the fixities and identities of “subjects and objects” are problematized and rendered contingent and problematic in the ceaseless multiple articulations of meaning. This book delineates precisely how such complexities work in actual museum encounters—the *performance* of making meanings; how encountering is a fluid and dynamic process—and it does so in concert with full awareness of the theoretical implications of such a perspective not only for museum studies but for any consideration of social and cultural practice and their histories and prospects.

Few books could justifiably claim, as this one can, to so strongly link together empirical investigation and philosophical implication in such an articulate and comprehensive manner. It is a book that is multiply significant and passionately and meticulously erudite, and in this is virtually unique in any field.

Donald Preziosi
University of California, Los Angeles

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Most graciously, visitors allowed me to interrupt their experience of exhibitions and articulately shared what was going on in their body-brain ensembles for the benefit of this inquiry. For facilitating access to visitors, staff and exhibitions across six museums and science centres, I am grateful to six professionals within these institutions. As the research sites and participants have been deidentified, names will not be mentioned here; however, my sincere thanks for enabling me to delve into your institution's visitors and its exhibition spaces. There are sixteen further exhibit professionals who lent background detail into the development of exhibits chosen for this study. Your clarity and candidness is a valuable contribution to this work. Throughout the course of this project, numerous colleagues lent their support and critique, each in their own way. I am particularly indebted to Barbara Pamphilon, Jan Packer, Donald Preziosi, Linda Young, George Hein, Robert Fitzgerald, Linda Knight and three anonymous reviewers enlisted by Routledge. Much appreciation also to Tuula Roppola for editing assistance and to Susan Pak Poy for graphics assistance. I would like to express appreciation to the Faculty of Education, University of Canberra, in which this work saw its beginnings as doctoral research and which now embraces the value of design thinking for all learning contexts. To the publishing team at Routledge, I am tremendously thankful. The professionalism, encouragement and patience of Laura Stearns and Stacy Noto enabled this book to come to fruition. And without the unending love and support of my family, this book would not have been possible. Thank you, every one of you.

1 Envisaging the Discipline

[W]e are just beginning to appreciate some of the central semiological and psychological mechanisms upon which the objects of museological stagecraft and museographical . . . discourse are dependent.

Donald Preziosi (2006, 55)

Exiting the hotel, I gather my bearings and head left down the street. Two blocks down, next street right, keep on going until the city gardens. The concierge said that the diagonal footpath cutting through the park was the most direct and scenic route. Sure enough, the path channels me reassuringly along. A pleasant walk in crisp morning air, manicured shrubbery, a sequence of ponds with resident ducks. Urban sculptural pieces punctuate the grass. And then it presents itself, just over the rise. A park bench offers pause and vista. I take a moment. My eyes are struck by soaring glass features, by the organically curved (almost bulbous) cement-rendered walls. Textured metal panes glint in the early light. I take a breath and enjoy an impulse of energy. The juxtaposition of form and finishes makes a statement in the landscape. A statement of what? A statement of creativity, of decentering tradition? Yes, I think. With that I get back on my feet and meander down to see what this jaunt will bring. I carry the feeling that it is going to be a good day, one of those precious days where I am broadened by vignettes of the world beyond my everyday experience.

A polite face greets me, hand outstretched with a glossy trifold brochure. The subtitle draws my attention: *Where ideas emerge/converge/mutate*. Oh, okay. I am framed to expect some boundary pushing ahead. I traverse the airy foyer, as directed by the gesturing guide, and enter into the blackness of a sound- and light-controlled chamber. A melange of still and moving images, audio snippets of streetwise philosophy. A bass-heavy drumbeat takes hold of my chest, until it strangely morphs into a classical string ensemble. The images, speech and music prompt my mind into a speculative state. What is this pastiche trying to tell me? The installation skates on the edge of cinematic production and sampling culture gone wild. Gosh! An exaggerated

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and stylised gestalt. I am roused, recalibrating. I am reframed to engage with this unmuseum of museums.

Stepping out of the chamber, I find myself in a large circular space, shiny wooden floors topped with an enormous pyramid-shaped skylight. Light, light, soaring light! Blue sky day. Nice. Like the spokes of a wheel, five pathways lead off from the circular hub. My attention is channelled towards the artefact adorning the head of each pathway, and then to their backdrops: black and white photographs, larger than life yet subtly pale, suggesting a context for each object. Each threshold beckons, come, come this way, revealing a glimpse of the content to follow. Hmmm, which way should I go? Other visitors milled about, bodies shuffling and eyes flitting, those with companions swapping a word or two. Three paths particularly intrigue me, and on impulse I make a start through the least crowded of these.

A series of one-off words and short phrases—affixed here and there to walls and showcase glass—serve as points of focus as I explore the space. Suits me. I'm not always one to read the fine print, although I am drawn to study a couple of exhibits more closely, the ones that particularly resonate, for one reason or another. I notice the artful arrangement of objects and images. They begin to suggest a story, a story I build around the featured words, words scattered around the place like exclamation marks. The narrow passage comes to an end. Turning the corner, the space opens out. I am met with an entire scene, elaborate and densely detailed. A reconstruction of some other time, some other place. Reclining lounge chairs sit at the centre, encompassed by the semicircular scene. I indulge. Aah, so nice to stop for a moment and rest my legs, after two days of traipsing around a new city. Others take up the opportunity; the seats fill quickly.

As I begin to wonder what's in store, the lights dim and a film projection starts to play on the ceiling. I can see that the scene physically surrounding me replicates the real-life scene in the film. Clever. I wasn't expecting that. Hang on, is it actually 'real life'? I couldn't be sure. The film becomes peopled, day-to-day activities begin, events unfold. Now and again, an unseen narrator overlays the footage with comments and questions. The deep and measured voice comes in a downwards direction towards me, as though from on high. I figure the loudspeakers are positioned in the ceiling somewhere. I wonder if it was the intention to subconsciously suggest a voice of authority. I silently chuckle. A bit too cheesy for me.

Suddenly an artefact is spotlit in the reconstruction in front of me. I'm not sure what it is. The object returns to darkness, and the same object is now being used by people in the film. So *that's* what it is. The narration tells me that all isn't quite as it seems on the surface. Layers of meaning around some otherwise simple objects, reflecting rival interpretations about a historical event. Ah! I didn't know that. Interesting. My mind ticks over. These more subtle shades of meaning redeem the narration, I find myself thinking. The film finishes. I remain sitting in my reverie, head resting against the recliner. But only for a short while, as the houselights gradually reach full brightness.

I reluctantly take this as a cue to give someone else my comfortable seat. I remind myself of that five-way intersection. How could I get back there, without having to backtrack?

Something tugs at my consciousness. I'm not sure what, really. I continue wandering and wondering. I guess a lot of things have been presented before me, in bits and pieces. Like unfinished sentences, where you are given the first few words and have to complete the sentence. I haven't perceived a careful logic. It's been quite scrambled. But then again, some things have been quite strongly suggested. *Where ideas emerge/converge/mutate*. Have ideas converged here? Probably. Who or what is doing the mutating? And what does this mean, exactly? Is it a good thing? Who will benefit? I haven't come across many 'answers' here. The whole place has definitely raised more questions than answers. Oh! Okay, I get it. There is more work to be done. More thinking work to be done, by me. I sense a broadening of my awareness, even if in an unresolved way.

Now, where was that café? I'm sure it was around here somewhere. I could so do with a coffee. I reach for my brochure.

The core of this book—*Designing for the Museum Visitor Experience*—is written from inside the visitor experience. The above sketch, while imaginary, is an amalgam of concepts from the experiential accounts of nearly 300 visitors to six different institutions: two museums of natural and cultural history, two science and technology centres, a war museum/memorial and an immigration-themed museum. What I found was happening, right across these visitor accounts, was that visitors were in relationship with exhibition environments through four key relational processes. I have named these processes *framing*, *resonating*, *channelling* and *broadening*.

Framing. What makes a museum a museum and not a library or a theme park? Although I didn't inquire as such, visitors spontaneously qualified what they told me about their experiences by raising generic characteristics of 'museum' and 'exhibit'. These higher-level conceptions form *frames* through which visitors read the exhibition environment: what they expect of it, how they participate in it and whether they feel satisfied by it.

Visitors work out the relative boundaries of their frames through lifelong experiences with all kinds of institutions and communication technologies. What do exhibits ideally offer in a world already saturated with the Internet, television, books, cinema? Museums also actively project frames, embodied in slogans such as '*Come and See the Real Thing!*'. This is a 'displayer-of-artefacts' frame. Frames are not static. *Reframing* processes can be set into motion, especially as museums undergo redevelopment or when new institutions open their doors. It can be invigorating, or problematic, when a visitor does not encounter what they were expecting. Understanding visitor responses when frames are challenged or stretched provides insight into the management of institutional change.

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As frames demarcate museums and exhibits as particular *kinds* of communication media, frames can be understood to semiotically mediate the visitor experience. That is, museums and exhibits are themselves artefacts of culture that have been socially and materially engineered to (re)construct meaning in certain ways. As relations between the social and material shift across time, so too do conventions of ‘museum’ and ‘exhibit’, along with the public’s expectations. Understanding such nuances—the nuances of semiotic mediation—can assist institutions to successfully frame and reframe themselves through time. Chapter 5 of this book presents *framing*.

Framing processes enable visitors to make sense of their experiences in fundamental ways. They are an essential backdrop to a range of other processes that ensue as people make their way through museums.

Resonating. Visitors are under no obligation to engage with free-choice exhibition environments, and yet they do. Visitors’ experiential accounts reveal seemingly effortless and instinctive ways that visitors are drawn to exhibition environments. Such processes of resonance are complementary matches between visitors and exhibition spaces, resulting in increased energy and meaning. Overwhelmingly, these positive matches are achieved through the body and brain working together as an inseparable ensemble. Resonance with ambient qualities such as light, colour and space amplifies visitors’ energy. Positive body states then lead to positive mind states. Significantly, resonance with the physical design of exhibits can draw visitors to content they might not otherwise pursue.

Perceptual resonance is another complementary matching process. The stylised, sensory fragments of exhibition environments resonate as greater perceptual wholes in the bodies and minds of visitors. This process relies on the everyday phenomenon of perceptual completion. As we go about our lives, we unconsciously ‘fill in’ missing perceptual details and dynamically integrate information from multiple sensory sources. We do this to experience coherent perceptual worlds—in other words, to experience meaning. Perceptual resonance is a vital process in museums, as exhibitions can only ever be stylised representations. The fragments presented by exhibits are routinely ‘filled in’ by larger constructs in visitors’ minds.

Resonance is also experienced as a sense of coalescence, a uniting with the exhibition environment. Coalescence can be physical, personal and/or social in nature. Visitors may experience this special affinity through feeling part of an exhibition in a bodily sense, through feeling emotionally moved by an exhibit or through feeling socially engaged with it. Importantly, resonant processes demonstrate a webbed relationship with higher functions of mind. Understanding the body and brain as an ensemble is essential to understanding the visitor experience. What museums and exhibits offer, at their very essence, is an embodied experience. Chapter 6 presents *resonating*.

Resonant processes are characteristically effortless, even energising, in nature. Material resources constitute museums’ unique richness, enabling

striking body-brain connections. Yet in navigating this wealth of resources, there are also burdens placed on visitors.

Channelling. Museums are complex and novel, and visitors tend towards fatigue and overload, as well as operate within limited time frames. Exhibitions communicate through arrangements of ‘stuff’ in space, and museums must be moved through to be experienced. The construct of channelling accounts for how visitors are in relationship with exhibition environments as a choreography through time and space, under these conditions. Both visitors and exhibition spaces exercise agency in channelling processes: institutions can assist visitors in forming channels, and visitors must also work to forge channels—physically, perceptually and conceptually.

Spatial channels influence not only physical pathways but also how visitors pay attention. The interior architecture of exhibitions can direct visitors’ focus, can entice visitors through an unfolding sense of mystery and can be interpreted symbolically. The many types of media used in exhibition spaces need to be orchestrated in careful ways, lest they result in a cacophony of confusing, fragmented channels. With overload by clutter a typical challenge, offering selective channels through unfussy design can be effective. Alternatively, the sensitive and synchronous coordination of multiple media can help visitors find focus through complex content. Story, or narrative, is the vehicle of choice for channelling the content of the museum, with its absence disconcerting to visitors.

Channelling processes assist visitors to find a sense of purposeful directness and cohesion as they simultaneously negotiate the space, media and content of exhibitions. Channelling is essentially about focusing semiosis, about finding one’s way through, comprehending and synthesising a complex array of architectural and representational elements. Chapter 7 of this book presents *channelling*.

Framing, resonating and channelling are sensemaking processes that occur on multiple planes as people engage with exhibition spaces. What, then, of the meanings visitors make of the substantive content of museums?

Broadening. Exhibits and exhibitions—assemblages of objects, text, media and space—are orchestrated with some purpose in mind. They are communication devices intended to provoke thought and/or emotion, to persuade or inform or to otherwise have meaningful impact. Visitor accounts illustrated broadening processes that are experiential, conceptual, affective and/or discursive in nature. Broadening often occurs as a combination of these qualities and indeed gains potency when they are interfused.

Learning in the museum is alluring for the dialectical spaces within which visitors work. As others have described it, visitors work in spaces between the concrete and metaphoric, between heart and mind, between the poetics and politics of display. Broadening also speaks to how visitors work in these dialectical spaces. Whether consciously or unconsciously, exhibitions

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materially express a discursive stance. That is, they express ‘reality’ from a particular perspective and have particular interests at their core. Visitors therefore make meaning in dialectical spaces between the physical and discursive. Hands-on science centre exhibits promote a discourse of science as active and fun. Exhibitions showcasing cultural artefacts promote the discourse that the most important cultural stories are told through material objects. Even exhibits inspired by postmodern bricolage deconstructing multiple ‘realities’ promote the discourse that there is no single ‘reality’.

Broadening processes can be encouraged or hindered by the way in which exhibits set up a dialectic between their material construction and their particular discursive content. Are visitors supported to be self-aware coparticipants in the creation of meaning, or does the exhibit restrict visitors’ performance of meaning? Chapter 8 presents *broadening*.

This book will show that framing, resonating, channelling and broadening are as much about visitors as they are about exhibition environments. They are *processes* at the interface of visitors and exhibitions, processes on which the museum experience is contingent. Framing, resonating, channelling and broadening are how visitors and exhibition environments forge relations, over multiple levels. Together they form an evidence-based conceptual framework that dynamically maps the transactional space between visitors and exhibitions. This framework deeply enters the visitor experience: an enigmatic task of exhibition designers, interpreters, curators, educators, evaluators, audience advocates and museum scholars alike. My particular interest in understanding the visitor experience is the platform it provides for *designing* for the museum visitor experience.

WHY RESEARCH AND WRITE THIS BOOK?

Exhibition environments are enticingly complex spaces: as facilitators of experience; as free-choice learning contexts; as theatres of drama; as encyclopaedic warehouses of cultural and natural heritage; as two-, three- and four-dimensional storytellers and as sites for an engaging day out. A key task for exhibition designers is to sensitively orchestrate interpretive content and interpretive media, in relationship with the overall vessel of the institution’s building, so that visitors are supported in meaningful and accessible ways.

Designers indeed achieve outstanding outcomes in many of the world’s museums, through application of design sensibilities, creative intuition and problem solving, sound judgement and on-the-job experience. However, as a designer turned towards the museum field, I was struck by the limited disciplinary knowledge undergirding exhibition design. More established design fields, such as architecture and industrial design, are built on solid disciplinary foundations through which university-trained designers may confidently base entry into their respective professions. In contrast, many

exhibition designers enter the field sideways from other professions, with the knowledge of other professions only partially addressing the complex needs of exhibition design (Skolnick, Marwit and Secor 2010). Only a ‘handful’ of design schools offer exhibition design as a subject, and full exhibition design courses are ‘rare’ (ibid., 1804). Exhibition design remains one of the last museum disciplines ‘for which no specific professional training is required or even available’, which is problematic as learning on the job can mean that exhibition designers remain restricted to the ‘philosophy and limitations of their own institution’ (Bedno 1991, 53, 54).

Indeed, I myself crossed disciplinary thresholds, from industrial design to the field of museums. As a professional in the design and manufacturing sector, my work concerned me with lawnmowers and office furniture and electrical fittings (and coffins!). I became a designer so that I could conceptualise and produce products that would be of value in the sphere for which they were made. How would the products I was creating interface with real people not only physically and ergonomically, but also physiologically, psychologically, intellectually, emotionally and socially? What *difference* would they make in people’s lives? Unfortunately, the economic drivers of the mass manufacturing industry worked against my personal yearning to focus on the more human elements of design. My daily work became more about engineering details and reducing the cost per unit of mass manufactured goods.

Exhibitions, on the other hand, seemed to be ‘products’ that inherently married design theory with theories of mind. Exhibitions appeared to be products with social conscience, products with emotional and intellectual potency. At last! A product area inescapably entwined with very human characteristics. Disenchantment and curiosity thus combined to plant a vital seed. What was the nature of this newly found landscape? What were the features of the vast and strange terrain I found myself peering into? How could I design for *this* context? I felt compelled to enter the museum world to make my own sense of what lay before me.

As I became enculturated into the museum field, it was sobering to find that designers are generally not seen as intellectual equals to others in the museum profession. Putting my ear to the ground at museum conferences and in professional groups, a common gripe reflected tugs-of-war within the multidisciplinary teams collectively charged with putting exhibitions together: curators want to stack the exhibition with content, educators want to focus on specific messages and designers resist this or that in fear of ruining their aesthetic. Apart from it becoming apparent that there was not a common language or vision for exhibition development, it seemed that designers could merely be seen, or act, as window dressers. The view, accurate or otherwise, that designers lack an adequate appreciation of how to convey content impedes their full participation in the exhibition development process.

Two decades ago, complexities of exhibition designers’ work and tensions surrounding their professional roles were played out in a special issue of

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Museum News. Exhibitions are of ‘key significance’ in an era that expects museums to be responsive to audience needs (Bedno 1991, 53). Exhibit design has been ‘enormously complicated’ by the educational role of the museum and by the wealth of innovative media available for exploitation (Rabinowitz 1991, 34). The conceptual design of an exhibit is the ‘enormously engrossing and demanding task of developing the very means of content delivery’ (Klein 1991, 45). Synthesising an exhibit therefore requires sensitivity to the ‘vital connection’ between an exhibit’s physical design and its subject content (Rabinowitz 1991, 37). Due to these ‘intellectually expressive aspects’ of exhibit design, curators have been cautioned in regard to ‘relegating design considerations to the designer’ (ibid.). Highly educated museum staff can find it challenging to perceive ‘academically underqualified’ designers as ‘functional equals’, seeing them as no more than a set of craftsperson’s hands (Bedno 1991, 54).

With two decades since traversed, it would seem that exhibition design as a discipline has not actually advanced all that far. We are only just beginning to understand the discipline of exhibiting (Dernie 2006). Can we even call it a profession, or say that it is universally recognised as a discipline (Lorenc, Skolnick and Berger 2010)? Can designers be positioned as authors of exhibitions, or only as decorators (Hewitt 2007)? Looking at exhibitions through an analogy to theatre, ‘is the designer the director of the production or merely the set designer?’ (Yellis 2010, 92). A design expert rather than a content expert exercising authority over an entire project, from conception to completion, can be perceived as the ‘ultimate rebuff’ (Roberts 1997, 87). One of the most prominent exhibition design firms is actively striving to redress professional imbalances: ‘[We have] been expanding our in-house scholarship so that our designers can collaborate on a peer level with our academic- and cultural-institution content providers’ (Ralph Appelbaum in Kilgus, Reinhardt and Teufel 2010, 57).

Lacking adequate conceptual frameworks through which to articulate itself seems to lie at the base of the issues above. Without them, exhibition design can be rendered unimportant or important yet utterly mysterious, depending on whom you speak with. Exhibition design still finds itself appreciably directed by ‘tacit experience’ and ‘professional know-how’ (Mortensen 2010, 334). Ken Yellis (2010) likewise notes the largely tacit nature of decision making in exhibition design. What barriers prevent the conversion of professional know-how into disciplinary knowledge? Why do designerly ways of knowing and acting remain so tacit, so unarticulated? At the base of these challenges likely lie the complexities of exhibition design, ‘the intensive interaction of content, concept, architecture and design’ (Reinhardt and Teufel 2008, 11). Nonetheless, this is not reason enough to give up on communicating the discipline from a metaperspective: ‘The most urgent task of museum work is the development of a language of presentation’ (Reinhardt, Teufel and Fliege 2010, 29).

Could we arrive at a set of generic ‘decision rules’ arising ‘out of the essential nature of the [exhibition] medium within which we work and the specific requirements of the particular expression of that medium *in any given case?*’ (Yellis 2010, 92; emphasis added). Sharon Macdonald suggests that ‘[e]xhibitions are, perhaps, too complex, consisting of multiple elements, to be formalised into sets of common rules’ (2007, 159). However, Yellis lays out a provocative argument about the state of the field. He observes that there is an expansive literature on exhibition development from the perspective of organisational processes. What is missing, he argues, is explicit articulation of how design choices may catalyse the ‘inward journey’ of the visitor experience (Yellis 2010, 92).

I absolutely couldn’t agree more: the disciplinary design dilemma is connected to a lack of knowledge about the visitor experience in relation to design choices. Also connecting knowledge of visitors to the design enigma, Macdonald (2007) suggests that a shared language of exhibition design could be arrived at by abstracting a nuanced and analytical vocabulary from museum-visiting research. But given museum visitor studies’ substantial history, and its large body of published research, why hasn’t a shared language of exhibition design already evolved? Again, I cannot agree more with this view on the matter: theoretical and empirical museum studies have not reached their potential in impacting exhibition design as these studies have been working within ‘underdeveloped or under-articulated conceptualisations of [the] visitor experience’ (McCarthy and Ciolfi 2008, 248). And therein lies the motivation for this book.

As a designer, committed to a user-centred approach, I set about understanding the ‘inward’ experiences of visitors as catalysed by rich and varied exhibition environments. The constructs of framing, resonating, channelling and broadening are my resultant offerings towards a language of exhibition design. A language that is at once about visitors and about exhibition environments. Yet they are not ‘rules’, but processes. They are generic processes through which visitors and exhibitions begin and maintain their relationships. Framing, resonating, channelling and broadening describe moment-by-moment transactions occurring as visitors journey through exhibition spaces. The processes capture occurrences in the here and now, necessarily encompassing the layered, contextual and longitudinal nature of experience. From a design perspective, the processes describe the texture of visitors’ engagement with the exhibition medium, in any given case.

This book is unapologetically driven by a visitor-oriented perspective. My reading of texts in the museum field sometimes leaves me wondering. Are the insights actually what matter to visitors? Do the assertions have traction within the complexities of visitor experiences? Texts professing to be about embodied experiences in museums promise the reader explorations of visitor accounts and disappoint if they don’t deliver (McClellan 2010; Dudley 2010). There is some kind of methodological slippage happening

when the views of ‘experts’ in the museum field assume to speak directly for the visitor. Is this a symptom, perhaps, of the ‘severe marginalisation of audience-oriented work’ (Kraeutler 2008, 254)?

In writing this book, I have indeed drawn on many existing museum texts, texts not necessarily informed by the visitor voice. But in the spirit of being visitor-centred, theoretical concepts floating around in the museum field had to *earn* their way into the analysis forming the key thematic chapters—‘Framing’, ‘Resonating’, ‘Channelling’ and ‘Broadening’—that is, only as they found relevance with visitors’ everyday explanations. Moreover, assertions I make about the visitor experience in these chapters are presented alongside visitors’ own accounts. This allows two things. For one, readers can tangibly enter into visitors’ firsthand experiences. Secondly, readers are empowered to assess the significance of the theoretical framework as it emerges. The conceptual framework is my higher-level analysis of visitors’ raw explanations. Making both available allows readers to vicariously share in the process of generating theory around an empirical evidence base.

WHAT TO EXPECT IN THIS BOOK

This chapter, ‘Envisaging the Discipline’, situates this book within its disciplinary impetus. Chapters 2 and 3 further contextualise the state of the field. ‘Exhibition Design as Mediation’ examines punctuations in time that have seen notable shifts in the material and discursive formation of exhibits. ‘“Experience” in Museums’ examines the multiple ways in which experience has been conceptualised in the museum field and what remains to be investigated about the visitor experience. How I responded to this challenge in practical terms is described in Chapter 4, ‘Deconstructing Visitor Experience’. Chapters 5 through 8 explicate the four processes framing, resonating, channelling and broadening. The concluding chapter, ‘Design for Exhibition Ecologies’ describes how the four processes form a mutually-influencing system. These latter chapters explicitly articulate how design choices catalyse the visitors-in-exhibitions experience. The text is as much about visitors as about exhibitions, as it is about the very processes occurring between them.

2 Exhibition Design as Mediation

Do we actually understand the meaning effects—ontologically, epistemologically, politically, socially, affectively—of different transcriptional technologies?

Gunther Kress (2010, 97)

Exhibits as transcriptional technologies, as transcribing some circumstance outside the museum, offer certain ‘takes’ on the world. They can never be verbatim transcriptions. Importantly, ‘[t]he “take” on the world—in manner, in potentials for engagement—has consequences’ (Kress 2010, 96). What take on the world is a particular exhibit developed by? What take on the world does an exhibit strive to catalyse for visitors? Arriving at a take on the world is influenced by mediation processes that dynamically and reciprocally occur between society, culture, institutions, technologies and individuals:

The analysis of mediation . . . requires us to understand how the processes of mediated communication shape both society and culture, as well as the relationships that participants, both individual and institutional, have to their environment and to each other. At the same time such analysis requires a consideration of how social and cultural activity in turn mediates the mediations, as institutions and technologies as well as the meanings that are delivered by them are appropriated. (Silverstone 2005, 203)

The point of this chapter is to examine exhibit design over time. How have exhibits materially come to be, and why? The ‘why’ forces us to look at mediating influences. Already we have had ‘some two centuries of museological mediations’ (Preziosi 1996, 97). Understanding these complex relations is a potentially boundless but important task (Dicks 2000b, 70–77). So while exhibits are mediators of the visitor experience, wider contexts are mediators in how these come to be shaped, too. Exhibits are not designed in a vacuum.

Viewing exhibition design as constituted through processes of mediation positions exhibition design as *stagecraft*: museums as fabricated stages,

performance spaces for pedagogical and political purposes (Preziosi and Farago 2004, 5). This conception is sensitive to the idea that museums are orchestrated to serve particular interests, interests arising out of their nuanced situatedness. I say this neither to exalt nor demonise museums, but rather to make clear from the outset my frame of reference: the inherently designed nature of museums and their exhibitions. The processes and products of design are motivated by interest—always. Design is, by definition, intentional. Stated another way, in the context of exhibit design: ‘The question is not whether or not an object is of visual interest, but rather how interest of any kind is created. All interest is vested’ (Kirshenblatt-Gimblett 1991, 434). Whether or not designers are aware of the assumptions underlying their interests is a separate matter. This chapter attempts to increase such awareness, of which I am as willing a pupil as any. For to perceive exhibition design as stagecraft is not to take it less seriously, but more seriously.

The gravity of stagecraft as a metaphor is to examine relations of power. If many museumgoers are not in a position to analyse both the contents of a museum and the frameworks of persuasion staging it, then museums are custodians not only of artefacts but also of power (Preziosi and Farago 2004). Overtly recognising exhibitions as designed environments is to be self-conscious about their ‘representational adequacy’ (Bennett 1995; Silverstone 1988, 1989). Wrestling with representational adequacy is to be reflexive about how an exhibit purports to represent some ‘reality’ existing outside the museum. To take the view that exhibitions are always stagecrafted, rather than objective reflections of the world, is to be mindful of exhibits as ‘motivated conjunctions of form and meaning’ (Kress 2010, 65).

While the nexus between stagecrafted form and meaning can be assessed at the level of individual exhibits, patterns are discernible in how these entwined forces have motivated exhibition design through history. This chapter looks at punctuations in time that saw notable changes in the material-discursive formations that are exhibits.¹ Namely, how have societal, ideological and theoretical influences impacted the material manifestation of exhibits? The commentary in this chapter is unavoidably partial, in itself a stagecrafting. Surveying published texts raises tensions between what may have (only) been the idealised rhetoric of the day and what actually made its way onto museum floors. Moreover, the relative infancy—or, arguably, the nonexistence—of exhibition design as a formalised design discipline means that much of exhibition design remains specific to professional know-how, rather than documented through scholarly texts. What’s more, the very things that make exhibitions complex spaces can defy attempts at any kind of generalisation. Exhibitions draw on endless combinations of materials, innovatively reconstituting content and ideas into outward form, in ways that cannot always be anticipated. Such is the intriguing nature of exhibition design.

Nonetheless, one must start somewhere in understanding the complexities propelling exhibition design. The text that follows fashions the continuing

stageplay of exhibition design into seven episodes. Act 1 to Act 7 portray 'Staging Curiosity', 'A New (Museum) Order', 'The World Transported', 'A Participatory Repertoire', '(De)Constructing Inclusion', 'Spurring the Experiential' and 'The (Networked) World Enters Stage Left'. These episodes invariably and variously overlap, and established exhibition design practices persist through time, even if unreflective of visions of the day: 'the fact that a museum is new does not necessarily mean that it is new-wave' (Hudson 1987, 112). On the other hand, diverse ways of exhibiting offer richness to the visitor experience and nuanced ways to deal with content and context. Contemporary examples can be found of all of the above 'acts', reflecting the legacy of a many-stranded history in museological practice. Even with blurred boundaries, the benefit of unpacking museum stagecraft is to be overtly conscious of exhibition design as mediated and as mediating.

ACT 1: STAGING CURIOSITY

Wondrous and monstrous, extraordinary and mysterious. Wonders of nature, culture and science—fruits and spoils of the Renaissance age of discovery—found their way into European 'cabinets of curiosities': works of art, precious gems, outlandish fruits, four-footed beasts, an Indian lip-stone, blood that rained in the Isle of Wight, unicorns' horns, remains of dragons, a donkey's skeleton on which sat a woman that killed her daughter (see Pomian 1990; Bennett 1995; Lidchi 1997; Macdonald 1998). Cabinets of exotic and rare objects were privately owned by collectors, often royal or aristocratic. Such cabinets demonstrated the owner's wealth and prestige, on one hand, but on another level, their intention was to genuinely arouse curiosity and wonder (Valdecasas, Correia and Correias 2006). The meaning of 'curious' in the sixteenth to eighteenth centuries was not foremostly 'strange, odd, queer', but a curiosity spurring learning (Hudson 1987, 21). Collecting curiosities signified an inquisitive, open mind (Lidchi 1997, 158).

The take on the world represented by Act 1 of exhibition design was the world's 'puzzling quality' (*ibid.*). The world was seen as variable and novel, as 'a universe peopled with strange beings and objects, where anything could happen' (Pomian 1990, 77). The growth of knowledge about the universe was therefore seen to benefit from the study of remarkable and extraordinary things. Discursively, cabinets of curiosities sat in a transitional space between a world no longer unquestioningly ruled by theology and one not yet ruled by science (*ibid.*). The mediation of cabinets of wonder was to encapsulate the diverse, spectacular world in miniature. As a communication technology, the intention of cabinets was to reduce the world 'to the scale of human vision' (*ibid.*, 78). The cabinets also mediated as material sites of intellectual discussion between wealthy owners, scholars and invited guests (Valdecasas, Correia and Correias 2006). Relations of power associated with curiosity cabinets stemmed from their private ownership and

display in homes and palaces, accessible only to the elite. Power was correspondingly ingrained in this: knowledge was seen as authoritative by virtue of it originating from those with nobility (Macdonald 1998, 8–9).

ACT 2: A NEW (MUSEUM) ORDER

Then along came the Enlightenment and the French and American Revolutions. A new museum order responded to, and even served to make manifest, a new world order. Museums, including the Louvre, the British Museum and Peale's Museum, began to open to the public from the mid to late 1700s. Previously private collections were converted into public exhibitions, an inherent sharing of power from the few to the masses. Motivated by Enlightenment intentions to liberate, democratise, civilise and educate society, museums positioned themselves as 'public archives intent on doing public good' (Cuno 2008, 140). Museums also pursued new acquisitions: 'The [British] Museum was a product of Enlightenment thinking—a desire to collect and study objects from every known culture'.² Akin to encyclopaedias, born too at this time, encyclopaedic museums 'comprise collections meant to represent the world's diversity, and they organize and classify that diversity for ready, public access' (Cuno 2008, 140). Enlightenment ideals of universal knowledge, of cosmopolitanism, of understanding the world and one's place in it, propelled museums to strive towards housing 'the world under one roof' (MacGregor 2009, 39).

Profound orderings shaped Enlightenment museums. Disciplines were emerging. History, art history, archaeology, geology, biology and anthropology began to build and organise knowledge, in relationship with museums (Bennett 1995). Museums mediated in the growth of knowledge: they didn't just display it, they helped build it through their collection and display practices. Botanical specimens were arranged taxonomically according to Linnaean classifications, and later, animal and human specimens were arranged according to Darwinian evolutionary schemes. Works of art were arranged chronologically into periods, and cultural artefacts according to ethnographic classifications. The overarching strategy for exhibition design—an innovation at the time—was to arrange objects in developmental, historicised sequences, culminating in the present (Bennett 1995; Preziosi 1996). Another momentous ordering was the formation of nation-states. Museums promoted a new 'world order', through cultivating political identities in national museums and through comparison with displays of other nations, often colonial conquests, in ethnographic museums (Dicks 2003, 147–48).

Enlightenment intentions were to shift people towards reason and away from ways of knowing governed by superstition, faith and custom. Specifically, a new scientific worldview emerged. So the way that people thought about the world was being ordered, too. The take on the world in this age of reason was one of ordered rationality, the world as knowable through

systematic observation. Museums were pivotal instruments in ‘the rendering of all facets of social life and “nature” visible, legible, rationally ordered, charted, staged’ (Preziosi 1996, 98). Museums invited ordinary citizens to build knowledge through observing and comparing tangible evidence, rather than restricting knowledge as tethered to nobles or ancient sages (Macdonald 1998, 8). Act 2 of exhibition design can therefore be characterised by classified displays in glass cases, mediating as physical encyclopaedias of a rational and ordered world. This meant that nonclassifiable items, of great interest in the cabinets of curiosity era, struggled to find a place within ‘taxonomies of the normal’ (Kirshenblatt-Gimblett 1991, 392); ‘the display of monstrosities and curiosities . . . were now perceived as impediments to the rationalizing influence of the restructured exhibitionary complex’ (Bennett 1995, 74).³ Cabinets of curiosities did not therefore ‘evolve’ into modern museum exhibitions; rather, their collections were selectively ‘dispersed’ into them (Crimp 1993, 225).

Paradoxes of power existed, however, in the democratic enabling of citizens to engage in self-improvement through ‘looking’ at their place in the cosmos. Museums shared power by making the world’s treasures, objects and specimens available for ordinary people to contemplate. Yet how these objects were stagecrafted wielded potent power structures:

[T]he space of representation shaped into being by the public museum was hijacked by all sorts of particular social ideologies: it was sexist in the gendered patterns of its exclusions, racist in its assignation of the aboriginal populations of conquered territories to the lowest rungs of human evolution, and bourgeois in the respect that it was clearly articulated to bourgeois rhetorics of progress. (Bennett 1995, 97)

The power inherent in these orderings was intensified through the kind of looking mediated by the scientific paradigm. Visible evidence displayed in exhibitions presented the world as unambiguous: the tangibility of exhibitions cast ideas about nationhood, race, class and culture as ‘fact’ (Macdonald 1998, 11). This is not without consequence, when the classificatory schemes applied to artefacts ‘do not simply reflect *natural* distinctions but serve to create *cultural* ones’ (Lidchi 1997, 161; original emphasis). One of the most strident examples of this occurred in South Africa, where exhibits relating to people of ‘colour’ were located in natural history museums, and displays relating to ‘whites’ in cultural history museums (Hall 1992, 10). The orderings taking place conflated the presentation of cultures with evolutionary discourses, positioning the West at the pinnacle of human civilisation.

Yet others assert that encyclopaedic museums afford the realisation of ‘truths’ through comparison of objects from diverse cultures (MacGregor 2009, 42), and that a ‘rewarding collapse of time and distance’ can only occur in museums with such ‘cross-cultural, comparative context[s]’ (de Montebello 2009, 57). A view of postcolonial scholarship is that it can be

'overblown, depicting curators as foot soldiers in the trenches of colonial oppression' (Brown 2009, 148). The legacies and quandaries of international collection and display practices are canvassed by Cuno (2008, 2009) and colleagues, who champion the worth of museums in considering one's place in the cosmos:

[I]t is good for us, for our species, to experience the full diversity of human cultural industry in order to better understand our place in the world, as of but one culture and one time among many. (Cuno 2008, 123)

If only this could be executed without inequities of power. Note, too, the conflation of the 'cultural' with 'industry', suggesting cultural comparison through the lens of development. Discourses of industriousness continued into the next act of exhibition design, as the Industrial Age steamed ahead.

ACT 3: THE WORLD TRANSPORTED

The take on the world in Act 3 of exhibition design was that segments of life outside the museum could be reproduced in exhibit form. Museums saw a flourishing of contextualised exhibits, replicas and working models, from the cultural world, natural world and industrial world. Today television documentaries offer mediated versions of the world, exposing viewers to people and places, to technological and scientific advancements. Museums in the late 1700s through to the first half of the 1900s could serve the same intention (Hudson 1987, 88). Displaying the world on a pedestal continued to serve Enlightenment thinking on cosmopolitanism and progress.

Visitors could wander about architecture, monuments and sculptures from around the globe, transplanted as full-size casts. The tangible experience of visitors walking around these replicas aimed towards high-fidelity encounters, 'as if they were physically present at the original site' (Bearman 2011, 55). Visitors began peering into reconstructed architectural interiors, which had the intent to expose ordinary people to the finest of taste in the decorative arts. Period rooms assemble elements such as art, architectural details and furnishings to define or contextualise objects within a given period (Dernie 2006). Further, a period room can be motivated by a broader historical perspective, endeavouring to represent 'its past owners, era and/or region' (Bryant 2009, 75).

In an age when travel was beyond the reach of most people, nineteenth-century public museums transported diverse cultures home (Dicks 2003). Anthropologists and expeditioners reconstructed places, at times incorporating living beings from their exotic destinations (Kirshenblatt-Gimblett 1991). Museum display mediated between visitors and destinations through a discourse of travel. Today this practice has grown to the extent that people may travel to actual destinations, to experience the destination only as mediated

through exhibition display (*ibid.*, 419). The expectation of visitors can be ‘to glimpse immediately the “essence” of the local life-world’ (Dicks 2003, 4). People also began to encounter the wilderness within exhibition spaces, as habitat dioramas. Reconstructions of the natural world displayed specimens within ecological settings, rather than as specimens in rows of taxonomic schemas (Voss and Sarkar 2003). Dioramas visually depicted the habitat of a species, their relationship to that habitat and to one another (Kelly 1991).

The inner world of factories, industry, laboratories and even the human body were made available to ordinary citizens, through the birth of industry, science and technology museums. This punctuated the material and discursive formation of exhibits from ‘art and antiquities towards more solid and practical matters’ (Hudson 1987, 90). By the early 1900s, many nations had national museums of science and technology, alongside art and natural history museums (Macdonald 1998, 10).⁴ Visitors were exposed to inventions and machinery from the Industrial Revolution, often as working models, and some that visitors could actuate themselves: engines, lathes, spinning wheels, scientific tools and products of industry such as cars and photographic equipment. By the 1920s, film was employed to educate audiences about technical processes (Hudson 1987, 101). From the 1930s, visitors descended into a reconstructed coal mine at Chicago’s Museum of Science and Industry, enabling them to ‘experience first-hand the work environment of the U.S. mining industry’.⁵ From 1954, visitors could walk through a two-storey beating heart at The Franklin Institute in Philadelphia, following the pathway of blood through the heart’s chambers.⁶

The major development in this act of exhibition design was the art of mimesis, which is to mimic or imitate an external reference world (Dicks 2003, 197). The communicative power of lifelike displays is their provision of understandable contexts. Staging visions of the world engages potent relations of power as an exhibition shapes how visitors come to see the exhibit’s subjects, whether ethnographic, ecological or industrial:

In-situ installations, no matter how mimetic, are not neutral. They are not a slice of life lifted from the everyday world and inserted into the museum gallery, though this is the rhetoric of the mimetic mode. On the contrary, those who construct the display also constitute the subject, even when they seem to do nothing more than relocate an entire house and its contents, brick by brick, board by board, chair by chair. (Kirshenblatt-Gimblett 1991, 389)

An exhibition appearing to faithfully transport visitors into an outside world can therefore exert covert power through a sense of authenticity. The ‘illusion of close fit’ (*ibid.*, 390) with the outside world is especially powerful when mimetic displays give the impression of an unmediated encounter. Compounding the power of lifelike constructions was the kind of looking encouraged during this time. As Barbara Kirshenblatt-Gimblett (1991) explains,

panoramic scenes afforded a detached attitude, an objective and distanced looking from a supreme vantage point (see also Macdonald 1998, 10–11).

The illusion of objective representation of the world has found critique. In the late twentieth century, period rooms were described as a ‘form of fiction posing as history’, and visitors as ‘unreliable’ for ‘read[ing] the rooms as real historical spaces’ (Bryant 2009, 75). Natural history habitat dioramas can likewise furnish constructedness. Lifelike dioramas can constitute places that cannot actually be visited, as the biogeographical zones they purport to represent are too large, too varied in their flora and fauna and too undefined in their borders (Voss and Sarkar 2003). Convincing through their visuality, dioramas can serve the discourse of veridicality in science, the notion that they are accurate representations of reality (ibid.). Dioramas can imply an ecological reflection, but in actuality be a social construction. Karen Wonders (2003) describes a politically charged Europe wherein dioramas representing geographical regions asserted species as native, with the intention to serve sociopolitical agendas.

Displays of the industrial and scientific worlds may also serve multiple agendas. Exhibitions acclaiming technological development can strive towards a favourable climate for government support or serve an exhibition’s commercial sponsor: photography becomes ‘Kodak’, ‘the chemical control of weeds has brought only benefits’ (Hudson 1987, 105, 106). Discursively, museums can reflect ‘modernist assumptions on progress, both as reflection of industrial progress and the achievements of the West, but also as a reflection of progress in relation to the “backward” cultures of non-Western civilizations’ (McLean 2008, 286–87). Hudson draws a portrait of the most evolved institutions as providing checks and balances against the blanket endorsement of progress:

In today’s world, a museum of science and technology which does not encourage its visitors to think of the human and social consequences of new developments is acting in a singularly irresponsible and out-of-date fashion. To worship Progress uncritically may suit the manufacturers and advertisers but it is not in the best interests of humanity. (1987, 112)

Curiously, the next major wave of innovation in exhibition design can be characterised, to a substantial degree, as purposefully bracketing disciplinary content *away* from its social contexts.

ACT 4: A PARTICIPATORY REPERTOIRE

Quite radical shifts in mediation occurred next. In contrast to detached observation, exhibits invited active physical engagement. Rather than all-encompassing visions of the world, exhibits tended towards demonstrating the world’s discrete phenomena. The age of hands-on, interactive,

participatory exhibits had arrived: such exhibits ‘address the onlooker incessantly, refusing to leave him/her alone, offering conversations, challenges, puzzles, push-button options, gadgetry, devices, noises, textures, movement’ (Dicks 2003, 9). Pioneered by children’s museums and science centres, exhibits inviting participation were gradually adopted by traditional museums to augment existing collections, and today they are customary in all kinds of institutions. While roots existed in the 1930s, the interactivity movement germinated in the 1960s and proliferated internationally in the 1980s (Hooper-Greenhill 1991; Quin 1994; Caulton 1998). Participatory exhibits marked an important punctuation in the material-discursive formation of exhibits. That is, as well as calling on the visitor in new ways, an ‘exhibit’ could be constructed around ideas, phenomena or principles without using any authentic artefacts at all.

Wider mediations undergirded these changes in the stagecrafting of exhibition spaces. The world was shifting from the Industrial Age to the Knowledge Age. Education became core to many museums, equalling, or even eclipsing, collections and research as museums’ primary purpose (Falk and Dierking 1992, xiii). The museum started to exist for *someone* rather than *something* (Weil 2002, 28–52). Museums were increasingly ‘audience driven’ rather than ‘collection driven’ in response to accountability pressures, including the necessity to quantify their value through audience numbers, audience satisfaction and learning measures (Hooper-Greenhill 1994a, 134). The 1980s were ‘watershed years’ in that educators joined exhibition development teams (Roberts 1997, 1). Professional balances of power shifted, in that those who ‘care for people’ began to be valued as much as those who ‘care for objects’ (Hooper-Greenhill 1994b, 1). In an extraordinary iteration of the museum institution, even museums without collections were founded, with the sole intention to educate the public. With the prevailing philosophy of ‘learning by doing’, designers developed new repertoires for exhibiting concepts and phenomena.

The take on the world in Act 4 of exhibition design is that learning about the world is enhanced through an individual’s concrete engagement. Museums adopted active-learning theories circulating in wider educational circles, from theorists such as Jean Piaget and Jerome Bruner, casting visitors as benefiting from direct and active exchange with the environment (Black 1990; Hooper-Greenhill 1991; Jackson and Hann 1994; Caulton 1998). The assumption behind Piaget’s school of thought is that concrete engagement with the world and cognitive conflict lead to increasingly complex thought structures (Roschelle 1995). In other words, by physically interacting with exhibits visitors would reassess their theoretical understandings (Bagchi and Cole 1992). Museums also adopted Bruner’s conviction to involve learners in the act of discovery, drawing on inductive-reasoning skills (Eason and Linn 1976; Black 1990). Discovery learning assumes that if learners are given raw materials, they will be able to experiment with them to discover the correct conclusions (Hein 1998, 30–33).

An effect of the educational mandate was for museums to assume responsibility for ‘doing good’ for visitors, ‘usually expressed as “educational” activities and institutionally defined objectives’ (Doering 1999, 75). So while the visitor was cast as ‘main protagonist’ in the staging of interactive exhibitions (Alberch 1994, 198), this was towards interests determined by the institution. In an effort to maximise the learning potential of exhibits, Chan Screven (1974, 1986) proposed exhibit design procedures. Drawing on the work of learning theorist Robert Gagne, Screven advocated the use of concept networks and learning hierarchies to identify the logical organisation of a given topic, so that exhibit developers could decide whether visitors must be able to recall certain facts, for example, or whether they were to distinguish differences between things. Central to Screven’s approach was the specification of learning outcomes for exhibits and the quantitative measurement of visitor performance. The assumption was that a ‘correctly’ designed environment would bring about the appropriate learning for visitors (Hooper-Greenhill 1994a, 139).

A lasting legacy of Screven’s (1986) work is the integration of front-end, formative and summative evaluation into the exhibition development process, with visitors or potential visitors. Visitor studies also became prevalent more generally, seeking evidence of the impact of shifting theoretical trends in exhibit design. Figure 2.1 shows a thematic grouping of visitor studies, according to how researchers have conceptualised the relationship between visitor and exhibit over the last several decades. This is not intended to be exhaustive, but representative, of significant shifts in museological thinking.

Empirical visitor studies concentrated in the 1980s examined the *effectiveness of participatory exhibits*. These are represented by the first group of studies in Figure 2.1. Key questions asked in these studies were the following: did visitors engage with the displays as intended, and did visitors learn what the displays intended? For instance, ‘exhibit effectiveness’ in one study was defined as the ‘measurable transmission of information about scientific principles from the exhibits to the visitors’ (Eason and Linn 1976, 46). Three of these studies measured motor activity, with around half of interactions as the designer intended. A small minority of visitors read text panels, instead using exhibits by trial and error, by imitating others or through instruction from others. While some visitors learned scientific principles, others could not report scientific learnings, and others were led to misconceptions. A common theme throughout the studies was enjoyment and fun, and the development of positive attitudes towards science.

Concern over the effectiveness of interactive exhibits in communicating scientific principles prompted research into ‘naïve knowledge’ or ‘intuitive notions’. What are learners’ misconceptions, and how could exhibits overcome them? One study suggested that for visitors to understand the concept of gravity, they needed to first understand what gravity was not (Borun, Massey and Lutter 1993). In another study, it was recommended that participatory exhibits be accompanied by highly structured text panels listing

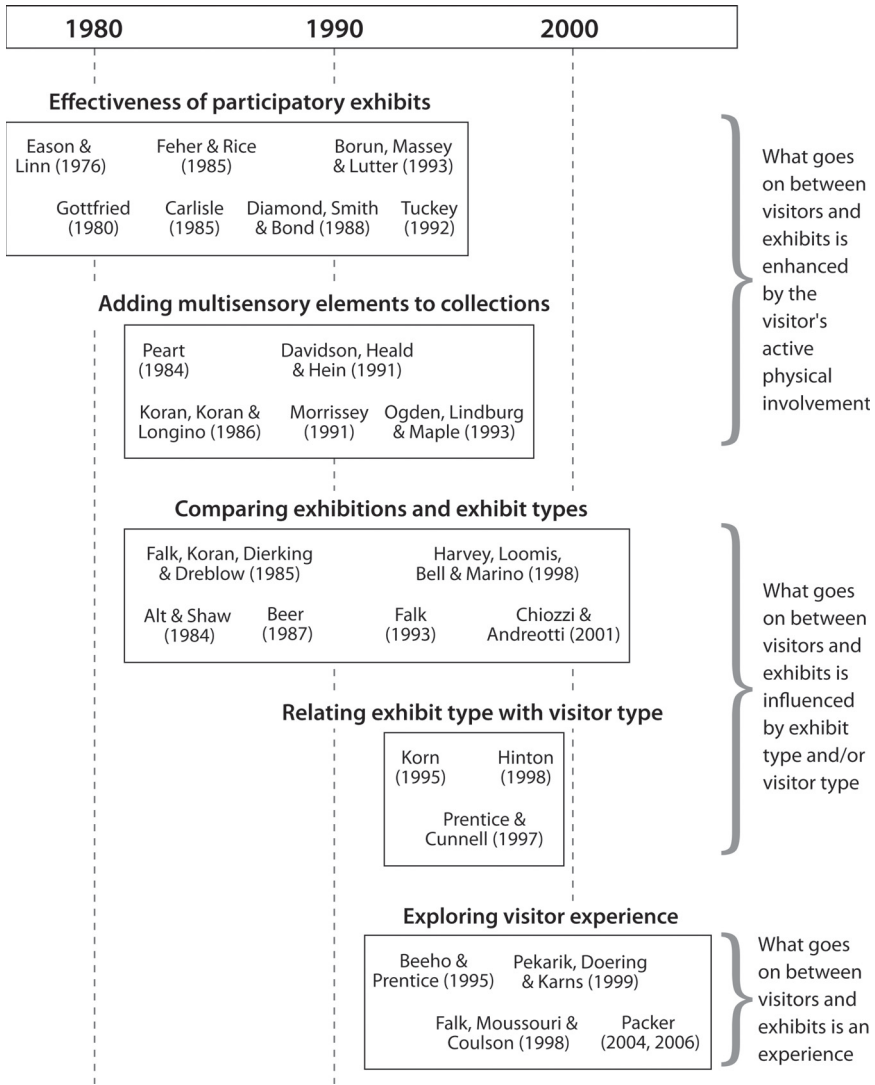


Figure 2.1 Visitor studies differentially conceptualising the visitor-exhibit relationship

step-by-step activities and leading questions (Feher and Rice 1985). This approach was not tested in the research, however, and was instead borne out of an interviewer guiding visitors through carefully designed activities, posing questions at pertinent times. This study appears to offer evidence in support of socially-mediated or scaffolded learning, rather than in the use of (often ignored) text panels.

Spurred on by active educational pedagogies and by the popularity of interactive science centres, traditional ‘hands-off’ museums began to add

multisensory and manipulative components to their otherwise static and visual exhibits. Visitor studies, represented in the second group in Figure 2.1, examined the impact of *adding multisensory elements to collections*, such as sounds, smells, touchable specimens and accessory tools such as microscopes. The findings of these studies report that both visitor time and learning increased with the addition of multisensory elements.

Another group of studies comparatively explored the newfound expansion of interpretive media. Studies *comparing exhibitions and exhibit types* are represented in the third group in Figure 2.1. Characteristics of the 'ideal' exhibit were found to be the following: 'It makes the subject come to life'; 'You can understand the point/s it is making quickly'; 'There's something in it for all ages'; 'It's a memorable exhibit' and 'It's above the average standard of exhibit in this exhibition' (Alt and Shaw 1984, 33). A significant finding was that, from the visitor perspective, interaction or participation were *not* key requirements of 'ideal' exhibits. Participatory exhibits placed unacceptable demands on visitor attention, with visitors preferring 'exhibits which impart a short clear message, displayed in a vivid manner' (Alt and Shaw 1984, 34). Alt and Shaw speculated that participatory exhibits may well be elevated to the status of 'ideal' exhibits if they were designed to get their message across quickly. In another comparative study, interactive exhibits were hypothesised to induce a sense of immersion in visitors, leading to a sense of flow and enhanced learning (Harvey et al. 1998). Unexpectedly, the study found that a traditional, high-object-density gallery was experienced as eliciting the greatest sense of flow. The researchers rationalised these findings by suggesting that the interactive gallery contained too many interactive features, preventing the elicitation of high levels of immersion by overloading visitors' capacity to maintain focused attention.

In the free-choice learning environment of the museum, John Falk and colleagues (Falk et al. 1985) asked, 'How predictable is museum behavior?' This observational tracking study produced a statistic that remains influential in museology, asserting that visitors typically spend 30 to 45 minutes looking at exhibits, at which time 'museum fatigue' sets in and visitors begin to skim the institution. The conclusion of this study was that museum visitors behave in reasonably predictable patterns, regardless of exhibit presentation. To the contrary, Valorie Beer (1987) found that exhibit type significantly influences how displays attract and hold visitors. Displays consisting of layered combinations of materials were the most attention-attracting displays. Beer's study also showed that exhibits consisting solely of text or a participatory device were ignored almost equally. Giorgio Chiozzi and Lidia Andreotti (2001) likewise found that communication technique not only appeared to influence visitor behaviour, but that it could override time and fatigue factors. Dioramas, in particular, enabled visitors to pay more attention, even if well advanced into a museum visit.

Whether many interactive exhibits lead to learning remains a contentious issue (Scott 2004). As Ted Ansbacher observes, '[a]lready it is not hard to

find “hands-on” exhibits where the actual experience is quite empty and the hoped-for learning resides in a didactic label’ (1998, 48). A ‘hands-on’ experience in the museum will not necessarily lead to a ‘brains-on’ experience (Jackson and Hann 1994). The learning in active learning theories necessitates ‘*mental* activity, which may or may not be stimulated by physical activity’ (Hein 1998, 31; original emphasis). Andrew Barry (1998, 105) reviews a range of problematic issues related to interactive exhibits: unless a visitor is already knowledgeable in relation to science, principles demonstrated by exhibits may not be understood; interactives may aid in the formation of erroneous conclusions and many interactives lack historical or industrial context.

Decontextualising concepts, by restricting interpretation to participatory activities, can strip meaning and relevance for the visitor or may distort reality (Caulton 1998, 34). For instance, exhibits that convey the ‘message “science is fun” may be misleading, when much of scientific research is slow, tedious and boring’ (ibid.). Encouraging fun engagement with ‘pure’ scientific principles might on the surface seem a value-free position. However, this is inherently power laden, intended to encourage positive attitudes towards science. The inaugural director of the world’s first entirely interactive science centre, the Exploratorium opening in 1969, was also coinventor of the atomic bomb. His overt intentions were to separate science from its social contexts, to defuse public fear of technology (Macdonald 1998, 15–16). Indeed, as another example of the potential misapplication of participatory approaches, ‘it would be unfortunate to suggest that “history was fun” for all groups in different periods of history’ (Caulton 1998, 34). Self-conscious engagement with the perspectives of different groups motivated the next act in the ongoing stageplay of exhibition design.

ACT 5: (DE)CONSTRUCTING INCLUSION

Act 5 problematises the idea that exhibits portray takes on the world, although cannot itself escape the inevitability. Quite simply, museums grew in consciousness about being sites of mediation for a diverse public. Ramifications for exhibition design centre on ways to deconstruct and achieve inclusivity. This complex exhibition design mantra seeded in the ‘new museology’ in the 1980s, gained traction with the accessibility agenda in the early 1990s and continues strongly today. As publically accountable and socially responsible institutions, museums are urged to ‘enrich and empower citizens from all racial, ethnic, social, economic, and educational backgrounds’ (Pitman 1992, 82; reviewing *Excellence and Equity*, a report issued by the American Association of Museums). The underlying intention to further democratise museum space aims to rebalance power relations between institutions, communities and visitors.

The intention of museums to be inclusive of a pluralistic world is motivated not only by a general social mandate, but also by wider conceptions of

knowledge and learning. In particular, the constructivist paradigm mediates within this era of exhibition design. Constructivism is colloquially referred to as the ‘meaning-making’ perspective (Silverman 1995). Constructivism foregrounds the idea that meaning is actively constructed, individually and socially, in contrast to positivist notions of knowledge and transmission models of learning (Hein 1998). This conceptual burgeoning further ‘mediates the mediations’ of exhibition design, to borrow again from Roger Silverstone (2005, 203). In relation to knowledge, postmodern awakenings saw a ‘paradigm shift in museums from Knowledge to knowledges, from science to narrative’ (Roberts 1997, 3). Recognition of knowledge as relative, situated and shaped by disciplinary traditions encourages the explicit disclosure of exhibits as interpretive acts:

If museums begin to acknowledge openly the inherent biases of their efforts, it will likely lead to two developments. First, museums will begin to present multiple points of view, understanding that we are conditioned by who we are and by our collective experience. Second, museums as imagined and fabricated places will no longer be a neutral authority, the dispassionate institution, the label of truth on the wall. (Volkert 1991, 48)

Calls for transparency and pluralism in the representation of knowledge are embodied in concerns of the ‘new museology’, which align with the compound mediations brought to our attention by Silverstone (2005). As Peter Vergo explains, behind any exhibition

there is a subtext comprising innumerable diverse, often contradictory strands, woven from the wishes and ambitions, the intellectual or political or social or educational aspirations and preconceptions of the museum director, the curator, the scholar, the designer, the sponsor—to say nothing of the society, the political or social or educational system which nurtured all these people and in so doing left its stamp upon them. (1989, 3)

The inclusion agenda prompted a suite of orientations towards exhibition design. Firstly, museums expanded *whose* voices were represented in the museum and *how*. Ordinary people’s histories, the vernacular and marginalised groups increasingly find a place in museums. Simply expanding the ‘cultural mosaic’ exhibited, however, can continue ‘to obscure the role of the museum itself in mediating the power relations between those who exhibit and those who are exhibited’ (Dicks 2003, 151). Tony Bennett senses that representational adequacy is never quite achievable, suggesting that museums equip communities to make their own authored statements with a museum’s resources (1995, 102–5). This approach to sharing curatorial power has begun to manifest particularly in relation to Indigenous groups,

through consultative and collaborative approaches to exhibition development (Gurian 1995).

Secondly, simultaneous presentation of contrasting points of view enables exhibit design to self-consciously tackle its stagecrafted nature. While constructivists resist championing singular ways of portraying the world, the social construction of knowledge nevertheless means that meaning-making is often patterned, rather than wholly idiosyncratic. Eilean Hooper-Greenhill (2000) advocates awareness of 'interpretive communities' sharing common sensemaking frameworks. Visitors, and designers, work within already publically circulating discourses mediated by other sources, such as television, film and print sources (Dicks 2000b, 70–77). A consequence of the social construction of knowledge is that knowledge may become distorted to support vested interests (Foley 1995). As a constructivist exhibition recognises that what it displays is socially constructed, it is more likely to present multiple perspectives and reveal the sources of those perspectives. It can thereby open issues up for verification, empowering visitors to examine evidence for themselves (Spicer 1994). This power sharing not only supports visitors in critically constructing meaning but also acknowledges exhibit developers as producers *and* as socially-influenced consumers of meaning, too (Mason 2005).

Thirdly, another orientation commonly advocated for exhibit developers is to search out and work with visitors' prior knowledge, guided by the understanding that individuals construct meaning by making connections with what they already know. The identification of visitors' prior knowledge has been suggested as particularly important, on the assumption that learning proceeds 'primarily from prior knowledge and only secondarily from the presented materials' (Roschelle 1995, 37). Tangible extensions of this are contextualising exhibits by linking the familiar with the unfamiliar, displaying issues of relevance to the lives of visitors and providing choice so that visitors can make their own personally meaningful connections (see Falk and Dierking 1992, 2000; Hein 1998).

An alternative to the emphasis on prior knowledge is to 'start off not with what the visitor *knows*, but with *what (s)he can imagine*' (Bedford 2004, 10; original emphasis). Kieran Egan describes educators' unquestioning acceptance of prior knowledge models of learning as inadequate and unnecessarily restrictive, posing that 'no one's understanding of the world expands according to this principle of gradual content association' (2003, 444). Egan does not suggest a wholesale rejection of the role of prior knowledge in learning but encourages dual attention towards the role of the imagination in facilitating metaphorical leaps in grasping knowledge. The narrative form, in particular, exercises the imagination, and often towards the appreciation of complex abstract concepts. As Leslie Bedford asserts, '[n]arrative enables people to imagine themselves in an unfamiliar world' (2001, 31).

So a fourth way to deal with the challenges of representation is to adopt narrative approaches. Narrative aligns with relativist perspectives of

knowledge as storied constructions, is pedagogically accessible and encourages active learning. Jerome Bruner (1986) advances narrative as one of two central modes through which thought, reality and experience are organised; the second mode is logic. As Bruner explains, stories are assessed for their believability or lifelikeness; they deal with human intention and particulars of experience and are located in time and place. Narrative can simultaneously deal with multiple perspectives, ‘beholding the world . . . through a set of prisms each of which catches some part of it’ (ibid., 26). Story actively engages learners by leaving meaning partially open, or performable, contends Bruner, through implicit cues and metaphors that engage the imagination, and by encouraging the perception of reality through the consciousness of others.

Concerns that knowledge will become subject to ‘rampant relativism’ (Roberts 1997, 3) can be dealt with through narrative, in that it can enable museums to ‘legitimately present a story that supports *their* particular interests and goals’, with the qualifier that it is ‘*a* version’, rather than ‘*the* version’ (ibid., 145; original emphasis). A particular enactment of story within exhibit design is thematic interpretation. Sam Ham (1992) promotes thematic interpretation for pedagogical reasons, for the creation of engaging and educational experiences for noncaptive audiences. According to Ham, the power behind thematically organising content is that it answers the ‘So what?’ question for visitors. For instance, biodiversity is merely a topic, a subject matter. Organising content around a theme, rather, such as ‘Preserving biodiversity is like having a life insurance policy’, immediately alerts the audience to the central message intended by a presentation (ibid., 38). This focused, thematic approach aims towards inclusivity by making meanings accessible to visitors.

A contrasting response to the challenges posed by inclusion and representation, a fifth approach, is not to offer any specific narrative at all. Rather, visitors are presented with montaged fragments from which to decipher meaning:

Techniques of collage, pastiche, irony and fragmentation constitute a trend that differs from techniques of interpretation and theming. Self-consciously postmodernist approaches . . . juxtapose different items together, quoting fragments of text and disjointed narratives . . . Rather than tying meaning down, such techniques seek to foreground, often through irony or aestheticization, the impossibility of objectivism and the constructedness of every ‘finished’ account. (Dicks 2003, 12)

While this approach can make a point about the nature of representation, Dicks suggests that it can also circumvent visitors from entering into deep engagement with content: while ‘ostensibly democratizing and accessible, [postmodernist strategies] may instead simply forestall critical engagement with the exhibition’s subject matter’ (ibid., 168).

A sixth option for dealing with the problem of representational adequacy is to be openly reflexive with visitors, enabling visitors to engage with backstage issues in the stagecrafting of exhibitions. That is, visitors could more readily enter into critical dialogue if exhibitions were ‘upfront about their own process of construction’ (Roberts 1997, 143). Importantly, if museums were open about ‘the “constructedness” of their exhibitions’, they could ‘foreground and critique their own mediating role in defining other places and people’ (Dicks 2003, 151). Such an approach would serve the twin intention of this inclusive act of exhibition design: the provision of accessibility.

The accessibility agenda is about not only physical access but also ‘conceptual, intellectual and multi-sensory’ access (McGinnis 1994, 29). George Hein (1998, 156) perceives the provision of access as enacting a constructivist approach to exhibit design. The provision of access arose as a key platform in the 1990s, in service of the inclusion agenda. Museums were seen to generally make their buildings accessible, but to ‘have little concept of what it means to create an accessible exhibition’ (Majewski and Bunch 1998, 153). Accessibility not only encompasses the previously mentioned concerns of representation in exhibitions, but also attends to the needs and preferences of individuals: ‘creating environments . . . for all visitors, regardless of ability or disability, age, educational background, or preferred learning style . . . user friendly in the broadest sense’ (Burda 1996, 24). The intention to mediate access prompted new professional roles, such as ‘audience advocates’ (Hooper-Greenhill 1991, 190–93) and ‘access advisers’ (McGinnis 1994, 29). By representing the interests of visitors, such professionals recalibrate the power held by visitors, ideally by addressing visitor access issues at all stages of exhibition development.

A general rallying cry during this era of inclusion was for museums to offer learning opportunities for all individuals, who learn in multiple ways (see Semper 1990; Volkert 1991; Dierking 1992; Pitman 1992). Exhibit developers were urged not to think in terms of learning hierarchies, as advocated in the previous act of exhibit design, but to think in ‘terms of preferences and style’ (Serrell 1990, 30). The accommodation of visitors’ ‘learning styles’ was encouraged to make exhibitions more universally accessible (Burda 1996). Howard Gardner’s (1993)⁷ theory of multiple intelligences was seen as highly appropriate, with Gardner identified as the most cited nonmuseum author in the museum literature (Rounds 2001). Multiple intelligences theory was described as a ‘theory of learning styles with important implications for museum educators’ (Falk and Dierking 1992, 101). The theory was credited with making a ‘new definition . . . possible for the educational role of the museum’ (Hooper-Greenhill 1994a, 141). It was described as having ‘major implications for learning and interpreting in museums’ (Glaser and Zenetou 1996, 242), and it was noted as a ‘learner typology’ representing ‘the most extensive effort to date to expand the means educators use to reach learners’ (Hein 1998, 23–24, 165).

Howard Gardner disputes the two traditional assumptions made about intelligence: that it is a singular general capacity, and that it can be measured by standardised tests. In devising his theory, Gardner examined what human beings actually did in the world (Checkley 1997). Gardner cast a wide net to examine the abilities of Kalahari Bushmen and Western scientists, as well as artists and politicians. He balks at the idea that ‘certain human abilities can be arbitrarily singled out as qualifying as intelligence while others cannot’ (Gardner 1993, xxiv). The initial set of intelligences encompassed linguistic, logical-mathematical, spatial, bodily-kinaesthetic, musical, interpersonal and intrapersonal intelligences. Gardner did not intend for this to be a definitive list. Naturalist intelligence, for instance, was retrospectively added (Checkley 1997). Ordinarily, individuals possess all of the intelligences to varying degrees.

Given that multiple intelligences theory received such high endorsement, it is curious that thorough probes into its application within exhibitions are seemingly absent. However, other visitor-exhibit studies were carried out in this age interested in deconstructing diversity and inclusivity. With the growing expansion of interpretive media types, and with acknowledgement of individual differences in people, researchers dissected the field of study into matrices *relating exhibit type with visitor type* (represented by the fourth group of studies in Figure 2.1). Do different types of visitors inherently prefer different types of interpretive media? Richard Prentice and Deborah Cunnell (1997) examined media preference in relation to social class. They identified clusters of individuals with similar responses to interpretive media: ‘acceptors’, 34.3 per cent (visitors appearing to uncritically accept all media provided); ‘non-involved’, 28 per cent (visitors preferring one reconstruction); ‘achievers’, 18 per cent (visitors with high education, preferring text, video, sound effects and some reconstructions); ‘traditionalists’, 16.5 per cent (visitors with high education, preferring text and images) and ‘expectant audiovisualists’, 3.3 per cent. Bracketing visitors with these value-laden terms does not appear helpful. Why, for example, should visitors who appreciate a wide range of interpretive media be labelled as ‘uncritical’ ‘acceptors’? They likely derive useful benefits from the very fact that contemporary museums provide a variety of ways to engage with content.

Other researchers did not find patterned differences in visitor preferences for exhibit types. Randi Korn (1995) found that science centre visitors and natural history museum visitors preferred the same three strategies: live demonstrations, things to handle/touch/manipulate and objects or artefacts. Do visitors with different learning styles prefer different types of exhibits? Morna Hinton (1998) found that most people rated their preferences for interpretive devices similarly, regardless of their learning style as determined by Kolb’s Learning Style Inventory. It appeared as though ‘rich and multi-layered’ displays and exhibits ‘good of their type’ transcended learning style (ibid., 282). The appeal of multilayered displays concurs with Beer’s (1987)

finding that displays containing combinations of media hold the most appeal for visitors.

From these studies, it would appear that typing visitors does not yield particularly fruitful directions for exhibit design. It is also worth noting the caution that '[m]ost museum writers who refer to learning style do so uncritically, without any apparent empirical evidence for their assertions' (Hinton 1998, 284). An unfortunate consequence of misunderstanding theories are superficial practices (Burke Guild 1997). Indeed, it wasn't necessarily the intention of the original theorists to categorise learners. David Kolb (1984) describes how learning styles may form, but his real focus was on overcoming the dominance of learning style through integrating all four modes of learning: concrete experience, reflective observation, active experimentation and abstract conceptualisation.

Similarly, Gardner 'discourage[s] efforts to characterize individuals or groups as exhibiting one or another profile of intelligences' (1993, xxvi–xxvii). Presuming that 'learners who favor a bodily-kinesthetic mode use their preferred style independent of the subject that is to be learned' (Hein 1998, 23) does not quite capture the essence of Gardner's work. Rather, people respond 'in different ways to different kinds of content' (Howard Gardner interviewed by Kathy Checkley 1997, 13). Further, the intelligences are expressed within cultural domains, that almost always 'require proficiency in a *set* of intelligences' (Gardner 1993, xxi; emphasis added).⁸ Moreover, despite the museum literature referring to them as such, the intelligences are not learning styles, learner types or perceptual preferences. In Gardner's own words, '[o]ne myth that I personally find irritating is that an intelligence is the same as a learning style' (Checkley 1997, 13). Nor can the intelligences be equated to sensory systems (Gardner 1993, 67). In the museum literature, musical intelligence is reduced to the auditory sense when it is suggested that the intelligence be engaged by the sound of a key turning in a lock, or footsteps on a wooden floor (Watson 1995).

Multiple intelligences theory was perceived to hold promise in the museum context in reaching diverse kinds of learners, who learn in different ways. However, this is fundamentally problematic as the intelligences are concerned with the *products* of learning, not the *processes* of learning (Silver, Strong and Perini 1997). In my view, this distinction is key to understanding why the museum field's initial embracing of multiple intelligences theory did not tangibly advance exhibition design discourse. Rather, to be faithful to Gardner's theory, exhibitions could be about the entire array of domains valued by the world's cultures and their associated sets of intelligences: from those of sailors to composers to surgeons to shamans. What, of these, remains marginalised or silenced in the museum? Moreover, exhibits could inspire fully fledged membership within a domain: 'How many of us know a scientist or a historian whose life trajectory began with a childhood experience in a museum?' (Hennes 2010, 27). What sets of intelligences are engaged by these professions? Being transparent about *how* exhibits are

the products of such professionals would not only give visitors peripheral insight into the disciplines, but it also brings us full circle to the outward admission of exhibits as interpretive acts.

Consider again the intent of Act 5, exhibition design as inclusive: what counts as meaningful and valuable for the widest range of the world's people? How can exhibition design respond? Another form of inclusion is the embracing of experience. Experience speaks to the processes that characterise the embodied act of being in a museum.

ACT 6: SPURRING THE EXPERIENTIAL

The take on the world in Act 6 is that meaningful conceptions of the world can be derived through experience: 'museums are a form of theater in which the varieties of human experience and the complexities of the world are staged for [visitors] in ways they find intriguing and helpful, inspiring and stimulating, seductive, and sometimes powerful' (Yellis 2010, 91). The experiential basis of the museum visit is vast, encompassing not only exhibits spurring an experiential quality but also the museum experience more generally. Notions of experience pervade museology so penetratingly that the next chapter continues to tease out broader meanings and implications of 'experience' within the museum field. Moreover, this act in exhibition design sustains a multistranded thread, seeing antecedents in previous acts. Why, then, demarcate *spurring the experiential* as an act in the ongoing stagecrafting of museums? It is to acknowledge its full coming of age as an orientation towards exhibition design.

What are overarching intentions, then, of experiential display? Museums as 'experience stagers' places them in a catalytic role: they strive to engage visitors' states of mind and states of being in personal ways through thematically-orchestrated cues (Pine and Gilmore 1999). In *The Experience Economy*, Joseph Pine and James Gilmore describe a point of difference to help define the experiential: 'goods and services remain outside of the individual, while experiences actually reach inside of the individual to affect him [or her] in an inherently personal way, greatly increasing the value of the offering' (ibid., 190). The intent to reach inside individuals aligns with the aim of experiential exhibitry to reconstitute the proximal relationship of visitors to museums' content: 'the visitor [is] no longer removed from the exhibited objects by a distance of representation, but plunged into the heart of the subject matter' (Mortensen 2010, 324). An illustration, which coincidentally and literally stays with the heart theme, is a physical and virtual sculpture of a beating heart at the Museum of Science and Industry, Chicago. Through sound and video projection, it beats in time with the heart of a visitor who grasps handles in front of it. The default heart rate is 60 beats per minute. Tom Hennes (2010) witnessed a visitor who caused the sculptural heart to pulse at nearly 120 beats per minute. The visitor's expression

turned from delight to concern, he checked and rechecked by returning to the exhibit several times, and he declared that a visit to the doctor was in order. The personal impact of the exhibit was palpable.

What about spurring experiences intended to simulate the lives of others? Bella Dicks explores the experiential fashioning of sites of display:

[Museums] promise to take [visitors] on journeys of discovery and not to subject them to corridors of dusty glass cases. They offer them the sights and sounds of people's lives and communities instead of shooshing them around collections of revered objects. (2003, 165)

The expectation has grown for cultural display 'to be experienced rather than merely gazed at' (9), with value lying in 'above all, the experience of meaningfulness' (8). Dicks observes that the twin desires for meaningfulness and accessibility invites an experiential approach to display. Simulating cultures, particularly with the aid of technology, 'help[s] to propagate a general expectation of culture as something one can step into and directly "inhabit"' (15). Of course, experiential simulations stylistically construct culture, as with any other type of display, and are subject to the same rhetorics of persuasion as other forms of mimesis. The question to ask then is, how does experience-led display influence how culture comes to be constituted and understood (12)?

Rather than accessibility and meaningfulness, some critiques emphasise the discursive formation at play in the experiential museum as the 'hybridization of commerce and culture' (Saumarez Smith 2006, 546–47). Indeed, the very title *The Experience Economy* (Pine and Gilmore 1999) highlights a commercial discourse. Museums find themselves in competition with other venues within the leisure industry. Audiences are accustomed to an increased 'level of the spectacular', particularly as many competing attractions are fiction-based (Dernie 2006, 14). Nick Prior holds that museums increasingly operate according to a 'logic of show business' (2006, 515). Experiential exhibits intent on catalysing spectacle, he argues, can have the effect of avoiding 'any messy, muddy, diseased reality' and of 'concentrat[ing] the experience way beyond anything reality offers' (ibid., 517). Dicks partly agrees, noting that technological simulation, 'whilst promising us ever more intense experiences of the world in its "natural" state, inevitably takes us further away from it' (2003, 9). However, she also notes that a commercial discourse is too simplistic on its own to account for the mediation provided by experiential display techniques (Dicks 2000b, 74). Michelle Henning likewise suggests that seeing contemporary modes of display as 'vulgarizing' the museum towards commercial interests neglects to recognise the 'already intimate connections' across Tony Bennett's notion of the 'exhibitionary complex' (2006, 304).

In particular, experiential exhibits are also discursively formed through contemporary pedagogies (Dicks 2003, 13). In the early 1990s, more inclusive

views of learning in the museum began to foreground the qualitative nature of human experience (Dierking 1992). It was recognised that focus on the achievement of specific knowledge gains in visitors failed to acknowledge the ‘range of visitors’ learning experiences— affective, cognitive, social, kinaesthetic, and sensory’ (Korn 1993, 252). Valuing experiential ways of being and knowing is to broaden what is recognised as the ontological and epistemological effects of exhibits. Ken Yellis describes visitors as ‘priz[ing] museums as theaters in which their own emotional and spiritual journeys can be staged’, noting that visitors recognise exhibitions as vehicles to ‘warm your wintry heart, lift your downcast spirit, soothe your aching soul, stir your languid conscience, or open your leaden eyes’ (2010, 87, 100). He urges museum professionals to do the same, if the potential of the exhibition medium is to be realised.

When exhibits are staged as experiential offerings, how can they be materially constructed? A point of difference from period rooms and dioramas can be encompassing the visitor within the exhibit rather than restricting viewing to a cordoned-off distance. Situating visitors within space-surround environments intends an inside-out frame of reference for the visitor (Harvey et al. 1998). Media and technologies, such as sound, light and audio-visual components, can be used to create experiential exhibits. These can complement authentic artefacts in a reconstructed space, or be employed on their own to catalyse an ephemeral experience. For instance, an exhibit may be constituted entirely by fleeting ephemera—through, say, sound effects and lighting—without any artefacts, models or apparatus at all. Such an arrangement is a notable punctuation in the discursive formation of exhibits and an inherent redistribution of power, as it enables the stories of cultures without tangible artefacts to be represented in museums (Gurian 2004). Alternatively, traditional display cases can be augmented with experiential elements—for instance, headsets that deliver automatically-activated music relating to the period and context of objects on display.

Immersive experiential exhibits can be conceptualised as reconstituting, creating or interpreting a reference world (Mortensen 2010; citing a paper by Florence Belaën, published in French⁹). Immersive exhibits of the *reconstitutive* type strive to recreate an external reference world as authentically as possible (Mortensen 2010, 325). An example could be a life-sized streetscape or landscape, incorporating authentic objects and encompassing the visitor through pathways within the exhibit. Immersive exhibits of the *creation* type create a fictitious environment, such as a tunnel enabling visitors to experience each of their five senses (*ibid.*). A third type of immersive exhibit *interprets* an existing reference world, in an indicative or symbolic way (*ibid.*). The interpretation model of immersion is useful when the reference world is not at human scale, and for catalysing abstract experiences. Recall Chicago’s two-storey walk-through heart, noted in Act 3. It manipulated human scale to create an immersive exhibit. A vivid and detailed account of a symbolic approach is found in Henrietta Lidchi’s (2006) chronicling

of an immersive exhibition interpreting anthropological practices and ethnographic collections, metaphorically, as cannibalistic.

The visitor experience as a general construct for study has been widely recognised for some time. In 2001, *The Museum Experience* by John Falk and Lynn Dierking (1992) was identified as the most cited work in the museological literature (Rounds 2001). The book's 'Interactive Experience Model' intends to aid exhibit developers in creating rich experiences by simultaneously considering the personal, social and physical contexts of visiting. By 1999, Neil Kotler argued that museums' ethos had become experience centred, encapsulating yet eclipsing collection-centred and education-centred notions of the museum. Implications of museums' different emphases were analysed by Zahava Doering (1999). Rather than a 'baby bird' model in which museums assume the role of educator for the benefit of their 'guests', an experience-oriented institution seeks to know what visitors as 'clients' actually want and derive from visiting the museum. What is their 'experience' made up of? What are quality experiences?

Studies *exploring visitor experience* (represented by the final group of studies in Figure 2.1) have sought answers to these questions. Alison Beeho and Richard Prentice (1995) offer a qualitative methodology to unearth 'worthwhile experiences' at institutions. Another study unpacking the visitor experience identified education and entertainment as not 'mutually exclusive' in the museum experience, but as 'complementary aspects of a complex leisure experience' (Falk, Moussouri and Coulson 1998, 117–18). In a research paper entitled 'Exploring Satisfying Experiences in Museums', Andrew Pekarik and colleagues (Pekarik, Doering and Karns 1999) suggest that visitors have divergent preferences for 'object', 'cognitive', 'introspective' and 'social' experiences. The study found that individuals, exhibitions, and museums, have different profiles of satisfying experiences. 'Cognitive' experiences were not the most satisfying experiences of any museum. The authors contend that preferences for 'object' and 'cognitive' experiences are mutually exclusive, that 'there is an inherent conflict between the presentation of an object and the presentation of information' (*ibid.*, 161). This is a curious finding, considering that the communication genre of exhibition design finds its uniqueness in the layering of multiple representational resources. The finding contrasts with Beer (1987) and Hinton (1998) above, who found that the most well-received exhibits were those composed of layered combinations of materials.

Further, as a designer wanting to make more sensitive design decisions, how can an 'object' experience can be more illuminatingly facilitated? How can the complex assemblages that are exhibitions nurture 'cognitive' experiences? Compartmentalising experience brings about different understandings than mapping the processes of experience, through space and through time. The research of Jan Packer (2004, 2006) affirms that visitors engage in free-choice learning in museums and other educational leisure settings not to learn something specific, but for the experience of learning itself—that is,

for the process of learning. Packer (2006) urges further research in museums on the nature of these learning experiences, from a process point of view.

The significance of the 'experience' construct to museological thinking has been sustained over time. The research underlying this book therefore took experience as its starting point. While these empirical studies exploring visitor experience contribute to a growing body of knowledge, they offer only a beginning in capturing the complexities and synergies of the museum experience. Moreover, it is important to situate these studies within the wider and more nuanced ways in which experience is theorised in the museum literature. This shall be the focus of the next chapter. What this literature will suggest is that the experience construct awaits even deeper methodological approaches for more sophisticated understandings of the visitor experience.

ACT 7: THE (NETWORKED) WORLD ENTERS STAGE LEFT

This tracing of exhibit design through time was to culminate in Act 6; however, the nature of mediation currently morphs at a hectic pace. The take on the world in Act 7 is a world mediated by anywhere, anytime, social, informational and knowledge-based networks. Many visitors arrive at museums with their pockets loaded with such technology. Through these, the world has entered exhibition space: mobile Internet access and social-networking platforms such as YouTube, Facebook, Twitter and Flickr perforate the boundaries of the in-house museum exhibition. Are these perforations welcome or unwelcome encroachments? Does merging with cyberworlds augment or erode exhibition space? The fusing of mobile phones and other devices with the World Wide Web has enabled unprecedented digital connectivity, connectivity which people expect to utilise across the contexts of their lives, and no less so in museums (Johnson et al. 2010). The notions of mediation, intentionality and power again have currency in this seventh act of the continuing stageplay of museum exhibition.

As people's personal lives are increasingly mediated by mobile digital technologies, so too are the possibilities for mediating people's engagement with public spaces such as museum exhibitions (Wasserman 2011). Sherri Wasserman documents a range of experiments employing the unique strengths of personal mobile devices: downloadable maps and audio files; iPhone applications extending an exhibit experience; geolocation technologies spurring exploration of the physical environment around a museum; regular SMS messages linking audiences to other platforms engaged by the museum such as Facebook, Twitter and museum blogs; and, weaving real-time data feeds into a virtual game so as to emulate a marine biologist's expedition. The intention of institutions in designing experiences utilising mobile technologies is to 'create moments of conscious co-presence and solidarity with their visitors' (*ibid.*, 13).

These examples show museums adopting initiative in incorporating mobile capabilities. In light of rapid and pervasive developments in networked social media platforms, such initiative is not without import. Nancy Proctor notes the revolution in mobile technologies is occurring ‘whether or not the museum chooses to be part of the conversation’ (2010, 36). Research has found museum visitors as more likely than nonvisitors to actively contribute to online communities and discussions (Kelly 2010). The public’s capacities, and growing expectations, to create and share user-generated content are key to the digital transformation. The situation is such that much of what is digitally posted and published about museums is now beyond museums’ control, as people have taken to sharing images, videos and commentary online (Proctor 2010, 35–36).

Some museums have begun to purposefully harness and manage user-generated content for exhibition development, through ‘crowdsourcing’, ‘citizen curators’ and ‘citizen scientists’, enabled through digital platforms and social media networks (*ibid.*). The physical spaces within museums can be seen as excellent places for accommodating the public’s expectations to ‘connect, contribute, communicate, and create’ via social technologies (Takahisa 2011, 111; reviewing Simon 2010). Nina Simon (2010) stresses the importance of articulating intentionality to potential citizen contributors: an institution can model the expected quality of contributions, and be honest about their intentions as to how contributions will be curated. Such strategies manage, somewhat, fears of variable quality. Rebecca Reynolds (2011) shows how explicitly acknowledging the authorship of different contributors to exhibit interpretation, contributors in addition to the traditional curatorial voice, enriches the visitor experience.

In realising the relationships between socially- and digitally-connected audiences and exhibition development, museums are again asked to consider the balance of power they hold with visitors. The very architecture of the World Wide Web rests on an egalitarian ethos in relation to the democratic creation and sharing of user-generated content. How does this sit with a traditional view of curators as the gatekeepers of authoritative knowledge? Proctor (2010) outlines a shift in where curators’ value might lie and hints at a reformulation of curatorial praxis. Rather than an elite speaking from an isolated temple, curators could act as moderating nodes in the new knowledge and social networks, assisting audiences to navigate and critically assess material in the online public domain.

The networked world is both intensely personal and global in its reach, with mediation occurring at individual, technological, institutional, cultural and societal levels. The question posed by Kress (2010, 97), of whether we understand the ontological, epistemological, political, social and affective meaning effects of different transcriptional technologies, can only be very partially answered in relation to digital media, as they continue to be newly pioneered. However their social and political power was duly demonstrated in 2010 and 2011, when governments toppled with the aid of

Twitter, Facebook and YouTube. Power clearly rests in the texting thumbs of ordinary people, in dynamic user-controlled portals and in the ability of any individual or community to broadcast essentially whatever they want to a worldwide audience. The world is now a stage for anyone. As a consequence, we are blitzed with ‘takes’ on the world from all sides. To mediate, and to be mediated, is ever ubiquitous.

Could museums be places, then, for circumspectly reflecting on takes on the world? Sounds like a worthy purpose, and welcome pause, to me.

EPILOGUE

As this chapter has ventured through the Renaissance, the Enlightenment, the Industrial Age, the Knowledge Age and the Digital Age, it reminds us that exhibition practice is on a continuing trajectory through time: ‘Representational and communicational practices are constantly altered, modified, as is all of culture, in line with and as an effect of social changes’ (Kress 2010, 7). Such is its adaptive nature, it is a ‘continuum’ that we recognise as the museum (Parry and Sawyer 2005). Ross Parry and Andrew Sawyer describe museums as dialectically shaped over the centuries not only by historical and cultural forces but also by information and communication technologies, broadly defined. How museums will continue to adapt as well as innovate in historical periods yet to come is unknowable, but we may operate with general awareness of processes of mediation, paying particular attention to intention and relations of power.

Applying the metaphor of stagecraft to exhibition design is not new. It remains, however, apt: ‘Each exhibition is a production, like a theatrical production, and like a play, it is a specific work of culture with game rules of its own’ (Pearce 1992, 136–37). Rather than ‘game rules’, I would substitute ‘conventions’. These conventions have shifted over time, as we have seen in the stagecrafted acts encapsulated by this chapter. The enduring relevance of the stagecraft metaphor is not to reduce exhibitions to the logic of show business. While exhibitions can entrance and thrill visitors, viewing the evolution of exhibition design as a continuing stageplay is to overtly recognise exhibitions as orchestrated through specific practices, as noted by Susan Pearce above. Moreover, problematising how museums stage their wares is to be overtly conscious of the persuasive potentials of museums’ myriad of resources. The significance of this stance is to denaturalise exhibitions as representations of the world, as opposed to taking the ‘take’ on the world suggested by an exhibit for granted.

At the same time, it is confronting to contemplate this: ‘curators, exhibit developers, and designers still think of exhibitions as stages for their *own* performances’ (McLean 2007, 118; emphasis added). My response to this is that the metaphor of stagecraft must include visitors as actors in the stageplay. An epilogue to a play serves as a concluding commentary and may

reveal the future fates of its characters. In this epilogue to seven exhibition-ary acts, I can reveal that visitors' transactions with exhibition spaces will be centre stage in each of the remaining chapters of this book. The entwined fates of visitors and exhibitions will be intensively explored therein.

In examining the question 'Do museum exhibitions have a future?' Kathleen McLean (2007) postures the institution-centric view of stagecraft above as a warning. She cautions that obsolescence may be a real threat to museum exhibits, particularly as even newly transformed museums do not appear to sufficiently attend to the visitor experience (*ibid.*, 117). Continued concentration on the visitor experience, however, can also be subject to mixed reactions within the museum profession. We indeed have a duty to think deeply and sensitively, for instance, about whose interests are being served through the experiential packaging of any particular culture for the purposes of display. However, a premise for the continued examination of the visitor experience is found in this: even the detached looking encouraged by static showcases of artefacts is inescapably an 'experience', replete with its own set of qualities. For whatever the content or media or interpretive strategy of an exhibit, we are human beings who make meaning through the unavoidable textures of experience.

It is helpful to perceive exhibits as performative spaces for intersubjective encounters (Hennes 2010). Tom Hennes describes exhibits as contact zones in which the experiences of contributors and developers interpenetrate with the experiences of visitors, wherein each may 'see the material of the exhibit through the eyes and experience of the other' (31). So while stagecrafted exhibits pose various relations of power, and sometimes 'radical imbalances of power' (26), Hennes reminds us of the power that visitors bring as their own subjectivities and motivations intersect with those of the museum. Power can thus be seen as generated from the 'space between' a museum and its visitors (26).

These complexities can be daunting to begin to comprehend. As the representations of museums are subject to visitor experiences, we are called 'to attend to the movement of meanings across the thresholds of representation and experience' (Silverstone 1999, 18). In other words, meanings are transformed as they move through cultures and disciplines, through an institution's interests, through the negotiations of an exhibit development team, through artefacts, technologies and media and through the visitor's tangible experience of an exhibition environment. Thresholds between representation and experience, between the discursive and the material, between exhibitions and visitors, indeed form central themes continuing throughout this volume. Conceptions of experience, as conceived in the museum field, are the charge of the next chapter. To begin to understand more thoroughly the *movement* of meanings across the thresholds of representation and experience required the visitor research underlying the remaining chapters of this book.

3 ‘Experience’ in Museums

It wasn’t just coming to a *museum*, it was like an *experience*.¹

The visitor’s comment above reflects a ‘revolution’ in museology, which no longer views museums simply as providing spaces for displaying objects but as environments for experience (Falk and Dierking 2000, 127). Exhibition design has shifted from space making to holistic experience making, from the design of ‘static architectural spaces towards dynamic mediated experiences’, blending artefacts, architecture and new technologies for increasingly media-literate audiences (Greenberg 2005, 227). The same visitor remarks that “I think to change the perception of a *museum* it has to have a lot of *good* experiences within the major experience.” If museum visiting is accurately conceived of as an ‘experience’, then the act of engaging with museum exhibits provides vital substrates for this experience.

Amidst an explosion of experiential possibilities for interpretive media, it is wise to also remember that the museum as a context for ‘experience’ finds its origins as a place for enabling encounters with materiality, with the ‘stuff’ of nature and culture: ‘Encounters begin obviously. At the edges of our museum experiences we are given objects and texts, things to see and perhaps touch, objects in relation to other objects’ (Carr 2001, 176). Experience arises, too, not just from experiential interpretive media, or from contact with authentic artefacts, but from the dialogic relationship between the thinking, feeling visitor and the knowledge-orchestrating museum: ‘The museum and I are interdependent. It is a dynamic knowledge structure, and I am a dynamic cognitive structure. I bring my energies to every moment’ (ibid., 175). Experience viewed like this implies a transaction, an exchange, between visitor and museum.

Although a commonsense term, *experience* conjures a suite of theoretical considerations that cannot be taken as given or without implication. The notion of experience can be a slippery one, so this chapter will map out nuanced meanings that sit behind the explicit inclusion of ‘experience’ in the title of this book. This chapter identifies four broad ways in which the experience construct is commonly mobilised in the museum context:

(1) experience is employed to reflect the multidimensionality of museum visiting, (2) to foreground experience can suggest alliance with particular views of learning, (3) experience is used to acknowledge the coproduced relationship between visitor and museum and (4) recent attention has turned towards the importance of maximising emergent experience. Despite considerable dealings in the previous two decades, the museum literature continues to call for deeper understandings of the museum visitor experience. Towards this end, multimodality is an emerging realm of theory that shows promise in lending additional insight into designing for the museum visitor experience.

VISITOR EXPERIENCE AS MULTIDIMENSIONAL

Numerous conceptions of museum visiting paint it as a multidimensional experience. People visit museums not only to have *educational* experiences to help 'make sense of the world', but also to have *reverential* experiences of something 'out-of-the-ordinary', or *associational* experiences, such as ritualistic social markers in family life (Graburn 1984, 180–81; after Sheldon Annis). The museum experience is widely accepted as multidimensional, in that it is the simultaneous interaction between the visitor's personal, socio-cultural and physical contexts (Falk and Dierking 1992, 2000). John Falk and Lynn Dierking describe the museum experience as occurring at the intersection of the following: the visitor's personal interests, expectations and prior knowledge; the influence of other people and wider sociocultural factors; and, the immediate physical environment in which visitors find themselves located.

Leisure, a primary motivation for visiting, renders the museum experience as multidimensional. Many visitors are cultural tourists, or local residents participating in a leisure-time activity. Museum-going is firmly identified with leisure (Hood 2004). If we foreground the public's leisure motivation for visiting, the museum may be more fittingly an 'educational leisure setting' than an 'informal learning setting' (Packer 2004, 14–15). Taking leisure or touristic motivations into account, visitors attend museums not only to acquire knowledge but also to have social and recreational experiences (Beeho and Prentice 1995; Kotler 1999). Indeed, visitors have been conceptualised as attending museums not so much to accumulate knowledge as to accumulate experiences (Prentice 2001). A range of experiences is seen as appropriate for and expected of museum environments, from the visceral to the emotional to the cognitive (Kotler 1999; see also Kotler and Kotler 2004; Kotler 2004). Visitors have been couched as 'consuming' museums as emotional and spiritual experiences (Prentice 2001). As a leisure-time activity, museum visiting brings with it 'an attendant expectation of a pleasurable experience' (Stephen 2001, 300).

The museum situated within the greater leisure landscape has implications for museums' identities. One implication is increasing association with

popular culture (Stephen 2001; Prentice 2001). Museums can bridge popular and academic cultures, 'making popular culture more thoughtful and scholarly culture more accessible' (Thomas 1999, 271). Further, divisions between high and low culture, elite and popular culture, have been transcended by many contemporary museums, in accord with contemporary pluralist cultural theory: there are many 'cultures rather than Culture' (Mason 2006, 18; original emphasis). Another implication of museums occupying a place within the leisure industry is increasing shifts towards commercialisation, towards business models of organisation (Foley and McPherson 2000). In a leisure market competing for the public's discretionary time (Stephen 2001; Mintz 1994), museums may find themselves (re)positioning 'visitors as customers who have to be entertained' (Vaughan 2001, 253).

Missions to educate and missions to entertain are variously postured. They can be seen as presenting an either-or dilemma for museums, as obligating hybrid approaches or as synergistically integrated. The perception of an either-or dilemma is reflected in commentary such as Nick Prior's (2006) description of an identity crisis: some museums can be seen as influenced by a 'schizophrenic history' of 'value dilemmas' (521), with their current turn critiqued as sliding from 'an aesthetics of distinction to a culture of distraction' (518). Prior posits postmodern approaches to museum development as 'unabashed crowd-pullers that appeal to entertainment as much as education and owe as much to the theme park as the modernist canon' (509). David Larsen notes that when natural or cultural heritage interpretation is considered 'valuable only because it is entertaining', it results in Disney-style 'interpretainment' (2002, 18).

Alternately, the hybridisation of education and entertainment has been exhorted in the museum literature: 'Museums must now use their collections both to educate and entertain its public—to entertain so as to educate' (Beeho and Prentice 1995, 231). 'The world's newest museums . . . entertain, as well as inform' (Casey 2001, 231). Finally, more integrative perspectives of education and entertainment have arisen out of visitor studies: 'Most museum visitors see no apparent conflict between fun and learning . . . Those people who enjoy learning, particularly the free-choice learning afforded by a museum, consider learning in a museum entertaining' (Falk, Moussouri and Coulson 1998, 117). The findings of Jan Packer's visitor study suggest 'that learning in educational leisure settings reflects a *synergy* of education and entertainment. . . . [A] new experience is produced that differs qualitatively from the singular notions of each' (2004, 181; emphasis added).

That the museum experience is a qualitatively distinct experience is also the view of Zahava Doering and her Smithsonian colleagues: people attend museums for unique experiences that they cannot find elsewhere, for specific 'museum experiences' (Doering 1999, 82). This perspective is complementary to the idea that visitors expect museums to fulfil 'experiential needs' not fulfilled by other institutions (Graburn 1984, 180). Aligning with a positive, self-development construct of leisure, Doering and her collaborators were

unapologetic about viewing visitors as 'clients', seeing it as an institution's obligation to find out what types of museum experiences visitors 'want'. The team anticipated a traditional objection amongst museum professionals to such a visitor-centred approach: that 'pandering' to visitors may damage the mission and value of the museum, on the assumption 'that visitors really want amusement, entertainment, simplicity, and a watered-down experience' (Doering 1999, 82). Doering rejects this supposition, identifying that underlying this assumption is another assumption: 'that *the values and desires of the visitors are inherently inferior to those of the museum professional*' (ibid.; original emphasis).

Fundamental respect for visitors, and confidence in the unique experiences offered by museums, makes redundant any fears of confused museum identities. As articulated by Kathleen McLean: 'Defining "entertainment" with the mind-set of a scholar or "education" with the mind-set of a theme-park operator does a great disservice to the complexity and sophistication of our audiences' (2004, 209). Those who position visitors as passive recipients are critiqued by Bella Dicks (2000a, 63) for lacking empirical study of actual visitors engaged in the communication process. Indeed, through visitor research, Gaynor Bagnall (2003) found visitors' consumption of cultural heritage as not passive and uncritical, but as active and reflexive, couching visitors as skilful 'performers'. In a competitive leisure market within a learning society, the unique strength of museums can be seen as the offer of high-quality, potentially-transformative experiences: 'That is a ride that no amusement park can ever duplicate' (Falk, Dierking and Adams 2006, 336).

Even as 'experience' has been suggested as a concept transcending opposition between education and entertainment (Falk and Dierking 2000, 75–76), some continue to distinguish experience from learning. For instance, 'modern exhibitions' arousing the 'emotions and wonder' of the visitor aim 'to provide an "experience" as much as an opportunity to learn' (Beier-de Haan 2006, 196). There is, however, a strong tradition in museological thinking that does not dissociate experience from learning. Rather, it sees experience as enabling learning: the type of learning afforded by museums is 'whole-body, whole-experience, whole-brain activity' (Falk and Dierking 2000, 10).

LEARNING THROUGH EXPERIENCE

One conception of learning through experience is about what happens in the here-now environment. The essence of 'experience' is that it is personally engaging: 'Experiencing connotes active engagement (direct observation of or participation in an event), immediacy (knowing something through sensory stimuli), individuality (something that is lived through), and intense, memorable, or unusual encounters' (Kotler 1999, 32). An experiential quality facilitates 'feelings and knowledge based on personal observation or contact' (Prentice 1996, 169). The visual, aesthetic and intellectual 'first-hand'

experience of ‘communing’ with art and objects has been identified as the distinguishing quality of the museum experience (Saumarez Smith 2006).

Another way in which museums seek to facilitate firsthand experiences is through ‘hands-on’ and ‘interactive’ exhibits. These approaches view learning as enhanced by physical participation, a philosophy of ‘learning by doing’. As canvassed in Chapter 2 (this volume), while hands-on and interactive exhibits remain popular, they are not a panacea to the challenge of meaningful exhibition design. Hands-on does not necessarily equate to minds-on. After stating his belief that ‘all genuine education comes about through experience’, influential educational theorist John Dewey quickly follows that with: ‘[this] does not mean that all experiences are genuinely or equally educative’ (Dewey 1938, 13). It can be the quality of reflective thought brought to the experience that determines the eventual learning (Andresen, Boud and Cohen 1995). George Hein (2006) suggests that, ideally, the ‘immediate experience cycle’ with an exhibit leads to engagement, reflection and continued engagement with the exhibit.

Rather than seeing learning through experience as necessarily tied to active physical engagement, visitors can be seen to learn through experience by drawing on their past experiences in making sense of present museum experiences. Viewing life as ‘a continuum of experiences which gain meaning from the ever-changing series of contrasts to which each individual is exposed’ (Graburn 1984, 178), Nelson Graburn suggested that the ‘meaningfulness and satisfaction of the museum experience is the product of a fusion of the debris of previous events and the new event of the museum experience itself’ (180). In this way, the museum experience is a process of ‘bricolage’ in which the visitor makes sense of the world through contextually relating new experience with selected parts of their total life histories (179).

George Hein (2004) emphasises that, to be faithful to Dewey’s ideas, experiences found inside the museum need to connect to life experiences outside the museum. The museum experience is not a life experience complete in itself, but important for its interpretation and expansion of experience (418). It is not sufficient to have an ‘active’ museum experience under the banner of active learning theory, for ‘museum experiences, even active ones, still need to be associated with richer, authentic life experiences’ (423). Application of Dewey’s *continuity of experience* principle is reflected in the simple yet encompassing view that ‘[m]useums should grow out of life experiences and be used to reflect back on life’ (420). This is what Hein (2006) refers to as the second ‘experience cycle’, in which visitors may not only utilise prior experience in reflecting on an exhibit but may also extend their experience.

Dewey’s continuity principle, whereby ‘every experience both takes up something from those which have gone before and modifies in some way the quality of those which come after’ (Dewey 1938, 27), subsumes both prior experience and effects on future experiences. It is important to locate

museum learning within a time dimension, which extends to both before and after the present visit (Falk, Dierking and Adams 2006). This is what Hein (2006) refers to as the third 'experience cycle', in which the reflection and inquiry visitors have in the museum setting may impact future knowledge and behaviour. An experience-inclusive view of learning has time and place dimensions; there are 'longitudinal and lateral aspects of experience' (Dewey 1938, 42). Learning spans the realms of people's lives. Principles learned in high school biology class years earlier might affect how someone interprets a natural science exhibit, the theme of which may be further exemplified in a television documentary that the individual happened to watch some months later. Learning is a continuous process, carried from context to context, over time. In terms of time, learning is lifelong; in terms of place, learning is life-wide. Individuals need to integrate museum experiences 'with the rest of their life', requiring time (Falk, Dierking and Adams 2006, 330). What an individual ultimately learns from a museum visit is affected by 'what happens subsequently in visitors' lives that relates to these initial experiences' (ibid., 328; see also Falk and Dierking 2000, 10–11).

In conceptions of how visitors learn through museum and life experiences, the ideas of John Dewey have been particularly influential. A related Dewey principle is that '[a]n experience is always what it is because of a *transaction* taking place between an individual and what, at the time, constitutes his [or her] environment' (1938, 41; emphasis added). This principle undergirds another important concept in museology, experience as coproduced.

EXPERIENCE AS COPRODUCED

Conceptualising experience as 'coproduced' views experience as constituted through the interrelationship between environment and person. So while it has been said that exhibitions are not 'products', but 'three-dimensional, environmental experiences' (McLean 1993, 18, 21), it can be more precise to say that 'exhibits aren't actually *experiences*—rather, they are *platforms* for experiences' (Hennes 2010, 25; original emphasis). Museums are 'quite literally *constructions to facilitate experience*' (Prentice 1996, 169, original emphasis). Visitors, then, contribute to the experiential product through their intentions, activities, imaginings and recollections (Prentice 1996, 2001). The resulting 'experience' has been perceived as the 'subjective mental state felt by participants' (Otto and Ritchie 1996, 166). As such encounters are about inner experience, about unconscious more than conscious factors, attempting to understand what goes on between visitors and museums becomes elusive (Roberts 1997, 13).

An area in which the nature of what goes on between visitors and exhibits has become indeterminate, with the understanding that experience is emergent between person and environment, is in the quality of authenticity. Museums are positioned as 'objectively authentic' by providing direct experience

with real objects (Prentice 2001, 16, 22). It is the quality of authenticity that draws museum visitors, which may be found in the artefact as a primary source (Thomas 1998). How 'real' is it, however, to view a decontextualised artefact? An object on display in a museum is 'unnaturally abstracted there from some "original" situation: its present situation is in one sense fraudulent' (Preziosi 2006, 54). Museologists have thus found themselves confronting the question, 'what [does] it mean to experience the real?' (Roberts 1997, 95). If only visitors can judge the qualities of their experience, then is it only they who can determine its authenticity?

Typically in museums, the visitor experience of artefacts is mediated by interpretation. Interpretation 'attempt[s] to restore the missing contexts out of which their original meanings arose and within which they "really" existed' (Roberts 1997, 102). In this conception, 'one idea of the real is displaced by another'; 'the "reality" of an object is as much a feature of presentation and experience as it is provenance' (ibid.). For instance, mounting historical documents in a showcase may not be as 'real' to visitors as having actors 'read them in voices and accents that suggest the emotional cost of this history' (Thomas 1998, 8). The criterion for authenticity thus shifts 'from the nature of the object to the manner in which it is experienced' (Roberts 1997, 98).

Museums do not always base their exhibits around authentic artefacts, increasingly using interpretive media to singularly convey intangible ideas and events as 'realities'. Successively more evoked forms of authenticity are theorised by Richard Prentice (2001), from direct experiences in real places to 'perverse' entirely fabricated experiences in museums. Prentice categorises visitors as 'non-delusive' when they gain insight through displays of artefacts and 'delusive' when they are 'happy to accept the delusion of contrived contexts to gain insight' (1996, 176). Such value-laden terminology appears to draw a distinction between classical exhibition display and immersive, reconstructed environments. Gianna Moscardo notes that academics regarding touristic experiences as 'inauthentic' employ a social representation of tourists as 'passive' and 'easily duped' (2000, 8).

The coproduction of experience between visitor and exhibit not only renders the experience of authenticity subjective, it likewise pries open the experience of *interactivity*. Is interactivity an objective feature of an exhibit, or a subjective quality of visitor experience? Some authors maintain a view of interactivity as a *fait accompli* and the sole prerogative of technically-interactive exhibits. The enduring conceptualisation of interactivity is that of physical reciprocity between visitor and exhibit: 'some sort of intentional, multi-phase, systematic interaction between one or more guests and a manual mechanical, electronic, or physical system' (West 2004, 214). In other words, the visitor's response produces a change in the exhibit (Bitgood 1991; McLean 1993); exhibit and visitor are both senders and receivers in a system in which participation is obligatorily required (Schiele and Boucher 1994; Barry 1998). In a science centre context, 'best case' interactive features have

been described as *physical*, 'direct interaction between the visitor and a physical phenomenon', and *adjustable*, 'the exhibit can be varied in a way that is continuously changing' (Allen and Gutwill 2004, 201). By putting visitors in a position of control, and by making multiple viewpoints available through the resources of new electronic media, 'interactive' exhibits are couched as democratising the content of museums (Henning 2006; Bennett 2006).

Others, however, do not see interactive experience as dependent on reciprocal change through physical engagement, but as also occurring along other invisible dimensions, such as dialogic exchanges between visitor and exhibition environment (Witcomb 2003, 2006). Interactivity can be seen as arising in the mind, as mental interaction (Kennedy 1990): 'Interaction is not simply visible activity (button pressing and so on), but the invisible, cognitive links made between different pieces of information and different sensory stimuli' (Henning 2006, 311). Interactive 'dialogue' can be created by label text (Spicer 1994). A visitor can interact with a static showcase of glasses through pursuing the implications of the label copy "One of these glasses is a fake" (Bradburne 2001, 80). Disney technology specialist Bran Ferren paints the most sophisticated interactive technology as humans, stressing the importance of understanding 'how we "interactive systems" find joy or enlightenment or a number of other personal states' (Ferren et al. 1997, 127).

A special edition of the journal *Curator* (47/2 April 2004) devoted itself to 'interactivity'. In light of mixed findings with regard to learning outcomes achieved with interactive exhibits, a 'process of critical reflection' was advocated to form a 'shared theoretical framework', a 'typology of the varied dimensions for which interactive experiences are conceived' (Scott 2004, 127). The stated aims of the *Curator* issue were 'to open the conversation to informed debate' and to increase museum professionals' ability to design interactive exhibits to 'achieve intended outcomes' (ibid., 129). This aligns with Zahava Doering's (1999) 'guest' attitude towards visitors, in which the museum seeks to 'do good' for visitors through institutionally-defined objectives.

Almost without exception, the articles in the special edition of the *Curator* assume a technical definition of interactivity. John Falk, Carol Scott and colleagues (2004) sought to explore visitor perceptions of interactivity, in visitors' own words, with the motivation that prior studies were restricted to 'investigator-imposed criteria' in exploring interactive experiences (ibid., 178). Perceptions of 'interactivity' were constrained in this study, however, to visitor responses to mechanically- or electronically-manipulable displays. So although the study sought to capture visitor-defined notions of interactivity, the study design assumed that 'interactive' experiences are limited to those achieved through technically-interactive exhibits.

An exception in the *Curator's* special volume on interactivity is Andrew Pekarik's (2004) 'Engineering Answers', which probes the underlying premise

of 'interactivity'. He aligns the typical process of designing interactive exhibits with a rational, instrumentalist, engineering model of museum work that aspires to achieve a particular outcome, or 'gain', in the visitor (145). This 'gain', however, is not necessarily the benefit hoped for, nor achieved, by museum visitors themselves. Pekarik poses an alternative vision, that the 'museum experience' is 'a *state of being* that stands apart from content' (146; original emphasis). The states of being created by exhibition experiences can be 'a sense of wonder, or curiosity, or excitement', 'a state of arousal, openness or alertness' (146). States of being 'are not exactly emotions, but something between heart and mind' (147). In the creation of states of being, Pekarik suggests that spatial qualities of museums, their architecture and design, contribute to 'what it feels like just to "be there", wrapped in a state of being' (147).

An expanded theoretical probe into interactivity, including the role of spatial qualities as raised by Pekarik, was undertaken by Andrea Witcomb (2003, 128–64). Witcomb perceives that the visitor can be in an interactive relationship with objects, spaces and meanings, and that this relationship is not dependent on any type of media. Interactivity can be achieved through imaginative and conceptual activity, not only physical activity. Significantly, Witcomb advances the notion that the approach a museum takes to interactivity determines its overall narrative tone (130). She theorises approaches to interactivity as 'technical', 'spatial' and 'dialogic'. 'Technical', or 'technological', interactivity requires physical participation by visitors with mechanistic or electronic multimedia manipulables (131–41). Witcomb questions whether technical interactivity offers the democratic access it purports to, aligning it instead with one-way flows of information from museum to visitor, as such 'interactives' are generally based on strong linear narratives with didactic aims (see also Witcomb 2006). 'Spatial' interactivity invites visitors to become coauthors in the production of meaning by making their own connections and contrasts between individual exhibit 'vignettes' (Witcomb 2003, 141–54). Rather than offering a thematic or chronological metanarrative tying an exhibition or institution together, stand-alone narratives are presented in discrete sections, offering no overarching fixed meaning. Meanings are made, then, through the visitor's activity of sampling between vignettes. The only overt organising structure is spatial design, which enables visitors' free movement between segregated spaces in the museum. 'Dialogic' interactivity entails 'spatial' interactivity but also 'engages in a dialogue from a position', around a central concept (156–64). Dialogic interactivity recognises that meanings are partial, historically-located and must be negotiated. Witcomb observes that the museum can create a space that encourages dialogic interactivity by posing questions, by contrasting perspectives and by juxtaposing objects.

While some in museological discourse view interactivity as the sole purview of a mechanical or electronic 'interactive' product, the review above has shown that others view interactivity as process, as a state of being or

action not tied to any particular communication medium. It would seem, then, at the very least, helpful to discern between 'interactive' as *product* and 'interactive' as *process*. While noting the debate about what constitutes 'interactivity', ultimately I align with the view that whether or not an experience is 'interactive' can only be determined by the individual visitor. For only visitors can judge the subjective qualities of their coproduced experiences, regardless of museum professionals' nuanced and contested definitions. For all the theoretical discussion, and an empirical attempt at revealing visitors' own perspectives, what is really known about how visitors experience interactivity? The issue continues to call for basic visitor research.

MAXIMISING EMERGENT EXPERIENCE

Recent attention has turned towards maximising the emergent experience of visitors. Focus on the nature, and value, of the immediate experience between visitor and exhibit has resulted from reconsideration of what motivates museum visiting. While museum-going has been identified as a leisure activity for some time, museum professionals' continuing pursuit of measurable and specific learning objectives for visitors suggests that the museum visit may remain misunderstood. In distinguishing visitors' motives from museums' idealised agendas for visitors, the sheer pleasure of piquing curiosity and 'learning for fun' have been proposed as more appropriate ways in which to conceptualise what happens between visitors and exhibits.

Jay Rounds (2004) reinterprets visitor research that shows that only a minute percentage of visitors attend to exhibitions in thorough and comprehensive ways. Consequent judgements of visitors as nondiligent, unfocused, unsystematic, random and haphazard meanderers are seen by Rounds as inaccurate and stigmatising. These judgements posit the majority of visitors as limiting the educational gains of museum visiting through ineffective visiting strategies. Rounds' alternate theoretical interpretation of this empirical data is that, as visitors are curiosity driven, selectively 'foraging' through exhibitions is an intelligent response to the realities of the museum context. Characteristically, people are motivated to visit museums for the pleasure of 'piquing and satisfying curiosity', to learn for learning's sake rather than to meet particular learning goals (392). Intrinsically-motivated learning in museums is 'wide but shallow', rather than the 'narrow but deep' learning of more formal educational settings (394). Rounds contends that much of the knowledge in museums is 'useless' knowledge, knowledge for which one has no known use but which may contribute to future creativity and adaptability. Given this 'useless' knowledge, he posits 'wide-but-shallow learning' as an intelligent way to engage with the museum (394).

Rounds (2004) theorises a set of strategies visitors may employ in the allocation of time and attention across curiosity-driven visits to maximise their 'Total Interest Value'. 'Fast and frugal heuristics' enable the visitor to

search for, attend to and move on from exhibits as a function of how interest as an emergent property arises: ‘the total interest gained should outweigh the total amount of energy and attention expended, and the total amount of boredom and aggravation endured’ (401). What matters for the curiosity-driven visitor is that strong and accurate cues, ‘interest scents’, are available so that visitors can make more accurate decisions in allocating their time and attention (403).

Similarly, Stephen Bitgood (2006) promotes the ‘general value principle’, suggesting that visitors make decisions as a ‘relationship between benefits (such as satisfying curiosity) and costs (such as time and effort)’ (464). In free-choice settings such as museums, ‘when the costs . . . are too great, and benefits not sufficient, people choose an alternate behavior’ (466). Bitgood (2000, 2002) exhorts museum practitioners to respect the naturally-limited attentional resources of visitors, presenting guidelines for exhibit design based on psychological principles to aid visitors’ ability to achieve sufficient focus. Bitgood’s overall tenor is in sympathy with a visitor-centred view. Rather than viewing visitors as needing to be ‘fixed’, he paints the professional field as early in its trajectory towards maturity: ‘Environmental design in museums is still in its infancy and suffers from a lack of competent researchers’ (2002, 476).

In parallel with Rounds’ conception of visitors foraging information for the pleasure of it, Jan Packer (2004, 2006) advances the concept that many people visit educational leisure settings for a ‘learning for fun’ experience. That is, they visit ‘not so much to *learn something* as to engage in an *experience of learning*’ (2006, 329; original emphasis). ‘Learning for fun’ does not merely combine separate qualities of education and entertainment, or effortful learning and passive enjoyment, but synergistically produces a qualitatively distinct, new experience (2004, 181–82). Significantly for exhibition designers, Packer’s visitor study found that learning in educational leisure settings was motivated less by *personal factors*, such as personal needs or interests, and motivated more by *situational factors* (2004). Thus, environmental factors shaping present museum experiences may require more careful analysis than the prior-knowledge-as-primary-influence model suggests. Among the implications of Packer’s research for experience design are appealing to the senses of discovery and fascination, engaging multiple senses, fostering the perception of effortlessness and the provision of choice (2006, 336–38).

The work of Jan Packer, Jay Rounds and Stephen Bitgood places significant responsibility for maximising the emergent experience of visitors in the hands of exhibition developers. While the educational standard may be ‘relaxed’ when developers do not strive for the communication of specific messages (Spock 2006, 170), the onus still lies with museum professionals to provide environments conducive to facilitating quality learning experiences that do not ‘cost’ the visitor too much or that assist the visitor to forage museums in ‘shallow-but-wide’ learning. As institutions can exercise

agency over situational factors, Packer's finding that situational factors can have greater relative impact than personal factors is of 'great significance' to institutions (2004, iii, 143). Packer's empirical study raises further questions for research, such as how visitors without learning agendas may nevertheless be drawn into a learning experience that is both enjoyable and productive, and whether 'learning for fun' is 'actually without effort, or does it just appear so?' (2006, 341). Indeed, many questions remain about the visitor experience and how it may be more sensitively facilitated.

DEEPER UNDERSTANDINGS OF EXPERIENCE

For all that has been theoretically explored and empirically examined about the museum experience, satisfactory grasp of the construct remains elusive: 'How can we . . . provid[e] experiences for visitors that are closer fits with what they truly want and need?' (Pekarik 2007, 131). More needs to be known about the 'basic features of visitors' experiences' (Paris and Ash 2000, 204). There are recurrent calls for 'deeper' research into museum experiences: research needs to delve more deeply into the meaning of experience for visitors (Roberts 1997, 88); research methods 'deep enough' to uncover 'idiosyncratic, specific ways of looking, thinking, and being in the museum' are required (Pekarik 2007, 133); '[h]ow can we conduct studies that give us a deeper appreciation for . . . ways of thinking and being' in the museum? (*ibid.*, 131); 'deep studies' are required to understand visitor perceptions and experiences (Hooper-Greenhill 2006, 362).

Further, authors provide suggested directions for this deeper research. Richard Prentice notes that visitors' experience of authenticity remains 'under-researched', our knowledge of it 'pitifully inadequate' even though museums 'are well positioned to offer a lead in our understanding of consumer-defined authenticity and how this can be evoked' (2001, 11, 22). For instance, what processes underlie museum visitors experiencing fabricated displays as 'real'? Jan Packer (2006, 341) urges educational leisure research to focus on the process or experience of learning, not just on learning outcomes. In particular, and as mentioned previously, Packer has indicated the need for research on the influence of situational factors in the museum experience.

Compatible with the call to study the process or experience of learning from a situated perspective, numerous authors point to the importance of considering the intersections between interpretive strategies, interpretive media and visitors. Eilean Hooper-Greenhill calls for an 'in-depth' approach to 'probe interpretative strategies and repertoires' in light of 'contingent, variable, and fluid' meaning-making processes (2006, 373). Scott Paris and Doris Ash advocate theory building approaches to come to a finer understanding of visitor experiences, 'based on the unique affordances of the environments and the multidimensional experiences of visitors' (2000, 203).

Andrew Pekarik urges ‘an empirically derived sense of how different subjects, display technologies, and presentation modes intersect with this diversity [among visitors]’ (2007, 134). What these calls have in common is that they urge research that is at the interface between museum visitors and museum environments—that is, research that provides insight into the ‘ecology of environmental opportunities’ available to museum visitors (Paris and Ash 2000, 207).

The research underlying this book thus set about examining the ecology of environmental opportunities available to visitors, the interfacing of visitors and exhibition environments. The four constructs explored in this chapter—experience as multidimensional, learning as experiential, experience as coproduced and maximising emergent experience—are basic orientations to visitors’ relationships with exhibition spaces. They are all useful. As a designer, however, an additional realm of theory lends specificity and depth in relation to the myriad of communicational elements spurring the visitor experience: multimodality.

MULTIMODALITY

In the museum, people experience the world through material representations. As explored in ‘Exhibition Design as Mediation’ (Chapter 2, this volume), these representations have been differently mediated and realised through time. A concluding thought to that chapter was that exhibits can be seen as modulating thresholds between representation and experience. A burgeoning field of inquiry, with something to say about this complex carriage of meanings, is multimodality. Specifically, multimodality examines cultures’ entire ways of expressing meaning. With meaning *expressed* in divergent ways, it follows that meaning is *experienced* in divergent ways. Four multimodal constructs illuminate intrinsic connections between representation and experience: mode as material and cultural, multimodal integration, differentiating between mode and media and the multimodal realisation of discourse.

Before outlining these key aspects of multimodality, it is helpful to note that multimodality sits within a broader field of study, semiotics. Semiotics is the study of signs. Signs are ‘anything which “stands for” something else. In a semiotic sense, signs take the form of words, images, sounds, gestures and objects’ (Chandler 2007, 2). To think semiotically is to consider how meanings are formed through material representations, and how these meanings become socially meaningful within cultural groups. In semiotic thinking, the material world is seen as discursively or symbolically meaningful (Schwarz 2006). Semiotics is particularly helpful in the exhibition context as it can be used to examine ‘how meanings are made and how reality is represented’ through *systems* of signs, such as a medium or genre (Chandler 2007, 2).

Mode as Material and Cultural

Rather than a traditional Western view privileging language, a multimodal lens equally values the written and spoken word, still and moving images, sound and music, spatial and architectural arrangements, gesture and gaze and any other culturally-patterned 'modes' of expression (see, for instance, The New London Group 1996; Kress and Jewitt 2003). Modes are considered semiotic when used by given communities 'with discernable regularity, consistency and shared assumptions about their meaning-potentials' (Kress 2009, 59). This definition means that finer entities such as font, layout, colour, painting and photography can also qualify as distinct modes within given groups of people. As cultures are fluid and evolve dynamically, semiotically-defined modes morph through time. A conception of meaning-making which accounts for culturally-patterned modes is referred to as 'semiosis'.

Modes arise from the 'bodyliness of humans' (Kress 2009, 57). That is, 'human semiosis rests, first and foremost, on the facts of biology and physiology' (Kress 2000b, 184). What can we perceive with our senses, or do with our bodies? Modes such as writing, image and gesture offer different potentials and limitations for expressing meaning. Think, for instance, of the calibrations of meaning made possible through speech and voice (see Van Leeuwen 2009): a soft, breathy voice; a rough, rasping voice; a deep, smooth voice espousing a particular corporate identity. Material qualities of voice—variations in loudness, rhythm, pitch and intonation—carry meaning (Kress 2010, 80).

While beginning with the capacities of our bodies and the materiality of 'stuff', how representational modes come to mean is not solely biological or physiological. Rather, society continually selects from, elaborates and reshapes available material resources towards what is useful for social purposes (Kress 2009, 55–56). As the natural world interfaces with the social world, culture works over time to shape materials to communicate in socially meaningful ways, or semiotically (Cope and Kalantzis 2000; Kress 2000b). Material elements form the substrate for meaning-making but are at once filtered through culturally-patterned conventions. Experience can therefore be seen as 'intrinsically semiotic in nature', as engagement with the material world is routinely reinterpreted at higher scalar semantic levels (Thibault 2004, 303–4). Semiosis, then, stems from continuous interplay between the physical and discursive, the material and semiotic (Thibault 2004; Van Leeuwen 2009). This concept is particularly useful in relation to visitors' sensemaking in exhibition spaces and will be explored over the course of this book.

Multimodal Integration

A conviction of multimodality is that meaning-making *always* relies on the integration of multiple modes (Cope and Kalantzis 2000; Kress and Jewitt

2003). In face-to-face speech, meaning is conveyed not only through words but simultaneously through gesture, tone, gaze, spatial relations and costuming (Preziosi 1979b, 2006). The written word communicates not only through text but also through layout and choice of font. Newspapers coarticulate meaning by juxtaposing text and images. Exhibition environments are unequivocally multimodal in that ‘different semiotic resources, such as photographs, three-dimensional physical objects, space and language, are co-deployed in complex ways to construct meaning’ (Pang 2004, 28).

With multiple modes copresent in any learning event, multimodal meaning forms through the integration of modes:

For instance, mass media images relate the linguistic to the visual and to the gestural in intricately designed ways. . . . A script of a sitcom . . . would have none of the qualities of the program if you didn’t have a “feel” for its unique gestural, audio, and visual meanings. (The New London Group 1996, 80)

Imagine a history exhibit: a series of photographic images, combined with audio recordings. The meanings of the exhibit are distributed across both image and sound. Each has the power to convey a ‘partly-unique perspective on the totalities of sociocultural experience’ (Preziosi 1979b, 3). So while a multimodal view grants equal privilege to different modes of expression, it also holds that the modes in any one representation do not necessarily carry meaning in equal proportions. Any mode in an ensemble carries part of the message only, meaning is distributed across modes and one or more modes may be foregrounded (Kress and Jewitt 2003). Some modes carry meaning not available in others. Significantly, overall meaning is not simply the *addition* of multiple modes; it requires the *integration* of these modes (Cope and Kalantzis 2000, 211). That is, copresent modes inflect meaning on each other.

A semiotic question asked of the exhibition field is, how does an exhibition mean? (Pang 2004, 30). In an exhibition, multimodal resources such as objects and images ‘mean in collaboration’ (*ibid.*, 31). Mary Macken-Horarik (2004) provides the example of engaging with a labelled gallery artwork. She firstly responds to the visual image and then attends to the label text, which redirects her to perceive particular qualities in the artwork. Upon returning to the image, she finds heightened meaning, made possible through the complementarity of image and label. As ‘the verbal text carries meanings not available in the visual, and vice versa’, the whole meaning is greater than the sum of the parts (*ibid.*, 8). Directing one’s attention to an artwork, to a label and back again to construct a whole meaning is a typical, yet bounded, example of what happens on larger scales in people’s negotiation of exhibitions. That is, people make sense in museums through interrelating representational resources present in space.

How information is ‘spatialised’ is an essential element of exhibitions, orchestrated as they are as three-dimensional ‘texts’ (Pang 2004, 40). Not only

are all the semiotic modes used in a particular exhibition arranged *in* space, but spatial meaning coarticulates with other modes. Maree Stenglin (2004) theoretically examines the spatial modality as employed in museums. Stenglin explores the idea that a theory of semiotics needs to consider how the occupants of architecture are made to feel: 'does it make them feel *free*, does it *dominate* them, does it *stifle* them, does it make them feel *vulnerable* and *exposed*, or does it make them feel *protected* and *secure*?' (ibid., 32; original emphasis).

Further, combining modes together—such as writing, image and sound—'creates an even more complex and potentially open representation', encouraging polyvalent meanings (Dicks et al. 2005, 78). Experience and meaning in museums is thus influenced by the unique fusion of its different semiotic resources. That which is the 'experience' of an exhibition environment can begin to be seen through the dynamic copatterning of its multiple modes (Ravelli 2000, 511).

Differentiating between Mode and Media

The experience of a context is further impacted by the media in which modes are realised. The mode of writing can be materialised in a leather-bound book or on a hyperlinked web page. Speech as a mode may be realised in face-to-face conversation or as a public address on the radio. The book, computer screen, conversation and radio are all types of media. The use of a particular medium adds its own layer of meaning: '[s]igns in neon light do not mean the same thing as hand-painted signs on a wooden board' (Kress and Van Leeuwen 2001, 69). The communicative power of media inextricably forms part of the message.

Media also affects experience as it affects dissemination: *who* can be addressed and *how* (Kress 2000b; Jewitt 2004). Face-to-face conversation is available to those in immediate proximity; it preserves gestural and other meanings. Radio broadcasts are disseminated to all those who tune in. And while the radio broadcast preserves voice, it does not communicate with gesture, gaze, spatial relations or costuming. The hyperlinked computer page can be seen worldwide by anybody with Internet access, clicked on and navigated around. You can hold the leather-bound book in your hands, flick through it, smell it and feel its different textures and its weight. The choice of medium will impact the range of modes conveyed, and the medium chosen will also impact those able to witness it and when. Media are subject to different logics of time and space, and different qualities of materiality affect the expression of meaning.

The term *multimediality*, then, refers to the idea that just as multiple modes constitute any given communication, they can also be conveyed by multiple media (Kress 2000b). This differentiates the notion of *multimediality* from a narrower definition of 'multimedia' as computer-based media. A book is a medium as much as a computer screen. The broadly-defined

concept of multimediality finds relevance in relation to contemporary exhibition environments that routinely employ a wide variety of media, both static and dynamic, low tech and high tech.

Multimodal Discourse

Multimodality theorists examine how discourses are articulated through all manner of representational resources and not just through language (Kress and Van Leeuwen 2001). The material realisation of discourse speaks to ideas explored in the previous chapter: exhibits as takes on the world, exhibits as material-discursive formations and exhibits as motivated conjunctions of form and meaning. Simply, how discourses take form. Specific discourses can be expressed as narrative. In producing an exhibition, narrative ‘binds the particular selection and arrangement of multiple semiotic systems’ (Pang 2004, 36). In consuming an exhibition, visitors engage narrative to relate exhibit fragments at a higher level of meaning (Macken-Horarik 2004, 23). Multimodality theorists recognise narrative as a mode with its own conventions (Dicks et al. 2005, 72) and as a mode employed with a greater order of meaning.

Inherent in the realisation of discourses is how the institutional context impacts viewing practices (Macken-Horarik 2004). Discourse is active institutionally and epistemologically (Kress 2010, 121). Institutionally, visitors can experience the museum itself as a ‘sign’, as ‘the ultimate authority to authenticate experience’ (Roberts 1997, 103). Further, when objects are transferred from their original contexts into an exhibition, their fundamental value is ‘mediated by the institutional environment of their *display* in a museum’ (Pang 2004, 30; original emphasis). The very act of display creates ‘cultural cachet’, whereby even the ordinary is awarded significance (Ravelli 2000, 494).

An illustration of the realisation of discourse in epistemological terms is to consider the following question: ‘how does scientific knowledge—produced elsewhere—become *reproduced* in the [science] centre in the guise of interactive material exhibits . . . ?’ (Dicks, Soyinka and Coffey 2006, 80; original emphasis). In interactive science centres, the overarching discourse finding materialisation is a science construed as ‘human-initiated mechanical movement’ (ibid., 87). From a multimodal perspective, different modes and media are mobilised towards a particular construction of science:

[I]n considering how different modes are employed by different media in the communication of science we can see how *this* particular environment (e.g. a discovery centre) produces science differently to *that* one (e.g. a classroom), and how these differences may be related to historical shifts in discourses of pedagogy and learning. (ibid.; original emphasis)

Science centres project the discourse that science is ‘fun’ through material choices such as bright colours suggestive of children’s play spaces, as well as

through encounters with science through active engagement (ibid., 85). The key point is that environments communicate at different levels, employing material dimensions to construe meaning. Bella Dicks and colleagues describe this as the ethnographic study of the 'multiple semiotics of environments' (Dicks et al. 2005, 117).

Multimodal and multisemiotic analysis direct explicit attention to the 'metamuseal' discourses by which institutions and exhibitions are organised (Bal 1992). As discussed by Mieke Bal, the discourses of exhibitions are not 'natural'; they are 'semiotically charged' 'sign systems' (562). For instance, Bal describes an exhibit about Africa drawing on scientific graphic conventions as 'visually proposing that what we are about to see is the "truth" of Africa' (579). Michelle Henning describes natural history dioramas, 'with careful boundaries drawn between each species . . . and humans placed outside the natural world', as representative of late nineteenth- and early-twentieth-century discourses (2006, 305). In contrast, an exhibit enabling visitors to enter a space-surround simulated rainforest, illuminating the interdependence of species, is described by Henning as reflective of contemporary constructs of biology and environmental science.

Such shifts in exhibition design are not always well received, precisely for their metamuseal discourses. Nick Prior (2006), for instance, notes increasing departure from chronological orderings in exhibitions towards thematic arrangements. He disparagingly describes an exhibition in which artworks were '*scrambled* into thematic blocks', rather than ordered by 'the linear narratives of traditional art history' (516; emphasis added). While noting that such arrangements align with a democratising discourse, he judges it as 'a kind of "splice and dice" pattern that echoes the development of sampling culture at large' (517). The examples discussed here embody characteristics of several acts in the ongoing stageplay of exhibition design, as explored in 'Exhibition Design as Mediation' (Chapter 2, this volume): scientific looking, scientific doing, scientific reconstructions, chronological orderings and thematic approaches. Multimodal discourse analysis provides a further prism through which to examine how exhibitions are organised as such sites.

Another theme traversing Chapter 2 (this volume) was the way in which exhibitions come to evolve as representations—that is, through dynamic mediations occurring between society, culture, institutions, technologies and individuals. Similarly, Rick Iedema (2003) introduces the idea of 'resemiotization', referring to 'the processes and logics of representing', to how choices made in materialising meaning realise 'social, cultural and historical structures, investments and circumstances' (50). He prompts consideration of how museum exhibitions 'come about as semiotic constructs through the deliberations of writers, filmmakers, planners and builders. . . . all the semiotics, the coincidences and the compromises which played a role in [their] inception' (49). Iedema's argument is that considering representations both multimodally *and* through the resemiotising processes of their creation more completely enables 'multi-semiotic discourse analysis' (50).

THE NEED FOR EMPIRICAL, SITUATED RESEARCH

The above family of constructs is useful in thinking about the design of exhibition contexts. Exhibitions as complexes of modes and media, the multimodal expression of discourses and the resemiotisation of knowledge through the exhibition genre offer a framework which is at once materially specific and discursively attuned. For designers who need to work with specificity, and with awareness of the wider intellectual impact of their work, multimodal and multisemiotic conceptions hold promise. Multimodality and multisemiotic theory have already been applied to exhibitions, either directly or indirectly, by a number of researchers.² However, most of this work omits the study of those who are ultimately making meaning: museum visitors. Instead, these theoretical researchers 'are concerned with virtual rather than real relations', '*idealiz[ing]* the complex relationship between texts, interpretive practices and interactants' (Macken-Horarik 2004, 12; emphasis added).

In contrast, my conviction is that understanding how to design for the museum visitor experience must begin with understanding visitors' experiences of real exhibition spaces. I concur with efforts to understand the multimodality of meaning-making as a situated social practice (Moss 2003). As such, this project speaks to efforts to begin developing an empirically-derived multisemiotic conceptual framework, a realm which is as yet 'relatively untheorized' (Dicks, Soyinka and Coffey 2006, 78). However, I did not begin this research with knowledge of these constructs. Their explanatory power only became apparent during the latter phases of analysing what visitors told me about their exhibition experiences. In alignment with the grounded approach to this research, any theoretical constructs had to earn their way into the analysis through relevance to visitor accounts. The research design I fashioned, to generate these accounts of the visitor experience, is delineated next in 'Deconstructing Visitor Experience'.

4 Deconstructing Visitor Experience

We've just about revisited, haven't we?! [laughs]¹

Visitors are the ultimate arbiters of how design choices catalyse their experiences of exhibition environments. Deep entry into the experiences of visitors is therefore needed to build new knowledge within the discipline of exhibition design. This research set out to deconstruct visitor experiences, so as to reconstruct them at a higher level of theoretical understanding. My conviction was to deconstruct ordinary experiences, the experiences of uncued visitors. While preserving ordinary experiences aims to keep research closely aligned with what's happening on the ground, the researcher still requires some form of entry into this experience. Facilitating *revisitation* through qualitative, reflexive interviews—summed up by the above visitor's comment—reflects the detailed, retrospective approach I took to eliciting visitors' encounters.

This chapter will show how the conceptual framework presented across Chapters 5–8 (this volume) was generated. That is, the constructs of framing, resonating, channelling and broadening are based on the analysis of hundreds of visitor experiences across multiple sites. This chapter shows the methodological perspectives and practical methods that were used to generate an evidence base, how a new theory was built from the ground up. As encouraged by Scott Paris and Doris Ash (2000), it is time for the museum industry to come of age and generate theories it can call its own.

Designing and executing this research followed a stream of decision points in a networked enterprise. To document this decision-making process, this chapter comprises two parts. *Conceptualising the field* locates the study within wider methodological considerations. How was the field of inquiry perceived? *Investigating the field* details the practical research methods employed to collect and analyse data. What was carried out in the field of inquiry?

CONCEPTUALISING THE FIELD

When embarking on research, it is important to be aware of overarching orientations towards the research context. How the field is conceptualised, and the techniques used to investigate it, will guide what will be ‘seen’. Three complementary perspectives informed the methodological development of this study. Phenomenological, transactional and grounded theory conceptualisations shaped the research towards an embodied, process view of what happens as people wander around exhibition environments. Each of these orientations is compatible with preserving, yet penetrating and analysing, the ordinary experiences of participants.

A Phenomenological Investigation

Recall your own experiences of museum visiting: how you engaged with exhibit after exhibit through various combinations of sight, sound and touch; how you felt stimulated, entranced, distracted, weary; how you judged something as being real or authentic; how you experienced states of remembering, knowing and familiarity; how you ‘read’ and responded to the architecture of the building as you navigated your way through exhibition spaces. To understand the visitor experience from a first-person point of view, the visitor research underlying this book was open to capturing data about all of these phenomenological dimensions of experience.

Phenomenology is about eliciting the essence, or meaning, of experience (Morse 1994). How do people perceive the phenomenon of engaging with museum exhibits, make sense of it, develop meanings about it and play a part in producing it? A phenomenological methodology focuses on how people experience a particular phenomenon in their lived world, in their own words (Parker 2004). While experience is inherently influenced not only by personal but also by sociocultural and environmental factors, in a phenomenological sense experience can only be ‘felt’ by the ‘experiencing person’ (Coburn 2001, 310).

Phenomenological states involve the ‘intensity’ of the senses, ‘arousal’ and ‘distraction’ (Greenfield 2001, 625). Consider how feeling ‘fatigued’ and feeling ‘stressed’ feel different to experience; they are phenomenologically distinct classes of experience (Kaplan 1995, 180). The experience of ‘realness’ is a phenomenological construct (Coburn 2001). Taking the view that experience is coproduced between person and place, whether something in the museum is perceived of as ‘real’ can only be made manifest within the experience of the visitor. The phenomenological consideration of experience is not only about what individuals sensorially, affectively or physiologically feel; it entails yet other meanings of experience. Occurrences within individuals such as ‘remembering’, ‘knowing’ and a sense of ‘familiarity’ are phenomenological experiences (Whittlesea and Williams 2000). The functionality of architecture is phenomenologically experienced by its

occupants, as is the way in which architecture communicates symbolically (Eco 1980).

By necessity, phenomenological museum research—research about the essence of the museum experience—investigates the reflexive negotiation of meaning between visitors and exhibits, rather than independently focusing on visitor attributes or exhibit attributes (Fyfe 2006). For it is the *transaction* between person and place that gives rise to experience.

A Transactional View of Experience

In educational research, it is limiting to take either the learner's perspective or the institution's perspective (McIntyre 1995). How useful to exhibition development discourse are visitor studies that examine visitor meaning-making, for instance, without parallel consideration of the environment in which the meanings were made? Harris Shettel argues that we 'should not take our eyes off of the essential ingredient of museum experiences—the immediate, real-time *interchange* between visitors and exhibits' (2001, 333; emphasis added). So too does Stephen Bitgood: 'both visitor and exhibit factors must be considered jointly' (2006, 464). A transactional approach averts the research situation where 'informants' "voices" are transcribed from an apparent physical void' (Atkinson and Delamont 2005, 827). It also contrasts with theoretical research analysing the physical settings of museums, devoid of any visitors' voices. How do we know whether such analyses are representative of visitors' realities?

This research aligned with the transactional perspective in environmental psychology, which sees experience as 'emergent', as arising through the inter-relatedness of person and place (Ittelson et al. 1974). A transactional view transcends subjective-objective, passive-active and mechanistic-organismic dichotomies. Rather, person and environment are seen as interdependent, as mutually influential (Bonnes and Secchiaroli 1995; Slee and Shute 2003). A transactional view aligns with the conception of experience as coproduced. This means that it is insufficient to study an environment in isolation, nor is it enough to study people's responses without regard to the environment in which they were made. The smallest unit of analysis is the *person-in-environment* (Saegert and Winkel 1990; Wapner and Demick 2002).

What does it mean to study emergent transactions between visitor and exhibit? It means that investigation is focused on 'aspects of relation and exchange' characterising the relationship between person and environment (Bonnes and Secchiaroli 1995, 154). Network theories complement this focus on relational exchange. People are embedded in a network of relations, a network which is simultaneously human and nonhuman, social and material. Both the human and nonhuman have agency in networked relations and are therefore coconstitutive (Clarke 2005, 61–63; Thibault 2004). In any situation, different kinds of actors, social and material,

define and shape one another; ‘everything plays its part, relationally’ (Law 2007, 13). The point is not to examine the human and nonhuman symmetrically, but that their relational *processes* are the locus of inquiry.

The investigation of processes, and not just outcomes, has been advocated for advancing understanding of the museum experience (Packer 2006). The examination of processes contrasts with a widely used approach in visitor studies: the pre- and postvisit measurement of visitor knowledge or attitudes. While such studies may reveal *what* visitors learned, they do not reveal *how*. Focusing on before and after parameters leaves what happens between visitors and exhibits as a ‘black box’. A process lens, privileging experience as it unfolds, attempts to see what is inside this ‘black box’ (Banathy 1992, 101–2). How, then, can experiential processes be investigated? ‘If the [research] question concerns an *experience* and the phenomenon in question is a *process*, the method of choice for addressing the question is *grounded theory*’ (Morse 1994, 223; emphasis added).

Building Empirically-Derived Grounded Theory

In a comprehensive review of learning research in museums, one of the largest gaps in methodologies was ‘open-ended studies that ask the simple question: What is happening here?’ (Hooper-Greenhill and Moussouri 2002, 28). For this reason this project was guided by the general ethnographic sensibility of seeking to ‘understand “what’s going on” in a particular setting’ (Gay, Mills and Airasian 2006, 442).² While seemingly a simple question, how may it be addressed in the complex and multifaceted interface between visitors and exhibition environments? This research tackled the question through a grounded theory approach (Clarke 2005; Charmaz 2005, 2006; Strauss and Corbin 1990, 1994; Glaser and Strauss 1967). Grounded theorists seek to know what is happening in their studied worlds. Grounded theory methodology is particularly useful as it lends tools for the analytic interpretation of processes, processes that constitute the construction of participants’ worlds.

Grounded theory is not only a *method* of inquiry but also a *product* of inquiry (Charmaz 2005). The product generated is an empirically-derived substantive theory, which aims to be close to the studied world, grounded in how members define and experience what is happening in a particular setting. The ‘members’ I chose to privilege in this study were visitors. To privilege members’ conceptions, a major tenet of grounded theory is to *not* apply predetermined theoretical constructs to data collection and analysis at the outset of a project: ‘One does not begin with a theory, then prove it’ (Strauss and Corbin 1990, 23). It is theory-building research, rather than theory-testing research.

A defining principle of grounded theory methodology is, therefore, the manner in which external theoretical ideas are engaged with—that is, through their lived expression by members of the context. Theoretical constructs held

as significant in museological literature, and elsewhere, were only included in the analysis if they related to interviewees' firsthand accounts. Theoretical concepts had to *earn* their way in, through 'fit and relevance to the data' (Glaser and Strauss 1967, 46). For instance, while 'entertainment' has been the subject of considerable debate in the museum literature, it did not feature in visitors' accounts. Instead, visitors commonly characterised their experiences as 'enjoyable', with enjoyment stemming directly from the process of learning, and, in particular, from learning with museums' wide array of interpretive media. The benefit of not testing preconceived theoretical ideas with research participants is that it leaves the researcher open to finding out how members experience a situation.

INVESTIGATING THE FIELD

The research underpinning this book was conducted across six major institutions of the sciences and humanities in Australia. Twenty-two exhibits were chosen as focal sites within these institutions. The exhibits represent diversity in content and form, utilising a wide range of interpretive media. When an uncued adult visitor, or a group of two or three adult visitors, engaged of their own accord with one of the exhibits, they were unobtrusively observed. Once the visitor/s ceased engaging with the exhibit, they were intercepted and asked to share their experience of the display. The qualitative, semistructured interview gradually widened to other exhibits and to past museum visits. In total, 204 interviews were conducted with 297 visitors over the twenty-two exhibit sites, with 147 females and 150 males. Interviews were conducted with individuals (57%) and with naturally-occurring groups of two or three visitors (43%). To investigate the phenomenological essence of an experience, six participants are adequate to elicit in-depth reflections (Morse 1994; Ryan and Bernard 2003). Eight to ten interviews were conducted per exhibit in this study, producing ample richness and redundancy in the data. The resulting verbatim interview material was analysed in a grounded theory-building process. The remainder of this chapter details these methods.

The Research Sites

The six institutions represented in this research are two natural and cultural history museums, two science and technology centres and two tightly themed museums, a war museum/memorial and an immigration-themed museum. Multiple-site research has the potential to produce findings applicable across a variety of contexts, by revealing whether processes and outcomes occur across sites. Inquiry was focused around individual exhibits, rather than entire exhibitions or institutions, in light

of the specificity aimed for in examining processes occurring between visitors and exhibits. Opportunities, however, to widen the inquiry beyond the selected exhibits were planned for the interview stage of the research. From an exhibit design point of view, countless permutations of interpretive devices and interpretive strategies exist within the six institutions, reflecting contemporary approaches to display. To represent diversity, exhibits were selected so that each provided contrast within the overall sample of twenty-two exhibits, following ‘maximum variation sampling’ (Lindlof 1995).

Assessing exhibits in this way led to the mapping of an exhibit design continuum, distinguishing exhibits by their primary interpretive media (see Table 4.1). This categorisation is by no means rigid or exhaustive, as museums employ media in limitless combinations. Its purpose was simply to ensure that the selected exhibits were physically and conceptually distinct. Interpretive devices represented in the research are both static and dynamic, hands-off and hands-on, low-tech and high-tech, and include various combinations of media (e.g. text, graphics, objects, audiovisual, multimedia and/or manipulable elements). As a further dimension in support of maximum variation sampling, eleven humanities exhibits and eleven science exhibits were chosen. The subject matters are purposefully diverse, including Indigenous culture, military history, social issues, flora and fauna, scientific principles and technology.

These twenty-two exhibits formed the focal research sites, the places at which I began ‘conversations’ with visitors. To capture their overall sense, the following section presents each exhibit through a brief description and an exhibition developer comment or exhibit text extract.

Image-Based Exhibits

Exhibit 1. The *Len Siffleet* exhibit is a large black-and-white photograph of the moment prior to a prisoner-of-war execution: *‘The picture was taken of a man literally within seconds of losing his head and his life. . . . a powerful photograph and one which really brought home one of the impacts of war. That is, that people will die sudden and violent deaths. The real core of it was experience. The experience of somebody kneeling on a beach about to have his head cut off, and conversely the experience of somebody standing on a beach with a sword in his hand’*. (Exhibit developer, war museum/memorial) [see Figures 7.5, 8.9, 8.10]

Exhibit 2. The *Environments* exhibit is composed of three adjoining rooms with full colour backlit photographs forming the walls on all sides. Each room depicts a different ecological environment: *‘We wanted to ‘immerse’ people in these environments and tell stories about the unique animals and plants which live there. The backdrop photos recreate the environments*

Table 4.1 Exhibits selected along an exhibit design continuum

Exhibit Type	Humanities	Sciences
Image-based exhibit		
Static graphical elements	Exhibit 1 <i>Len Siffleet</i>	Exhibit 2 <i>Environments</i>
Audiovisual exhibit		
Fixed sequence on-screen linguistic, audio and/or graphical elements	Exhibit 3 <i>Frieze</i> Exhibit 4 <i>Dialogue</i>	Exhibit 5 <i>Making Babies</i>
Touchscreen exhibit		
Linguistic, audio and/or graphical elements enabling a degree of choice and/or self-direction	Exhibit 6 <i>Fear</i>	Exhibit 7 <i>Gene Technology</i> Exhibit 8 <i>Vital Space</i>
Artefact-based exhibit		
Artefacts or specimens with varied approaches towards contextualisation	Exhibit 9 <i>Stilled Lives</i> Exhibit 11 <i>Spencer showcase</i> Exhibit 12 <i>Avro Anson</i>	Exhibit 10 <i>Fauna</i> Exhibit 13 <i>Dinosaurs</i>
Model/replica-based exhibit		
Three-dimensional representation of an object, process or event	Exhibit 14 <i>World War One diorama</i>	Exhibit 15 <i>Diprotodon</i>
Hands-on exhibit		
Requiring physical participation to engage with the exhibit purpose	Exhibit 16 <i>Filing drawers</i>	Exhibit 17 <i>Richter Rumbler</i> Exhibit 18 <i>Light Harp</i>
Simulation exhibit		
An immersive, sensorially-stylised visitor experience	Exhibit 19 <i>Bomber Command</i>	Exhibit 20 <i>Track Attack</i>
Reconstruction exhibit		
An immersive experience in a surround environment	Exhibit 21 <i>Ship</i>	Exhibit 22 <i>Forest</i>

and the inset photos and mini dioramas tell stories and show the detail of diversity . . . [which] is not always easy to see when you visit the environment'. (Exhibit developer, natural and cultural history museum) [see Figures 5.12, 7.1]

Audiovisual Exhibits

Exhibit 3. The *Frieze* exhibit is composed of eleven screens arrayed on a wall, showing diverse film sequences of Indigenous people, in a looped six-minute projection. A musical soundtrack and sound effects are delivered through headphones: *'The Frieze enables visitors to see, hear and 'meet' contemporary Indigenous people, in their own environment. Messages are subliminal: it is a poetic or mosaic experience which varies from person to person . . . It is an emotional experience for many . . . Most importantly, it is a rest place. There are direct messages elsewhere in the gallery, but the achievement of the Frieze is to allow space for the creative use of multimedia, rather than as documentary or message'*. (Exhibit developer, natural and cultural history museum) [see Figures 7.4, 7.10, 8.12]

Exhibit 4. The *Dialogue* exhibit is composed of three screens above a showcase of Indigenous artefacts, in a semisecluded space. Two costumed historical figures, a former museum director and an Indigenous elder, conduct a twelve-minute on-screen dialogue, incorporating the artefacts into the narrative: *'We didn't want to present Aboriginal people or Aboriginal culture as museum exhibits, as they have in the past. . . . [W]e were simply trying to get people to think about the issues of anthropology and museums and the question of 'Who owns this stuff?'. Should it all be given back to Aboriginal people, or is there a halfway house, or should we congratulate the anthropologists for their work? . . . [W]e felt that having a dramatic recreation of a fictional dialogue would engage the audience more effectively'*. (Exhibit developer, natural and cultural history museum) [see Figures 6.18, 6.19, 7.11, 7.12]

Exhibit 5. The *Making Babies* exhibit includes an audiovisual display depicting conception through to birth, within a segregated space. Full-size photographs show naked males and females from childhood to adulthood, and showcases display male and female reproductive organs: *'The multimedia segment was developed in order to show audiences what embryos and fetuses look like in the uterus, as well as provide an opportunity to see a vaginal birth. . . . The segment is presented in a circular space that is meant to represent the cyclical nature of human reproduction. Egg and sperm to conception to child to puberty to adult to egg and sperm and so on'*. (Exhibit developer, natural and cultural history museum) [see Figure 6.16]

Touchscreen Exhibits

Exhibit 6. The *Fear* exhibit is a touchscreen providing personal audio accounts and other information related to artefacts in a showcase located behind the touchscreen, around the theme of fear: *'there was a conscious*

decision to approach history in an emotional, direct, accessible way through personal stories . . . [The gallery] delivers an equality of people and objects: people interacting with material culture. It makes the connection that real people used these things'. (Exhibit developer, natural and cultural history museum) [see Figures 6.20, 8.14]

Exhibit 7. The *Gene Technology* exhibit is a touchscreen with a choice of questions, each answered by several stakeholders shown as 'talking heads': *'The primary aim of the exhibit is to de-mystify the perceived secrecy about the subject . . . Gene technology has been synonymous with controversy and questioning and the exhibit places this aspect centrally in an interactive audiovisual pod rather than hide it. Here, visitors are faced with the questions and can hear the debate between different interest groups, i.e. business leaders, industry groups, scientific bodies and the wider community*'. (Exhibit developer, science and technology centre) [see Figures 7.8, 8.6, 8.7, 8.8]

Exhibit 8. The *Vital Space* exhibit is a twenty-minute sci-fi program in a theatre setting, with touchscreen consoles and surround-screen at the front of the theatre. Touchscreens offer options for exploring information on the human body, allow participation in an arcade-like game and are used to vote for the direction of the investigative storyline running on the surround-screen: *'Enter the bloodstream, travel along nerve fibers and explore the human body. Be among the first to experiment with space-age microrobotic technology, in development to diagnose and cure illness in the future. Navigate with your touch-screen console and determine how the story unfolds on three giant screens*'. (Exhibit text, natural and cultural history museum) [see Figures 6.17, 7.7]

Artefact-Based Exhibits

Exhibit 9. The *Stilled Lives* exhibit is two rows of showcases containing animal pelts, bird skins and an assortment of specimens and objects, without identifying labels. A text panel describes the installation artist's vision: *'These showcases offer a glimpse into the collection, creating a fissure or seam into which objects have seemingly escaped from their adjacent storage. The objects have been selected not on museum principles but by attraction, through reverence and empathy. They offer themselves for our investigation, our wonder, and our understanding of the material world and our place in it. I wanted to create a cosmos, a panoramic work of great diversity. Drawing connections across cultural and natural objects, I am referencing the past while transforming it into a contemporary present. These evocative objects "live", dislocated from their histories, stilled in time*'. (Exhibit text, natural and cultural history museum)³ [see Figures 5.3, 5.8, 7.13]

Exhibit 10. The *Fauna* exhibit shows taxidermied animals, marine life and insect specimens with explanatory information on text panels: ‘By displaying so many animals, from floor to ceiling, we aimed to enhance visitor fascination. The display was designed to give excellent viewing of the specimens up close, for both adults and children. It was also a celebration of the species and the quality of the cabinets, lighting, and mounting techniques aimed to show them to their best advantage bringing out their colours and forms’. (Exhibit developer, natural and cultural history museum) [see Figures 5.2, 6.15, 7.9]

Exhibit 11. The *Spencer showcase* shows Indigenous artefacts and text panels, with text in large type on the showcase glass that reads, ‘We do not choose to be enshrined in a glass case, with our story told by an alien institution’. A life-sized mannequin of one of the collectors sits within the showcase: ‘Anthropologists were involved in a lot of collecting of Aboriginal objects over the past hundred years and the idea was to try and get the audiences to reflect on that process of collection . . . Having [anthropologist Baldwin] Spencer in the actual case itself was meant to show the reverse of the usual arrangement where you used to have Aboriginal marquettes, or statues of Aboriginal people behind glass cases’. (Exhibit developer, natural and cultural history museum) [see Figure 8.13]

Exhibit 12. The *Avro Anson* exhibit is the cockpit of a training plane, with a film of training activities shown through the windscreen: ‘Out of date at the start of the war, the slow but reliable Avro Anson reconnaissance bomber found new use as a training plane. . . . After initial training, students selected to fly in bombers improved their skills in twin-engined machines such as the Anson. The trainee and the experienced pilot sat side by side at the controls’. (Exhibit text, war museum/memorial) [see Figure 6.14]

Exhibit 13. The *Dinosaurs* exhibit shows dinosaur bones and fossils alongside a modified extract of the BBC’s ‘Walking with Dinosaurs’ computer-generated TV series.⁴ Freeze-frames of the animated graphics are overlaid with still graphics showing the discovered dinosaur bones and fossils: ‘One of the things we wanted to get across in the gallery is that scientific ideas are based on just available evidence . . . So, it was very important to link the [computer-generated] video footage to reality so people got the idea that in actual fact all that speculation, all these moving dinosaurs, are just based on those few fossils’. (Exhibit developer, natural and cultural history museum) [see Figures 7.6, 8.5]

Model/Replica-Based Exhibits

Exhibit 14. The *World War One diorama* shows a battle scene, with text and graphics panels: ‘It was the ultimate purpose of conveying to home front audiences the nature of experiences of Australians so far away in

such extreme circumstances that shaped the content of the [diorama] models, in order to capture an essence of the experience in an emotional sense. . . . The aim was fundamentally to engage the interest and empathy of the audience'. (Exhibit developer, war museum/memorial) [see Figures 5.11, 6.7]

Exhibit 15. The *Diprotodon* exhibit is a cast skeleton. A background image shows a dry salt lake, and a translucent fabric scrim shows a lush environment and an image of how the animal may have appeared in outward form: *'The Diprotodon skeleton combined the advantages of being large and interesting, and having potential to illustrate the story . . . The Diprotodon was discovered at a time when Australians were starting to understand that the inland had once been lush and wet. . . . The visitor should understand that ideas as well as landscape have changed over time'. (Exhibit developer, natural and cultural history museum) [see Figures 6.1, 6.2]*

Hands-on Exhibits

Exhibit 16. The *Filing drawers* exhibit is a set of filing drawers containing empty cartons and foam moulds, and newspaper articles relating to the repatriation of cultural artefacts. Labels on drawers include 'Restricted Material' and 'Human Remains': *'Aboriginal communities have built keeping places or cultural centres to house cultural material previously kept at major museums. . . . The drawers below reveal more about issues related to the proper resting place for significant cultural objects'. (Exhibit text, natural and cultural history museum) [see Figure 6.3]*

Exhibit 17. The *Richter Rumbler* exhibit is a metal plate on which visitors place their hands to feel the movement of earthquakes measuring from three to six on the Richter scale: *'What to do. Select an earthquake magnitude on the Richter scale by turning the dial. Press the 'start' button and place your hands on the 'Richter Table'. Feel the earthquake! Try different magnitudes for comparison. How do earthquakes of different magnitude feel?' (Exhibit text, science and technology centre) [see Figures 6.8, 8.1]*

Exhibit 18. The *Light Harp* exhibit enables visitors to 'play' music by interrupting light beams, which travel in straight lines: *'Light from the fluorescent tube falls onto the row of light detectors below it. When you move your hand between the light tube and the detectors, you stop light from reaching some of the detectors. This sends a signal to the music sequencer to play notes'. (Exhibit text, science and technology centre) [see Figure 8.2]*

Simulation Exhibits

Exhibit 19. The *Bomber Command* exhibit simulates an aircrew's perspective of a bombing raid, with audiovisual screens, vibrating floor and audio and light sequences emulating the aircrew and their activities: *'This*

experience evokes some of the sights, sounds and sensations of a Bomber Command raid on Germany'. (Exhibit text, war museum/memorial) [see Figures 5.6, 6.9, 6.12, 7.3]

Exhibit 20. The *Track Attack* exhibit is a roller coaster simulator capsule that moves on hydraulic shafts in concert with an audiovisual screen showing the roller coaster ride in animation: *'It is fair to say that the exhibit's inclusion in the exhibition was a market driven decision. . . . The exhibit has an educational preamble which discusses the science of simulators . . . We coloured and badged [the simulator] brightly in order to enhance its central and high profile role*'. (Exhibit developer, science and technology centre) [see Figure 6.10]

Reconstruction Exhibits

Exhibit 21. The *Ship* exhibit is composed of three walk-through ship environments: 1800s square-rigger steamer, 1900s second-class steamer and 1950s postwar liner: *'The ship is a factual recreated environment but its main purpose is as an environment for visitors to remember or imagine themselves on "the [migration] journey" . . . The physical and acoustic design of the space addresses the head, heart and hand of the visitor. In entering the ship one leaves the museum and is "aboard" an imagined/remembered space. Once inside the ship you can't see the rest of the gallery, you have to "be" in it. . . . The acoustic design [was to] indicate/sign that feelings and emotions were permissible within the museum*'. (Exhibit developer, natural and cultural history museum) [see Figures 6.11, 6.13]

Exhibit 22. The *Forest* exhibit is an open-air space with living plants, trees and live birds, insects and reptiles. Themed pathways—water, earth movement, climate, fire and humans—explore agents of change: *'The exhibition attempts to strike a balance between the interpretative expectations visitors hold for museum exhibitions and the ambient, free experience visitors expect of an outdoor experience of nature. . . . Visitors will proceed through spaces of varying surfaces, acoustics, temperature, humidity, light levels and dimensions . . . there will be a strong degree of serendipity, as in nature, where chance encounters surprise and delight visitors*'. (Exhibit developer, natural and cultural history museum) [see Figures 5.13, 8.3]

Observing Real Visitors

As this research sought to unearth more about how visitors experience contemporary exhibit design, it was imperative to preserve as much as possible the ordinary experiences of visitors. Visitors in this study were adult visitors

who self-selected to engage with one of the twenty-two chosen exhibits. To preserve visitors' experiences, I observed visitors as a 'marginal participant' (Zeisel 1984). To adopt this vantage point as a researcher is to position oneself as 'a commonly accepted and unimportant participant', wanting 'to be seen by actual participants as just another patient in a hospital waiting room, another subway rider' (*ibid.*, 118). Or, in this case, as another museum visitor wandering around the exhibition space. Where possible, I alternated between two or three displays in different galleries on any given day, to reduce the possibility that visitors were alerted to my presence as a researcher.

Once a visitor, or group of visitors, freely chose to engage with a selected exhibit, I observed them within the constraints of typical visitor behaviour. For instance, I maintained social conventions in relation to proximity. I did not display any tools of the trade, such as the archetypal researcher clipboard. What did I expect to gain from observing visitors? First, to confirm that the visitor/s had attended to the exhibit in question. Second, to ascertain whether the visitor/s formed part of a social group. Third, I observed visitors so that behavioural data could be probed in the interview process.

By not cueing visitors, I aligned with Beverly Serrell's suggestion to observe '*real* rather than *ideal* visitors' (1997, 108; emphasis added). While many visitor studies are unobtrusive yet cued, recruiting visitors ahead of time and positioning researchers as 'recognised outsiders' (Zeisel 1984), this study was both uncued and unobtrusive. To cue visitors can turn the interview situation into a test of knowledge, make visitors self-conscious or artificially heighten visitors' engagement with the exhibition environment. The nature of controlled studies alters 'the informal nature of the [museum] environment' (Koran, Longino and Shafer 1983, 326). While it is not possible to know the nature of the impact I may have had during each observation, spontaneous visitor comments provided some clues: "If I'd known I was going to be questioned [laughs], I'd have had a bit of a better look." "Had I known that you were going to come and do this interview, I would've probably paid a bit more attention."

Some of the 'real' visitors in this study suggested that their lack of sustained attention or sense of fatigue should be grounds to exclude them as participants: "You're probably better off talking to the ones that were there for ages! [laughs]." "I'm a bit worried about you using us as examples, as we're both really exhausted." These real as opposed to ideal visitors were the very people I was interested in studying to examine the ordinary nature of the museum experience. If visitors were confused by what they were seeing, if they became distracted by something else or if they were too tired to pay attention, I wanted to know about that, warts and all. How do people make sense of fleeting transactions, so typical in the museum? How does the museum environment cater for people experiencing museum fatigue? To probe such questions invites a verbal exchange with visitors.

A Framework for Articulating Experience

Once the observed visitor/s ceased engaging the selected exhibit, I introduced myself and asked if they would share their experience of the exhibit with me. Privileging the ‘experiential or subjective realities’ of participants does not mean that a researcher abandons finely-tuned strategies (Lindlof 1995, 163). To find out how visitors gave meaning to their experiences, I drew on the structural elements and probing techniques of the ‘focused interview’ (Merton, Fiske and Kendall 1990). The focused interview facilitates a retrospective and detailed discussion of what was involved in the experience of a concrete environment. A strength of focused interviewing is its technical emphasis on drawing out qualitative, nuanced responses grounded in the experiential world of participants.

Interviews were semistructured and open-ended, guided by an interview guide. The interview guide began with the visitor’s immediate experience with the exhibit, extended to other exhibits experienced that day and then progressed to long-term museum memories:

What stood out most in your mind(s) while you were at this particular display? How did that make you feel? What were you thinking about that?

When you first approached this display, what caught your attention?

Did you notice anything else about the display?

Did anything about the physical setup of the display strike you?

Is there a particular message you think is meant by this exhibit?

Does anything about the display relate to your own experiences at all?

Is there anything you’d change to improve this display?

How much time do you think you spent at this display?

How does this display compare to other displays you’ve seen today?

Are there any other displays that have stood out for you today?

If you think back now to your past, to any museum or science centre or art gallery you’ve ever been to, is there anything that comes to mind as a memorable or striking experience? How long ago was that visit?

How often do you visit museums or science centres or art galleries?

Is there anything else you’d like to say about anything at all?

The purpose of the interview guide is not to ask participants a set of fixed questions, but to map relevant areas of inquiry. In the focused interview, it is more important to be flexible and responsive to the ‘*cues and implications*’ of interviewees’ comments (Merton, Fiske and Kendall 1990, 48; original emphasis). This is referred to as *recursivity*, ‘the relationship between

a current remark and the next one' (Minichiello et al. 1995, 80–81). This enables the interview to follow what is salient to interviewees.

Recursivity introduces both control and flexibility and is executed through the strategic use of probes. Probes are largely neutral follow-up queries, guiding cues to deepen selected responses with more detail or clarity (for examples of probing techniques, see Merton, Fiske and Kendall 1990; Zeisel 1984). Probes were routinely required when visitors responded with an evaluative comment. For instance, classifying displays as 'different' or 'good' or the 'best' were common responses but do not reveal much about the transaction between visitor and exhibit. Probes were critical to achieve accounts with specificity and depth.

- F. I can't say which [display] is better or which is worse; they're just different.
- T. *Yeah. In what way would this be 'different', then, would you say?*
- F. Well, I think this is showing something from a long time-, a past from a long, long, long time ago, and because it's a past long time ago . . . all they can do is recreate like it's been, that's all they could do. So you can't have a film from those days because it didn't exist. Or books from that time didn't exist; all they could do is just recreate.

The grounded theory methodology of this study was served by eliciting responses grounded in participants' realities. In particular, there is a purposeful synergy between probing for descriptive responses and analysing for higher-level concepts: a 'continuous interplay' between data collection and data analysis aids grounded theory building (Strauss and Corbin 1994, 273). The following excerpt demonstrates how analytic procedures began during interviewing.⁵ Interleaved in the *Interview Dialogue* overleaf is a reconstruction of my simultaneous 'critical inner dialogue' (Minichiello et al. 1995, 101). To follow the leads suggested by interviewees, interviewers need 'to sense the immediate meaning of an answer and the horizon of possible meanings that it opens up' (Kvale 1996, 132).

So while conversational in quality, the research interview is not just a conversation, with each party freely directing the course of dialogue. The researcher must act as a research instrument. To elicit relevant and comprehensive verbal data, the recursive interviewer must work intensively with interviewees. It is, then, the interpersonal interaction which forms a 'subjective moment in obtaining knowledge' (Kvale 1996, 35): "For someone who wasn't going to say anything, I ended up talking for quite awhile!" "I think you got more out of us than we were ever going to give you! [laughs]." The flexible, collaborative style of interview worked well with museum visitors: "I've enjoyed being interviewed! . . . It's nice being asked your opinion of things." "And now we're here talking to you. It will probably be the most interesting part of the day! [everybody laughs]."

Interview Dialogue	Inner Dialogue
<p>F: I think the whole <i>museum</i> makes you feel something, it's really quite [pause] depressing and upsetting, sort of thing, so [pause] so [pause] yeah, no, I think it's still a good display. Obviously because it's <i>interactive</i>, it breaks up the monotony of having to read <i>panels</i> and <i>panels</i> and <i>panels</i> of text.</p>	<p><i>Interviewee broadened discussion to gestalt of entire visit; support pauses in speech¹; interviewee spontaneously raised interactivity and monotony</i></p>
<p>T: <i>Right, right. So what would make this particular display 'interactive' to you? What elements of it are-</i></p>	<p><i>Specificity probe following up theoretical interest in 'interactivity', intriguing as display wasn't technically 'interactive'</i></p>
<p>F: Oh, I mean it already <i>is</i>. It's just like, you've got a physical <i>cockpit</i> there which you could have a look at and you're very <i>close</i> to it. You've got the film <i>showing</i> so I guess it's a bit of a rest on the <i>mind</i>, so you're not reading so much! [laughs]</p>	<p><i>Interviewee linked interactivity with proximity to artefact and with film; that audiovisuals are easier on the mind is a concept raised by interviewees at other exhibits in the study</i></p>
<p>T: <i>Right, right. So that's an easier medium?</i></p>	<p><i>Attentive listening probe</i></p>
<p>F: Yeah. Yeah, I guess. But it just breaks it up. I mean, if you had <i>films</i> all throughout the museum it'd be <i>too much</i>. It's nice to break it up with different forms of delivering the information.</p>	<p><i>Interviewee elaborates and clarifies, emphasises media mix rather than audiovisuals as 'easier'</i></p>
<p>T: <i>Right, right. So how does that help you in your museum experience? Could you tell me more about having different types of media? How does that help you?</i></p>	<p><i>Specificity probe, directing discussion to actual experience of media mixes</i></p>
<p>F: Um [pause] oh, I don't know really. Just I guess you-, it makes it more interesting, breaks up the-[pause], not the <i>monotony</i> of it, but I think if you just had hundreds of panels of <i>text</i> and there was nothing in front of you, there's no <i>visual aid</i> in front of you to actually <i>picture</i> and <i>realise what</i> was going on, it would be very hard to imagine it.</p>	<p><i>Nurture pauses; interviewee mentions interest, 'breaks up', and the complementary communicative nature of different media types</i></p>
<p>T: <i>Right, right. [F. I think.] T. And also-, sorry.</i></p>	<p><i>Sensitivity to reading verbal and nonverbal signs</i></p>
<p>F: But, yeah, I just think it provides a visual guide that helps you understand a little bit more.</p>	<p><i>Interviewee elaborated on complementary use of media types for understanding</i></p>

- | | |
|--|---|
| T: <i>Mmm, mmm. And you also mentioned that if you had heaps and heaps of film, then that also might be monotonous, did you say that?</i> | <i>Clarifying, cued reversion probe: what about media mix as raised earlier?</i> |
| F: <i>Yeah, well just, I mean, it's like breaking it up. If you watch ten films in a row you'd probably forget what they said, so [pause] I just think it's good to have different kinds of displays and that way-, I mean, it's a huge museum, so you're taking in a lot of information, I think. Delivering that information in different ways is probably handy. It sort of [pause] helps you get through all these rooms. [laughs]</i> | <i>Interviewee provided confirmation that media mix plays a key role in 'breaking it up'; 'breaking things up' is a key conceptual idea raised by other visitors across the study</i> |

¹Pauses in speech are shown in this excerpt. For readability, pause notations have been deleted in the remaining excerpts across this volume.

Grounded Theory Building

What, then, to make of these experiential accounts? Grounded theory building aims to generate 'a theory that is integrated, consistent, plausible, close to the data' (Glaser and Strauss 1967, 103). Building such a theory is achieved through the *constant comparative method*: 'compar[ing] data with data, data with categories, and category with category' (Charmaz 2005, 517). In the previous interview excerpt, for instance, notions around interactivity, media mix and 'breaking it up' began to evolve. As related instances of these occurred across the interview data, the data formed into categories. The theory that begins to build through this process is tightly integrated and consistent as relations between categories are constantly analysed and documented. The developing grounded theory is also plausible and close to the data as external theory only earns its place in the analysis when 'invited' in by the data. For instance, the phrase 'breaks it up' is a first-order construct, the natural language of participants. Analysis involves second-order analysis of first-order constructs (Atkinson and Delamont 2005, 833). Studying what visitors meant by 'breaking things up' drew in external theory about variety refreshing the nervous system; this had earned its way into the analysis.

Analysing data at successively higher levels of abstraction, while keeping track of relations between categories, enables the formation of theory with tight relations to the studied world. Identifying 'underlying uniformities and diversities' enables the developing theory to be delimited (see Glaser and Strauss 1967, 110–15). This data reduction process is an essential step in producing a substantive theory. What did this mean in practice? By analysing visitors' experiential accounts through the constant comparative method, I began to see that what visitors described in

one context was really a slightly different version of the same thing that another visitor described elsewhere. This occurred in relation to four key constructs.

First, visitors introduced discussion of museums and exhibits in a generic sense, a process I termed *framing*. Second, visitors talked about ways in which they felt drawn into relationship with exhibition environments in an immediate or effortless way, a process I termed *resonating*. Third, visitors described how they were guided, or seek to be guided, through the space, media and content of exhibitions, a process I termed *channelling*. Fourth, visitors described ways in which they experienced an enlarging of self, a process I termed *broadening*. These four umbrella processes each subsumed groups of categories. Together they describe how visitors find themselves in relationship with exhibition environments.

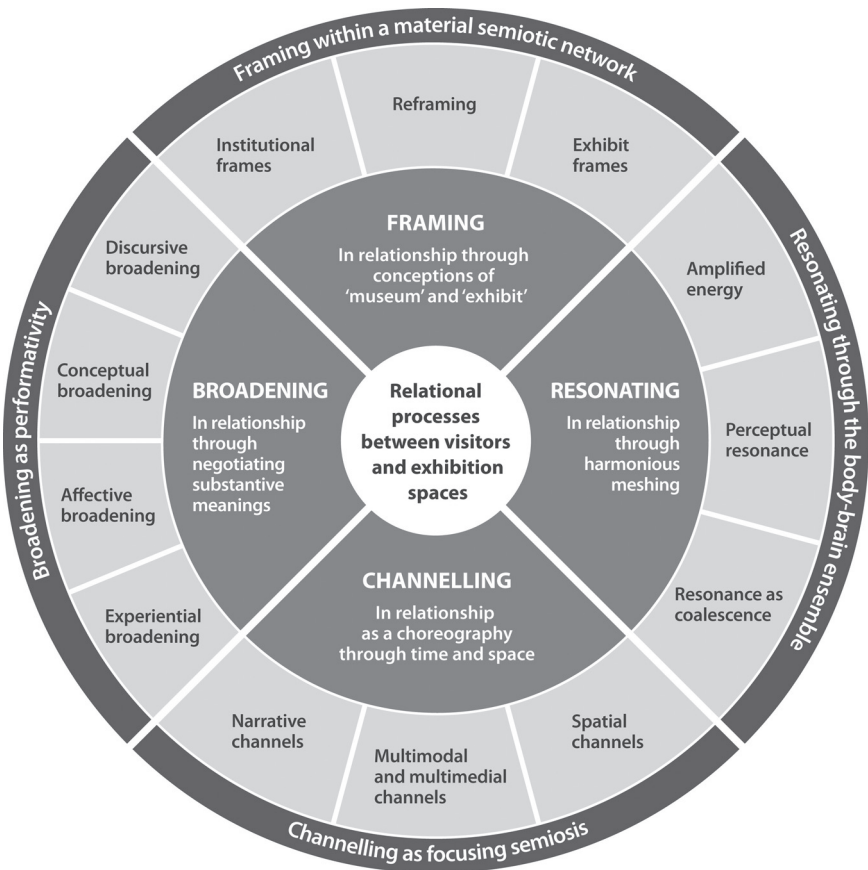


Figure 4.1 Framing, resonating, channelling and broadening

A snapshot view of each of the processes and their subelements is represented by Figure 4.1. This graphical device is offered here, with qualifiers. It is on the table as a conversation starter. It has shorthand value, capturing breadth and depth at a glance. Quite likely, it will develop and morph over time. And while the essence of what is contained within each neatly-edged compartment can be distinctly defined, visitors' accounts demonstrate synergies between them. This shall be explored in the chapters to follow. In particular, the overarching conceptual idea for each process (in the outermost ring) is made manifest through interrelations between the subelements of each process. Understanding these synergies is an essential aspect to gaining more subtle insight into how the visitor experience is influenced by design decisions.

Visitors' retrospective descriptions of their experiences were therefore nuanced accounts of a smaller set of higher-level conceptions. Naming these higher-level 'goings on' as framing, resonating, channelling and broadening, and delineating their subprocesses, proved to have explanatory power across the entire data set. Moreover, as a systems thinker, I was motivated to account for all of the data. So unlike some research methodologies that selectively analyse only parts of the data (which support an emerging or preselected theory), I was driven to assess how all of the pieces meshed together in an overall gestalt. The following chapters delineate these four processes, each in turn. In actuality, however, they form an interrelated system. The synthesis of framing, resonating, channelling and broadening is presented in the concluding chapter, 'Design for Exhibition Ecologies'.

This book is written with a commitment to privileging participants' voices. Just as analysis was led by the data, so, too, is the writing data-led. Perceiving grounded theories as interpretive, these 'interpretations *must* include the perspectives and voices of the people whom we study' (Strauss and Corbin 1994, 274; original emphasis). The following four chapters place visitors' voices and my analysis side by side, so that visitors' first-order constructs illustrate in an embodied way my second-order theoretical analyses. In this way, I invite readers to enter into the discourse and, in turn, actively form their own interpretations. Through wide representation of exhibits, museums and visitors, and with methods seeking close fit between data and the generation of theory, I present what follows as plausibly suggesting at least some of what 'goes on' as visitors negotiate exhibition environments.

5 Framing

It's a different concept of what you would consider a *museum*.¹

My interpretation of the visitor accounts in this project leads me to perceive the museum experience as contingent on a multilayered network of processes, some of which are distinctly semiotic in nature. That is, museums and exhibits are subject to fairly stable patterning as social and cultural phenomena (Atkinson and Delamont 2005). 'Framing' constitutes a macrolayer of these processes. In essence, visitors do not simply turn up at a museum and begin to make meaning of the here-now environment from first principles. Rather, visitors carry into the situation higher-level conceptual representations of 'museum' and 'exhibit' which act to guide their participation in, and evaluation of, the museum experience. Consider the quote above, for instance. The visitor suggests that 'museum' implies specific conceptual boundaries. I interpret these boundaries as constituting *frames*: 'the frame as edge and border, boundary and limit' enables 'the primordial act of framing', 'the division between inside and outside' (Duro 1996, 4–5). The institution referred to in the above comment, a science and technology centre, fell outside the visitor's frame of the museum.² Another visitor noted what fell inside her frame of the museum: "You see the notices '*museum*' and you think of everything as *old* and *broken* and *decrepit*."³

Frames are essentially how people read situations by applying an overarching structure. Seminal framing theorist Erving Goffman (1974) suggested that when people attend to any situation, they retrieve and employ one or more primary frameworks formed from previous experience with similar situations. Such frames assign meaning to (otherwise meaning-less) aspects of the presenting situation and in so doing organise experience. These categorisation processes enable people to classify what they are experiencing as one of a delimited number of types. Typification makes the myriad of phenomena in life apprehensible (Holstein and Gubrium 2005). George Lakoff argues that '[w]ithout the ability to categorize, we could not function at all, either in the physical world or in our social and intellectual lives' (1987, 6). Framing is a form of categorisation taking 'account of the signifying prac-

tices through which people construct their world' (Donati 1992, 157). People make sense of situations by grouping what they perceive 'under the heading of one subsuming category, a larger 'frame' which provides them with a recognizable structure and meaning' (ibid., 140).

Frames assist people to participate in situations as the frame elicited from memory forms an overarching structure with 'conjectures as to what occurred before and expectations of what is likely to happen now' (Goffman 1974, 38). Frames enable the negotiation of experience as they embody expectations (Abelson 1981). As frames correspond to a larger category, which in turn entail a bundle of expectations, conceptually higher levels of a frame 'subsume a multiplicity of detail', containing subelements or sub-events (Johnston 1995, 235). In the language of framing theorists, for example, an 'office-frame' subsumes 'a set of typical office individuals and typical activities in offices' (van Dijk 1977, 99). Subevents of a museum frame could be paying an entry fee, studying a gallery map, looking at artefacts, reading text on walls and so on.

Mere mention of a category can raise subelements in an individual's frame. With the visitor above, for example, seeing 'the notices "museum"' evoked 'old and broken and decrepit' subelements. Further, this visitor's comment illustrates how the subelements actualised by frames can frame the situation 'along one possible "semantic" plane . . . allowing people to see and expect different things' (Donati 1992, 141). At the same time, elements that do not easily fit within an elicited frame may be 'adapted' or 'selectively dropped out' (ibid.). The socially constructed nature of frames, and the constraining function of frames on perception, is illustrated by Susan Oberhardt's (2001) exploration of frames of the art museum. While academics may frame art museums as 'racist, sexist, homophobic, colonial, and elitist', Hollywood films frame art museums with 'genuine respect and affection' (ibid., 6, 26). A frame, therefore, not only forms a border but a subjective filtering lens. People may frame museums as junkyards or as socially manipulative or as celebratory of human endeavour.

Frames are constructed by individuals over the course of their lives, through firsthand experience, or are induced through secondhand information. Frames are also constructed and projected by organisations. Frames can be purposively managed by organisations in an effort to harmonise individual and organisational frames. Frame amplification, for instance, uses language to clarify and invigorate a frame (Snow et al. 1986). Frame amplification is embodied in museum slogans such as '*Come and See the Real Thing!*'.⁴ The framing influence of language in the museum context is pointed out by Oberhardt:

Call a museum a treasure house and people will view its objects as rare and valuable; call it a place of public education and there is an expectation for the enhanced capacity for learning; or call it a mausoleum and the objects will appear irrelevant and out of touch. (2001, 31)

Amplifying a frame makes it incumbent on an organisation to ‘consistently protect or uphold those core values or beliefs being highlighted’, or risk dissatisfaction amongst its patrons (Snow et al. 1986, 477). Another frame management approach is frame extension, in which core boundaries are extended (ibid.). For example, an education-oriented museum introducing ‘entertaining’ elements may be viewed as extending its frame so as to attract a broader audience. Frame extension brings with it its own vulnerabilities, such as frame *overextension*. Incorporating additional values can trivialise an organisation’s core frame(s) or even the organisation itself. Frame extension may cloud an organisation’s central purpose, resulting in nonparticipation by previous supporters (Snow and Benford 1988).

The text that follows in ‘Framing’ is divided into four parts. ‘Institutional Frames’ maps explicit statements made by visitors regarding perceptions of what fundamentally constitutes a museum or the museum experience. This body of data, about the essence of museum, extends to how visitors are consequently oriented towards museums. That is, these fundamental perceptions have significant downstream consequences to visitors’ experience of, and evaluation of, the museum. ‘Reframing’ maps corresponding reactions and subtleties in how this terrain is dynamically formed by museums and reciprocally interpreted by visitors, especially as museums undergo developmental shifts. Notably, where there is a mismatch between the visitor’s frames and the frames expressed by the museum, it may be problematic or it may be enriching. Both negative and positive incongruencies provide insight into change management. That is, change can make people dissatisfied or pleasantly surprised. The data serve both to ground the discussion in core elements of what it is to be a ‘museum’ and to examine visitor responses when these boundaries are challenged or stretched. Ultimately, visitors reveal expectations of the communication medium of museum display, which endure even in a shifting museum world. These are examined in ‘Exhibit Frames’. The final section of this chapter, ‘Framing within a Material Semiotic Network’, suggests that frames are made manifest, and operationalised, within a network of relationships. This network is constituted by physical and discursive dimensions, with both human and nonhuman actors.

INSTITUTIONAL FRAMES

Spontaneous statements throughout the data delineated what visitors see as falling within the parameters of a ‘museum’: “That’s what a museum should be.”⁵ “This is what I expected in a museum.”⁶ It is not my intention to distil the connotations of these to circumscribe a working definition of ‘museum’. Rather, these foundational notions provide underlying frames for museum visiting. Four institutional frames were identified in the data: a *displayer-of-artefacts frame*, a *learning frame*, an *enjoyment frame* and a *pilgrimage frame*. These characterisations arose in the course of interviews

as participants sought to qualify details of their encounters, suggesting their salience to the museum experience. Frames that people construct, and frames that museums actively create, impact visitor expectations. Importantly, frames form platforms from which downstream consequences unfurl, acting to colour visitor perceptions, visitor participation in the museum and visitor satisfaction. While the four institutional frames are examined separately below, visitors commonly adopt several of these frames simultaneously. Frames may thus work in parallel to mediate visitor experiences of the museum.

The Displayer-of-Artefacts Frame

Through the *displayer-of-artefacts frame*, museums fundamentally rely on material objects: “I think the *value* of the museum is that there are *real* pieces *there*.”⁷ “I think in a museum I expect to see real things.”⁸

That’s my general impression having come *in* to the museum . . . [laughs] there’s nothing here. Where are the *things*? . . . In terms of *museums* I just want to see actual *things*. Like the big skeleton [see Figure 5.1]. I think that’s the only actual thing I’ve seen so far. [laughs]⁹

The above observation reflects the traditional reason why people visit museums: ‘they have come in search of “things”’ (Thomas 1998, 1). Note how when ‘actual things’ were not sighted the visitor classified what she had seen as ‘nothing’. The museum building and other interpretive media were not adequate to satisfy her *displayer-of-artefacts frame*.

A subelement of the *displayer-of-artefacts frame* is that the museum not only exists to house ‘things’, but that these things are further qualified as ‘old’: “And I guess I’ve enjoyed looking at *old* things, which is of course what museums are.”¹⁰ Others likewise hold a frame of the museum as synonymous with old artefacts, although see this as a negative image, turning the museum from ‘treasure house’ to ‘mausoleum’ (Oberhardt 2001, 31;



Figure 5.1 Satisfying the *displayer-of-artefacts frame*

Witcomb 2003, 102): “They’re old and dusty, ancient artefacts. That’s how I perceive it.”¹¹ This is a conception of the museum as a ‘cemetery of bric-a-brac’ (Weil 2002, 81). Significantly, frames are powerful as they conjure evaluative, emotional and behavioural responses. While the above visitor enjoyed looking at old things, an alternative downstream consequence of the displayer-of-old-artefacts frame can be a pattern of infrequent or nonvisiting: “I’ve really only been to a couple [of museums] because it’s not normally what I do . . . ’cause, you know, it’s all sort of older stuff.”¹²

Downstream, higher-level issues of trust and transparency regarding authenticity form an expectation bundle of the displayer-of-artefacts frame. These expectations translate into a filter visitors apply when appraising museum wares and display practices:

M: But I’m guessing they wouldn’t just have little fake *things* in there. I’m guessing they were genuine.

T: *And if they weren’t?*

M: Again, I think I’d feel a bit *cheated*. Like, especially with the *bones*. The whole thing about saying “*Keep off! We wanna keep these preserved.*” And if I found out it wasn’t *real*, I could see it in a *book!*

F: We’re in a *museum*, you’re *supposed* to have real stuff in here.¹³

In the above dialogue, the reciprocity of framing processes is evident. The museum frames itself as a sanctuary for the preservation of artefacts, with consequent expectations of visitor behaviour. To successfully participate in the sociocultural practice of museum visiting, the visitor needs to respect these expectations, aligning oneself with the museum’s frame. At the same time, the visitor creates a frame of the museum that sets it apart from other communication media in their lives, which in the above case were books. Visitors likewise expect museums to maintain distinct boundaries from other leisure settings, jeopardising visitor satisfaction if they are perceived not to:

I was a bit disappointed . . . in that a couple of the things I saw were unfortunately plastic representations of the actual animal. . . . I can go to a tacky seafood restaurant and see plastic crabs, you know. . . . I sort of went, “Oh, okay, it’s plastic and in a *museum.*” [see Figure 5.2]¹⁴

Such differentiation is essential and resurfaces pointedly in ‘Exhibit Frames’.

Museums’ reliance on authentic objects may not only raise in visitors the higher scalar notions of trust and transparency but may also provoke visitors to engage in discourses surrounding collection practices:

I *hate* seeing all the birds *stuffed* . . . with the thought in *mind*, I suppose, that the animals and birds were killed deliberately so they could have good specimens for the museum. Pretty horrible thought.¹⁵



Figure 5.2 Are all of these real?

A comfort to visitors is the perception that museums exercise restraint: “It’s a shame that all the animals are stuffed . . . But at least there’s only one of everything [laughs].”¹⁶ It can prove disturbing if it appears as though restraint has not been exercised: “Look at all the dead owls! That’s horrible. It’s like a mass killing. They didn’t have to kill so many, we could have just looked at *one* owl” (see Figure 5.3).¹⁷ Note how this visitor referenced the display to himself, the viewer, making a judgement about the sufficiency of a single specimen for the purposes of his gaze.

Visitors’ critique of the museum adopting a displayer-of-artefacts frame draws on present-day sensibilities about animal conservation and welfare. This visitor suggests a changed milieu, implicating herself in the wider socio-cultural context that supports the activities of museums by identifying as ‘we’:



Figure 5.3 Animal and bird skins in *Stilled Lives*

A lot of these . . . would be quite *old* specimens that the museum's had in its collection for *awhile*. I don't know that they'd be going out looking for *new* specimens a lot, I *hope!* [laughs] . . . I don't know it's something we do a lot of these days, as a current practice.¹⁸

However, not all visitors share such sensitivity to the acquisition of new specimens. This visitor privileged the importance of his gaze to the extent of requesting more pristine specimens, although he nevertheless showed awareness of sustainability issues:

If you look at some of the *old stuffed animals* that are around. They are *so old!* And so *tatty!* And some of the *birds!* [laughs] They should have been pensioned off *years* ago! We're not *short* of sulphur-crested cockatoos, they could go and get a few new ones to put in there that weren't so *tatty!* Moth-eaten *stuffed animals*.¹⁹

Acquisition processes of cultural artefacts add another higher scalar layer to the displayer-of-artefacts frame: "It's always been a big imperialism and especially with *England* going to countries and taking things."²⁰ "The [nation] Museum is probably one of the worst offenders of this. It not only gets stuff from its *own* country, but it also plunders others and brings it *back*."²¹ In these instances the displayer-of-artefacts frame is rendered reprehensible. What is collected and displayed represents a booty: "And the other thing about those style [*sic*] of museum is you walk in and it's a bit like the *loot* of the Empire."²²

A significant downstream consequence of the displayer-of-artefacts frame is thus a tension felt by visitors. On the one hand, visitors may appreciate the opportunity to view authentic artefacts, and on the other hand, they may be sensitive to broader cultural and ethical issues:

It's captivating but it's appalling at the same time, as to what they've *ravaged* from other parts of the *world*, and then but by the same token in their own merit they're spectacular things to look at.²³

The provision of access is an important subelement of a displayer-of-artefacts frame: "Most of us wouldn't have the opportunity to *see* those sort of artefacts, so I think it's pretty important that they're *here*."²⁴ Privileging access can pacify visitors' sense of tension: "If they're in the British Museum, for example, they're *accessible* to a lot more people than if, for instance, they were given back to Greece or Egypt or Turkey."²⁵ "If you had *all* the Egyptian mummies in Egypt, that means everyone would have to go there to see them."²⁶ These visitors also passed judgement on the relative quality of conservation and display practices: "To be honest with you I know some other countries aren't going to look after them as well as the British *will*."²⁷ "Possibly because they're poorer countries they wouldn't be presented as *well*."²⁸

The overriding element tying these comments together is the importance attributed to 'seeing' things. What is it that motivates people to look upon inanimate objects so displaced from their natural contexts? The institutional frame as a place for artefacts is accompanied by an institutional frame as a place for learning.

The Learning Frame

We're not the sort of people to go for a cruise on a boat, ship or something and just lay on the deck. We like *learning*. . . . When we go on holidays we like to be *absorbed* in learning and updating our knowledge of things around us. . . . We prefer these places.²⁹

The identities of the above visitor and his wife are formed in part by a commitment to learning. Museums are sites in which they enact their identities as curious people (Rounds 2004). The visitor's account aligns with a productive, self-development view of leisure, which sees no conflict between leisure and learning (Doering 1999).

The data strongly supported the museum as a place for learning, and subsequent implications are again of significance in the exploration of frames. The *learning frame* acts as a fundamental and overarching filter, possessing the power to arbitrate whether people will attend museums, and to influence their allocation of time and attention once in the museum. Note the imperative quality of the learning frame as reflected in the following by 'you've gotta':³⁰

It's got to keep you captivated or you've gotta know you're *learning* from it. So if you're *not* learning anything that's useful or interesting or this looks *boring*, well you disappear, you don't hang around.³¹

To me it's like, why would I come to a museum and see *static things*, unless something's going to *satisfy* what I want to learn. And for me it's *knowledge* and for me it's sharing of cultures, whatever it be. But you've *gotta* have that.³²

This last quote illustrates a distinction made by Stephen Weil regarding the collecting function of museums being for a 'larger and publicly beneficial purpose' (1990, 45). The visitor would come and see the 'static things' of the museum's collection for the express purpose of learning.

Another downstream effect of the overarching learning frame is how negative responses to "dead animals in *tanks*"³³ were tempered by the collecting function of museums serving a higher educative purpose. In this way, the educative frame carried by visitors can act to appease emotional discomfort roused by the display of animals:

F: Well, I mean they're *dead*, so it's a sort of sadness, I suppose.

T: *So what do you think of the idea of having like dead, stuffed animals on display?*

F: Oh, it's necessary to get a good idea of what you're looking at.

T: *Right. So you see an educational value-*

F: Oh, definitely, yeah. That's what a museum should be.³⁴

Unease at the display of cultural artefacts can similarly be moderated by visitors' educative frames:

I guess just the whole Aboriginal display really is things that are *put* here and collected for our *use*, to be able to *learn* from them. But it's that issue of should we really *leave* things where they are and with the people that they belong to, all *over* the world, really. It's a bit difficult.³⁵

When visitors carrying an educative frame grant unreserved authority to exhibition content, they place a weighty responsibility on museums: "We expect it to instruct us, so we *think* it's *right*."³⁶ "The *true facts* are on the *labels*."³⁷

The depth and pervasiveness of learning frames are vitally connected to the degree of satisfaction felt by visitors. Satisfaction is dependent on destinations equalling or surpassing expectations (Gunn 1988; Chon 1990). When expectations are not met, dissatisfaction can result:

F: To *me* both this [museum] and the new museum in [city], which I've also been to-

M: Which we *loathe*.

F: [laughs] -they've gone too *far* towards seeing it as a kind of entertainment space. And there are many, many places you can go to be *entertained*. There aren't many places where you can go to learn things in a way that's *easy* and *pleasant* and so on.³⁸

While the female visitor did not approve of museums ‘seeing’—framing—themselves as an ‘entertainment space’, she saw museums as unique places in which to learn in an ‘easy’ and ‘pleasant’ way. She frames the museum not as the opposite of entertaining, but as encompassing educative elements in a pleasurable format. Indeed, she explicitly linked learning with enjoyment:

And the other thing that did strike me that I quite *enjoyed*—[laughs] see, I come to be *informed* in a museum, I guess—was the seven *seasons* of the local Aboriginal people. That was very interesting.³⁹

The Enjoyment Frame

Considerable energy has been expended in the museum literature debating tensions between education and entertainment, as canvassed in ‘Experience’ in Museums’ (Chapter 3, this volume). In this present research, a study privileging what is salient to visitors, I found the issue to be practically immaterial. ‘Entertainment’ was raised by visitors in only 8 of 204 interviews. Three of these were in a negative sense, including the comment above, and five positively associated museum-going with entertainment. For instance, “[Museums] all entertain or capture my imagination or interest me in some way, some level.”⁴⁰ As a general observation, people’s visiting experiences were tremendously positive in nature. If this wasn’t about being ‘entertained’, how could this element of their experiences be more appropriately characterised?

A greater number of visitors, twenty-one, used ‘fun’ in a positive sense to describe their experience. Seven of these instances were about museums, and fourteen referred to science and technology centres. For example, “The fact that everyone’s having so much *fun* and laughing and happy, well that’s good, it gives science a positive *angle*.”⁴¹ Indeed, science and technology centres actively strive to induce images of fun, with frame-amplifying purpose statements such as ‘*Making science fun and relevant for everyone*’.⁴² While data relating to ‘fun’ speak largely of science centres, what of the great many other experiences in social history and natural history museums that are of a pleasing nature? What is at their core? Tellingly, fifty-eight visitors associated their visit with ‘enjoyment’, across all six institutions in this study.

Enjoyment can be an overall psychological response to an exhibit or institution: “I thoroughly enjoyed it.”⁴³ “I’ve enjoyed this one immensely.”⁴⁴ Significantly, enjoyment can form a primary motivation for visiting: “There’s no museum *like* this. We’ve enjoyed it, that’s why we’ve come back again and we will I’m *sure* in the future as well.”⁴⁵ “I’ve just been to so many [museums] over the years that I think I enjoy each one as an individual experience.”⁴⁶ Equally, non-museumgoers may hold a frame of museums that does *not* include enjoyment:

Other people say, “What are you doing today?” and I say, “I’m going to the museum” and they’d go, “Okay” [expressed derisively], you know. But little do they know that I really *enjoy* doing it.⁴⁷

Indeed, amplifying an *enjoyment frame* has been suggested to motivate new audiences: ‘instead of portraying itself as an educational institution’, the museum might amplify the frame of ‘a place for exploring and discovering, for enjoying’ (Hood 2004, 155).

Importantly, a significant source of enjoyment in the museum stems from interrelation with visitors’ learning frames:

I thought, “Well, I’ll go into the *science* area,” ’cause I often enjoy that. I *walked* in there and I was just blown away. You know, the *volcanoes* and *eruptions*, how we all came *about* and what happened.⁴⁸

The enjoyment felt by visitors learning in museums also derives from interpretive media. Engaging with media appealing to individual preferences can catalyse enjoyment: “The most enjoyable [exhibits] have included shows like this, where you actually go in and sit down and *watch* something and *listen*.”⁴⁹ “[The display is] *three dimensional*. [laughs] That’s a *major* difference which I enjoy. . . . I’m a visual learner, so that’s why I enjoy being in a three dimensional thing.”⁵⁰ Further, adults may enjoy hands-on and interactive displays which are predominantly framed as appropriate for children: “I quite *enjoyed* [the children’s section], hammering on the musical instruments; it’s not only *kids* that enjoy doing that stuff, it’s *adults*.”⁵¹ “But [the science and technology centre], I took my parents . . . they were like eighty-year-old toddlers. They thoroughly enjoyed themselves. [laughs] So that interactivity was really good for them as well.”⁵²

A broader sense of enjoyment stems from the overall ambience of institutions, particularly just being able to ‘be’ in the general environment of the museum: “And the more people that are *here*, sitting and relaxing and enjoying themselves, that’ll create more people to come.”⁵³ For the following visitor, a specific museum was framed as a place to enjoy in general:

[The Desert Park and Museum] was a fantastic *space* . . . it was quite a *casual* place. You could actually just go and *enjoy* yourself there as in sitting and having a drink with people. So it *invited everybody*.⁵⁴

Similarly, James Bradburne describes the development of the German museum *mak.frankfurt*, which aspires to establish a new relationship with society and be reframed as a ‘piazza’ by offering ‘facilities which can be used, rather than just visited’ (2001, 79). The architecture and services of many modern museums, ‘soaring (and usually well-lit) atria, theatres, cafeterias, courts and elegant fountains’, are designed to satisfy broader leisure desires (Stephen 2001, 303).

There is one site in this study at which ‘enjoyment’ could be seen by some visitors as an inappropriate frame. This is at the war museum/memorial: “It’s not to be fun and enjoyable; it’s not the [science and technology centre].”⁵⁵ “We’ll put [these ‘tokens of war’] *out*, and we’ll let the rest of the world not *enjoy*, but appreciate, this material.”⁵⁶ There were, however, other visitors who expressed enjoyment as characterising their visit to the war museum/memorial: “We certainly enjoyed it.”⁵⁷ “I would’ve enjoyed to see a bit more of it. . . . [W]e’ve enjoyed our visit here.”⁵⁸

We really enjoyed going to . . . the *war* museum, we went for a visit. And that was because we were specifically looking for an uncle of my husband’s . . . that was very poignant, very personal.⁵⁹

This last response demonstrates that it is possible for enjoyment to be compatible with solemnity, inferring from the visitor’s personal connection and expression of poignancy that she was not trivialising the visit. Given the sensitive nature of the content of the war museum/memorial, and these disparate views on how it should be interpreted, it would be helpful to further understand how such an institution is framed. Indeed, participants made explicit comments in this regard, framing the war museum/memorial as a site for pilgrimage.

The Pilgrimage Frame

The *pilgrimage frame* prompts visitors to journey to a particular site for a specific, often sentimental, reason. A pilgrimage frame became manifest in visitor interviews particularly in regard to two artefacts, the *Mona Lisa* and the racehorse Phar Lap, and to one entire institution, the war museum/memorial.

The *Mona Lisa*, housed at the Louvre in Paris, is an international cultural icon. For some cultural heritage tourists, seeing the painting acts symbolically as a pilgrimage in and of itself: “I’ve seen the *Mona Lisa*; I can go now’ . . . You can *tick* that off your *list* of things to do in your life.”⁶⁰ “I was just pleased to be there and happy to say that I’ve *seen* it.”⁶¹ While such perspectives can attract criticism of tourists as shallow experience collectors, the above visitors further revealed that they consciously valued seeing the authentic artefact: “You just see [the image] *so* often, like, to actually see the real thing.”⁶² “Seeing something that’s *old* and *live*, like that was *done* by someone, really interests me.”⁶³ As Charles Saumarez Smith points out, ‘the availability of works of art in reproduction has not obviated the human need and desire to experience them at first hand’ (2006, 548). Such a pilgrimage is “to actually *see* them in person.”⁶⁴

While the *Mona Lisa* motivates cultural heritage pilgrims at an international level, the Depression-era racehorse Phar Lap motivates Australians at a national level (see Figure 5.4). In this research, *Phar Lap* was the single



Figure 5.4 *Phar Lap* inspires pilgrimage to the museum

most spontaneously mentioned display not specifically selected for this study, by visitors across several institutions. *Phar Lap* is the subject of a pilgrimage frame when visitors specifically attend the museum to see him: “That’s why we went there . . . only to see *Phar Lap* . . . I’ve always wanted to see it. I’ve seen the movie [*Phar Lap*] a million times.”⁶⁵

Last time I was in [this city] . . . I saw *Phar Lap* and I brought my little children there. . . . I’ve brought my family here today thirty-eight years later to see *Phar Lap*.⁶⁶

In the museum’s own audience research, *Phar Lap* rates highly as a singular motivation for visiting the museum, rating almost as high as general learning and enjoyment motivations for visiting.⁶⁷ Both the *Mona Lisa* and *Phar Lap* are artefacts with the power to inspire a pilgrimage frame. The war museum/memorial is an entire institution which may be experienced through a pilgrimage frame.

When applied to the war museum/memorial, the pilgrimage frame sees the visit as enacting honour, and as important for gaining empathic perspectives. While on such pilgrimage, appreciation of artefacts, the pursuit of learning, or enjoying the visit, can and do occur, but in service of a higher aim. At an extreme, visiting the war museum/memorial can be seen as a civic duty of all citizens: “It’s something we all should do from time to time. Everybody should come to the [war museum/memorial]. It’s something

we've been trying to achieve now for a *long* time.”⁶⁸ Visitors are motivated by a desire for insight and empathy: “We *haven't* experienced [war], but it's important for us to be aware of it. Aware of what went on, and the impact it had on so many people in Australia generally.”⁶⁹

T: *And what makes it important to go to the [war museum/memorial]?*

F: [U]nfortunately it's happening at the moment, men going away to *fight*. And we sort of sit back and probably can't do a lot, which is pretty frustrating, but coming here at least we can just understand exactly what *happens*. In a *small way*, I mean, it just makes it a bit more real to life.⁷⁰

That memorial institutions commemorate the dead (Lennon 1999) elevates the significance of such institutions and maximises personal impact on visitors:

I just think this is the *ultimate* [institution] really, because they're talking about the death of thousands of people. . . . [T]his is probably the *one* place that would have had most impact on me.⁷¹

The most I've been affected by a museum has been this one and one in Sydney, the smaller one that's in Hyde Park. . . . because it's history of people *dying* basically. . . . obviously it's not just like seeing “This is how so-and-so lived in the 1850s.”⁷²

The above visitor's differentiation of memorial institutions from social history museums was mirrored by other visitors, who contrasted the war museum/memorial to an art gallery:

We've been over to the art gallery and as we were walking around thinking, “Oh yeah, that's nice, that's nice,” but there was sort of nothing there. But coming *here* I even saw the statue of Simpson out the front and I thought, “Don't you cry!” [laughs] [see Figure 5.5]⁷³

This visitor's experience, which began before setting foot inside the war museum/memorial, suggests a heightened emotional state can be a subelement of a pilgrimage frame. Similarly, another visitor contrasted an art gallery with the war museum/memorial, expressing the difference as characterised by elevated emotional affect:

[The war museum/memorial] has an emotional *charge*. I mean, we went to *Monet and Japan* twice because we both liked the exhibit, because it was lovely to look at, but it doesn't have-, I mean it's *visually*, aesthetically very satisfying, but this is *different*. This is about history, what happened to people.⁷⁴



Figure 5.5 Under fire, Simpson and his donkey recovered wounded soldiers from the World War One battlefield (Simpson and his donkey, 1915, bronze, Peter Corlett, 1987–88)

It is important to note that the art gallery was not denigrated for any lack. In fact, the visitor was satisfied to the point of being a repeat visitor to the same exhibition. It wasn't of poor quality, rather of a different quality.

For some visitors, qualities possessed by memorial institutions may position memorials outside a 'museum' frame. In particular, a sense of being real to life served to set the war museum/memorial apart:

The *whole place* has [a quality of realness]. . . . [E]verything here is *real*; everything here is as it *is*, so there's nothing made *up*, no *mock*, so it's not a *museum* in that sense. It's . . . almost as though there's *ghosts* about.⁷⁵

But there's a *big* difference between a museum and a war memorial. *Big, big* difference . . . this is more *realistic*, whereas a museum you're looking at old relics—this, that and the other—there's not much *story* to a museum. You know, that's where they put all old relics and that. But here, in the [war museum/memorial], this is *life*.⁷⁶

That people have differences in the frames they carry towards the war museum/memorial in comparison to other institutions is akin to observations made at the United States Holocaust Memorial Museum. Its staff 'hoped to create a quality museum. They had no idea that they were creating . . . *more* than a museum': 'this sojourn is more like a pilgrimage to a church, a gravesite, or a memorial than a museum visit and is therefore not to be entered into lightly' (Gurian 1995, 32; emphasis added).

Indeed, contravening the pilgrimage frame as it applies to the memorial institution can be disturbing to visitors. This comment refers to a multisensory immersive display which stylistically simulates an air raid by a World War Two Lancaster Bomber (see Figure 5.6): "I suppose the sad part is it's like going for a ride in an amusement park or entertainment centre."⁷⁷ The frame evoked for the visitor was an amusement park frame as the exhibit was seen as a 'ride', which is a subelement of amusement parks. While this was an isolated comment about an otherwise well-received display, the visitor highlights the importance of the sensitive interpretation of content. Larry Beck and Ted Cable reflect on the issue: 'It is generally considered good



Figure 5.6 Visitors feel rumbling underfoot in *Bomber Command*

technique to make interpretation participatory and enjoyable. How can this be done when the subject is warfare?’ (2002a, 75).

The pilgrimage frame was also seen as violated by promotional media perceived as inducing an image of the war museum/memorial as an exciting place to visit:⁷⁸

M: Several months ago you had a commercial advertising the [war museum/memorial] and you had a girl do the voiceover . . . and she was *bubbly*.

F: Just a bit too *up*.

M: And she’s like, “We have a long boat from Anzac-, a bullet-ridden, a bullet-ridden boat!”

F: That’s what bothered us.

M: It was completely the wrong tone. She might have been a people person but I mean it’s a *solemn place* . . . it’s a place for remembrance; it’s not a big media *gala* where it’s exciting. It’s completely [laughs] a false representation.⁷⁹

The male visitor went on to suggest that the war museum/memorial overtly amplify a ‘place of remembrance’ frame. In this way, visitor behaviour not aligning with the pilgrimage frame could actively be curtailed:

It should be a solemn place; there should be restrictions on *kids* running around . . . you could remind them that this is a place of remembrance. People come here to *reminisce* about the past or to learn our heritage. So maybe reminders that this is not a *fun* place.⁸⁰

*

Four institutional frames surfaced as dominant in visitors’ accounts. The *displayer-of-artefacts frame* binds the museum with the materiality of culture and nature. There is an expectation that the museum’s material things will be set apart, most commonly by their antiquity and/or authenticity. However, the museum as a *displayer-of-artefacts* is not unproblematic in its need to accommodate broader sensitivities pertaining to the collection and display of the natural and cultural worlds. The *learning frame* enables visitors to enact their identities as lifelong and life-wide learners. This forms a primary motivation for visiting. Carrying a learning frame moderates tensions arising from the museum as a *displayer-of-artefacts*, yet visitors’ consciences are complicit in the museum industry’s efforts to redress insensitive collection and display practices. When framing the museum as a place for learning, a downstream expectation is that museums represent a sound authority. The *enjoyment frame* sees visiting as inherently enjoyable. An important source of enjoyment in the museum is learning, particularly through the diversified media offered by museums.

Museums of all types can be experienced as enjoyable, even memorial institutions. The *pilgrimage frame* prompts visitors to journey to a particular site for a specific, sentimental reason. Pilgrimage has a sense of increasing one's personal connection with artefacts, or with aspects of life, whose meaning is perceived to be of significant historical or social importance.

REFRAMING

The above institutional frames represent relative stability in what it is to be a 'museum'. Visitors also confronted aspects of change in institutions. This body of data documents visitor reactions to the *reframing* of museums. Change in museums can be evaluated as positive: "Most museums in Sydney are very good. They've dragged themselves *screaming* up to the twenty-first century."⁸¹ Comments routinely contrasted 'new' against 'old', with many visitors demonstrating self-awareness about their associated emotional and behavioural responses to such shifts in style and substance. This section, 'Reframing', examines intersections between institutional and visitor frames, with a particular focus on areas of positive and negative incongruity. That is, where visitors were met with something that did not match their expectations. Examples can be found where visitors consequently and most happily upgraded their image of museums. These provide provisional indications of successful change. Instructive too are areas in which clusters of visitors found dissatisfaction. The visitor data identify approaches to change requiring careful consideration.

In recent years, several volumes have been published whose very titles suggest they speak to the reframing of museums: *Re-imagining the Museum* (Witcomb 2003), *Reinventing the Museum* (Anderson 2004) and *Reshaping Museum Space* (MacLeod 2005). Indeed these texts do discuss issues pertaining to reframing, from the point of view of museum practitioners and commentators. The visitor accounts to follow add the visitor voice to the evolving discourse. 'Reframing' represents an exploratory study of change that arose in an unprompted manner from participants. It exposes avenues of thought salient in visitors' minds, serving as a barometer to the reception of new and changing institutions.

In particular, the data showed that visitors may experience reframing through *architecture*, the *art-ifying* of the museum, *content* and *interpretive media*. The following visitor encapsulates how museums being reframed can affect visitors and their reciprocal reframing processes. His account highlights the complexity of change, noting the interplay between style and substance:

It's got a nice feel, that it's somewhere in between very modern and sort of old world. I mean, given it's a new building—you've got the very modern feel—but it hasn't lost that sense of *being a museum*, instead of a-, I don't know. I guess it's hard to find that balance between the flashy

new look in the architecture and graphics, and look at the interactive displays, and the actual feeling of just looking at the history.⁸²

Reframing through Architecture: Buildings as Frames

It's pretty nice coming to like a nice *building* on a prominent position, with good *views*, a nice area . . . *seeing* the building is half the trip, I guess.⁸³

The museum's architectural structure is the largest material frame of the museum. The building that houses a museum literally frames the museum (see also Kräutler 1995). Different types of buildings evoke different frames for different people. For instance, divergent frames can be constructed by traditional buildings. Historical buildings "built in *stone*" can make one feel "insignificant"⁸⁴ in a reverent way, positively (pre)framing visitors to museums:

- F: It's such a beautiful place that Natural History [Museum in London], though, isn't it?
- M: Yeah. The actual building *itself* is a work of *art*. . . [T]here's this feeling of *awe* when you go there. . . [S]o when you go inside, you've *already* got that feeling there, that this is a tremendous building and "Okay, now, let's see what's inside."⁸⁵

An immediate and localised positive frame can thus carry through into a visit. In contrast, classical architecture can also negatively (pre)frame museum visiting:

I was a bit hesitant to come to the museum because I just don't particularly like the *buildings*. Like, I find them sort of *dark* and *damp* and *old* sort of schoolkid *memories*. . . [T]hey're *massive* buildings, aren't they? And I guess as a kid they can be a bit *daunting*.⁸⁶

Note how he carried his architectural frame of museums over a substantial length of time, affecting his decision to visit a museum in the present day. Note, too, how thoughts of museum buildings were enough to evoke 'schoolkid memories'. His architectural frame of museums subsumed a multiplicity of detail. Significantly, the visitor also remarked how the contemporary building he was now experiencing was positively incongruent with these feelings, indicating the initiation of a reframing process: "In support of this place it's not like that at all . . . it's pretty *colourful* and exciting and interesting."⁸⁷ Indeed, as much as the museum is framed by its building, it can also be *reframed* by its building. Typically, light, colour and spaciousness set the contemporary apart from the 'old':

The first thing that struck me was the openness, the *light* . . . So it was really quite *unusual* for a museum, having been to the old museum, you know? Here is such *light* and that was *dark*. [see Figure 5.7]⁸⁸



Figure 5.7 Space and light in a natural and cultural history museum foyer

Further to the architectural frame eliciting emotional or psychological responses, its potency may set up expectations as to what the architectural vessel contains:

The building doesn't look like a traditional museum. You know, the old sandstone imperial thing with the columns and all that sort of thing. But that's because it's a different sort of museum. [F. Totally.] You expect this more modern look to these sort of displays.⁸⁹

The flipside is that when reframing is initiated by contemporary architecture, and is not perceived to follow through in museum content, visitors can sense a lack of alignment in frames:

[The former museum had a particular atmosphere because] it was an *old* building with *old* artefacts in it. . . . And this is a *new* building with *old* artefacts. The two don't *gel*, really, do they?⁹⁰

Discrepancy between the holistic feel of architecture and exhibits contained therein was a theme brought up by others at the same natural and cultural history museum:

I find it quite interesting that it's such a modern building with such old stuff in it . . . the old museum was more in keeping with what I would consider a museum to be. This is more like an *art gallery* type feel . . . it doesn't worry me, it's just not what I expected.⁹¹

Evoking the 'feel' of an art gallery through contemporary architecture prompted the visitor to (re)engage with her conception of 'museum'. She engaged in the thoughtful processing that can occur when something does not conform to expectations (Abelson 1981). Moreover, she was not alone in her perception of the museum reframing itself by introducing artistic elements.

Reframing through Art-ifying the Museum

Visitors reported enhanced relationships with the museum environment due to 'artistic' qualities found in interior architectural design, and in exhibit design:

T: *You mentioned it was 'artistic'. How does that add to your experience, would you say?*

M: I think it makes it *richer*.

F: It makes it more interesting.

M: I mean the way it's *set out*, I think is a lot better than the other *museum*. I mean the other museum was sort of like a *stuffy*, you know, *smelly* kind of place. It was very *old* and the information was abstract. Whereas *here* with interactive icons and things like *that* it makes it more poignant, it brings it home to you more, I think.⁹²

Articulating an 'artistic' quality by contrasting it with 'stuffy' is likewise repeated in the excerpt below, lending support to the idea that 'aestheticization . . . can provide a breath of fresh air in the museum' (Marshall 2005, 174):

It's not in your typically stuffy sort of *building*. The displays are very light open colour. There's obviously a whole bunch of artistic input into the *design* of the building and how it's all *laid out* for everyone. And that makes it a lot more enjoyable and a lot easier to, I guess, *absorb* the museum information.⁹³

Significantly, in both excerpts above, rather than 'artistic input' being merely an aesthetic nicety, galleries being 'set out' or 'laid out' with artistic qualities enabled a closer relationship between visitor and museum content. An artistic approach in museums of science and culture was widely commended by visitors, and contrasted with staid traditional museums.

Much of this data speaks to the idea of resonance and shall be addressed in the next chapter.

While infusing display environments with an artistic quality can positively reframe the relationship between visitors and exhibition environments, this area of frame extension brings with it multiple vulnerabilities and does not always result in a closer relationship between visitors and museum content. For instance, the museum frames that visitors carry can affect their response to the display of art in the museum:

The feeling of the museum . . . it doesn't know whether it wants to be a museum or an art gallery. It seems to be a *fudged* thing between the two. . . . You've just really got . . . the whole *flora* and *fauna* of New Zealand just about in one display cabinet, you know. And I think, "Hmm, surely they could do better than that" and yet you go upstairs and you've got a car made out of corrugated iron, [laughs] which is *good*, but should that be in a museum or should it be in an art gallery?⁹⁴

The same visitor qualifies his museum frame as one that anticipates particular learnings, and so it could encompass artwork if it was relevant to the subject in focus: "If the *art* is *relevant* to the particular culture that we're talking about then I don't mind it, but if it's *not* relevant, then what's it there for?" He then further delineates his frames, in that he enjoys art in the 'right' context. Specifically, including art in a social and natural history museum can represent frame overextension:

I do like art, but when I'm going to a museum, I'm really looking for cultural history and natural history of the place where I'm *at*. And I sometimes think a lot of the stuff there is *filler*. [laughs]

The characterisation of art as 'filler' is clearly a disparaging one, suggesting its use can represent a lack of substance. This echoes the warning that incorporating additional values can cloud or trivialise an organisation's central purpose (Snow and Benford 1988).

Further, the specificity of visitors' institutional frames may blind them to art. When people elicit a frame to make sense of their experience it can subjectively highlight particular elements, simplifying the presenting situation along one semantic plane (Donati 1992). Quite simply, "a lot of people don't expect to see art coming to a *museum*,"⁹⁵ bringing with it its own downstream effects. Visitors' responses to *Stilled Lives*, an installation by a contemporary artist in a natural and cultural history museum, provide an illustration. Routinely, visitors to the display were perplexed about its unorthodox presentation of bird skins and animal pelts (see Figure 5.8):



Figure 5.8 Displaying animal and bird specimens through an art frame

F: I was *shocked* to be honest. . . . I just didn't expect anything like that. . . . If they were on *branches* I could've coped with it. . . . It looked like a *morgue*.

M: That's not an attractive way to *show* them. It'd be better standing up on a *perch*. [laughs]⁹⁶

Visitors typically did not interpret the display through an artistic frame but viewed the display through learning and/or displayer-of-artefacts frames. As the display was perceived by visitors as not adequately serving these frames, visitors suggested adaptations to the display: "I was wondering why the animals are all laying down on their *backs*, and why they don't turn 'em up. . . . I'm not sure that it's the best angle to observe."⁹⁷

I actually thought the way the birds were laid out was a bit sort of *gruesome*. . . . And you didn't really see their *faces*, like their heads were all away from you. . . . [S]tick 'em on twigs or something. Pin 'em up on a *perch* so you can look at 'em that way.⁹⁸

When it became clear that visitors did not interpret the artwork as 'art', I introduced an artistic frame to gauge visitors' responses:

- T: *If I were to say then that that was meant to be an artwork- [F. Yes.] -what would you say about that?*
- F: I didn't enjoy it, no. I mean, if it's meant to say that that's-, what? Start slaughtering *birds*. Well I suppose, yes, the message would be pretty *graphic*. . . . I wouldn't *look* at it as an artwork.
- M: I didn't know it *was* meant to be! [laughs]⁹⁹
- T: *Well, it's meant to be an artwork.*
- F: We're supposed to look at it and think it's a form of art.
- M: I'd say if she has the message there that it's a sorrowful *sight*, she's right. If she's doing it for art's sake, it's *rubbish*. [laughs]¹⁰⁰

In the only two interviews in which the display was independently recognised as 'art', visitors applied an alternate frame of reference, an art frame, that privileged the artist's freedom of expression: "Everybody portrays something differently so, yeah, it's good to get an insight into how different people see different things differently."¹⁰¹

- F2: If an artist does something in *that* way and then you understand why they *have*, well, that's good. You admire art.
- F1: You respect what they've done.¹⁰²

Stilled Lives is an example of a museum passing 'the baton to an artist, who is given creative license to interpret and shape an exhibition from a nontraditional, noncuratorial perspective' (Anderson 2004, 190). The commissioned artwork used different sensibilities in the exhibition design process. Namely, it manifested the artist's vision, rather than an iterative evaluation-based process sensitive to visitor needs in interpreting museum content.

Artistic input into the design of museums and exhibits can thus both connect with and alienate visitors. The general aestheticisation of museums can renew visitors' relationship with exhibition spaces. However, the frames carried by visitors to natural history and social history museums may not be ready to receive exhibits designed solely according to an artistic sensibility. The data suggest that such reframing may need careful and overt bridging by museums, for visitors' confusion suggests that such frame extension risks turning into frame *overextension*.

Reframing through Content: The Past Meets the Present

Museum content was another plane on which visitors experienced reframing processes. The following visitor's displayer-of-old-artefacts frame found incongruence in the redeveloped natural and cultural history museum:

This is very modern, a very, very new approach to museums. I mean, as a *kid* I always associated museums with something like out of . . .

Indiana Jones movies,¹⁰³ that's it. You know, where your 1930s academic hangs out. 'Cause . . . I suppose the big period of archaeological discovery was around the early 1900s . . . so that was the big culture of the museum. Things like Tutankhamun and Machu Picchu and all that stuff. It seemed to be like that was the time that they were discovering the ancient world and that's where museums sort of seem to have their place in history. Where this is sort of, I suppose, *reinventing* it.¹⁰⁴

Change in the content of museums can thus challenge visitors' sense of where museums locate themselves within a greater historical trajectory. The relative age of displayed artefacts, and exhibits addressing contemporary issues, may therefore instigate reframing processes in visitors: "It's *now* and *real*, whereas the others are *historical* and *past*."¹⁰⁵ Notably, presenting contemporary content can shift the entire perception, the frame, of the museum out of the 'past': "It related to what's going on *now*. So the museum is *not* something that's in the distant *past*."¹⁰⁶

The museum can be seen as positively reframed as it loosens associations with the past. In particular, the inclusion of popular culture and contemporary content enables visitors to see their own lives represented in the museum: "It's nostalgic, we can relate to it all."¹⁰⁷ "[H]ow they've set up an old *schoolyard* . . . you can sort of relate to it. That's what *I* had for lunch . . . That was just like *my* school"¹⁰⁸ (see Figure 5.9).



Figure 5.9 Reframing relations through contemporary and everyday content

- M: I prefer the modern history and . . . the *schoolyard* and all that.
- F: Yeah, you can relate to it all . . . going through [the television set of] *Neighbours* and like *everybody* knows *Neighbours*. You *relate* to it, whereas a lot of other stuff you look at it and it's *great*, it's interesting, *but* you don't have that same connection.¹⁰⁹

In slight contrast to artefacts representing present day popular culture, this visitor noted that a fifty-year-old artefact was of interest as it represented the history of the previous generation:

I liked the Australian section down below where you had the [1956] ABC¹¹⁰ broadcasting van. Like, it's not *early* and not *right now*, you know what I mean? Just a *little* bit of history, more probably *my* parents' generation is interesting.¹¹¹

The broadcasting van likewise appealed to a visitor who recalled the introduction of television. While the artefact *was* an article of her own generation, she considered it 'historical', citing technological advancement as granting it significance:

[I liked the ABC van as] it's a historical thing . . . [it's] so *changed* from 1956 to now. . . . [W]e're old enough to remember when there was no *television*, so we were really interested in that . . . just that change in technology.¹¹²

Although when visitors view relatively contemporary museum content in relation to themselves, while at the same time holding a displayer-of-old-artefacts frame, they can feel historicised as individuals: "I find it's truly frightening that a lot of my childhood's in a museum."¹¹³

[I liked] looking at all the things that I remember when I was a *child*, which is *embarrassing*. . . . Makes you feel *old!* [laughs] When you go to a museum to see what you remember, that's *old*.¹¹⁴

Moreover, for museum visitors who hold a displayer-of-old-artefacts frame, more contemporary content, even that which is 'fifty years of age', can be seen as diminishing the significance of the museum. Such reframing can be perceived as frame *overextension*:

- M: [My wife is] going to get a *shock* because [she hasn't] been *upstairs* to see what's in the museum. The Hills Hoist,¹¹⁵ for argument's sake, that's up there . . . the only thing that should belong in a museum is stuff that happened hundreds and thousands of *years* ago. We're of that *mentality* that the museum holds stuff that's very, very old.

T: *Would you prefer if that was replaced by more traditional displays with older artefacts?*

M: Well, I would have thought so. The reason why we're here on this earth, or, you know, something to *do* with the development of the *land* . . . rather than *current* stuff that's sort of fifty years of age.

T: *Yeah, yeah, okay. So that's not particularly special to you?*

M: Nuh! 'Cause I've *lived* in it.¹¹⁶

Visitors thus considered where in the trajectory of time museums locate themselves and also considered their own relationship to this trajectory.

While the above visitor suggested that 'shock' was an appropriate response to the reframing of the museum through contemporary content, the redeveloped museum also reinstalled several display cases from its former incarnation, maintaining links with its past sense of place. These were noted by other visitors: "As soon as I walked in I saw the pythons in the glass cases. It's the same *writing* in the case; even the *card* has the same writing. . . . [That was] great."¹¹⁷

It was nice to see some old familiar exhibits . . . the *Boa Constrictor* and some of the stuffed animals that have been here since the early nineteenth century. . . . I *relate* them more to my idea of a museum.¹¹⁸

In a sense, the *Boa Constrictor* display case is an exhibit of an exhibit, akin to Pere Alberch's notion of a 'museum of a museum' (1994, 197). Notice how the visitor connects the 'old familiar exhibits' to his 'idea of a museum'. For him they are an intrinsic part of the environmental meaning of the museum. By including such exhibits the museum makes reference to its past, nurturing visitors' self-place connection (Israel 2003, viii). This provides a comfortable frame of reference from which to proceed, from which to be *reframed*.

For instance, the visitor quoted in the introductory section of 'Reframing' described the 'feel' of the redeveloped museum as 'in between very modern and sort of old world'. Upon further probing, he revealed the importance of an established self-place connection:

T: *What gives it that 'old world' feel?*

M: Hard to say. . . . one of the things that have always identified the gallery down here for me have been *Phar Lap* and all those kinds of things, just really iconic Australian *images*.¹¹⁹

That the taxidermied racehorse Phar Lap had 'always identified the gallery' indicates that *Phar Lap* formed a key part of this visitor's self-place connection with the museum. Self-place bonds are 'shaped not only by the physical reality of our environment but by the psychological, social/cultural, and aesthetic meaning that place holds for us' (Israel 2003, viii). That Phar Lap represents some or all of these meanings for *many* visitors is reflected in *Phar*

Lap inducing a pilgrimage frame. While the cultural importance of Phar Lap in Australian history and the physical size of Phar Lap were typically stated, there was another subtle yet powerful psychological reason: seeing *Phar Lap* was “like going home.”¹²⁰ Describing *Phar Lap* like this attests to his importance in people’s self-place bond with the particular museum. Toby Israel advocates that designers of environments ‘have a particular responsibility to build places that help us to reinforce this vital bond’ (2003, viii). By preserving *Phar Lap* as a feature of its redevelopment, the museum maintained an important part of its environmental meaning as well as visitors’ self-place connection with the institution. Other museums considering redevelopment would be wise to identify and preserve key elements of visitors’ self-place bonds with their particular institution.¹²¹

Reframing through Interpretive Media

Visitors can experience the reframing of museums not only through architecture, aesthetic approaches and content but also through the use of varied communication media. The use of contemporary interpretive media can reframe the relationship between visitors and museums towards greater connectivity. The need for dynamic change in the way that museums attempt to communicate with their audiences is linked to the embeddedness of museums in a broader communicational milieu. For instance, this visitor suggests the impact of televisual culture and digital technologies on museum audiences:

I mean it’s interesting to see how in an age that is dominated by computers etcetera and very much a generation that’s grown up on TV, how you get the interest of people and drag them in and *make*, you know, old stone carvings and animals etcetera interesting to a generation that’s so used to having things just *flashed* at them.¹²²

To appreciate how relationships with visitors can be reframed through contemporary interpretive media, it is useful to first examine visitor responses to classical glass display cases. Boredom, and reluctance to visit museums, are common responses: “I wasn’t that keen to *come* to the museum to see the *boring* old glass *cases* with bits of rock and stuff in them.”¹²³ Glass cases may delineate, or frame, particular relationships with visitors. As a physical boundary they delimit physical behaviour: “You’d *look* at them, you don’t *touch* them, you just walk away after you’ve seen ’em.”¹²⁴

M: You’re just walkin’ around a lot of museums where you just stand and read and move on and stand and read and move on.

F: Everything’s behind glass and you can’t touch it.¹²⁵

Glass cases may also present a psychological or cognitive barrier, framing a relationship with visitors characterised by a sense of disconnectedness:

“The glass cases for me are sort of, I mean, *necessary* but I feel removed from everything.”¹²⁶

Some museums tend to *sanitise*, maybe, the *experience*. Like everything’s *behind glass* cabinets and it’s not very *real*. Maybe people find it hard to make the connection or it’s a little bit *sterile*, I guess.¹²⁷

That the experience of looking at objects behind glass is ‘not very real’ is ironic in that objects displayed behind glass in museums are typically genuinely authentic. The visitor’s account aligns with the conception in museological literature that what is ‘real’ is a subjective quality experienced by visitors, rather than an objective characteristic of artefacts, as discussed in ‘“Experience” in Museums’ (Chapter 3, this volume).

At one level, museums shifting in style away from the dominance of glass cases is characterised as creative: “I think compared to the old museum, this is *generally* extremely innovative.”¹²⁸ A dimension of this creativity is the use of technology and interactivity, which can have the effect of raising visitor interest levels: “Personally I think interactive is good . . . I like a bit of modern stuff because I think the *old* can be a bit *boring*.”¹²⁹ “The new style’s the *interactives* and the digital *imagery* . . . It’s a lot more interesting, I think, than just walking along looking at glass cases.”¹³⁰

The cultivation of a greater sense of connectedness between visitors and exhibits is the primary positive action of more contemporary approaches to exhibit design. Interactivity is a key quality reframing relationships with visitors: “Museums have come out of the closet, haven’t they? Much more creative and interactive now.”¹³¹

I think they’re *going* like that, a lot of the museums and places, aren’t they? They’re having little interactions where you can *play* with things and have a better *look* at it, a better understanding, I suppose.¹³²

Visitors used colloquial expressions such as ‘user-friendly’, ‘touchy-feely’ and ‘in-your-face’ to describe reframed relationships. These expressions suggest the reciprocal reframing of museums and visitors towards greater connection with each other: “Well I think it’s far more *inviting*, and I think it’s *user-friendly*, and I want to *be* here.”¹³³

It was a more traditional-, well, what’s a traditional museum? But it was sort of more *crammed* with things and this museum’s *not*. So I think this is sort of *user-friendly*, compared to something like that.¹³⁴

‘Touchy-feely’ can characterise the reframed contemporary institution: “The modern museum concept . . . [is] a little more touchy-feely.”¹³⁵ ‘Touchy-feely’ is not necessarily about collections that can be handled, but has the definite dimension of inviting involvement. Its use here relates to mechanical interactives: “The ‘touchy-feely’ kind of being *involved* rather than walking

through and just seeing stuffed animals on a shelf”¹³⁶ And here it relates to headphones: “It was a touchy-feely thing. You knew you could get *involved*.”¹³⁷ The expression ‘in-your-face’ further indicates closer relationships between visitors and exhibits:

I think it’s more *in-your-face*. Yeah. Whereas before it was all behind glass. Not that you can *touch*, I guess, here either, a lot of things, some things you can—but generally everything was *cordoned off*. . . . New design, new techniques, new technologies has made it more *interesting*, more *appealing*.¹³⁸

Notice how the above visitor qualifies his description of the removal of glass, pointing out that mostly the artefacts could not be handled, but the displays nevertheless did not feel so ‘cordoned off’. Similarly, a display entitled *Taking Flight* presented old things in a new way, adjusting the posture of taxidermied birds to break the psychological boundary created by the glass barrier (see Figure 5.10):

And the *creativity* with the displays. For example, the *birds*. Even when they’ve had to have them in the case they’re still nevertheless looking as though they’re about to come out, the door’s half open.¹³⁹

Achieving a closer relationship with visitors through ‘in-your-face’ exhibit design can be disconcerting, however:



Figure 5.10 Perforating barriers between visitors and exhibits

In the First World War part I liked all those little 3D displays [the dioramas] . . . That's what I *like*, rather than probably this late-styled, more up-your-, in-your-face type stuff, you know. Whereas the First World War, we haven't got much of it, so you've gotta *make it*, and then it doesn't seem so bad. But when you see this [a photograph of a captive soldier moments prior to his beheading], the reality strikes home that "Hey, you know, this really happened."¹⁴⁰

Although the visitor felt unnerved, wouldn't having 'reality strike home' be a desirable exhibit outcome?

*

'Reframing' has examined ways in which the museum is perceived by visitors as it undergoes change. The building a museum is housed in acts as a powerful material frame. Contemporary buildings are one of the first cues to visitors in reframing the museum. People find meaning in environments, and this meaning contributes to self-place connection. When environments change, the self-place connection is affected. As museums reframe themselves with modern *architecture*, *interpretive media* and increasingly contemporary *content*, visitors' self-place bond with museums undergoes disequilibrium. Many visitors find enhanced energy in their reframed relationship, while some struggle to establish a new self-place connection. Preserving remnants from former environments can assist visitors in the transition to new self-place connections. Artistic elements are a prominent feature of reframed museums. When *art-ifying* the museum it is important to consider alignment with institutional frames, as well as the exhibit frames that are delineated in the next section.

Some change is catalysed by museums striving to appeal to a broader range and greater numbers of people, so they can be more inclusive and equitably accessible, as well as compete for market share in the cultural and leisure industries. In turn, museums' boundaries are expanding into pioneering territories. As has been documented, change brings with it an element of risk in its reception by visitors. With the notion of 'museum' growing in complexity, how could change be engineered to reach its goal of expanding audiences and deepening connections with them, while still maintaining what it is to be a 'museum'? While change in museums is occurring on many fronts, it is incremental rather than radical (Witcomb 2003, 165–70). So even while museums are in a state of flux, there seem to be several staple views of the exhibits visitors expect to find in them. I call these expectations *exhibit frames*.

EXHIBIT FRAMES

Visitors' frames of reference draw from the spectrum of communication channels and leisure contexts that exist across their lives. These frames bring with them expectations of museums, as documented in 'Institutional Frames'.

These frames of reference also influence how people perceive, process and evaluate exhibits. A body of data described defining attributes of exhibits, constituting *exhibit frames*. Together these frames construct a composite image of differentiated qualities that contribute to the success of the communication genre of museum display. In sum, exhibit frames expressed by visitors in this study were a *materially-distinct exhibit frame*, an *explanatory exhibit frame* and a *temporal exhibit frame*.

Much of the data representing exhibit frames arises from negative cases. That is, exhibit frames overtly enter consciousness when visitors are confronted with a display incongruent with their expectations. According to framing theory this is not atypical, as individuals are more likely to be conscious of frames they carry when what presents itself does not match their expectations. Usually, people are unaware of the frames they use to perceive and organise experience ‘because events ordinarily confirm these projections, causing the assumptions to disappear into the smooth flow of activity’ (Goffman 1974, 39). Frames become ‘apparent when action is unexpectedly blocked or deflected and special compensatory effort is required’ (ibid., 22). George Lakoff agrees, describing how ‘[m]ost categorization is automatic and unconscious, and if we become aware of it at all, it is only in problematic cases’ (1987, 6). So exhibit frames do not often surface when exhibits positively correspond, rather ‘thoughtful processing’ occurs when ‘obstacles or unusual variations’ are presented (Abelson 1981, 723).

The Materially-Distinct Exhibit Frame

An essential exhibit frame expects exhibits to be uniquely distinct: “You want to see something you’re not going to see otherwise.”¹⁴¹ Visitors delineated the differentiation they expect of exhibits particularly in relation to another communication medium, books. Exhibits embodying a material distinction offer an alternative to the written word. This is the power of exhibits to ‘show’ rather than ‘tell’ (Spock 2006):

If I can put together a *picture* by looking at the objects, that sort of more or less says the same thing as the *words*, then to me that’s the sort of display that I like to see. Rather than to just stand and read information. I mean, I could do that *outside* with a little book.¹⁴²

Foregrounding written text in exhibit design may thus defeat the purpose of even coming to the museum. Simply, reading text is more efficiently achieved through reading books. In the museum context, ‘reading’ assemblages of objects affords a different economy of communication: “I like to see a display with *objects* and things because I’m a very slow *reader* and I find it difficult, you know, a long laborious time to get information in just by reading *words*.”¹⁴³

Exhibits may not only offer an alternative communication medium to books but may also be adjunctive to books (see Figure 5.11). For even people who are avid readers of text in other contexts appreciate exhibits for their unique contribution to the communicational landscape:

T: *And did you have a look at any of the text or the graphics?*

M: No, not at the moment.

T: *OK. Was the diorama then enough for you?*

M: Yes, the *diorama* has the *appeal*.

T: *And you're not too interested in reading?*

M: Oh, yes, oh, well I've read a thousand books on it. So I didn't want to be trapped again. I've only got a limited time to walk through.¹⁴⁴

This visitor chose not to read the exhibit's text as the physical elements of the diorama were enriching of their own accord, and suitable for the time-limited nature of museum visiting. Exhibits can serve quite purposefully



Figure 5.11 The World War One diorama as adjunctive to other media

as adjunctive to books, furthering understanding by being illustrative in a distinctly material way:

I've just finished reading a *book* on World War One, so I was *relating* what I'd read to those displays. . . . [I]t gives you a better understanding of the conditions that they were experiencing, because it's a model. You know, than just the *written* word or even a *photo*. It's *three-dimensional*.¹⁴⁵

Books not only contain the written word but may also contain photographic images. This can reduce the chances of a photographic display in a natural history museum being perceived as sufficiently materially-distinct (see Figure 5.12):

It probably loses a bit of *interest* for me, just 'cause of the fact that it's just photography . . . I mean, you can always look in a *book* to find out about Australian landscape and stuff like that.¹⁴⁶

Further, the visitor went on to explain an automatic detachment from the primarily photographic display, due to its insufficient differentiation from the images of advertising material:

'Cause the society, you're *so used* to seeing something that's *advertisement*. That [exhibit is] a lot like using advertising *effects* . . . so you tend to look *over* it, sweep it a bit more than the others . . . *block* it away a little bit.



Figure 5.12 Backlit photographs not quite satisfying the materially-distinct exhibit frame in the *Environments* exhibit

With the proliferation of text and images outside the museum, these media may not be primarily sought by visitors: '[t]wo-dimensional media they can see elsewhere, computer terminals they can find elsewhere, text they can read elsewhere' (Falk and Dierking 2004, 142). As an extreme, the following visitor did not even categorise two-dimensional 'pictures' as 'displays': "So far there seems to be a lot of *pictures*, but not a lot of *displays*. . . . I don't want to see pictures in the museum, myself."¹⁴⁷

In support of the exhibit frame of material distinction, when given the choice to focus on wall-to-wall audiovisual screens or to engage with a personal touchscreen, this visitor chose the wall-to-wall screens for "the experience of being in the sense-surround type of *thing*."¹⁴⁸ Her reasoning was that what the touchscreen offered she "could've done . . . on the Internet".

Significantly, the *materially-distinct exhibit frame* is not necessarily tied to the displayer-of-artefacts frame. Displays of authentic artefacts are but one way to achieve differentiation. Again, critiques of the photographic *Environments* exhibit provide clues as to what this broader conception of material distinction might look like:

With other parts [of the museum] being more intimate and more multidimensional, this part . . . doesn't seem like it's been given the same amount of *care* as the other parts. I suppose it *expresses* as much with the photographs, *but* in a museum there's so much more that you can present other than just photographs.¹⁴⁹

I guess if you wanna come and see a museum you wanna see something a little bit *more* than photography, you know, you want something with a bit of *structure*, something that is a bit more *surprising*.¹⁵⁰

Something 'more', something 'multidimensional', something with 'structure' and something 'surprising' express a broader conception of the materially-distinct exhibit frame without stipulating that it must include an authentic artefact.

While a significant part of this discussion about creating material distinction emerges from negative responses to displays primarily photographic in nature, it must be noted that there is a subset of images establishing an exception. That is, when photographs are the closest representation a museum can provide of something. For instance, photographs of people can evoke great resonance with visitors. It is specifically when visitors perceive a more multidimensional representation as possible that they may be dissatisfied with two-dimensional displays.

While differentiating museums through the multidimensional exhibit form is essential, this does not mean any kind of 'structure'. The structural elements of exhibits must also espouse a certain quality: "I think it's a little *kitschy* and it doesn't quite *work*. It's just *visually-*, it's like *really junkie*, and it's a little bit *casino-like*."¹⁵¹ "A couple of the things I saw were unfortunately plastic representations of the actual animal."¹⁵²

The *Forest* exhibit (see Figure 5.13), a reconstruction within an open-aid atrium at a natural and cultural history museum, further illustrates how differentiation from other leisure environments frames visitors' consciousness of exhibits as communication media. When this visitor was asked to suggest any changes to the exhibit, maintaining careful demarcation from more amusement-oriented institutions was key in his response:

I *don't* know what else you could do . . . without actually having animals running around and turning it into a *circus*. . . . You wouldn't like it to be like a theme park or anything like that. It's nicely understated as it is and it's . . . a nice little vignette of what you get in the wild.¹⁵³

While the *Forest* was generally very well received, some visitors in the study were critical of its lack of differentiation from genuinely forested areas in close proximity to the museum: "You go about ten miles up the *road* and you'll see something . . . more impressive than that! [laughs]"¹⁵⁴ "Within half an hour's drive . . . we *have* all *this*."¹⁵⁵ The value of the exhibit was assessed in relation to the broader ecological context of the museum:

In a heavily industrialised *city* it would be *invaluable* and it would be so much more *appreciated*. Whereas in [this city], in the "Garden



Figure 5.13 A worthy vignette of the wild or an unsatisfying imitation?

State,” . . . to some extent that devalues it being *here*. It might encourage people to go *out* more and get to know more about it. But, yeah, as a resource?¹⁵⁶

Visitors were concerned with the resources consumed in mounting the reconstructed *Forest*: “I actually think this was somewhat a waste of *resources* and the money could’ve been used better. To do something that’s more *informative* rather than reproducing something that’s within twenty kilometres.”¹⁵⁷ “The *rainforest*. I thought that was particularly poor. A particular *waste* of money.”¹⁵⁸ Acutely, the idea of ‘reproducing something’ that is otherwise locally available in a genuine form lays it prone to direct comparison: “It doesn’t seem very far *away* to be trying to *poorly mimic* what’s there. It’s a lot of *effort* for little *results*. . . . [Y]ou always end up with something that’s sort of second rate.”¹⁵⁹

Emphasis in the materially-distinct exhibit frame away from reliance on the written word does not mean, however, a wholesale rejection of written text. Although there is a need to be more than a textbook-on-walls, visitors hold a strong conception of the museum as an informative environment. To this end, written or spoken words can, and often do, form an integral part of what visitors expect from exhibits. While ‘the museum isn’t primarily a word medium’, text plays ‘a supporting role in the experience’ (Spock 2006, 179). This is brought into focus through the explanatory museum frame.

The Explanatory Exhibit Frame

To satisfy the universal and defining institutional frame as a place for learning, exhibits need to be sufficiently explanatory. As with the materially-distinct exhibit frame, the *explanatory exhibit frame* was more likely to reveal itself when visitors were met with something that did not meet their expectations: “To me a museum’s about *information* and . . . I didn’t think that it gave you information.”¹⁶⁰ While this comment referred to *Vital Space*, a game-like exhibit, much of the data compelling the explanatory exhibit frame stemmed from the increasing trend to aestheticise the museum. Abstract and postmodern assemblages of artefacts, contextualising set pieces and environmental surround-scapes can leave visitors wondering about the what, why and how of objects on display: “If you’re interested in something and there’s nothing there to tell you exactly *what* it is, *where* it came from, yeah, I find that frustrating.”¹⁶¹

There was a whole lot of *objects*, a bit of a *collage* without much explanation that *begged* for a bit. . . . [W]hat’s this piece about; *why* is that piece there? . . . [A] little bit of a story *behind* them would have been useful.¹⁶²

I guess it’s the question *why* they would be *there* without any real explanation . . . *What* is in here? *What* is in there? Without any

explanation I think it would be better not here. It raises questions that aren't going to be answered.¹⁶³

The danger of not supplying such explanation is that it risks leaving visitors dissatisfied in relation to their learning frames. An exhibit at which this was made acutely prominent was *Stilled Lives*, the art installation (see Figures 5.3 and 5.8):

My main problem would be that it didn't really *explain* what things were. . . . [B]y and large in a museum I like to go there for education, to find out what things *are*. That didn't really tell me anything educationally.¹⁶⁴

This lack of explanation could not only leave visitors dissatisfied, but it could also disenable their wherewithal as museumgoers:

The only one complaint, they don't describe things enough. . . . 'Cause if somebody asks, maybe, "Did you see such and such there?" and it hasn't *got* a label on it, and you're not sure what they're talking about, you don't know. You say "No, I haven't seen it" and maybe you have.¹⁶⁵

The lack of information at *Stilled Lives* could cause it to fall outside visitors' exhibit frames: "I assume it's just a *temporary* display because *nothing* is really *labelled*."¹⁶⁶ "There's no information about those birds at *all*. Like, what are they? Where did they come from? . . . I wouldn't call it a museum thing."¹⁶⁷

As examined in 'Reframing', the increasing use of artistic influences in museums may not be well received by visitors if artistic input overrides the educational aspect of a display:

There are some displays I don't *like* here . . . they're trying to be too *artistic*. Do you know what I mean? Like a museum's a museum and, yes, you've gotta make your displays look good, but not at the expense, I think, of *information*.¹⁶⁸

While the visitor quoted above acknowledges the aesthetic quality of museums, she indicates that an explanatory exhibit frame ought to find privilege in museums. To serve the needs of audiences, museums may need to carefully balance the aesthetic with the informative during the complex task of exhibition development:

Some of these displays are really badly lit. It's not *easy* to get the information out. . . . [I]t's a hard question about how much does the *environment* actually help *push* the *information*. But exactly what are you trying to do? Are you trying to be really clear with the information or are you just trying to make a nice *display* that people can walk around and go, "Oh, that was really cute, but I had no idea what it was"?¹⁶⁹

The Temporal Exhibit Frame

A *temporal exhibit frame* expects even permanent displays to have a limited life on the exhibition floor. Although the following visitor had a highly favourable initial response to a display, a temporal exhibit frame was revealed by his disappointment in seeing the same display on a repeat visit:

M: When I first saw [the holographic display of a well-known comedian] . . . I was very taken with *that*. . . . We were there last night, yesterday, and I thought it might've changed. . . . [I]t's *boring* now because it's been there for so *long*.

T: *Oh, OK. So you expected it to—*

M: I expected it to be either *gone* or finished or *updated*, but they're still running that same *thing* that we saw four or more years ago. I was stoked by it *then*, I thought, "This is fantastic." But to go back and see it still the same, well that was a real *downer*, I thought. So those things shouldn't stay up for so long.¹⁷⁰

As suggested by 'updated', change may be delivered in the form of individual components changing while maintaining the same exhibit infrastructure. For instance, this visitor assumed correctly in his expectation that the *Fear* exhibit would change stories and artefacts after a period of time, while maintaining the same physical format of touchscreen and display case: "Naturally over a period of time you'd change the people in the story, *because* of the circulation of people coming through."¹⁷¹ Note his use of the term 'naturally', taking a temporal exhibit frame as given. Intradisplay change was similarly described as important for repeat visitation at the *Frieze* audiovisual exhibit: "There might be something that you'd change *periodically*, as people like myself might keep coming back, and then watch a *new* visual."¹⁷² Importantly, some visitors explicitly tie repeat visitation to change: "I like to come and have a look and see what there is and maybe come back in a few years' time when things maybe have changed."¹⁷³ "We go pretty regularly when something new's come in. We came up [to this city] because Monet's here."¹⁷⁴

When visitors do not hold a temporal exhibit frame, when they do not have the expectation that exhibits will change, repeat visitation to institutions can be discouraged:

I probably go to more art galleries than museums. . . . Just because . . . the museum sort of experiences have been fairly status quo, without sort of any *new* sort of changes. Like you can still come to the Australian Australiana exhibition and sort of still see the stuffed kangaroos and still see the stuffed wombats and still see the *aging* taxidermy . . . one *stuffed* kangaroo looks the same as another *stuffed* kangaroo.¹⁷⁵

This visitor suggests her visiting frequency would increase if museums were to adopt a temporal exhibit frame: “I’m not going to go there just to see the same things I’ve already seen before. Whereas if they were to update it, like, quite frequently, maybe I’d come a few more *times*.”¹⁷⁶

Alongside suggestions that repeat visiting can be discouraged by a lack of change, there were also references in the data revealing that repeat visitation can be discouraged when institutions charge entry fees. Notably, such instances were described in comparison to visitors’ previous regular visiting behaviour: “The old museum was *free* so you often used to just wander in and see a few exhibits and then wander out.”¹⁷⁷ Upon having to pay an entry fee for the redeveloped museum, the same visitor described how the nature of his visiting altered: “Whereas this is a *destination* . . . it’s not a thing that you’d do on a regular *basis*.” Similarly: “The important thing *I* think is, was as a *child* I was able to just walk in [to the museum] and look around. And I used to go *back* . . . because it was *free*.”¹⁷⁸ Further, present day accounts of ongoing repeat visits to institutions were linked to institutions that do not charge entry fees: “[I visit the war museum/memorial] every time I come down [to this city], which is once a month I pop my head in . . . if it’s for five minutes, you just sort of go and have a quick look at something you haven’t seen.”¹⁷⁹

I go to the museum in Adelaide virtually every *month* when I go into town. . . . [I]t’s easy for me to just wander over to the museum and have a look. . . . [H]ere you actually get charged \$15 a *head* to enter here. In Adelaide, and I would say a lot of *other* museums around Australia, they’re totally free.¹⁸⁰

What started out in this section as evidence for a temporal exhibit frame has led to possible underlying issues motivating such a frame. If people need to pay to visit a museum, will they be more likely to expect something new for their money each time they visit? Further, if people need to pay to visit a museum, will they want to see the entire museum in one visit to experience value for money? The expectation to see an entire institution in one visit has been ascribed to occasional, ‘naïve’ visitors, and more intensive but regular engagement with smaller sections of museums has been characterised as the behaviour of more experienced, frequent visitors (Falk and Dierking 1992, 58–62). While these different behaviours have been interpreted as displaying different levels of museum ‘savvy’ (ibid., 62), the data in this study suggest that a pattern of frequent visiting behaviour can simply be curtailed by charging entry fees.

In any case, free entry into public institutions is undoubtedly an issue of access and inclusivity. As one visitor said, at a natural and cultural history museum that does not charge entry to its permanent galleries: “I like the price of this one. . . . I think that will really make it accessible to *everyone*.”¹⁸¹ Further, free entry can evoke discursive dimensions, expressing wider interrelationships between individual visitors and public institutions:

[The war museum/memorial] costs *nothing* to come into. And that's how it should be. . . . [I]t brings you *closer* to it, I think. It's owned by the *people* and that's what's good about it. It's one of the few things that . . . you *do* have as part of Australia's heritage, this, I think.¹⁸²

*

There are several enduring exhibit frames, even as museums undergo shifts in style and substance. The *materially-distinct exhibit frame* expects exhibit media to be unique in kind, particularly in the direction of being multidimensional, and to espouse a certain level of quality. Meeting these characteristics partially differentiate the museum. While the exhibit frame of material distinction is in part constructed on the rejection of written text as a primary means of communication, text remains an important secondary means of communicating in the museum. Along with other means, written text serves the *explanatory exhibit frame*. When taken in combination, the materially-distinct and explanatory exhibit frames more completely differentiate the museum from other communication media and leisure venues. A *temporal exhibit frame* expects exhibits to be updated or changed over time. Repeat visitation may be tied to a temporal exhibit frame, while the data further suggest that charging entry fees may also influence visiting frequency.

FRAMING WITHIN A MATERIAL SEMIOTIC NETWORK

A common thread woven throughout this chapter is visitor conceptions of 'museum' and 'exhibit'. The design of this research project did not specifically seek these kinds of data. Rather, visitors independently drew these notions into the interview situation to qualify their responses. That these higher-level categorisations, and their varied dimensions, were volunteered by visitors suggests their salience to the visitor experience. This chapter has shown that conceptions of 'museum' and 'exhibit' act to influence how visitors 'read' the exhibition environment, what they expect of it, how they participate in it and whether they feel satisfied by it. Framing processes act to mediate the relationship between visitors and museums in these fundamental ways. While 'Exhibition Design as Mediation' (Chapter 2, this volume) examined museological mediations from historical perspectives, this chapter captures contemporary visitor perspectives.

Visitors' active demarcation of museums and exhibits as particular *types* of representational media invites a semiotic perspective. Institutional frames and exhibit frames can be seen as socially-shared semiotic classifications, as they are higher-level conceptions held amongst groups of visitors, with relative persistence through time (Thibault 2004). Analysing frames through a semiotic approach focuses squarely on the mediating function of

museums and exhibits. Specifically, the data support the idea that museums and exhibits are themselves semiotically mediating artefacts (Atkinson and Delamont 2005). That is, the relationship between visitors and exhibition environments is influenced not only by the *content* of exhibits and museums but also by exhibits and museums as particular types of culturally-constructed representational forms.

Moreover, the discussion to follow will explore how institutional frames and exhibit frames are made manifest, and operationalised, within networks of relationships. Specifically, institutional frames (the *displayer-of-artefacts frame*, the *learning frame*, the *enjoyment frame* and the *pilgrimage frame*) and exhibit frames (the *materially-distinct exhibit frame*, the *explanatory exhibit frame* and the *temporal exhibit frame*) together set museums apart as distinct kinds of material semiotic networks. To take a material semiotic network perspective is to consider that as people make meaning and perceive 'reality' through their experiences, they are embedded in a network of relations, networks which are simultaneously human and nonhuman, social and material (Law 2004). The human and nonhuman are coconstitutive in these networked relations, as they both exert agency (Clarke 2005). As different kinds of actors, social and material, define and shape one another, 'everything plays its part, *relationally*' (Law 2007, 13; emphasis added). For instance, the material world is organised according to higher discursive purposes, and these discursive purposes are reciprocally influenced by what is available materially (Thibault 2004). As Karen Barad expresses it, '[t]he relationship between the material and the discursive is one of mutual entailment' (2003, 822). The world 'becomes', is constituted and reconfigured, in an ongoing and dynamic way, through material-discursive practices (*ibid.*, 818).

Visitor accounts suggest that the *displayer-of-artefacts frame* is staunchly held by a portion of visitors. Through the *displayer-of-artefacts frame*, the semiotic convention of the museum is to communicate through the material evidence of nature and culture. The *displayer-of-artefacts frame* aligns with the view that the essential experience of museum visiting is firsthand encounters with authentic objects (Saumarez Smith 2006). The *displayer-of-artefacts frame* can also align with the museum as an ordered, physical catalogue of the world (Rounds 2006, 139–41). Through the *displayer-of-artefacts frame*, the museum as a material semiotic network is brought into sharp relief. Namely, the museum framed as 'temple or treasure house' privileges material objects 'in constructing narratives of cultural authority' (Witcomb 2003, 102). In this dynamic, the physical-material and the semiotic-discursive are cross-coupled in meaning-making in a highly overt fashion: material objects are expressly used in service of the substantive discourses of exhibitions.

Yet visitors also engaged with problematic sides of the *displayer-of-artefacts frame*, 'denaturalising' artefactual display. Semiotic thinking is particularly valuable for its acknowledgement that forms of representation are not 'neutral' or 'natural', relying on conventions that may become invisible or 'naturalised' over time. Semiotic analysis aims to 'denaturalise' these

conventions, to examine how forms of representation act to mediate in the negotiation of meaning (Chandler 2007, 11; Bal 1992). In relation to the displayer-of-artefacts frame, some visitors expressed discomfort over the acquisition and display of animals, and others found concern with the ethics of acquiring and presenting cultural artefacts. In particular, visitors demonstrated awareness of discourses of power underlying museums as collectors of 'trophies' from the colonies, or as symbols of Western domination (Corsane 2005, 6–8). The museum, and visitors, are embedded within larger sociocultural and historical trajectories, and carry sensibilities towards nature and culture, which modulate engagement within the material semiotic network.

Further, as Elaine Heumann Gurian (1995) argues, it is a Western-dominant perspective that privileges tangible evidence of cultures. To employ non-artefact-centred approaches to museum display can be emblematic of accepting different forms of cultural knowledge, such as oral histories. As Gurian (2004) continues to note, there are historical periods and peoples in history without a preserved material culture: should the absence of their authentic artefacts mean that their stories are not represented in museums? To recall Chapter 2 (this volume) once again, exhibits offer particular 'takes' on the world, and in so doing they exercise intention and wield power. To denaturalise conventions that develop over time offers an essential metaperspective for exhibition design. Recognisable conventions assist visitors to 'read' exhibition display, and yet they can also introduce potentially problematic proclivities.

Unreservedly, the museum was perceived by visitors as a construct dedicated to the facilitation of learning. Of significance are interrelations between the learning frame and enjoyment frame. Visitor accounts demonstrated that an important catalyst of the enjoyment frame is learning, and particularly the learning made possible by the diverse interpretive media of museums, a by-product of the materially-distinct exhibit frame. The pilgrimage frame is held in special reserve for artefacts and institutions of particular sociohistorical note, and/or those with unique emotional valence. The pilgrimage frame shows heightened value around the museum as coconstituted by the material and the discursive: the museum as concretely preserving memory, as a tangible place to draw nearer to something deemed profoundly significant.

In light of concern in the museum field over the notion of 'entertainment', it is notable that this research suggests that an entertainment frame is not widely carried by visitors. Rather, visitors' natural use of language framed the museum visit as 'enjoyable', impelling an enjoyment frame. This is a nuanced, but important, distinction. Is this just about semantics? Maybe. But semantics are powerful; they frame the issue. In particular, framing the leisure and commercialisation dimensions of museum visiting around 'entertainment' associates museum-going with purely hedonistic activities. Critics fear that promoting entertainment devalues museums by bringing them too close to other material semiotic networks, such as theme parks (see, for instance, Prior 2006, 509). Museum practitioners are made to feel that

they have to take sides in the debate or participate in a hybrid ‘edutainment’. Indeed, when institutions design exhibits in ride- and game-like fashions, the material manifestation of entertainment discourses becomes apparent.

Further, ‘enjoyment’ and ‘entertainment’ are often used interchangeably in the museum literature. However, as visitors were relatively silent as to the notion of entertainment, but routinely described visiting as enjoyable, I do not consider the terms to be equivalent. I thus query the apparent market need to provide ‘entertainment’ for visitors, at least in the Australian context. A benefit of the methodology of this research is that neither enjoyment nor entertainment were introduced to visitors as constructs, enabling enjoyment to surface as an issue, and entertainment as a silence. In contrast, in survey research asking visitors to rate the importance of ‘entertainment’ versus ‘education’ the visitor is preframed by the research instrument along two particular lines. This study indicates that necessarily linking enjoyment with fun also paints too narrow a picture of enjoyment. The association of enjoyment with fun is reflected in the literature: ‘Enjoyment—“I want to have fun!”’ is listed in *The Visitors’ Bill of Rights* (Rand 2004, 158). The findings of this research suggest that ‘fun’ and ‘entertainment’ are more accurately subsets of ‘enjoyment’, rather than equivalent phenomenological states. I concur with Daniel Spock (2006, 169) in that the ‘entertainment-versus-education’ debate is ‘muddling and unhelpful’, particularly in light of the common coadoption of the learning and enjoyment frames by visitors.

As described above, material semiotic networks are networks of relations. The significance, form and meaning of entities within any network are forged through their relations (Law 1999, 2002). A key understanding is that ‘relations do not hold fast by themselves’, ‘they have to be performed’; meaning is ‘performed in, by, and through these relations’ (Law 1999, 4; original emphasis). As material semiotic networks are held together through the *dynamic* performance of relations, they are subject to transformation over time. Former practices, for example, can be replaced by the new. Patterns of disuse can render an element of the material semiotic network to fade away. Such processes of change were documented in ‘Reframing’. Institutions can be transformed through choices in architectural design, content and interpretive media. The display of contemporary and ordinary artefacts, rather than more historical artefacts, challenges some visitors’ construct of ‘museum’. Visitors who find dissatisfaction may well align with the view that converting ‘*life itself* into a museum exhibit, thereby negat[es] the principle of selection that lies at the heart of true collecting’ (Negri 1994, 19; original emphasis). For visitors who see the museum as a material semiotic network devoted to the preservation of antiquity and rare objects, this can be seen as frame overextension, making the museum vulnerable to losing its essential character.

Contemporary content positively reframes the museum for other visitors. Enhanced connectivity with the museum can be roused through

displays of everyday items and popular culture. Visitors may feel a sense of inclusion and an ability to relate to the displays. This design approach can follow a constructivist view of learning, whereby linking the known with the unknown aims to enable the learner to make connections (Hein 1998, 156–64). Including the ordinary in the museum can also serve the ‘politics of representation’, as the museum strives to be pluralistic through democratising museum space (Witcomb 2005). Providing citizens a voice through exhibitions impacts on the performance of relations within the material semiotic network and can shift relations of power in exhibition design.

Art-ifying the museum also instigates reframing processes in visitors. Reframing museums through general aestheticisation may be implemented as adjunctive to core institutional and exhibit frames. When these frames are simultaneously satisfied, using more artistic values in presentation can rejuvenate visitors’ relationship with exhibition environments and provide a sense that the content of exhibitions is more easily accessible. This positive effect of art-ifying museums speaks to Jan Packer’s (2004, 2006) call for further research on conditions contributing to a sense of ‘effortlessness’ in exhibition environments. Further, ‘[a]rt-inspired elements’ as ‘open[ing] up . . . museum spaces to a more experiential and evocative form of communications message’ (Marshall 2005, 173) found support in this study.

However, when an artistic sensibility is used as an *alternative* to core institutional and exhibit frames, visitors in social history and natural history museums may be left without an appropriate frame of reference. Frames can delimit experience. This was illustrated in this study through confusion at an art installation of natural history specimens, ‘read’ by the majority of visitors through an explanatory exhibit frame. Why were there no labels identifying the specimens? Why were the specimens not mounted in a way enabling detailed study of their form? Visitors raised these questions but could not answer them; they did not ‘see’ the exhibit through an art frame. While the installation is part of ‘a new genre of self-reflective exhibitions . . . challeng[ing] the traditional values and interpretations of exhibit planners’ (McLean 2004, 203), it largely served to alienate visitors rather than connect with them.

In semiotic terms, the use of an art frame was not ‘naturalised’ from the point of view of visitors. Visitors did not expect an artist to perform as an actor in the material semiotic network of the museum. The commissioned artwork used different sensibilities in the design process. Namely, it privileged the artist’s vision, rather than a process sensitive to visitor needs. The result of this foray into frame extension is that it demonstrated ‘*risks* involved . . . as the traditional roles and expectations of museum spaces become conflated, at times rather confusingly, with added associations and ideas from art galleries’ (Marshall 2005, 173; emphasis added). As museums rethink ‘the why, what, when, where, and how of developing and mounting exhibitions, as well as who should be doing them’ (Anderson 2004, 189), they simultaneously need awareness of vulnerabilities posed by reframing.

Over time, with increasing inclusion of art installations in social and natural history museums, visitors may be reframed to recognise an exhibit developed through an art frame. What is recognised as semiotically meaningful in any given context is subject to change as new associations become meaningful to given communities (Thibault 2004, 193). However at this present moment, it would seem that visitors need additional scaffolding to bridge towards an art frame in institutions whose main focus is not art.

'Exhibit Frames' documented fundamental characteristics of exhibits: the *materially-distinct exhibit frame*, the *explanatory exhibit frame* and the *temporal exhibit frame*. Unlike the displayer-of-artefacts frame, the materially-distinct exhibit frame does not specify exhibits centred on the authentic cultural or natural object. The materially-distinct exhibit frame raises the question, distinct from *what?* As attested in visitors' accounts, exhibits are expected to be multidimensional in form, and differentiated from communication media found in other contexts, such as books and the Internet. To achieve material distinction a critical question is, 'What can a museum do that no other medium of communication can do, or cannot do at the same level of excellence?' (Wittlin 2004, 46). To satisfy the demand for multidimensionality, exhibits may draw on the wide set of semiotic resources cultures use for representation. In particular, the way in which these resources may be combined as multimodal and multimedial assemblages can satisfy the exhibit frame of material distinction (see 'Multimodality' in Chapter 3, this volume, for an introduction to multimodality and multimediality). Chapters to follow continue to examine visitors' negotiation of the multiple modes and media of exhibition environments.

Further, visitors' desire for exhibits to be differentiated from written texts such as books, and the simultaneous holding of an explanatory exhibit frame which is often fulfilled through written text, is not paradoxical when viewed through a multimodal and multimedial perspective. That is, visitors find satisfaction when exhibits draw on multiple representational resources simultaneously—for instance, when three-dimensional model and image and text combine to form a more complex whole. Moreover, the materially-distinct exhibit frame, as advocating the combination of multiple representational resources, finds alignment with visitor studies documenting the appeal of rich and multilayered exhibits containing combinations of materials (Beer 1987; Hinton 1998). The materially-distinct exhibit frame also finds alignment with Elaine Heumann Gurian's nuanced distinction between 'object' and 'objectness' (2004). Gurian asserts that whether a museum interprets the past, present or future, the essence of museum display is to tell stories in 'tangible sensory form', which may be through 'objects' or 'objectness', including 'hard evidence to mere props and ephemera' (*ibid.*, 282). Again, this is well-served by multimodal and multimedial conceptions of display.

I would suggest that the acceptance of exhibits which do not contain an authentic artefact, the rise of the materially-distinct exhibit frame, is the result of gradual reframing processes. While the museum has traditionally

founded its semiotic meaning on the acquisition and display of artefacts, through time museums have given gallery space over to communicative media to interpret these artefacts. Such interpretive media have increasingly been accepted as constituting ‘exhibits’ in their own right. These shifts in the material composition of museums have been influenced by the shifting emphases of museums, as they moved, for instance, from being collection- to education- to experience-centred (Kotler 1999), or from being about some *thing* to being for someone (Weil 2002, 28–52). Each of these reflects again the transformative nature of material semiotic networks, held together through the dynamic performance of relations.

Semiotic-discursive change may also arise from opportunities and constraints presented by the physical-material (Thibault 2004). For instance, the availability and use of increasingly sophisticated communication technologies in broader society influence the adoption of such technologies in the museum. When such material change—the adoption of nonartefactual forms of display—causes museum professionals, critics and visitors alike to (re)consider what defines a ‘museum’ for them, and whether current incarnations fit this definition, the cocoupling of the semiotic and the material becomes apparent.

The data showed that visitors holding a temporal exhibit frame link visiting frequency with an expectation of change in the exhibition environment. If such visitors reattend an institution after a period of time only to find the same things, they may also find disappointment, dissatisfaction or disengagement. People may schedule visiting for when something new is showing, or they may visit infrequently if they assume no change since their last visit. Visitor expectations of sampling something new each time may be interpreted, disparagingly, as symptomatic of a consumerist society. However it has been suggested that museums, through highly publicised ‘blockbuster’ exhibitions, have themselves created this visiting culture: ‘instead of dropping in to a museum, visitors come to treat the museum in the same way they use a cinema—they wait until “something’s on” before making the trip’ (Bradburne 2001, 76). When the museum borrows the cinematic sensibility of an exhibition that is ‘now showing’, it sets up a show-patron relationship with visitors. Visitors become entrained as actors in this material semiotic network to engage with it in such a way, with their patronage to the museum tied to attending the museum when something new is ‘on’.

Charging entry fees may impact the performativity of visitors as actors within the material semiotic networks that are museums. Visitor accounts in this study showed that a frequent visitor may be turned into an infrequent visitor when an institution introduces a visiting cost. Equating frequent/infrequent visitors with experienced/novice visitors respectively may not always hold and may at times have more to do with an auxiliary material element of the material semiotic network, money. Moreover, finance may not only form a material dimension but may also evoke a greater semiotic-discursive dimension. Free entry into public institutions was noted by a

visitor as symbolic of visitors' coownership of institutions, as locating visitors as egalitarian actors in the network of relations that form a public museum.

In its broadest sense, this chapter, 'Framing', has examined how visitors are integrated to museums at a higher scalar level. That is, the experience of the visitor is mediated by conceptual representations of museums and exhibits, conceptions which are drawn from the past, and which impact both the present and the future. That these frames are shared by groups of visitors, and are purposively managed by institutions, expresses how meaning-making activity 'extends beyond the individual into the ecosocial environment' (Thibault 2004, 3). That is, frames are made manifest, and operationalised, by multiple actors engaging within a dynamic network of relations. Envisaging museums as material semiotic networks draws attention to coconstitutive processes between the physical and the discursive, mutually influencing each other over time. The identification and experience of change—reframing processes—highlight how museums and individuals exist, and are transformed, along trajectories in time and space beyond immediate experience.

While 'Framing' has examined conceptual notions of what constitutes museums and exhibits, the next chapter, 'Resonating', turns attention towards the emergent experience of visitors. It examines how visitors become integrated to exhibition environments in a here-now, visceral sense.

6 Resonating

I'm not explaining it well, but actually *seeing* it, and *touching* it, and *knowing* it, and *meeting* it, if you know what I mean?¹

What *does* the above fellow mean? How do visitors 'meet' what is on display at the museum? Meeting conjures a meshing between entities. To mesh is to form interconnections, such as how cogs mesh together in rotating wheels. With any meeting, the ensuing enmeshing is shaped, though not determined, by the *qualities* of those or that which are meeting. In the present case, qualities of the visitor and qualities of museum display synergistically mesh in a transactional exchange. When a visitor walks into an exhibition gallery, how is the first meshing made? Or, what is it that initially captures him or her? What then beckons the visitor ever closer, akin to how cogs interlock so as to draw each other round? How these initial and subsequent connections are made between visitors and exhibition environments are the focus of this chapter, 'Resonating'.

Visitors described how they felt 'drawn' to and 'part' of the exhibition environment. In essence, these accounts illuminate how visitors feel *invited* into relationship, and how they feel *in* relationship. In making sense of visitors' experiential accounts, ideas relating to 'resonance' lend explanatory power. Both literal and metaphorical concepts of resonance provide an overarching framework of how visitors begin to 'meet' what is on display at the museum. As with 'framing', the concept of resonance is intuitively graspable. Yet, the concept is simultaneously ill-defined. The metaphor of how 'things are somehow resonating *with* us or, more generally, achieving resonance' has been accused of being 'overworked to the point where precision and meaning have been lost' (Bierck 2001, 9; original emphasis). What, then, do I mean by the use of 'resonance' in this present discussion?

To achieve resonance is to achieve some level of kinship. When something resonates with us it can be colloquially understood to 'strike a chord' or to be 'on the same wavelength'. As suggested in *Metaphors We Live By*, metaphors we use in everyday language may have basis in the structure of actual experience (Lakoff and Johnson 1980). So understanding from where

these metaphors arise, from the physical phenomenon of resonance, may lend meaning to what we intuitively experience as resonance. In the physical world, resonance between two objects occurs when they vibrate at the same frequency, when their wavelengths match. Resonance is the amplification of energy that occurs due to this match. A literal example of the phenomenon of resonance is an opera singer's voice shattering a crystal wine glass. When a singer produces a sound wavelength matching the wavelength of the glass, they vibrate sympathetically. The result is an amplification of energy, which can shatter the glass.

In literal and metaphorical uses of 'resonance' there is some sort of match between two entities. Broadly, resonance arises from 'the special relationship that exists between similar structures' (Miller 1990, 349): '[w]herever resonance occurs there is an instance, in some form and degree, of like knowing like' (360). When such likeness or fittingness coincides, resonance is the amplification of energy that results. An absolute match is not required for resonance, or sympathetic vibration, to occur; 'when any two things resonate, this resonance is based on some measure of identical structure in the two things' (360). Resonance can also occur through 'complementarity'. That is, just as a lock and key form a functional relationship, a complementary mesh between entities forms a resonant relationship (Shepard 1981). Ultimately, through any of these means, resonance expresses a tendency towards wholeness. Resonance is about fragments coming together to form greater wholes.

The construct of resonance has been utilised to explain perceptual and cognitive processes. First, it refers to the selectivity of what we as individuals resonate to in our environment, what 'wavelength' we are on: 'We have ears like radio tuners, and eyes like television tuners that pick out particular programs' (Pribram 1984, 178). Second, the mind is tuned to resonate to patterns, rather than a clean slate experiencing the world afresh for each perceptual experience; 'categories in the central nervous system resonate with environmental stimulus information' (Thibault 2004, 228). Such categories are formed over time through experience. In this way, resonance 'gives us the experience of apprehending meaningful patterns' (Miller 1990, 361).

This chapter is essentially about sparking or igniting relationships with visitors. It is about visitors being drawn into relationship with exhibition environments in a seemingly effortless, immediate way. It is divided into five parts. 'Resonance as Energising' explores how features of the environment hold magnetic energy for visitors, and how visitors may experience an amplification of energy through resonance with the environment. 'Perceptual Resonance' takes an introductory look at how visitors perceive greater wholes from sensory fragments in the museum. 'Resonance as Coalescence' explores visitors uniting as one with the exhibition environment, feeling 'part of' and/or 'interactive' with it. 'Impeding Resonance' documents instances where resonant responses were blocked, where initial sparks of engagement were circumvented. Where resonance is impeded, the relationship between

visitor and exhibition environment may be momentarily stalled or more fully compromised. The chapter concludes with a discussion entitled ‘Resonating through the Body-Brain Ensemble’. Resonant meshing with exhibition environments suggests a complementary relationship between body and brain.

RESONANCE AS ENERGISING

This section, ‘Resonance as Energising’, examines how visitors can start to feel integrated with the physical museum environment, in the first here-now instance. That visitors are drawn to common features of the environment not only reveals something of museum audiences as a whole, but grants the environment active agency in energising their relationship. ‘Magnetic Energy’ maps physical features visitors feel reflexively drawn to. ‘Amplified Energy’ documents visitors experiencing an amplification of energy as a result of a resonant match with the exhibition environment.

Magnetic Energy

Features of the museum environment that automatically attract visitor attention have a magnetic pulling power in how visitors begin to interface with the museum. To ‘automatically’ attract attention is to engage the mechanism of *involuntary* attention, the reflexive type of attention that is effortlessly captured by salient bottom-up stimuli in the environment, such as movement and sound (Eysenck and Keane 2005²). It is controlled from without, it is exogenous. Involuntary attention contrasts with *voluntary* attention, which is effortfully directed from the top-down, by knowledge, goals and expectations. It is controlled from within, it is endogenous. The two forms of attention ordinarily interact and influence one another, ‘so that endogenous attention modulates the tendency for strong exogenous cues to capture attention’ (Humphreys and Samson 2004, 611). Being ‘captured’ reflexively would seem to have a special role to play in the free-choice leisure setting of the museum. Visitors often seek an out-of-the-ordinary experience and would rarely seek to effortfully learn the contents of the museum.

Time and again visitors reported a sense of being ‘drawn’ or quite directly stated what ‘caught’ their attention. The allure of the physical-material formed the majority of accounts of what initially attracted visitors, with only a small number identifying specific types of content as a key attractor of their attention. Resonant material properties of the physical environment in this study were size, beauty, colour, light, a quality of realism, sound, sensory change/movement and opportunity for action. These properties find close alignment with findings of other visitor studies which suggest that features automatically attracting attention are: extreme stimuli, including size, colour and sound; movement and contrast; unexpected, novel and

surprising things; other living things; things connected to us and interactive and hands-on exhibits (see Moscardo 1999, 60–61).

Size, an extreme stimulus, was reported by visitors to ‘attract/grab your attention’, or ‘draw/grab your eye’, and render an object ‘spectacular’ or ‘impressive’. The ability of size to physically draw visitors closer is illustrated by metaphorical descriptions of size as something that would ‘pull you into’, ‘suck you in’ or that you would ‘naturally . . . gravitate towards’. These phrases intimate that a degree of magnetic power is possessed by large objects, that they tend to induce involuntary attention. These visitors highlight the nature of automatic versus effortful attention, with size being the salient feature:

This [*Diprotodon* exhibit] was just more *visually dramatic*. The other things seem to be like *small*, tiny little things that required more attention. Whereas that was big and visually dramatic, that’s what caught my attention.³

Indeed, the *Diprotodon* exhibit was intended as a ‘dramatic signature object’⁴ that would draw visitors through the gallery (see Figures 6.1 and 6.2).

Beauty resonates with people on an emotional plane: “There was a contemporary Japanese *huge* painting there, and I stood in front of it and I just about *cried*. I just couldn’t believe how beautiful it was.”⁵ “They put together this bunch of images which is *so* sort of visually *attractive* and so

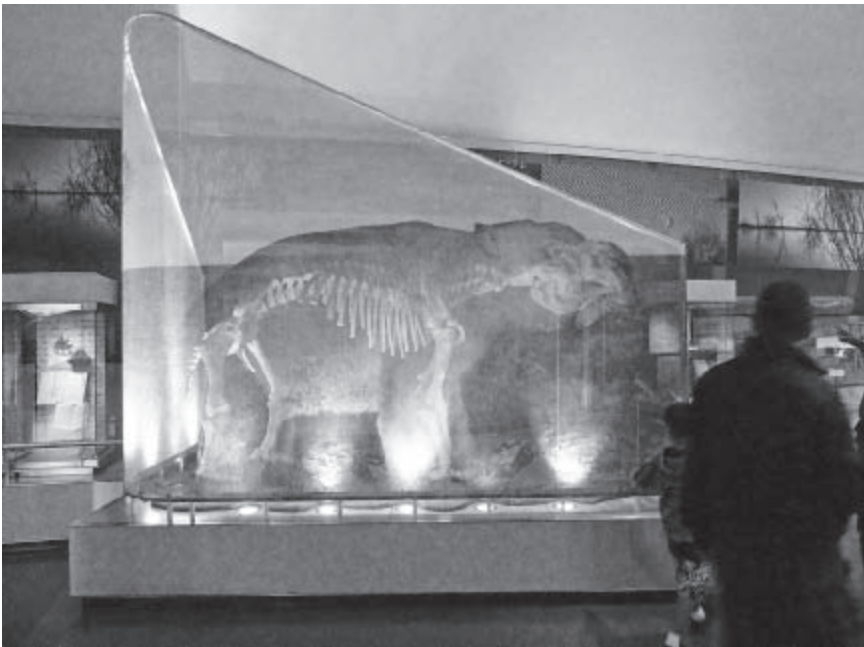


Figure 6.1 *Diprotodon* cast, side view through fabric scrim



Figure 6.2 *Diprotodon* cast, frontal view

emotive . . . it just does a great job of *grabbing* you.”⁶ Just as attractiveness can draw visitors, unattractiveness can repel them:

It’s not very visually appealing to see old grey boxes [see Figure 6.3]. . . . So you probably might just think, “Oh okay” and walk *past*. Whereas many of the other artefacts are quite interesting and you wanna look at them because they’re *attractive* to look at. They *catch* your eye.⁷

Light and *colour* are basic physical elements which can work separately or together in rendering an environment resonant: “[What sets the display apart is] the *colour*. It’s very attractive, it *draws* you to have a look, the way it’s lit and all that.”⁸ Light has drawing power in that it can ‘grab your attention’ or ‘catch your eye’: “[It’s] kind of well *lit* and kind of makes you want to go in there and have a *look*.”⁹ Visitors report that colour variously ‘hits you’, ‘strikes you’, ‘draws you’ or ‘grabs you’ and can possess the resonant qualities of being ‘inviting’, ‘warm’, ‘attractive’ or ‘appealing’: “The colours, the Australian colours of the *sunset*, the desert scenes. *That* sort of hits you as soon as you start walking towards it.”¹⁰ “When you walk in, the colour *grabs* you; it’s inviting.”¹¹ The way colour resonates with people quite literally relates to the physical phenomenon of resonance. Each colour has its own wavelength, and people generally respond to colour in consistent ways; for instance, red tends to lead to arousal, and blue and pale green are calming (Humphrey 2006, 19–21).



Figure 6.3 Filing drawers exhibit

A quality of *realism* can also have magnetic resonance with visitors: “I was more interested in the realness of the cockpit of the plane. . . . [T]hat’s what took me, took my *eye*.”¹² “I said actually before we came in that those [diorama] *scenes*, they’re very realistic and they sort of attract your attention rather than just a lot of *text*.”¹³ As established in ‘Framing’, the displayer-of-artefacts frame holds a key place in some visitors’ minds. The latter quote above, however, refers to a quality of realism even though the display was a stylised fabrication. Regardless of its origins, the characteristic of appearing ‘real’ can hold a natural resonance for visitors: ‘The question of authenticity is central to everything we do in museums. It is what *draws* our visitors’ (Thomas 1998, 7; emphasis added).

Audiovisual elements, representing a type of *sensory change* or *movement* in the environment, resonate with visitors: “This is a film, a moving display. I suppose that draws people more towards it.”¹⁴

I also think people like to see mobile things. That’s the way museums *move* these days, isn’t it? They like seeing things *happening*, and things that *move* . . . be they in *films* or be they in *pressing* buttons and animations and what have you.¹⁵

Note how ‘people’ were said to be attracted to audiovisual elements. Society in general was attributed with resonating to such media, a reflection of televisual culture (Silverstone 1989, 141). This became a familiar pattern

throughout the data: “The visuals just attract everybody’s attention these days”;¹⁶ and “I think for a lot of people and myself, too, like anything with the talking in display and the visual pictures and everything, *attracts* you a lot *more*.”¹⁷

It’s successful in that it draws people to *go* and *watch* it ’cause it’s very visual. I mean, everything else here is interesting and it has a little write up about it—the history and whatever—but I think music and visual effects are the kind of things that people really like to be drawn to.¹⁸

Sound can also represent change in the sensory environment, drawing visitor attention by raising intrigue. Despite warnings against ‘sound bleed’ in exhibition environments (Bitgood 2000; Carliner 2001), overhearing audiovisual displays was a positive attractor at numerous displays in this study: “You can see the *cockpit* and you can hear the voices *inside*, so you’re just going, ‘Oh, what’s going on *here*?’ So it’s just being nosy! [laughs].”¹⁹ Neurocognitive studies have shown that catching attention reflexively by presenting an auditory cue assists perception of visual stimuli at the same location (Hopfinger, Luck and Hillyard 2004). Visitors’ searching behaviour lies testament to this:

I was intrigued by the *voice* initially and I wondered where it came from, and so as I wandered in along I was wondering, “Where am I going to be *taken*?” . . . *Where’s* this sound coming from? . . . [I was] *drawn* to find out *where* it’s coming from.²⁰

Here the catching of attention happened in reverse, from the visual to the auditory: “As soon as the visual caught my eye I thought, ‘Oh, I’ll have a listen here and see what’s going on.’”²¹ Capitalising on the phenomenon of attentional capture by one sensory modality, leading to enhanced processing of subsequent stimuli at the same location, was suggested as an improvement to the aforementioned ‘unattractive’ hands-on *Filing Drawers* exhibit:

Probably something *audio* [would improve this display], an eye-catching sound. You know, “What happens to the remains of Aboriginal people?” . . . Just a little bit to grab you as you start to walk through here. Just a couple of pertinent sentences just to attract attention, not to *overpower* anyone, but just to make them start learning.²²

Notice how he suggested an ‘eye-catching sound’. Can *sound* catch one’s *eyes*? This visitor was not the only visitor to merge these senses: “I heard that out of the corner of my eye, and then it sort of attracted me to look through the display.”²³ Can one *hear* with their *eyes*? Were these just slips of the tongue, or indicative of the integrative way our minds deal with sensory

information? This phenomenon will be further addressed in ‘Perceptual Resonance’.

Magnetic energy is also possessed by interactive and hands-on exhibits, as they afford *action*. When the possibility of action, of applying motor skills, is present in the environment the locus of attention can be biased (Tipper 2004, 621): “The fact that it was a touchy-feely thing [attracted me]. You knew you could get *involved*. [laughs] Saw the headphones, so you knew you could play.”²⁴ However, as much as interactive elements can attract visitors, they can also disappoint: “The *touchscreen* [stood out most about the display]. *But*, to be brutally honest, it was *boring*. The first couple I touched, so I walked away. But the touchscreen is what *attracted* me.”²⁵ Interactive technology can even act to draw visitors into institutions in the first instance, but again content also needs to satisfy:

- F: We just thought this [exhibit] would be so much more, that’s *why* we decided to go into the museum.
- M: The [Interactive Cinema Experience] thing drew us in and let us down. . . . I heard “interactive” and I was thinking, “Oh cool!”²⁶

Yet other visitors emphasise the magnetic power of *content*, appreciating the use of interpretive media in a supportive role: “It’s not the technology that *attracts* me, it’s the exhibit [artefact] that attracts, but it’s good to have the technology there to help amplify it.”²⁷

That motorbike, it just attracted me and then when I realised that I could *touch* [the touchscreen] and then get so much information *out*. That’s what’s dragged me in here, and *kept* me here.²⁸

It captured my *interests* . . . I’ll still walk past content which I’m not interested in . . . But [the modern busy style of display and multimedia] gives me more to explore, more to investigate.²⁹

So while basic physical features of the environment such as size, beauty, light, colour, movement, images and sound can resonate with visitors, and draw them into closer relationship, the substantive content of museums may also be a source of resonant energy for visitors. Visitors may find resonance with the particular ‘wavelength’ they are tuned into: “Oh, look, particularly historical things [step out and grab me], because I’m interested in history.”³⁰ “I liked the old light globes. But I’m an electrical *man*, so that’s [laughs] what I looked at.”³¹ However, visitors are also interested in things they do *not* know about: “I saw the Australian *landscape* and areas that I probably wouldn’t travel to a lot of times and that’s what drew me *in*, I think.”³² “Earthquakes are somethin’ you don’t see much. Haven’t experienced one, so you wanna see what it’s like.”³³ Interest in learning about the unknown is where the museum as a whole resonates by forming a ‘complementary mesh’ with visitors, by providing fodder for inquisitive minds. The museum

serves as a vehicle through which visitors can enact their identities as curious people (Rounds 2006).

Finally, a ‘like knowing like’ resonance can occur between visitors and the museum. This can arise when content is delivered through *people*, or representations of people, which also resonate through their quality of realism: “Where there are figures of human *beings*, that tends to draw me. . . . [They make it] more *real*.”³⁴

[This audiovisual display is] probably a lot *better*, than just walking along reading stories on the *wall*. That you’ve got people talking to *you* and we *respond* to that. . . . Like as humans we respond to humans and real people. And so by seeing real people tell the *story*—whatever the story *is*—strikes a chord.³⁵

A ‘like knowing like’ resonance also places vertebrate *animals* in a special relationship with museum visitors: “I prefer the *big* animals. It’s just the way I am . . . Again, getting back to emotional response, I can relate to them. I find it very difficult to relate to a sea shell.”³⁶ Special resonance with other living things could be one reason why visitors were sensitive to the ‘dead’ animals in *Stilled Lives*:

It’s a bit *confronting* that you’ve got all these *animals* and especially ones that are very *dear* to us, echidnas and parrots and things like that. Most Australians really identify in a very *cuddly* way to those things. So to see them just laid out there so very obviously *dead* [laughs], from an emotional point of view is uncomfortable.³⁷

This visitor animatedly articulates his resonance with other living things:

I go, “Wow! Look at that,” and I think, “Gee, is that how it all came together?” To me the animal kingdom, seeing some of the *Creation*, and I just think, “Wow! That’s just a fabulous world. How did that come about?”³⁸

Notice the above visitor’s ‘wow’ response. The ‘wow factor’ has been described as ‘an intuitive ‘gut’ response’ (Black 2001, 98), and as ‘the tendency of humans to react strongly, positively or in awe toward’ remarkable stimuli (Dean 1994, 162). Wowing visitors is not an unusual aim for institutions: ‘Good interpretation should provide the WOW factor’ (Keirle 2002, 172; original emphasis). From the perspective of a resonance framework, such ‘wow’ responses are much more than hedonistic pleasure; they are not about turning museums from ‘an aesthetics of distinction to a culture of distraction’ (Prior 2006, 518). Rather, expressions such as ‘Oh!’ and ‘Wow!’ disclose an amplification of energy, initial sparks of increased alertness and motivation. Significantly, these exclamations are typically followed by reflective thought, as in the visitor’s quote above, ‘How did that come

about?'. 'Wowing' visitors, therefore, is not just about survival in a competitive leisure market. Through a resonance framework, such amplification of energy provides further clues as to how visitors become successfully integrated with the exhibition environment.

Amplified Energy

Recall how in the literal phenomenon of resonance, in the shattering wine glass example, that the occurrence of resonance entails an amplification of energy. Similarly, when visitors experience a resonant match between themselves and the exhibition environment, they can feel an amplification of energy. Significantly, states of amplified energy in the museum arose tangibly from the physical environment: "It's just so *with it* and *light* and it's stimulating because of all the *colour*."³⁹ In particular, resonance the material properties of reframed museums can amplify visitors' energy:

T: *You mentioned the light and dark contrast between the old and new [museums]. Is that something that makes any difference to your museum experience?*

F: Yeah. I have a sense *interiorly*, a *movement* of opening up, breathing free, *delighting* in being here, *marvelling* in wonder. Whereas I didn't have that sense of interior expansion in the old museum. I felt sort of closed in and constricted, "Oh, this is a job to look at stuff." Whereas here, the sense of *wonder* and *marvelling* is being aroused. . . . It's the architecture. It's a really major *feature* here.⁴⁰

Open architectural spaces, combining spaciousness and light, are categorised as 'unbound' by Maree Stenglin (2004). The above visitor's feeling of 'interior expansion' lends empirical support to Stenglin's theoretical notion that an unbound spatial quality can in turn serve to make the building's occupants feel unbound. Further, the visitor's visceral experience can find explanation through Antonio Damasio's (1994) description of 'body-states' as influential in meaning-making. According to Damasio, body-states 'qualify' thinking modes. Thinking is 'fast moving and idea rich, when the body-state is in the positive and pleasant band of the spectrum', and thinking is 'slow moving and repetitive, when the body-state veers toward the painful band' (1994, xv).

The significance of visitors finding resonance with a museum's material design, engendering a positive body state and corresponding thinking state, is that it can increase visitors' enthusiasm for exploring the *content* of the museum:

This is just so *bright* and *vital*. It's a different atmosphere altogether. . . . But the old [museums], you think, "Oh, here we go, you know, we've got more bones, we've got more bird's eggs." No, this is *really* very stimulating. . . . I keep on thinking, "Well, I must move on to see what else is *here!*"⁴¹



Figure 6.4 Natural and cultural history museum exterior

An important aspect, then, of the enhanced relationship between visitors and reframed museums is the rejuvenation of energy. The following visitor likewise contrasts traditional museums with her present visit to a contemporary museum, again bearing witness to an amplification of energy from the material design of the museum overall:

- F: I think it's far more *inviting*, and I think it's *user-friendly*, and I want to *be* here. Whereas I think sometimes when I walk around other galleries I *want* to leave but I feel forced to stay a little bit because you want to show an interest—"Oh God, oh God, oh God," you know—but I didn't feel like that here at all.
- T: *What makes that difference then for you?*
- F: I think it's quite *complex* and it's divided up into areas, and each area seems to invite you in on its own volition, with its own stuff. It's right from the outside [of the building]. I mean, the outside is just fascinating, so we walked around it [see Figure 6.4]. . . . [A]ll the curios on the outside—the design, the colour, the whole bit. . . . The different shapes and the complexness, I think, of the entry [see Figure 6.5]. It *keeps* you there. You can't see it in one swoop and say, "Oh, yeah. Right!" and walk through, you've got to look and think, "Oh! Oh!"
- T: *Yeah, yeah. And seeing this grabs you more than previous experiences, what is it about those previous experiences?*



Figure 6.5 Natural and cultural history museum interior

- F: They're generally in very old historical buildings, aren't they? Very old buildings and traditional in the fit out. I don't think this has been very traditional, more innovative.⁴²

Not only is the above visitor tangibly energised, but she indicates an effortless and exalted attention. Such 'Oh!' and 'Wow!' responses equate to Stephen Greenblatt's definition of 'wonder': 'the power . . . to stop the viewer in his or her tracks, to convey an arresting sense of uniqueness, to evoke an exalted attention' (1991, 42).

Further to the overall ambience of museums amplifying visitors' energy, the material design of individual exhibits can also stimulate visitors' engagement with content:

The *diversity* [in presentation] has made it interesting alone, whether the subject matter has been or *not*. There's been a lot of sections with things that wouldn't usually interest me *but* they've had a presentation that's made you want to go up and *made* them *approachable* and *makes*

you *curious* to see what's going on. . . . A lot of it wouldn't be stuff that I would *naturally* be interested in *but* there were so many varying *ways* of presenting different parts of it that you couldn't help but have to give each section its *time*.⁴³

The above visitor's account aligns with the idea that 'fascination'—as something 'hard to resist noticing or participating in' and as 'involv[ing] attention that does not demand effort' (Kaplan, Kaplan and Ryan 1998, 18)—can derive from content or process (Kaplan 1995, 172). The visitor's repeated references to a lack of intrinsic fascination with the content, and overcoming this with the fascination of the process of engaging with the presentation media of displays, casts both inspiration and challenge to exhibition developers. To arouse interest where there was none before, to make subjects 'approachable', to spur a visitor 'to give each section its time': these stand in testimony to the value of skilfully employed interpretive media. So while media *was* a focal quality of the museum for the above visitor, it was focal in that it was key in overcoming barriers to particular substantive contents. Thus, media did not make superficial or lessen his museum visit, but extended it and deepened it.

Similarly, here the aesthetic quality of visual design rendered content more accessible:

Just *visually* it had *amazing* installations. . . . [F]rom someone who was just really a visual person who didn't know much about the science, it visually stimulated you and it *drew* you in via its visuals purely in itself.⁴⁴

Another self-described nonscientific person attributed her engagement with scientific content to resonance with the light, colour and spaciousness of a display:

F: I thought it was very *inviting* to go into. Very warm and inviting, yes. That's *good* because I'm not a scientific *person*, so science to me is a bit of a turn off—I have to say that even though we're here [at the science and technology centre]—but I think to be invited into those aspects of scientific *work* and to make them appealing to the average person, that doesn't really understand, is a really big achievement.

T: *Yeah. What about it was 'inviting'? Could you describe it?*

F: I think the colours in the wall. And a sort of airiness, lightness and airiness about it. It was well *lit*.⁴⁵

The visitor saw the cultural construct of 'science' in a new light through the design of the material environment. An 'inviting' physical space transformed her impression of 'scientific work', from a 'turn off' to 'appealing'.

In another pointed account, the visitor sees the discursive quality of being ‘open-minded’ as expressed by the material choices made in an institution’s design:

The whole concept here is *open-minded*. . . . [B]ecause, well, one is it’s just so *open*. People can wander freely *anywhere* and you’ve just got enormous amounts of *light*. The *colour schemes* are quite-, well, they’re quite subtle, actually. They’re bright but they’re still subtle.⁴⁶

To come full circle with the idea of resonance as the amplification of energy, the same visitor further elaborates on his experience of the museum:

The whole *concept* is still running around in my brain and *frying* it. [laughs] . . . [Which is] a positive thing. You would *not* be able to leave this museum and then *forget it* in sort of six months’ time. It will *stick* in your brain.

The visitor’s metaphorically ‘frying’ brain fittingly reflects the action of resonance as ‘energising’, as ‘igniting’ or ‘sparking’ relationships with visitors. Further, it is interesting to consider his reference to creating a lasting memory. The matching process that is resonance causes an ‘amplification and prolongation of neural activity’, which in turn makes change or restructuring possible in long term memory (Grossberg 1982, 2).

*

‘Resonance as Energising’ has documented how visitors’ responses to material features of the exhibition environment may contribute energy to the visitor-museum relationship. ‘Magnetic Energy’ mapped physical features visitors feel reflexively drawn to, and ‘Amplified Energy’ documented instances in which visitors experience an amplification of energy as a result of a resonant match with the exhibition environment. Notably, visitors were relatively silent as to whether particular exhibit content drew them in the first instance and stimulated their interest. However, resonant responses to the physicality of exhibition environments was shown to be an important first step in stimulating visitors towards engaging with the content of museums.

PERCEPTUAL RESONANCE

Further to the formation of resonant relationships through harmonious matching with the design of museums and exhibits, visitors’ integration with exhibition environments also occurs through more specific processes of perceptual resonance. Namely, visitors may become closely integrated with the exhibition environment through the phenomenon of *perceptual*

completion, a phenomenon important to visitors' comprehension of the fragmentary sensory cues provided by museum exhibitions. That is, bottom-up sensory cues in the environment are 'filled-in' by, or resonate with, visitors' top-down mental constructs to form more coherent perceptions. The following account describes a filling-in process:

I don't think we'd have wanted the smell of that. You've got to leave a *little* bit to imagine . . . I think the imagination can fill in the gaps quite *well*. You know, I've seen the starting *off* point and using your imagination to *take* you where you want to be.⁴⁷

The visitor acknowledges the 'starting off point', the available sensory stimulation, as well as the role of his mind in 'fill[ing] in the gaps' to bring about a more complete perception. While this process is indispensable in making sense of museum exhibits, 'filling in the gaps' is also an everyday function of perception. The following brief theoretical explanation of perceptual completion is important in interpreting the visitor data to come.

'Filling in the gaps' is learned as a fundamental perceptual skill. Between two and six months of age, we begin to 'fill-in' spatial and spatiotemporal gaps to form coherent mental representations of the physical world (Johnson et al. 2003). The process of perceptual completion can be illustrated through a simple example. What do you 'see' in Figure 6.6? If only the corners of a triangle are suggested people may still 'see' a triangle as the corners 'become "hints" that initiate a resonant process for a triangle' (Gedenryd 1993, 13); our tendency towards perceptual completion completes the shape's contours. The corners are *bottom-up* sensory cues, 'starting off points', and the complete shape of a triangle is a pattern, a top-down mental construct. According to resonance theory, when a sufficient part of a sensory pattern finds a match, the complete perception it is coupled with registers, or resonates (Shepard 1984). Essentially, this is the process of resonance through perceptual completion.

As sensory information around us is often incomplete, we become adept at creating whole perceptions from partial or ambiguous information

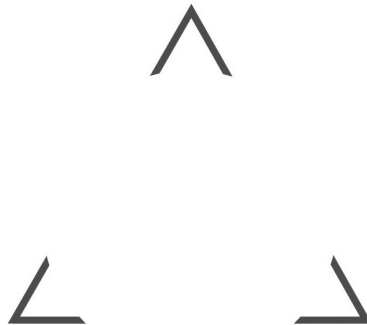


Figure 6.6 What do you 'see'?

(Gedenryd 1993). What we perceive as a seamless ‘reality’ in our everyday lives is therefore actually a mental construction synthesised from an array of redundant, overlapping, conflicting, impoverished and missing sensory cues (Biocca, Kim and Choi 2001; Guttman, Gilroy and Blake 2005). As we are built to perceive the world as an integrated whole, perceptual processes coordinate sensory input to form a unified reality. We have a tendency to ‘fill-in’ incomplete information from perceptual arrays so that they appear complete.

The triangle example draws on one sensory modality only, vision. It is an example of perceptual completion occurring unimodally as *intrasensory* completion. We typically perceive the real world, however, through multiple sensory modalities simultaneously (Ghazanfar and Schroeder 2006). Perceptual fill-in thus also occurs through *intersensory* integration, where incomplete sensory information from different senses synthesise to form an integrated, whole perception. Further, during intersensory completion, different sensory data may act to *enhance* one another, or they may evoke a sensory *illusion* (Biocca, Kim and Choi 2001).

Visitor accounts showed evidence of these kinds of perceptual completion, and so this section, ‘Perceptual Resonance’, is composed of ‘Intrasensory Completion’ and ‘Intersensory Enhancement and Illusion’. The central purpose of ‘Perceptual Resonance’ is to explore how visitors start to make sense of the complex assemblages that are exhibits. It will show how visitors are integrated with exhibition environments through the transactional exchange that occurs between museums’ bottom-up sensory data and visitors’ top-down mental constructs. Resonance occurring at this perceptual level is an important way in which visitors both begin to ‘meet’ and ‘know’ what is on display at the museum.

Intrasensory Completion

Visitors found the *World War One diorama* in this study strongly resonant, even though it was static and engaged only one sense, vision (see Figure 6.7). Typically, visitors expressed a special ‘knowing’: “You really get a sense of being there and what it was really like.”⁴⁸ “You can get an idea of what it was *really* like there. Yeah. It might convince a few people not to do it.”⁴⁹ And this, from an ex-serviceman, “[Dioramas] truly project what really took place.”⁵⁰ These comments suggest that rather complete perceptions were formed from the stylised sensory information presented by the diorama. While the static diorama visually represents an afar moment frozen in time and space, visitors were active agents in bringing the scene to life.

A quality facilitating such perceptual completion was the diorama’s three-dimensionality: “You get a *feel* for it, instead of just looking at a flat board . . . it brings it to life.”⁵¹ “You could visualise what it was *like* instead of seeing a photograph or something.”⁵² “Because of the *depth* . . . [dioramas] stay in your mind better than a flat picture.”⁵³ So at the broadest level, the diorama was resonant because it seemed ‘real’, even more real than a



Figure 6.7 *World War One diorama: the camaraderie and conditions of war*

photograph, which in a material sense is more authentic than a diorama. The three-dimensional quality induced a ‘feel’ and enhanced visualisation, over and above a two-dimensional representation.

Visitors drew dynamic meaning from the diorama as they projected the scene both temporally and spatially. That is, visitors perceptually filled-in activities represented by the diorama across time and space. Visitors came to feel they knew what it was ‘really like’ on a World War One battlefield by envisaging action sequences, social relationships and personal hardships. In doing this, they drew on top-down abstract conceptions to extrapolate from the bottom-up sensory data:

There are bombs over there going off in the background, and it’s the devastation that’s there with the trees sort of *down*, and you can see the soldiers, they look as though they’re *exhausted* and the injured ones, the dead. And the comradeship helping each other up the mountains and all that sort of thing.⁵⁴

The soldiers’ conditions perceived in the diorama had great impact on visitors. Visitors felt variously ‘touched’, ‘moved’ or ‘saddened’ by the diorama in how it depicted the ‘brutality’, ‘sacrifice’ or ‘suffering’ of war. Several visitors explicitly projected themselves into the situation, relating to events

on the battlefield from an empathetic, even self-referenced, standpoint: “If you look at it, dead and dying, *mud*, terrible places to fight in.”⁵⁵

It’s pretty realistic with what’s happening in it. Like, the guy’s treading on the other guy’s *back*. Some guy’s helping another guy up there, so to turn your back on all the fire would’ve been pretty risky.⁵⁶

The diorama thus also achieved resonance by enabling visitors to experience identification with the humans it depicted; a resonance through ‘like knowing like’. The complete perception of ‘knowing’ what it ‘must’ve’ been like is one spawned from knowing what it is to experience the frailty, compassion and camaraderie of humanity. The diorama is a fabricated realism, but the felt responses in visitors are real. Visitors experienced an ‘emotional realism’ (Bagnall 2003).

While the *World War One diorama* is a successful example of intrasensory completion, it is also instructive to examine visitor responses to an exhibit which was not so successful in inducing a complete perception from sensory fragments. The quality of partial perceptual patterns can affect whether and/or how the phenomenon of perceptual fill-in happens, whether a resonant process occurs that corresponds with the intent of the signals. To successfully mediate psychologically encompassing experiences with visitors, exhibits need to capture the ‘essential elements of the original’ (Prentice 1996, 178; emphasis added).

Disappointment at the *Richter Rumbler* exhibit centred on the partial pattern offered by the display being insufficient to resonate as a complete perception. While placing one’s hands on *Richter Rumbler’s* metal plate, one could feel side-to-side movement representing earthquakes measuring from three to six on the Richter scale (see Figure 6.8). Having only her hands moving was inadequate for this visitor’s perception to fill-in the experience that is an earthquake: “Possibly if your *feet* were moving *too*, it might have given you a much better *idea*. . . . Just the whole experience of my *hands* were moving and the rest of my body was *still*.”⁵⁷ That is, the suggestion applied through the visitor’s hands was not enough to induce perceptual fill-in, it did not capture the essential elements of an earthquake experience. Proprioceptive sensations altering one’s sense of equilibrium may be more effectively delivered through the feet.

To find resonance with the essential elements of earthquakes, it may not be necessary, however, to strive for greater *intrasensory* completion by literally shaking visitors’ entire bodies. Moreover, public health and safety considerations constrain exhibit design. Alternative suggestions by visitors to improve *Richter Rumbler* invoke the phenomenon of *intersensory* enhancement.

Intersensory Enhancement and Illusion

Intersensory enhancement works by enabling cues from different sensory channels to ‘augment’ and ‘disambiguate’ each other (Biocca, Kim and Choi



Figure 6.8 Feeling earthquake magnitudes through the hands

2001, 262). Human perception seeks convergence by ‘merging and synthesizing input from different sensory modalities in an ongoing and dynamic fashion’ (ibid., 249). In designing the multisensory context of the museum, harnessing the power of these tendencies is desirable. For instance, visitors proposed that combining movement with vision could enable the experience of *Richter Rumbler* to induce a greater whole: “When you’ve got your hands on the move you could have, say, a TV screen with the TV screen moving as well . . . immerse you more.”⁵⁸

You don’t get any impression about what would’ve *happened*. I mean, all you’ve got is this *plate* moving and your hands moving. Because then what would be quite good would be to have a backdrop behind it that shows you the type of damage that *occurs*. Like at three on the Richter scale things are falling off *shelves*. At four all the *shelves* are falling

down, and at *six* the buildings are likely to be falling down. So I think that would give you a real *impression* about what the Richter scale is about.⁵⁹

Visitors' suggestions to enhance the display by combining intersensory cues would approximate more closely how people comprehend the real world: 'real world behaviour and perception are driven by the integration of information from multiple sensory sources', the brain routinely performs these integrations to create 'unified, coherent representation[s] of the outside world' (Ghazanfar and Schroeder 2006, 278, 284).

The convergence of multiple sensory sources towards a unified perception is illustrated by deconstructing the following: "To see those soldiers in there on camera speaking like that sort of makes it seem very real."⁶⁰ Despite this visitor's perception, there were no soldiers speaking 'on camera' in the display. A screen simply presented still photographs (see Figure 6.9) in combination with voice-overs of personal oral accounts. So why did she perceive that she was actually 'seeing' people 'speaking', although there were no lips moving? It is likely that the sensory data presented, overlaid faces and voices, found resonance in her mind with the familiar pattern of an onscreen 'talking head' (from television documentaries, for instance), so she unconsciously (although inaccurately) accepted that interpretation of the display as 'reality'.

The 'on camera speaking' example makes another crucial point about perceptual fill-in. The faces and voices were only a partial pattern of onscreen talking heads. For this visitor they were, however, a 'sufficient part of the characteristic pattern' of onscreen talking heads to bring about a 'resulting



Figure 6.9 Photo stills overlaid with audio: soldiers speaking 'on camera'?

resonant response [that] nevertheless [was] quite complete' (Shepard 1984, 438, 433). An absolute match is not needed for resonance to occur. What is needed is just 'some measure of identical structure' between two things for resonance to be possible (Miller 1990, 360).

The roller coaster simulator *Track Attack* (see Figure 6.10) provides another example of how, during the process of intersensory integration, input from multiple senses can enhance one another: "I think it was fairly *real* with the [physical] *jolting* and sort of *tilting* . . . you sensed that you were going *faster* because the balls were [visually] *flying* at you."⁶¹

I think what really was quite extraordinary about that was *visually* when it left the *tracks* and you went into sort of a *flying state*. That was a really amazing *reaction* in my body. It was quite *extraordinary*, really *liberating*. . . I *did* feel as though I was *flying*.⁶²

The visitor felt she was 'flying' through the combination of strong cues, a visual animation of the roller coaster flying into space, and weak cues, the partial movements of the simulator capsule mounted on a hydraulic system to suggest planes of motion. Combining strong and weak sensory cues can be effective as their integrated effects are multiplicative, not additive



Figure 6.10 Simulating a roller coaster ride by combining planes of movement with visual imagery

(Biocca, Kim and Choi 2001). Designers can capitalise on this phenomenon by relying more on those cues over which they have ‘greater control of fidelity’ (ibid., 261). Applied in the case of the roller coaster simulator, it is a simpler design task to emulate visual scenes than actual motion.

The importance of the visual element as the strongest sensory cue in simulating the roller coaster ride is illustrated by the following fearful father, who was tricked into going into the simulator by his children:

M: If you close your *eyes* and take away the *sight* thing, well it’s just a little red *car*. . . . You take away the sight perceptions and you stand on the back of a *ute* or something all of a sudden.

T: *Right, right. Did you do that the whole time?*

M: Oh, no—just when I got scared! [laughs]⁶³

The above visitor circumvented the intersensory enhancement of the exhibit by avoiding its visual cues; the partial physical movements were not sufficient to simulate a roller coaster ride. By negation, he demonstrated that the exhibit’s intended effect was dependent on its strong visual cues working in conjunction with its partially suggested physical planes of motion. The power of the exhibit lay in its sensory channels working together to enhance one another: “[A] visual and a physical *shift* is going to create a *reality*.”⁶⁴

Further, stimulation in one sensory mode may lead to the illusion of stimulation in another sensory channel. A visitor compared the roller coaster simulator, for instance, with an exhibit at a motor show which had “real *video* of one of their test tracks,” rather than a computer-generated animation, so “*even* without the movements it was *so real* that people were falling off what they were sitting on.”⁶⁵ Visual stimulation alone was thus sufficient to affect the basic orienting system (body equilibrium, forces of gravity and acceleration) (see Gibson 1966). This phenomenon has been termed *intersensory transfer* or *illusion* (Biocca, Kim and Choi 2001). Moreover, neuroscience has suggested the existence of ‘mirror neurons’, which, for example, may enable someone who has only observed someone being touched to feel as though they have been touched themselves; a visual-tactile illusion (Humphrey 2006, 105–9). A less dramatic form of intersensory illusion is the partial equivalence of sensory systems; one need only smell a fire, for instance, to perceive it (Gibson 1966). The ultimate impact of these perceptual phenomena is that the *form* or *carrier* of sensory information is not as critical as the *content* of the information.⁶⁶

Exploiting the phenomenon of intersensory illusion can be profitable in the exhibition design context. This visitor provides an account of odours and sounds evoking broader realities:

In *Vancouver*, the museum there, there’s an area there that’s been set up like a *home*, walking into somebody’s *home*. And you’d walk into the kitchen, and they’ve got the smell of *cinnamon* coming through,

somebody's baking some cinnamon buns . . . and just the sound effects of the train coming along, and it's one of those things that stands out in your mind because it made it *very real*.⁶⁷

The aroma of cinnamon, then, was sufficient to suggest the homely event of baking,⁶⁸ and sound effects sufficient to suggest the presence of a train. However, as odours and sounds are powerfully evocative, visitors suggested their discerning use: "I'm not saying that you want to get *gunpowder* smells and things around here."⁶⁹ This visitor recounts her experience as a young child at the war museum/memorial:

A few years ago there were *huge* sound effects and everything and I used to get scared when I was little. . . . They gave you more of a sense, when they did use sound effects, that you were actually *there*. . . . I was about *ten* or something, and it scared the *crap* out of me, and I'm like, "*Get out!*"⁷⁰

So while sensory cues can create convincing realities, the potency of these cues suggests they be sensitively applied in the exhibition environment. The idea of leaving space for visitors to fill in the gaps, conceiving of exhibits as catalysts for the imagination, as suggestors of trajectories for thought and experience, is manifest in the following response to the *Ship* exhibit (see Figure 6.11) at the immigration-themed museum: "You can hear the sound effects [in the latrine], and you think, 'Thank God the smells aren't in this, as well!' [laughs]."⁷¹

M: I looked across the way to the *latrine* and I thought, "*Oh!* How ghastly!"

F: It's good it wasn't really one of these things where you can smell the smells. [laughs] . . . In York, the whole Viking kind of thing and you go on a little train through the horrible stench of the-

M: Yeah. There was rotting fish and things like that, wasn't there?

T: *Would you have appreciated that?*

F: *No!*

M: I don't think so. [laughs] I could've *imagined* that.

F: You got a little bit of the noise but only a *gentle* baby's crying, not the full-, you get a little bit of an idea.⁷²

The 'gentle baby's crying' is part of a complex auditory scene suggested to visitors by the soundscape of the *Ship* exhibit. It is crying that the visitor heard, yet the unseen source of the sound, the baby, is integral to its meaning. Likewise, the presence of other travellers in the 1800s steerage class was made known only through audio cues: "And the *chooks* [caught my attention]. . . . You couldn't actually *see* them, but [the display] made



Figure 6.11 Three interiors of the *Ship* exhibit: 1800s square-rigger steerage, 1900s second-class steamer and 1950s postwar liner

you think there's livestock in there."⁷³ Identifying the sources of sounds informs people of the objects and events in the world around them (Yost 2004, 385). People commonly have 'illusions such as "seeing" visual stimuli that are consistent with simultaneously presented auditory stimuli' (Recanzone 2004, 359). The *Ship* display capitalises on these phenomena, with its soundscape eliciting the conditions of migration journeys: "The sound effects from just the daily living . . . like you could hear the clanging of pots and pans, people talking and all that type of stuff, so real lack of *privacy*."⁷⁴

The audio effects in the *Bomber Command* display likewise enabled extrapolated perception of the personal and social contexts of its occupants, who during the simulated bombing raid were only represented through auditory channels: "I was more taken in with just the people involved in it . . . I could understand how anxious they were just to do the job and get out."⁷⁵

The thing I liked more was the commentary from the people in the actual plane. I thought it was basically you're living their experience, and just words like . . . "That was close!" and stuff like that. . . . I really felt sorry for what these fellas had to go through. It wasn't a very comfortable experience, and they must have been petrified. And that's putting it mildly. [laughs]⁷⁶

In the *Ship* and *Bomber Command* displays, audio cues established the presence of their human and/or animal passengers, the nature of their activities, and their broader social contexts. Providing a soundscape appears an evocative and accessible method of communication, as well as economical in the sense of carrying a wealth of information without encroaching on the spatial constraints of exhibition galleries.

The *Ship* exhibit also induced a more dramatic type of intersensory illusion: “At times I *swear* the thing’s moving. [laughs] It *feels* like it to me. . . . I swear I was *swingin’* with the ship there.”⁷⁷ The *Ship* display did not physically sway, but had piped sounds of the “creaking, groaning of the boat.”⁷⁸ For some visitors, the sounds of a wooden sailing ship out at sea triggered a phantom sense of the ship’s movement. The characteristic sounds and movement were sufficiently tightly coupled for one to induce the other. Such an illusion illustrates how the partial equivalence of perceptual systems can work with the perceiver unaware of the source of stimulation (Shepard 1984), and lends support to the proposition that the form or carrier of sensory information is not as critical as the content of the information. Identifying such tightly coupled perceptual pairs is advantageous, particularly when seeking to provide sensory cues over which designers have greater control of fidelity. Reproducing the sounds of a sailing ship had greater economy than engineering the reconstructed ship to physically sway.

The phenomenon of perceptual completion is advantageous for visitors in exhibition environments towards the goal of creating ‘coherent perceptual worlds’ (Väljamäe 2006). Physiological and emotional responses of several visitors to the *Bomber Command* display suggest a high level of perceptual completion, and the creation of coherent perceptual worlds. Quite complete responses were triggered through physical elements that were only partially suggested. For instance, a video screen in the centre of the floor visually emulated bomb doors opening, and once ‘opened’ showed the nightscape beneath the plane (see Figure 6.12):

It was too realistic, it was frightening. . . . I only put one foot on the vibration just to feel it, and then I stepped back . . . particularly when the bomb doors were opening, you felt like you’d actually fall *through*. Not liking heights, I stepped back. . . . [I also noticed] how *close* it felt, very closed in. That claustrophobic feeling of being up there in such a small area.⁷⁹

So although there was nowhere to physically fall, the visitor felt as though she might fall. Notice, too, how she felt claustrophobic, although the simulator itself was not fully enclosed. She also mentioned ‘being up there’, although the simulator wasn’t ‘up’ at all, it remained on ground level. If simulation produces ‘true’ symptoms, such is an authentic experience; ‘if the correct effects are reproduced in the lived body—does it matter that the props are “faked”?’ (Roberts 1997, 99). With the mind occupying such an active role in creating perceptions, in creating our ‘realities’—to the point

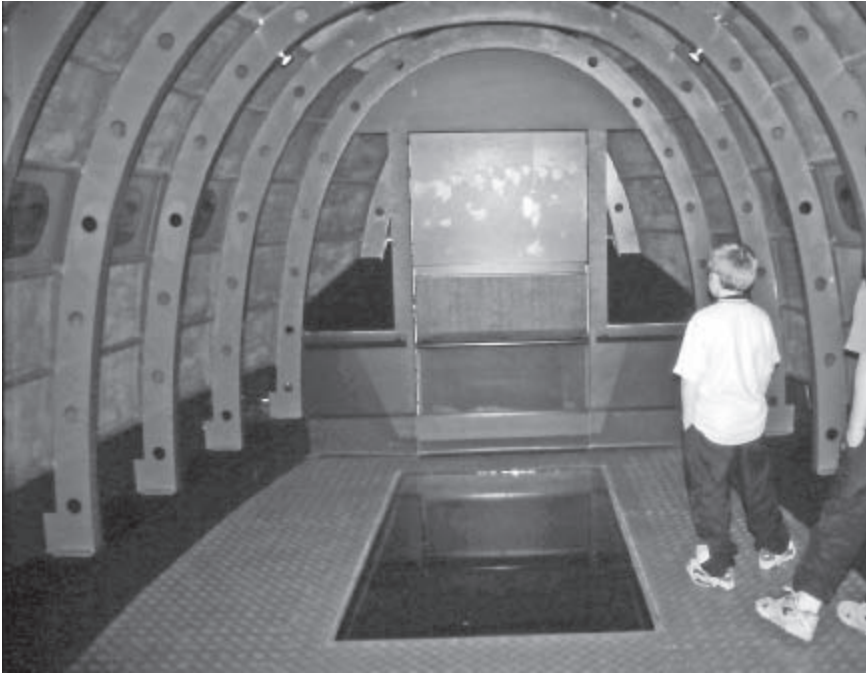


Figure 6.12 The infrastructure of *Bomber Command*: wall and floor screens, a vibrating floor, overlaid with sequences of sound, voice and light

of producing physiological reactions to merely implied situations—there is indeed ambiguity in what is real and what is imaginary.

The following excerpt from another visitor at *Bomber Command* describes, in an experiential way, the formation of a coherent perceptual world from sensory fragments:

F: That is the most marvellous thing I've ever seen.

T: *Oh good! What in particular do you think you liked about it?*

F: When they were droppin' the bombs and the vibration of the plane, when it was takin' off, and then they started and I'm lookin' down and I can see all the ground and then they started all the flashin' lights, when they were droppin' the bombs, and I hung on to me daughter [*sic*]. I thought, "Oh my God!" Goosepimples came up. It was so real! So real! . . . I felt I was there. I *really relived* what they lived. . . . You were actually on that plane. . . . And the end with the soldiers talking, he said he *was* scared. . . . I *felt* it, yeah, I *felt* it. I actually felt the *impact* of those soldiers and I actually felt the feeling of the war, with that vibration under my feet and looking down. Their point of view, what they went through. *And I was scared.*⁸⁰

This response represents a dizzying height in terms of what can be achieved through the creation of coherent perceptual worlds in museums. The visitor shows ‘encompassment’: the temporary imbuelement of ‘some of the complex insights of the native derived from immersion in the totality of his or her cultural environment’ (Prentice 1996, 178). Could an exhibit developer hope for greater resonance with a display? But, one might ask, did she *really* feel the ‘feeling of the war’? It could be argued that in her ‘dream space’, she did (Annis 1986; Kavanagh 2000). It could likewise be argued that what the visitor ‘really’ felt was an ‘emotional realism’ (Bagnall 2003).

*

‘Perceptual Resonance’ has examined visitor accounts of meaning-making in multisensory exhibition environments. Through processes of *intrasensory completion* and *intersensory enhancement and illusion*, visitors start to make sense of the complex assemblages that are exhibits. As exhibits can only ever be stylised representations, the perceptual phenomenon whereby sensory fragments resonate as more complex wholes serves the museum environment well. Deeper understanding of these processes would serve the design of exhibition spaces aiming to catalyse meaningful and coherent perceptual worlds.

RESONANCE AS COALESCENCE

Another manifestation of resonance is when two parts of the world unite together as a complementary whole. How visitors can feel enmeshed with exhibition environments is suggested by two parallel patterns. Specifically, visitor accounts of ‘interacting’ with and feeling ‘part of’ the exhibition environment speak to the formation of resonant relationships. The parallel nature of ‘interactivity’ and feeling ‘part of’ the environment are reflected in these descriptions of engaging with technically-interactive displays: “Being able to be a *part* of it and *feeling* like you were part of it.”⁸¹ “[You] could take *part* in it and be part of it.”⁸² Feeling *part of* an exhibition environment is significant in relation to the phenomenological experience of resonance, in that visitors can shift from feeling like outsiders to insiders: “[The display was] interactive. . . you really felt *part* of it, where the other ones we’re just an onlooker.”⁸³

To feel integrated with the environment to the extent of feeling ‘part of’ it is the experience of *coalescence*, a coming together as a ‘coherent dynamic whole’, and as such is an ideal resonant relationship (Van Orden and Goldinger 1994, 1271). Similarly, if ‘[t]o resonate means that two aspects of the world’s immense structural richness have established commonness, that they have found a way of fitting together’ (Miller 1990, 360), feeling ‘part of’ a display is an establishment of commonness, or ‘complementarity’ (Shepard 1981). Significantly, such coalescence or complementarity can also be achieved in the absence of technically-interactive exhibits. The data

showed that visitors can *physically, personally* and *socially* interact with, or feel part of, exhibition environments. This evidence supports a conception of interactivity as a phenomenological state coproduced through the transaction of visitor with environment, rather than restricting the quality of ‘interactivity’ to mechanically or electronically-manipulable displays.

To Physically Coalesce

Physical coalescence, expressed as ‘interacting’ with and feeling ‘part of’ exhibition environments, is evident along a continuum from the concrete to the increasingly abstract. On a more concrete level, visitors can interact with space-surround environments: “The rainforest one was very, very fascinating. Like just to be able to *walk* through all that and again be really interactive with it.”⁸⁴ Such walk-in environments are designed to promote a sense of immersion, enabling visitors an ‘inside-out’ frame of reference (Harvey et al. 1998). Being ‘in’ a walk-through reconstruction quite directly makes a visitor feel ‘part of’ the display:

This one, it’s a bit *interactive* . . . You can walk through it, and feel part of it, whereas the other ones you’re looking at screens or displays on a *wall*. You’re *in* the thing. [see Figure 6.13]⁸⁵

Literal physical immersion within such ‘envirogramas’ is not necessarily required, however, for the relational quality of interactivity to occur. Visitors can use their imaginations to psychologically transport themselves in relation to physical artefacts, thus gaining the sense that they are interacting. For instance, this visitor describes what she classified as an ‘interactive’ exhibit:

There was a space capsule . . . It *is* interesting to see where they *slept* and *more* of something that *you* can relate to: ‘Yes, well I don’t think I could fit into that bed, I couldn’t *stand* sleeping in something like that for six months’ or whatever, where *you* can actually visualise yourself.⁸⁶

As she was able to visualise herself in the reconstruction, the relational exchange took place between her imagination and the physicality of the authentic, life-sized display. Similarly, visitors may project themselves into physical scenes depicted by miniaturised models, such as battlefield dioramas:

The models actually make you feel part of it. The photo’s just like a *one-dimensional* thing, whereas the model’s actually a lot more of a three-dimensional [thing] . . . you feel like you’re standing next to that bloke there. [laughs]⁸⁷

The above physical relations involve entire scenes, at both large and small scales. However, an exhibit need not be an entire environment of any scale



Figure 6.13 Being ‘in’ the *Ship* exhibit

for visitors to feel ‘part of’ it or that they are ‘interacting’ with it. Sheer physical proximity to an artefact can make visitors feel as though they are in such relationship with displays. The following two excerpts refer to the *Avro Anson* exhibit, the cockpit of a training aircraft (see Figure 6.14):

- F: Obviously because it’s *interactive*, it breaks up the monotony of having to read *panels* and *panels* and *panels* of text.
- T: *Right, right. So what would make this particular display ‘interactive’ to you? What elements of it are-*
- F: Oh, I mean it already *is*. It’s just like, you’ve got a physical *cockpit* there which you could have a look at and you’re very *close* to it.⁸⁸

Proximity not only rendered the cockpit ‘interactive’ but could also make visitors feel ‘part of’ it. This acted to personalise the exhibit:

- M: That’s more personal because you’ve got a small viewing *area*, and you feel more *part* of the display when you’re looking at it.
- F: You can get *closer*.⁸⁹

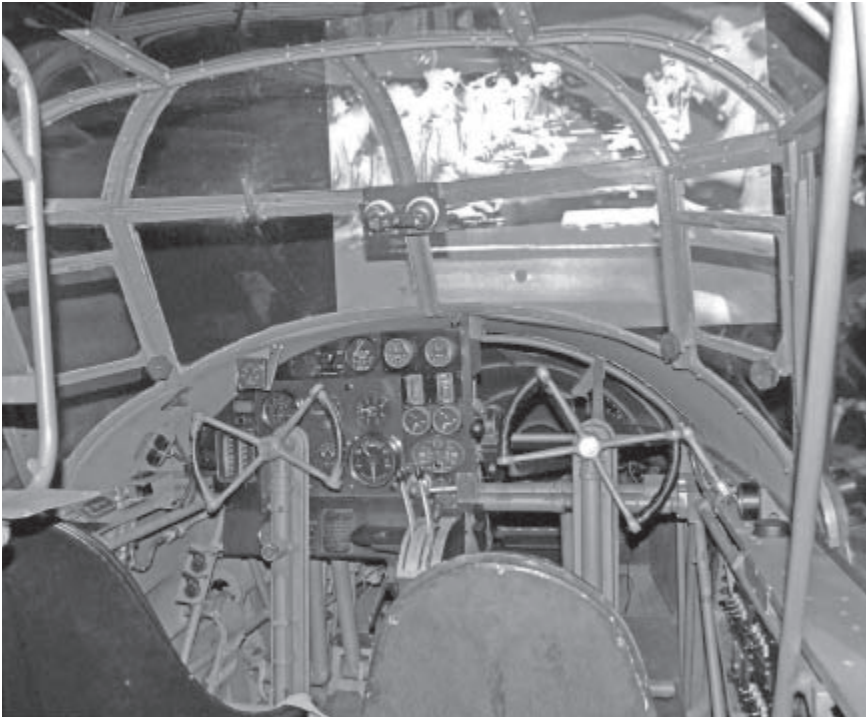


Figure 6.14 Proximity to the *Avro Anson* cockpit creates a sense of interactivity

Physical coalescence between visitors and exhibits speaks to the tangible, embodied nature of museum visiting. The resonant relational exchanges that take place at this level are visitors uniting their own physicality with the physicality of the museum and its wares. Visitor and exhibit find a way to fit together in a physical sense, coalescing as a greater whole.

To Personally Coalesce

While the expressions ‘interactive’ and ‘part of’ were used interchangeably by visitors in regard to physical relations, use of these terms in regard to personal relations showed nuanced distinctions. Personally resonant relations between visitors and exhibits expressed as ‘interactive’ manifest as general processes pertaining to deeper mental engagement, while use of the expression ‘part of’ implies personal relations with substantive exhibit content.

The notion of ‘interactivity’ can refer to general, yet heightened, mental processes. For instance, the static *Fauna* showcase (see Figure 6.15) had an interactive ‘feel’, engaging the visitor by juxtaposing many different species rather than presenting taxonomically-stratified collections:

There’s a really good sort of interactive *feel*. . . . [I]t’s just really *easy* to *look at* more so than the older classical styles, because there’s such a different *variety*, and that even though you like *birds*, you can look at



Figure 6.15 Interacting with variety in the *Fauna* showcase

the *reptiles* and get interested in that, and the same with the bugs. So you don't have to be specifically going to the *bug* case or the *bird* case and then-, so the *cross* sort of [fades].⁹⁰

The same *Fauna* showcase was not considered interactive to a different visitor. She did, however, speculate that it would be interactive if the taxidermied specimens were displayed in contextual settings, presumably dioramas. The greater personal coalescence would be raised interest levels:

T: *And is there anything you'd change about this to improve it then?*

F: Probably have them in *trees*, like an interactive one.

T: *Right, right. How would it be-, in what way would it be 'interactive'?*

F: Well, like there's some of them, they've got full on *displays* showing their *habitat*. And *that* would be interesting, if you could see different habitats of different birds.⁹¹

Another display of taxidermied animals prompted a visitor to interact on an emotional level, which reportedly affected him at a greater cognitive level:

M: You can sort of interact with the procession of marsupial animals downstairs.

T: *You said you could 'sort of interact' with that one—how would you say you could?*

M: It brought out the emotion in me. Quite often the other ones don't bring out any emotion at all. That brought out an emotional response, and I think emotional responses are needed for you to *think* a bit deeper. If you don't have an emotional response nothing gets remembered.⁹²

As evident in the previous three examples, a sense of personal 'interactivity' transcends content and refers to general mental processes.

Personal coalescence expressed as feeling 'part of' displays refers explicitly to connection with exhibit content. For instance, visitors can feel part of displays in a personal sense by perceiving museum content as integral to oneself or to the larger social group they identify with: "I think [the language used in the display is] really a part of the Aussie *larrikin*, like I think it's just the way we *are*."⁹³ The exhibit illustrating human reproduction, *Making Babies*, gave these visitors a sense of assurance as its content stemmed from a part of their own selves (see Figure 6.16):

F: [The display is] very *believable* because it's part of *us*. The others, part of what other people's *brains* have discovered about our universe.

T: *Oh okay. Are you able to relate to it perhaps a bit more?*

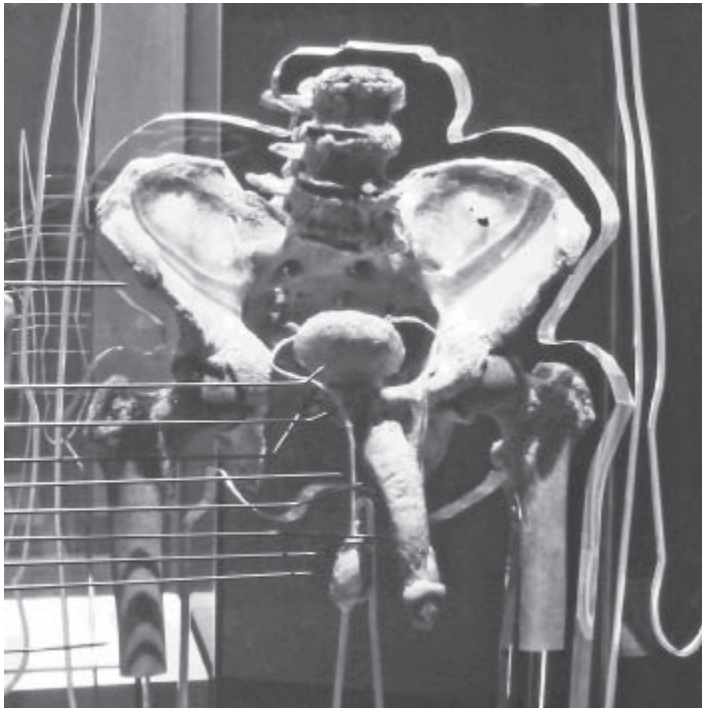


Figure 6.16 ‘It’s part of us’: male anatomy in *Making Babies*

F: That’s right.

T: *Mmm, mmm. How about yourself?*

M: Yeah, pretty much the same. Like, we were down the Aboriginal end [of the museum] and a lot of that you can *read*, watch pictures and all that—you probably don’t believe it *all*. Whereas in [the *Making Babies* exhibit] you can more or less believe it all because you’re part of it.⁹⁴

As documented in ‘Framing’, the war museum/memorial is held in high esteem, and a source of this regard is the resonance people feel through personal connection with it. For younger visitors to the war museum/memorial, resonance can come from being part of a larger familial whole: “To know that’s part of your heritage, it’s really moving to know that this could be your great-grandfather.”⁹⁵ Older visitors can draw on their own living memory, which can cause resonance with the war museum/memorial’s displays to verge on the overwhelming:

F: I was just saying that my mother always told me that somewhere where we lived in Western Australia, a chap there was beheaded by the Japanese. [crying]

- T: *Oh really? So you know of an experience that relates to that [Len Siffleet exhibit]? [see Figure 8.9 in Chapter 8, this volume]*
- M: Yes. What I can't get over with the whole display is if someone comes in and they see their son, their husband. It must bring back awful memories.
- T: *Yes, it's very personal, isn't it?*
- M: Oh, it is that. It's a *beautiful* place, I mean I'm not running it down, it's *fantastic*, but with all the things that, you know, could be cut out. [laughs]
- T: *So do you find that it's perhaps a little bit too much? Too confronting?*
- M: I think so, I think so.
- F: I'm finding it like that. [still crying]
- M: Especially being *part of it*. Probably if I was twenty years younger it may not affect me, but it does bring back memories.⁹⁶

Further, that the war museum/memorial has stewardship of a 'part' of the lives of visitors reflects the institution as an aspect of a greater socio-systemic whole: "*This place is 'You're never to forget', you know, it's part of you.*"⁹⁷

Personal coalescence between visitor and exhibit, expressed as interactivity or as feeling 'part of', are meaningful relations by virtue of enhanced mental processes or through the establishment of commonness with exhibit content. Either way, a resonant connection is experienced in the mind of the visitor.

To Socially Coalesce

As described in 'Resonance as Energising', human elements in displays have a natural 'like knowing like' resonance with visitors. As with physical coalescence, social coalescence occurs along a continuum. The experience of socially resonant relations can occur through engagement with actual people or through representations of people and their social conventions. At the most concrete level, visitors can find social coalescence by interacting with human interpreters:

- F: The Powerhouse Museum I like because they have these specific interactive exhibitions.
- T: *Do you like interactive things?*
- F: Yeah! Yeah! Like one of the last ones was Aboriginal women and their tapestries. And being able to talk to them about how they did it and watching them, rather than just being a *passive* watcher.⁹⁸

People, rather than technologically interactive displays, can be considered the most sophisticated interactive systems of all (Ferren et al. 1997, 127). This visitor considered museum hosts as interactive:

And there were people going around saying, “How are you?”; it was almost like they were selling the museum⁹⁹ to *me*. “Have you seen *this*?” and they were just *so* interested in what we were doing rather than [just] walking around. I mean, I don’t want to be bothered *all* the time, but “Hi! How are you?” It was just really *interactive*.¹⁰⁰

Alongside actual people, live interpreters or general hosts, social representations in the museum can be experienced as interactive. The above visitor deeming face-to-face social interactivity as important suggests a level of interactivity is also made available by social representations such as stories, songs and poems:

I think it needs to be still a bit more *interactive*. I mean, there’s a lot of *stories*, and also the songs out the front there, and the *poems* I think, I suppose, ’cause I’ve only seen one or two Aboriginals around [laughs].

The above visitor was not alone in this broader view of social interactivity including social representations. This visitor suggests holograms of people as enabling interaction: “And what *would* look *really* great, wouldn’t it, would be two *holograms* of them standing there. Imagine that and really interacting with that.”¹⁰¹ Further, this visitor suggests that photographs of people enable at least some degree of interaction:

- F: A lot of the other [displays] were a little bit more interactive, you’ve got a lot of use of *videos* and you can *push* buttons and things. So perhaps it’s a little more *static*. Yeah, perhaps a little less interaction. ’Cause even the *photos* . . . I felt I could perhaps relate just a *little* bit *more* to. [laughs]
- T: *Right. What was it about the photos that enabled you to relate more to them, then?*
- F: Well just seeing *people*, I suppose. [laughs]¹⁰²

How can visitors interact, then, with preset animated, filmed, or photographed people? The kind of reciprocity a live interpreter enables, in being able to flexibly answer questions, for example, is not possible to achieve with social representations. Social coalescence can be achieved in the absence of live interpretation in a number of ways. For instance, the *Bomber Command* exhibit achieved social coalescence with visitors through the crew members in the simulated bombing raid, who were represented only through a soundscape, as described previously in ‘Intersensory Enhancement and Illusion’. A subtle change in the directionality of this sound was noted as important by this visitor in (re)configuring the social relationship between him and those represented in the soundscape:

And you're listening to the sound coming off the screen in *front* of you, and suddenly the sound's coming from *all round* you. You go from being an *observer* of other people's actions to being *party* to it.¹⁰³

The *Vital Space* display used both speech and eye contact to establish a personalised, social relationship with visitors (see Figure 6.17):

- F: [What stood out most was being able] to *interact*. Like, instead of just sitting down watching something, being able to be a *part* of it and *feeling* like you were part of it.
- T: *What about the display do you think made you 'be a part of it'?*
- F: It was the way, I suppose, that it's 3D, but it's the way you feel like they're actually just talking to *you*, and it's not like talking to the whole audience. You sort of feel like they're sort of aiming it at you and you're out there to save everybody! [laughs]¹⁰⁴

Important in the above comment about *Vital Space* is that social relations appear more salient in characterising the relationship as 'interactive', and in making the visitor feel 'part of' the display, than the exhibit's technically interactive touchscreens.

In the *Dialogue* exhibit, two talking-heads on plasma screens exchanged views, anthropologist Baldwin Spencer and Indigenous elder Irrapmwe



Figure 6.17 Appealing to the visitor for help in *Vital Space*



Figure 6.18 Spencer directs his gaze towards visitors



Figure 6.19 Irrapmwe employs gesture towards Spencer

(see Figures 6.18 and 6.19). The conventions of conversation set up a relationship of active inclusivity with the visitor: “I like the personal touch with the two men talking in a natural sort of sense.”¹⁰⁵

- F: I like the *conversation* that was happening. It made you feel like you were part of it.
- T: *What about it do you think ‘made you feel like you were part of it’?*
- F: Just that it was a conversation that was happening in the first *person*, so it wasn’t static.¹⁰⁶

While visitors had the opportunity to socially coalesce with the onscreen characters in conversation, the *Dialogue* exhibit further exemplifies the subtlety and complexity of meaning that can be represented through multi-modal and multimedial communication. For instance, not only were the two characters talking to each other, but the gestural meaning of their gaze, in looking directly at the camera, created a social relationship with the viewing audience. Social coalescence with the audience through gaze was, in turn, read by this visitor as reflective of deeper social dynamics between the onscreen historical figures:

- M: Baldwin Spencer talks to the *people* [visitors] whereas . . . Irrapmwe was talking to Baldwin Spencer a bit more.
- T: *What did you make of that?*
- M: Perhaps more that, although Baldwin Spencer was trying to say certain things, that you’re still *not* completely treating Irrapmwe as a *person*. . . . I’ve lectured myself and you tend to speak to the audience you think is going to understand you most, sometimes.
- T: *So did you feel that Spencer was talking to you?*
- M: Ah, a little bit, a little bit, but perhaps I was disturbed that he wasn’t making eye contact [with Irrapmwe].

T: *Oh, OK, right. And so is that more communicating, maybe, with the collective white Australian audience?*

M: I think so, I think so.

T: *Oh, that's interesting.*

M: Whether that's then the *intention* of the people making it or not, I don't know.¹⁰⁷

The creation of a social relationship with the visitor, then, through the gestural mode had repercussions on the visitor's perception of the social dynamics between Spencer and Irrapmwé. What is instructive about this example is that the choice to audiovisually record and broadcast the dialogue between Baldwin Spencer and Irrapmwé retains much of the multimodality of verbal communication. Speech is used as a classic example of multimodality: 'speaking, for instance, is achieved in combination with audio meaning (prosody) as well as gestural meaning, not to mention spatial meaning' (Cope and Kalantzis 2000, 211). The 'like knowing like' resonance visitors may feel through people presenting museum content, as noted earlier in 'Magnetic Energy', is thus subject to multiple layers of meaning. Visitors find social coalescence with the larger network of humankind in nuanced ways.

*

'Resonance as Coalescence' has shown ways in which visitors feel enmeshed with exhibition environments. Visitors may *coalesce physically* by uniting their own physicality with the physicality of the museum. Visitors may *coalesce personally* by experiencing heightened mental processes, or through feeling heightened commonness with museum content. Visitors may *coalesce socially* through natural resonance with other humans, as well as through social conventions in communication, such as in song, speech or eye contact. The data demonstrate that feelings of being 'interactive' with or 'part of' something are comparable phenomenological states, which may be achieved through physical, personal and/or social coalescence between visitor and exhibition environment.

IMPEDING RESONANCE

So far this chapter has looked at some of the finest aspects of museums—namely, museums' ability to resonate with visitors across a cascading network: to catch one's attention, to be drawn nearer with a sense of intrigue, to find greater meaning from sensory fragments and to coalesce as one with the exhibition environment. It is not uncommon, however, even in newly developed or redeveloped museums at the forefront of contemporary museum practice, for visitors to find exhibit environments repelling, so thwarting the formation of resonant relationships: "It's *junk*. . . . [E]verything is jumbled in the cases. And we had to leave!"¹⁰⁸ Visitors

feeling that they ‘had to leave!’ is at the extreme end of impeding resonance. What kind of visitor-exhibit relationship is possible with such a response? Other negative instances suggest varying levels of interference, where visitors do their best to manage under trying circumstances. In the free-choice learning environment of the museum, where visitors can leave whenever they want to or not even attend at all, it is important to be aware of what can act to block resonant responses.

The People I’m with Won’t Let Me

Looking at individual visitors finding resonance with museum stimuli is an important but insular view of museum visiting, for a lone visitor does not exist in a vacuum with exhibits. There is another dimension at play: exhibition environments are not only where the personal contexts of visitors interface with the physical context, but they are also social contexts (Falk and Dierking 1992). In short, other people also form part of the museum environment, and they influence how one may feel integrated with it. Accompanying friends and relatives may hinder visiting, impeding resonance with exhibits in several ways. Visitors can feel self-conscious when visiting with others:

T: *And how much time do you think you spent, just at this display?*

M: If you ask my wife, probably too long! [laughs]¹⁰⁹

Succumbing to social pressure from others, or being considerate to others, can reduce the time spent with displays: “I could have stayed there longer, but the people I’m with won’t let me.”¹¹⁰ “[I didn’t look at the rest of the display because] I felt the presence of my husband!”¹¹¹

Some visitors are not prepared to tolerate the disturbance of visiting companions and so enact their visit alone: “I like to see these things on my *own*. My wife’s walking around somewhere. . . . I don’t like other people with me.”¹¹² Choosing to engage with the exhibition environment on one’s own, even if one arrived at the museum with friends or relatives, appears a way of maintaining personal coalescence with the environment:

F1: My husband’s wandering around, he likes to do his own thing.

F2: He goes and he *reads* and he *looks*, and he looks at *everything* so quiet. And he doesn’t want us with him.¹¹³

The following visitor found herself separated from her group of friends and unexpectedly found that being self-directing was a preferable way to visit: “I can meander and stop at what *I* want to stop at. . . . I *think* I like it with my three friends not here, too, so I’m not following their agenda.”¹¹⁴

How integrated visitors can feel with exhibition environments is also impacted by the visiting public. Large numbers of people can compel visitors

to adopt a more cursory approach: “When we were *looking* it was full of *people*, we just sort of skimmed over it.”¹¹⁵ Visual obstruction is a major consequence of crowding: “I don’t like *crowds* in those places. Not being very *tall* I can’t see over the heads of people.”¹¹⁶ “But there was quite a lot of people, too, so you just kind of *moved on* like you do when there’s people obstructing your *view*.”¹¹⁷ As well as visual hindrance, noise is a negative effect of crowds. Feelings of frustration and ‘moving on’ or ‘off’ are again typical responses: “Oh, just too many people around. You sort of start to *lose* concentration because everyone’s talking. You just get a bit frustrated and just move off.”¹¹⁸ At worst, the opportunity to have resonant responses in the company of large crowds can be entirely impeded: “The queues were *abysmal*. And it was frustrating to actually get round and do things—you just *didn’t*.”¹¹⁹

You Can Only Take So Much In

A typical characteristic of museum visiting is that it is strongly bound by time: “I’ve only got three hours, I could spend three *days* here.”¹²⁰ The visitor’s lamenting tone reflects favourably on his interest in the museum’s wealth of stimuli. At the same time, this abundance coupled with a visit’s time-limited nature can flavour museum visiting with a sense of being rushed: “[The science and technology centre] always stands out because there’s so much to do and not enough time to do it in.”¹²¹ Although the excitement behind these comments is tangible and again reflect well on museums, the practical issue of time allocation requires visitors to discern what to spend their time on: “I thought, ‘No, too much to see, I need to move on’. . . . I made the decision based on my personal interests, rather than, I suppose, a broader educative thing.”¹²²

Indeed, that visitors make choices according to what resonates with them personally is a strength of museums as free-choice learning settings. Processes of resonance play a key role in shaping the idiosyncratic paths visitors carve: “You do start to look at your time a little more selectively, where if something doesn’t instantly grab you, you move along and *quickly*. You’ve got to be *sparing*, otherwise you’ll be here all day.”¹²³ Although what individuals choose to focus on is personally tailored, a repeated pattern detected in the data is visitors being purposefully sparing with the reading of text: “There’s *too* much in *here*. Like, if I was to read everything in here, I’d be here for weeks. So, it’s just *way* too much information in that sense.”¹²⁴ “But there’s *that* much to *read*, isn’t there? Like, there’s only so many hours in the *day* and you can only take so much in.”¹²⁵

Notice in the last comment how the finite nature of time was coupled with ‘you can only take so much in’. So along with limits to time, a finite measure of some mental capacity is indicated. Variations of ‘take it in’ became important during data analysis, as visitors used the expression with notable frequency. What do visitors mean by ‘taking it in’? It appears neurally-related: “Some museums you go to, there’s *so* much to see, your brain can’t take it all in.”¹²⁶ And it also appears possible through various means: “I’m a visual

learner, I like to see things happen and I take it in, sort of absorb it better, rather than just *reading*.”¹²⁷ Note the contrast brought up by the last visitor. She preferred to ‘take it in’ by seeing ‘things happen’ rather than ‘just reading’. Experiential learning theorist David Kolb endorses the idea that there are ‘two different and opposed processes of grasping or taking hold of experience in the world’, apprehension and comprehension (1984, 41). *Apprehension* is ‘reliance on the tangible, felt qualities of immediate experience’, and *comprehension* is ‘reliance on conceptual interpretation and symbolic representation’ (ibid.). ‘Seeing things happen’ therefore aligns with the first of these grasping processes, apprehending, and ‘reading’ with the second, comprehending. The layperson’s phrase to ‘take it in’, then, appears to be to apprehend (concrete events) or to comprehend (abstract notions). Distinguishing between taking in the world through apprehension and comprehension is also apparent in the following:

- M: *I have to say I learnt a lot more at [the science and technology centre] because it’s interesting and fun and you just want to stay there longer and all the little interactive things.*
- F: *Yeah. They’ve got puzzles that you have to piece [together] and they tell you in simple words, they don’t give you this huge text essay. . . .*
- M: *[L]ike “This creature, the Hibiscus thingy, was discovered in 1835,” and it’s just a bit much to take in.*¹²⁸

Participating in concretely apprehending the world, then, motivated the above visitors, more than taking in the world through abstract comprehension. In resonance speak, interactivity amplified neural energy, and ‘huge text essays’ short-circuited it.

Visitors particularly self-report that they are not able to take in all the written text available to them in the museum environment. It is clear that grasping the contents of the museum through text, comprehending abstractly, has its limits. Written text panels are not isolated, however, in contributing to too much to take in. It occurred here at an interactive audiovisual display with moving images and verbal instructions: “It was a bit too *difficult*. Too much information to take in. Like, I wasn’t quite sure what it was that we were supposed to be *doing*.”¹²⁹ Moreover, the sheer quantity and arrangement of objects can interfere with taking it all in. That is, apprehending concretely, too, has limits: “One of the things I think I’ve liked so far, there’s not too *much*. Like, if you’re going to show varieties of butterflies or things you can take it *in*.”¹³⁰ “Some museums you go to, there’s *so much* to see, your brain can’t take it all in. With this place it doesn’t appear to be cluttered.”¹³¹

Before moving on with negative impacts of too much to take in, it must also be noted that, in another sense, museums presenting too much to ‘take in’ may find no fault with presentation, and may encourage repeat visitation:

“You can’t take it all in in one day; you can come back and see something different.”¹³² “Spend two or three hours here and you’ve got to keep coming back because you can’t take it all in, there’s that much to *see*.”¹³³ “You’ve gotta come back and back to take it all in.”¹³⁴

It’s All Jumbled: Visual Static

Notice the above reference to how clutter circumvented ‘taking it all in’. Indeed, resonance can be impeded by clutter:

I think that there’s too much information in a *small area* [see Figure 6.20]. As you walk along there’s so many things. Instead of just saying ‘Oh, look at this!’ and then read about it, there’s one here, and there’s one just underneath it, and one’s part covered up.¹³⁵

Note how the visitor explicitly identified that the ‘Oh!’ response—initial resonance or reflexive attention—was blocked by the overlapping nature of the display. Insight into why this occurred may be found by borrowing one final construct of resonance. The ‘resonant characteristics’ of physical objects are influenced by their properties: ‘A stable, homogenous object may resonate easily and powerfully while an unstable, heterogeneous one whose different parts vibrate in different ways may not resonate at all’ (Gedenryd 1993, 7).



Figure 6.20 Clutter blocking the ‘Oh!’ response in the *Fear* exhibit

Translated to the visitor's response to the display, there was no single homogenous signal to catch his attention. Cluttered displays have heterogeneous signals. That such displays may not resonate with visitors is likewise indicated in the following: "If it was cluttered up you wouldn't take any notice of it, but it's individualising all the different animals and birds and things."¹³⁶ That the display 'individualised' each specimen suggests that homogenous signals for each specimen were available. An explanation may also be found in signal detection theory, in which 'background "noise" makes it more difficult to detect a stimulus' (Bitgood 2000, 34). Similarly, from cognitive neuroscience: in the absence of a distinctive visual feature, visual searching may be slow and effortful, and all the more so with greater numbers of distractors (Hopfinger, Luck and Hillyard 2004, 564).

In a bold but illuminating excerpt, the following visitors reveal the extent of difficulty that can be presented by heterogeneous signals, by background noise, and by the absence of a distinctive feature. Quite simply, a cluttered environment can block the ability to attend to it:

M: Perhaps you should take this display over to the [natural and cultural history museum] and teach them how to actually display things and present things.

F: This is more impressive than [that museum], which is a *disaster*.

M: Yeah.

T: *Can you tell me a bit more about that?*

F: It's *junk*. It's all stuff on top of each other, you can't see anything. It's all *jumbled*. . . . [E]verything is jumbled in the cases. And we had to leave! [laughs].

M: And every different display sort of *craves* attention and blares out noise, doesn't it? So you can't concentrate on one thing.¹³⁷

So while there was much to see at the museum, they could *not* 'see anything'; high sensory stimulation can prevent one from responding appropriately (Veitch and Arkkelin 1995, 123). In articulating their difficulty, the above visitors point to an underlying mechanism of attention: the ability to *pay attention* is dependent on the ability to *suppress distraction* (Kaplan and Kaplan 1978, 1982). When the design of an exhibition environment does not assist visitors to suppress distraction, it is unsupportive of the overall demands placed on the attentional system. Attentional challenges in exhibitions can manifest when 'there is little differentiation in the object density of many exhibits, with too few cues as to which objects are of particular note and worth pausing to examine' (Carroll et al. 2003, 43). In an exhibition environment with competing heterogeneous signals, '[t]he eye has trouble fixing on 'the important thing''. Guidance and clarity are often sorely needed but inexplicably withheld. There is a lot of clutter' (Trumble 2003, 5).

Critically, the inhibitory mechanism required to suppress distraction is subject to fatigue, making the ability to direct attention fragile (Kaplan 1995). The willingness, or ability, of visitors to engage this inhibitory mechanism in overdrive, in order make sense of unsupportive environments, is limited:

M: There's too much stuff in there, and there's too much other distraction *in* there.

T: *You mentioned 'visual static'. Can you describe something-*

M: Well, visual static is like the *cases*—is just that there is *so* much stuff in it. . . . [A]nd that's a big problem—is that I'm looking into these cases and going, "Woops! *Not* interested."¹³⁸

The limited nature of being able to 'take it in' is not about how much knowledge we can store, but about how much of this information we can actively work with at any given time (Kaplan and Kaplan 1982, 102). This differentiation is important to museums making their content accessible, lest they be accused of 'dumbing-down'. It is understood that, except for exceptional circumstances, humans can only pay attention to one thing at a time (Bitgood 2000). From the mass of information impinging on their senses, people need to 'actively select a *subset* of the available perceptual information for detailed processing' (Freiwald and Kanwisher 2004, 575; emphasis added). To be selectively and successfully attentive is thus hindered in environments that unduly call on the mechanism inhibiting distraction. The need to discern between competing signals in the environment burdens one's attentional capacity and one becomes fatigued. Creating displays sympathetic to these processes would appear vital in the free-choice museum environment, where visitors can simply choose to disengage from exhibits, prematurely leave institutions, or not visit at all.

The following visitor introduces an important theme of the next chapter, 'Channelling'. He recapitulates how frenzied heterogeneous signals can short-circuit the finding of resonance, and how homogenous signals can resonate powerfully. Acknowledging the fatigue that occurs by having to direct one's attention by suppressing distractions, he points the way forward to a more funnelled approach to exhibition design:

There's lots of things capturing my *attention* but also *distracting* from what you want to say to me, probably. So you'd better focus on *what* you want to say and make the rest *clean*. Especially in this kind of exhibition where there are too many things to *see* and people get *tired* and *bored* and they want to just catch the clear idea *immediately* exactly in one second, because if I have to read through and everything I go, "Oh! Too much! Okay, let's go somewhere else."¹³⁹

RESONATING THROUGH THE BODY-BRAIN ENSEMBLE

Achieving resonance is about sparking or igniting relationships with visitors. This chapter is inspired by points of contact enmeshing the visitor with the exhibition environment in a here-now sense. These points of contact range from features of the environment reflexively drawing visitors nearer, to the complementary relationships between sensory cues in the environment and visitors' perceptual constructs, to the special phenomenological states of feeling 'interactive' with, or 'part of', the exhibition environment. As museums are free-choice educational leisure settings, the ordinary visitor is under no obligation to attend to exhibition environments at any level. Resonant processes are thus important as they act to draw the visitor into closer relationship with exhibition environments in a seemingly effortless way.

Through the constructs of resonance, energy and meaning are attained in the relationship between visitors and the exhibition environment through harmonious matches or meshing. Resonant meshing may occur through complementarity, where a functional relationship creates a harmonious match, such as that between lock and key. Resonant matching may occur through direct likeness of the environment and person, or through partial external patterns in the environment eliciting whole internal patterns in the person. Ultimately, a sense of belongingness, or fittingness, underlies resonance as the desirable experience of wholeness, a coming together as a 'coherent dynamic whole' (Van Orden and Goldinger 1994, 1271). Ways in which visitors may feel 'well fitted' to exhibition environments have been mapped across the course of this chapter, 'Resonating':

The notion of resonance highlights the fact that were we not well fitted to our environments, whether natural or artificial, we could experience no meaningful relations—perceptual, interpersonal, or whatever—no sense of belongingness. The challenge is to provide the conditions under which such relations can be deepened and enhanced. (Miller 1990, 360–61)

In becoming integrated with the museum environment, visitors' experiential accounts suggest the significance of immediate real-time responses to basic physical elements of the museum. This layer of semiosis speaks quite directly of the embodied nature of meaning-making, for many of the resonant connections made between visitors and exhibition environments are entrenched in visitors' experience of the physical museum context. Significantly, the integration between body and environment routinely demonstrates a webbed relationship with higher functions of mind. These webbed relationships suggest an embodied construct of mind, acknowledging bi-directional influences between body and brain. This finds alignment with Paul Thibault's concept of a 'unitary body-brain system', wherein 'semiosis is integrated with material processes of our bodies and brain in interaction

with their external environments' (2004, 6). It also aligns with Antonio Damasio's concept of an 'indissociable' body-brain ensemble: 'mental activity, from its simplest aspects to its most sublime, requires both brain and body proper' (1994, xvii).

For instance, 'Resonance as Energising' showed how general body states are influential in meaning-making. In particular, resonance with the ambience created by space, light and colour can amplify visitors' energy to attend to the content of the museum. The conception that positive body states can lead to positive thinking states (Damasio 1994) was thus a valuable concept in interpreting visitor accounts. The importance of ambience draws further support from another study, wherein 43 per cent of museum visitors noted ambient conditions as contributing to positive outcomes in their visit (Packer 2008). Jan Packer concludes her report by quoting a visitor encapsulating 'the most frequently mentioned beneficial aspects of a museum visit': 'the ambience . . . [helped me to] really become more centred and more focused on what is around here. The ambience actually lowered the stress level, and therefore made me relax more, therefore I was able to appreciate the exhibits more' (*ibid.*, 52).

'Resonance as Energising' also demonstrated the importance of physical aspects of exhibition environments, such as beauty, colour and size, in drawing visitors to particular exhibits in the first instance. Significantly, the material design of exhibits has the potential to entice visitors to engage with content in which they self-reportedly had little previous interest. Vital energy is thus contributed to the relationship between visitors and exhibition environments through visitors' emergent, positive responses to exhibit design. I interpret this amplification of energy as resulting from a harmonious match between the physicality of visitors and the physicality of the exhibit medium. That felt, embodied responses to the physical environment may motivate visitors to engage with the content of exhibits speaks again to the idea of achieving resonance through the body-brain ensemble; the experiences of visitors suggest a kind of 'lock and key' complementarity between body and brain.

The construct of resonance is strikingly more about visitors' responses to the physical environment than responses towards any specific exhibit content. So while it might seem counter-intuitive to museum professionals, this study suggests that what resonates most readily and powerfully with visitors in the first instance is the physical environment of museums, rather than their specific curatorial content. This outcome of the research lends support to Jan Packer's finding that emergent 'situational factors' are more important in motivating visitors to learn in educational leisure settings than 'personal factors', such as the preexisting interests of visitors (Packer 2004, 187; 2006). Through visitor research Packer identified key situational factors to be: 'a sense of discovery, involvement of multiple senses, the perception of effortlessness, the element of choice' (2004, 187). Packer notes the need for further research on situational factors, and particularly on what catalyses

perceptions of 'effortlessness'. To this end, it would seem that the resonant, amplified energy created between visitors and exhibition environments may be one dimension contributing to the desirable sense of 'effortlessness'.

The importance of visitors experiencing physical elements in the museum as initially resonant, more so than specific museum content, is an interesting finding, especially in a constructivist era foregrounding the importance of connecting with visitors' prior interests and knowledge (Falk and Dierking 1992, 2000; Hein 1998). This research suggests, rather, that resonance with material presentations can give visitors the energy and motivation to begin engaging with content. Of course, content does find connection with visitors, but there was relatively minimal data suggesting that visitors were drawn to particular exhibits in the first instance for their specific content. I am not challenging the constructivist view of learning per se, but rather querying whether prior knowledge and preexisting interests have been overestimated as to their impact on the museum experience. This study suggests that the special quality of museum visiting as necessarily embodied, as very literally engaging the body-brain ensemble, would appear to facilitate entry into content, even content that visitors would not otherwise pursue.

It is, however, possible that the relative influence of design over content, and situational factors over personal factors, in providing initial motivation to engage with displays is a cultural difference particular to Australian audiences, as this and Jan Packer's (2004) research were collectively conducted across twelve Australian institutions. Alternatively, it is also possible that the openness of the research design in this project, beyond cognitive learning outcomes, captured aspects of the museum experience that have been overlooked in recent times. For instance, visitor studies focusing primarily on the personal construction of meaning, as a result of museum visiting, often leave the environment in which the meanings were constructed unexamined. In a postmodern and poststructuralist era that has tended to deny or minimise environmental influences, reclaiming the physical environment in field research is a movement towards more holistic understandings of human experience.

Arguably the greatest environmental influences in exhibition environments are their varied sensory stimuli. 'Perceptual Resonance' explored specific ways in which the body is coupled to the brain in processes of semiosis, specifically through sensory fragments in the exhibition environment resonating in visitors' minds as greater perceptual wholes. Gaining insight into such processes of perceptual completion, both *intrasensory* and *intersensory*, has great relevance to museums exhorted to enrich the sensory experience of visitors. The larger concept behind perceptual completion is *active perception*, in that 'what we see is as much a product of the mind as it is a product of the physical world' (Gedenryd 1993, 4), that 'reality' is 'not *out there* but inside our heads' (Greenfield 2000, 79; original emphasis). Bottom-up sensory stimuli in the environment are interpreted and embellished through top-down mental constructs applied by the visitor. Again, body and brain

work as an ensemble. These understandings have important implications for museums in their attempts to convey 'realities' through exhibitions. As the real physical world presents incomplete sensory information that is 'filled-in' to produce coherent perceptual realities, these 'filling-in' processes are required even more so for sensemaking in the stylised museum.

While museum practitioners are typically encouraged to provide multi-sensory exhibition environments, this research lends insight into how such calls may be more sensitively and judiciously implemented. Exhibition environments are by nature stylised representations, consisting of select fragments of some extramuseological circumstance from which visitors strive to create a coherent perceptual world. By identifying the 'essential elements of the original' (Prentice 1996, 178), and by representing these in the museum through sufficient partial sensory patterns, a greater perceptual whole may be elicited within visitors' experience. This phenomenon was exemplified, for instance, by the sounds of a sailing ship creaking in ocean waters being sufficient to induce an illusory sense of movement within the visitor. By identifying resonant perceptual pairs such as these, exhibit designers may economically and effectively employ sensory cues in the environment. Increasing the potential of partial patterns to catalyse coherent perceptual worlds is likely to require front-end and formative evaluation with potential visitors during exhibition development, on a case-by-case basis.

The idea that visitors' interpretation of sensory cues is not merely a biological or physiological transaction, but involves higher-level interpretation by the visitor, is illustrated by a further example. That is, when a visitor perceived still images of faces, overlaid with voice-over recordings, as soldiers 'speaking on camera'. The visitor's interpretation of the exhibit was likely influenced by the semiotic mediation of the familiar 'talking heads' convention, ubiquitous in today's televisual culture. Visitors not only find resonance in a bodily sense in multisensory exhibition environments, but the content of these multisensory representations catalyses resonance with higher-level mental and cultural constructs. Not only is the brain embodied within the body, the body-brain ensemble is embedded within the larger scale of cultures' ways of making and representing meaning (Thibault 2004).

Another set of ways in which visitors may resonate through the body-brain ensemble was documented in 'Resonance as Coalescence'. Specifically, visitors coalesce with the environment, unite with it, in ways suggested by various uses of the terms 'interactive' and 'part of'. 'Interactivity' and feeling 'part of' displays are comparable aspects of relation between visitor and environment which hold special valence as phenomenological states, occurring across physical, personal and/or social planes. Feeling 'interactive' with or 'part of' an environment in a physical sense emphasises integration through bodily qualities. Being 'in' an immersive surround-scape, psychologically transporting one's body in relation to an exhibit, or even sheer proximity to an artefact, can induce a sense of physical coalescence with the exhibition environment. At another level, visitors may experience

personal coalescence with exhibition environments by interacting through heightened mental and/or emotional processes, or through feeling ‘part of’ the substantive content of an exhibition. Finally, at a scalar level extending beyond the individual, visitors may feel that they are coalescing with the greater network of humankind through social interaction with other people, or through engaging with social representations and conventions employed by exhibits.

Visitor accounts in relation to ‘interactivity’ in this study support more liberal views of interactivity, rather than restricting the notion of interactivity to technically-interactive displays, as contrasted in “‘Experience’ in Museums’ (Chapter 3, this volume). I do not consider that visitors used the term ‘interactive’ imprecisely. They used it with purpose, to reflect instances where they did indeed phenomenologically feel as though they were enacting an exchange within a system. Ultimately, interactivity that is based on reciprocal exchange and interactivity based on coalescence, feeling ‘part of’ any type of display, or shifting from an onlooker to an insider, share a common denominator. That is, both visitor and exhibit are inherent elements of an overall system, a system in which the interrelation of parts determines the whole. A visitor coalescing as an inherent part of an exhibition environment, feeling part of an overall system, is a valued occurrence for museums striving to be physically and intellectually accessible. I therefore align with a conception of interactivity as an emergent quality of the relationship between visitor and exhibition environment, rather than restricting interactivity to an objective quality of an exhibit. Interactivity is not about a type of display, but about a type of transaction with the environment. This supports the transactional viewpoint that such qualities are dynamically coproduced between visitor and environment. What this research adds to the theoretical discussions of interactivity in the museum literature are emic, visitor-defined conceptions. If one argues that experience, and therefore interactivity, can only be coproduced between visitor and resource, and judged in quality only by the visitor, it is important to examine indigenously-occurring views.

It is evident, then, that many ‘interactive’ experiences documented in this study do not fulfil the reciprocity requirements of technical ‘interactivity’, such as the visitor’s response producing a change in the exhibit (Bitgood 1991; McLean 1993). This does not disparage the use of mechanically- or technologically-interactive exhibits, but affirms the coimportance of other forms of interactivity, such as ‘spatial’ and ‘dialogic’ interactivity (Witcomb 2003, 2006). A wider notion of ‘interactivity’ as more intimate integration with environments, whether this integration be physical, intellectual, emotional or social, does not exclude technical interactivity. The benefit of taking a wider position on interactivity is to appreciate that there are multiple ways in which visitors may feel closer relations with exhibition environments. If museum practitioners take only a narrow view of interactivity, in which the visitor acts on an exhibit and the exhibit overtly responds, other rich opportunities to connect with visitors may be inadvertently bypassed.

Finally, visitor accounts also showed when visitors' integration with the environment could be blocked, as documented in 'Impeding Resonance'. A barrier to some visitors' enmeshing with exhibition environments was the presence of visiting companions, or other visitors. Despite the customary characterisation of the museum as a social setting as positively contributing to the museum experience, it is evident that social companions can form a source of stress in the museum visit, and can diminish visitors' engagement with displays. Some visitors prefer to engage with exhibition environments as solitary individuals, as also noted by others (Hein 1998; Packer 2004; Yellis 2010).

The general noise and visual obstruction of fellow visitors may impede visitors' enmeshing with display environments. Further, visitors' own limitations in time, capacity to pay attention, and tendency towards overload, can impede visitors' integration with exhibits, particularly as a visit proceeds through time. Museums themselves have an important role to play in addressing these limitations. When exhibition environments contain much visual static or clutter, for instance, these limitations are exacerbated. Processes of resonance can be impeded, then, by the very conditions of museum visiting as a time- and attention-limited experience in a social and dense physical environment. The following chapter, 'Channelling', begins to address these limitations, examining further how visitors proceed to negotiate the museum through space and through time.

While 'Framing' looked at how visitors are in relationship with the museum environment through higher scalar mental representations of 'museum' and 'exhibit' that have persistence over time, 'Resonating' examined the enmeshing of visitors' body-brain complexes to the museum environment in a here-now sense. Nonetheless, 'Resonating' also showed how visitors carry and apply conventions and conceptions that tailor the meanings of their immediate perceptual experience. The simultaneous integration of people with their ecosocial environments at varied levels is an expression of the body-brain ensemble as a trajectory in time and in space (Thibault 2004). The next chapter, 'Channelling', follows the body-brain ensemble along its meaning-making trajectory in an even more dynamic way, as museums must be advanced through to be experienced.

7 Channelling

People *like* being *guided*, being *directed*.¹

The way it's all *laid out* is really *colourful* and sort of 3D and you can work your way through it. It's *less* regimented but you can still get the whole story.²

Museums are experienced by visitors as an unfolding in space and in time. They are something that one must advance through to experience. As people negotiate museum environments, they must somehow find their way through exhibitions and their wares. Although this chapter examines visitors finding their way, it is only very partially about overt 'wayfinding'—that is, moving from point A to point B. Rather, it is about visitors finding their way through museums conceptually, attentionally, perceptually, as well as physically. For the visitor experience proceeds not only through gross locomotion but also through directing attention to the minutiae of exhibits. It is about pathways for the mind along with pathways for the body.

The thread of this chapter is that, in one way or another, these behaviours are acts of *channelling*. As a noun, a 'channel' is a route through which anything passes, or a course in which anything moves. As a verb, to 'channel' is to guide or direct. Channels are conduits by which visitors are assisted through the museum, or pathways visitors construct using their own agency. The two quotes above contrast different preferences for channelling, the first emphasising the agency of the environment, and the second emphasising the agency of the visitor. In practice, both visitor and environment are simultaneously active in channelling processes.

As documented in 'Resonating', feeling overwhelmed or confused by the museum environment may short circuit visitors. When undue effort is demanded, or when frustrated, visitors in free-choice museums may prematurely terminate engagement with exhibits. The wealth of material resources that constitute the richness of museums can also be their downfall. In particular, museums are complex and novel³ and visitors tend towards fatigue and overload as well as operate within limited timeframes. Semiosis, or

meaning-making, needs to take place within such an environment with these special conditions; these are some of the underlying needs of visitors that deem ‘channelling’ a necessary and core process in the museum.

What is the nature of such channels? Visitors’ experiential accounts suggest three primary realms of channelling in the museum, presented in three sections of this chapter. The most obvious, large scale channels are those by which visitors physically locomote and navigate through the museum. ‘Spatial Channels’ examines how visitors ‘read’ spatial environments, and how they feel and act in space. These spatial channels are spaces anywhere in the museum that the visitor may traverse or dwell. Second, contemporary museums communicate through varied representational modes and media. Infinite combinations channel visitors in concert with each other: from objects to written texts to sound to moving images to reconstructed environments. ‘Multimodal and Multimedial Channels’ documents the channelling processes of exhibits as assemblages of modes and media. Third, how content is organised in museums, the pedagogic strategies employed by museums, also represent channels. ‘Narrative Channels’ provides evidence that orchestrating content through story or narrative is the vehicle of choice for channelling processes. The chapter concludes with a discussion entitled ‘Channelling as Focusing Semiosis’. In essence, channelling processes assist visitors to achieve and maintain focus as they make sense of an exhibition’s multiple representational resources.

SPATIAL CHANNELS

Unlike some other realms of communication, museums largely retain their spatiality.⁴ People still experience museums by coming to, and being in, a designated civic space. This account, laden with descriptors, indicates the potency of space:

The brightness is almost a little too *clinical*, perhaps [see Figure 7.1] . . . I kind of wanted to *scurry* right through almost . . . it feels a bit *stifling*, a little *stark*. Other spaces have a little more *intimacy* or a little more *depth* to them, whereas this I just naturally wanted to zoom straight through.⁵

Note that the visitor described felt responses with behavioural consequences. How space is organised has differential effects on how people feel, and how they act. In the absence of finding resonance with the space, the visitor’s channelling through the space was quickly propelled. That he ‘naturally’ felt like zooming through suggests an innate response to space. Many visitors may not be consciously aware of such ‘natural’ responses. John Falk and



Figure 7.1 *Environments* exhibit: “Other spaces have a little more intimacy or a little more depth”

Lynn Dierking observe that while the physical context of the museum influences visitors, ‘much of this impact occurs subtly and/or subconsciously’ (2000, 57). The intangibility of space in museums is noted by Maree Stenglin: ‘Perhaps museologists have difficulty bringing to consciousness, in explicit terms, the way space functions to create meaning’ (2004, 155). It is fortunate, then, that a range of responses to space in the museum were articulated by visitors in this study.

Moving through Space

The following account of visitors entering a museum is an instance of how visitors must read the built environment to make ‘experiential choices’ (Preziosi 1979b, 10), and how ‘[p]eople are active, striving, often struggling’ in making these choices (Kaplan and Kaplan 1982, x). The account shows how space is not a ‘passive stage-set for activity. Its component parts actively engage our perceptions, challenging us at every turn, offering us possibilities for and constraints upon action and experience’ (Preziosi 1979b, 10):

You wonder where the things *are* and you wonder whether there’s something there and you’re not seeing it. That’s what I felt. First of all

we couldn't find the entrance. It wasn't really that obvious where the entrance was. And then you come in and there seems to be a lot of *floor* and a lot of *wall* and a lot of *noise* and an escalator in front of you, so we thought we'd go up the escalator [laughs]. It seemed to be the most outstanding *thing*, so we went up.⁶

Notice how the escalator provided the strongest suggestion for an appropriate behaviour; it provided a clear path to follow, and so channelled the visitors upstairs. Since the museum must be experienced by advancing through it, how the construction of space encourages people to move is a fundamental concern. Buildings are both statically organised, through their floor plans for instance, and have dynamic dimensions, 'through the unfolding of a user's pathway' (Stenglin 2004, 22).

A strong way in which to channel visitors is through spaces such as corridors; '[a] narrow, enclosed path naturally encourages forward motion' (Ching 1996, 269). For the purposes of encouraging movement from one area to another, corridor-like spaces can be effective. However, when exhibits are placed along such spaces, the very properties that make people feel like moving forward can lessen attention paid to exhibits. If exhibits are placed along a path, they can encourage traffic flow and minimal concentration, rather than stoppage and maximal concentration (Pang 2004). Significantly, these effects are not only about locomotion. They can spatially communicate the meaning that exhibits have lesser significance: the display was something "to just *cruise by* and have a quick look at on the way."⁷ The following example refers to an exhibit located within a slight alcove:

M: And poor location, too. It's in a corridor basically.

F: It's on the way out.

T: *Right. And so what's the effect of the 'corridor' then, how does that distract from the display?*

F: It makes you want to walk past.

M: It's not really there for a stop.⁸

Notably, on this day of interviewing, a 'corridor' was formed as the end of the space was temporarily opened to another gallery due to renovations (see diagram to left, Figure 7.2). Ordinarily, the display was located along a closed, rectangular route with an opening further along, unseen from the exhibit (see diagram to right, Figure 7.2). What appears only a subtle environmental change, then, appears potentially profound in its channelling effect. Combining the directional quality of the elongated space, and the attraction of an open door (Bitgood 2000, 35), appeared to overpower the focusing effect of the slight alcove.

Doorways are important semiotic signs in channelling processes, they are 'semiotically charged as a threshold' (Bal 1992, 564). Doorways are

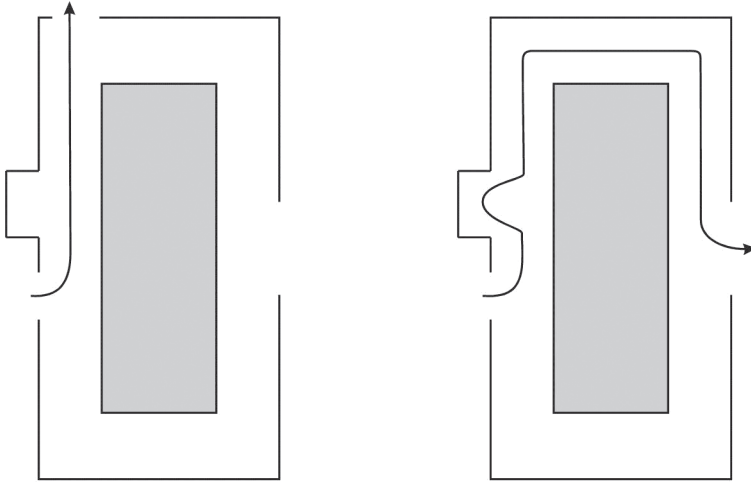


Figure 7.2 Channelling visitors along a ‘corridor’ and through an open door (at left); channelling visitors to exhibit and around gallery (at right)

decision-making nodes within the flow of channels, signifying a point of entry into a new setting. As such, doorways can serve to rouse the natural curiosity of visitors: “You’re in a *museum* and wherever you see a different doorway in a museum you’re bound to go and look in and see what’s *in* there.”⁹ Indeed, an open doorway, offering partial information about what lies ahead, provides the element of ‘mystery’ and so encourages people to further explore the environment (see Kaplan and Kaplan 1978, 1982, 1989). On the contrary, where a doorway does not offer clues as to what might be gained by passing through it, channelling can be obstructed. For instance, the entry to *Bomber Command*, formed by a free-standing partition (see Figure 7.3), offers minimal clues as to what visitors would gain by entering the setting:

And I think it should have a little bit more of a display, on the outside. . . . If you stand here and *watch* and see how many people go in there—they’ve gone past it. There’s something *lacking* there. . . . It should be more *advertised*. . . . they’re missing the highlight of the [war museum/memorial].¹⁰

An important function of doorways and walls, even partial walls, are to clearly demarcate settings designated for different purposes. When exhibit space is conjointly circulation space, the environment sends out mixed signals, with cues encouraging locomotion potentially speaking the loudest:

I’ve noticed a bunch of people walk past [the *Frieze* display] . . . and we did it ourselves, I don’t know if you noticed, we headed down the stairs. I only noticed that there were the earphones at a *second glance*.¹¹



Figure 7.3 Entry to *Bomber Command* behind partition at top left

His solution to more resolutely channel visitors towards the display was to further define the exhibit setting: “If there was a wall *there* and . . . if they had a *doorway*, you would go *in* . . . you would be actually *more* inclined to *notice this* [display] and join in and have a *listen*.”¹² Indeed, in addressing architectural influence on learning, Gary Moore notes that areas more conducive to learning are well-defined ‘areas limited to one activity, with clear boundaries from circulation space and from other behavior settings, and with at least partial acoustic and visual separation’ (1983, 26).

Some museum visitors, however, may resist entering more firmly enclosed spaces. The way space is constructed around exhibits may be more or less enclosed, creating firmer and looser ‘spatial envelopes’ (Stenglin 2004). Spatial envelopes vary in how they create relationships with visitors. They may be read as emitting particular messages:

- M: It’s the only video feature I’ve really stopped to *watch*. . . . I guess on this [display] . . . the space *draws* you through it, whereas one of the other ones . . . you *had* to go into a little *booth* to watch it.
- T: *What would that signify then for you that there was a ‘little booth’?*
- M: Well, normally that suggests to me it’s going to be a much *longer* thing, whereas this is kind of-, *well*, it was interesting to sort of walk through and be *caught* by-, you can hear the sounds drifting into the rest of the place and say, “Oh, let’s go in here.”¹³

A benefit of the space design around the above exhibit, *Dialogue*, is that it organically encouraged a relationship with visitors. To be ‘drawn’ through a space, rather than crossing a formal threshold, worked favourably to channel the above visitor. Moreover, despite his wariness of spending a lengthy amount of time, the visitor watched the audiovisual for thirteen minutes and twenty-six seconds. In the end, time was beside the point. Rather, choices made in the construction of space were key in their invitational qualities for the visitor. *Dialogue* was located in a partitioned space within a larger gallery. As a semi-circular space open at two ends, it was a ‘moderately’ bound spatial envelope (Stenglin 2004, 172–74). As suggested above, areas with clear boundaries can be more conducive to learning. In this way, the spatial envelope of *Dialogue* also facilitated focused attention: “It’s a very *peaceful* way of *communicating* with *no* outside interference and whatever going on.”¹⁴

Segregating visitors even more so, by creating even more individualised spaces, can likewise help visitors to gain focus:

[The displays were good because] they weren’t so *big*, I think. I think they were more *individual*. . . . [O]ne person at a time looked at it, rather than twenty people. . . . I think that just worked *better*, rather than having bigger displays. They were smaller so you were more *focused* on them. . . . It gave you more of a sense of being dealt with individually. As opposed to this place where it’s more dealing with everybody at once.¹⁵

The museum is a public place that necessarily caters for crowds. As documented in ‘Resonating’, visitors can appreciate the opportunity to physically coalesce in a more intimate way with display space in the museum: “It’s a closer [display], than the *big* ones that you’re seeing elsewhere, where you’re standing in front of a *crowd*. . . . [It] encapsulates you a little bit more than others do.”¹⁶

Spatial envelopes impact on the nature of museum visiting as a series of free-choice activities. When entry and exit into spaces are at the impulse of the visitor, the free-choice characteristic of museum visiting is served by the exhibit’s spatial design: “You can just come in and tune in and tune out when you *want* . . . if you don’t like it you can *go*.”¹⁷ “The public can go in at their leisure. If they like they can stay and see the whole thing, if they don’t they can turn around and go out.”¹⁸ In contrast, when a space has a controlled entry and exit there is a risk that “some people would have a problem going *into* it, because they’d think, ‘Oh, I’ll be in there *forever*’ or ‘Maybe I won’t like it and I’m gonna be *stuck*.’”¹⁹

It would appear that providing a variety of spatial envelopes in the museum would benefit visitors. More enclosed spatial envelopes can assist visitors to engage with exhibits in a focused way, while maintaining flexibility is important in supporting visitors’ free-choice locomotion through museums. When it comes to the more specific task of navigating the museum, flexibility can

also be important, although some visitors prefer a more directed approach. As visitor reports show, some prefer to be more tightly channelled.

Navigating Space

Two contrasting strategies for navigation surfaced in the data. Some visitors feel edified by surrendering to the museum environment, letting it unfold before them and pull them in spontaneous directions. These visitors are not really navigating at all, they are yielding to the environment:

F: And I like the idea that you get *lost*.

T: *You do like that?*

F: *I love it!* Yeah, I've got a thing here [a map], but I'm not looking at it at all.

T: *What do you like about it?*

F: Because it's the element of *surprise*. Yeah, I mean, I just thought 'Oh, this is really interesting' . . . if I'd been going somewhere else, I might've walked *past* there.²⁰

Difficulty in finding one's way concentrated around one of the museums in this study: "I still get lost [there]! [laughs]."²¹ "[It's] hard to find one's way *around*."²² Significantly, not all visitors are so accepting of getting lost:

We physically got lost and lost in the content and didn't know-, I mean, I always wanted to see for some stupid reason [a particular iconic artefact]. It was a miracle we found it. [laughs] It's just all over the place.²³

Being 'all over the place' appears to be a legibility problem. A 'legible' space is a 'well-structured space with distinctive elements' offering understandable cues for moving through the space and for returning to where one started (Kaplan and Kaplan 1989, 55). Distinctive elements, such as landmarks, can act as cues for channelling through the museum (Lynch 1960): "I end up taking landmarks and find my way."²⁴

The second navigational camp is those who prefer a prescribed circuit delivering a carefully orchestrated visit:

I like the following-the-line thing because I hate being faced with *options* where "Do we go *this* way and this or *that*, or do we go *that* way and it will bring us back in a loop?" You know what I mean by that? Afraid of *missing* things. So I like having the long line to follow.²⁵

A 'long line to follow' signifies an overt channel. To be channelled in a directive fashion reduces anxiety for the above visitor. As well as avoiding

‘missing things’, visitors may prefer to be explicitly channelled to aid the comprehension of museum content:

I’ll tell you what there should be. *Footprints*. . . to pick up the theme, *follow* it right through. . . I reckon if you had yellow footprints or something, it’s much *easier* for people to work it out.²⁶

Overt channelling, assisting the understanding of museum content, can also be achieved by the internal structure of buildings:

You walked in at one point and you just followed it *through*, and you walked out the other *end*. . . you get a better understanding because . . . you’re not actually looking at getting things out of *order*. If they’re out of order then . . . you’re putting them together wrongly and the jigsaw’s all stuffed up.²⁷

Despite the current constructivist learning paradigm heralding freedom of choice, the above visitors voice preference for a more prescriptive approach. John Falk (1993) found learning increased when visitors could freely choose the order in which to engage with a given set of exhibits, rather than through a prescribed order. Commenting on the success of Washington’s Holocaust Museum, where visitors must follow a delineated route, Elaine Heumann Gurian (1995) observed that this is undemocratic in relation to today’s understandings, yet well-received by visitors. She suggests that visitors do not ‘feel oppressed by being led’ as they are such willing participants (*ibid.*, 33). I had reason to explore this potential tension:

T: *So you don’t get a sense of ‘I’m being herded through’- [M. No.] -when it leads you through?*

M: . . . Even though it *did* that, and I must admit I’m not a big fan of being herded through places, it did it *well*. It wasn’t so much herded but *led*, I *suppose* . . . you had to go that *way* . . . It had *one* ‘in’ door and *one* ‘out’ door.²⁸

Being ‘led’ ‘well’ paints the concept of being tightly channelled not as disparaging but as enabling.

Even if visitors are not globally channelled along a prescriptive pathway through an institution, channelling visitors when approaching individual displays could assist sensemaking in the museum: “I feel like I’m walking into some displays from the *wrong* direction.”²⁹ “We came in back to front . . . it would be better to approach it this way.”³⁰

And perhaps if we’d started at this end and *then read* it and *then* walked along, instead, it might’ve been better. ‘Cause we started at the opposite end and we were a bit like, “What *is* this?”³¹

Whether visitors delineate their own channel through a museum, or museums circumscribe a channel for visitors, visitors approach displays with the accumulated experience of other exhibits. Visitor expectations may therefore increase as they progress further along their visit pathway. There may be a rising expectation to be increasingly ‘wowed’ by interpretive media:

I got *spoilt* by the other things here. . . . [I have the expectation that] each time I come into something it’s going to *do* something exciting. So, start with the low-tech. Maybe put it at the beginning and work your way up! [laughs]³²

This is channelling delivering a gradual revelation, akin to a piece of theatre or music incrementally offering more. Rising expectations may also occur in a local sense between two displays: “I was a little bit disappointed [with *Richter Rumbler*] after having been through the *Earthquake House* itself. So I experienced that first of *all*, which I think is probably a bad thing.”³³

Finally, if a museum channels visitors along a prescribed path, displays near the end of the pathway are at routine risk of suffering a lack of attention: “But when you follow the line . . . you invest a lot of time in the *early* things and then towards the *end* you start losing it.”³⁴ One of the exhibits in this study was located at the end of a series of interconnected gallery spaces, which typically channelled visitors to see the exhibit at the culmination of their visit. This was not without consequence:

This is our last stop before we went to the café. So I think perhaps it’s in the wrong place. Perhaps it should be somewhere else in the circuit. . . . I think our minds were more on that, by the time we got *here*.³⁵

Pausing in Space

Visitors not only get hungry, they also get tired. These are not trivial issues. Channelling, a construct addressing ways in which people make their way through museums, is not only about moving but also about taking appropriate pauses. Design choices made for processes of channelling need to support people who are physically dealing with being in space, over time. Visitors cannot shuffle continuously through space as though on a conveyor:

There isn’t enough seating, *full stop*. I think if there *was* more seating, it would make people *stop* and *sit* and soak it in *more*, instead of thinking, “Oh my *God*, my legs are just *killing* me. I’ve gotta get somewhere to a *seat*. Oh *God*, there’s no *seats* around here!” You know? “Oh *God*, I’ve got to get back to the *hotel* and *die*!!” You know? . . . [T]he other people we were *with* have *gone* because they couldn’t take it any *longer*. . . . Then they probably don’t want you to *stay* for that long, either. They might want to *pump* the people through.³⁶

Deconstructing the above excerpt points to physical, cognitive and semi-otic purposes of seating in museums. People have a physical need for rest, and the opportunity to do so is welcomed: “[I stayed at the display for so long as we were] sitting down and so you can actually rest for a little bit! [laughs].”³⁷ Moreover, thoughts such as ‘my legs are just killing me’ can preoccupy visitors to the detriment of paying attention to museum content. In contrast, when the comfort needs of visitors are taken care of they are free to turn their concentration to exhibits (Hood 1993). At a semiotic level, a lack of seating was read as the museum wanting ‘to pump the people through’. Would any genuinely learning-oriented museum want to send the message that it prefers its visitors to briskly cycle through? Museums would be wise to assess what their interior design choices ‘say’ to visitors; ‘McDonalds has hard seats—to keep you moving’ (The New London Group 1996, 81), ‘[b]ackless hard benches proclaim “Don’t tarry long here”’ (Hood 1993, 717). Marilyn Hood went as far to say that if a museum lacks visitor comfort services, the museum is overtly declaring, ‘We don’t care about you; we only want you to care about us and what we have to say to you’ (ibid., 719). About this I can only wonder: did the group of people in the quote above who left ‘because they couldn’t take it any longer’ feel the museum lacked care for them?

Seating assists cognition at a number of levels. Notice that the visitor suggested seating to allow visitors to ‘stop and sit and soak it in more’. George Hein states that ‘[i]t is axiomatic in any educational theory that it takes time to learn’, and that seating is the simplest way to increase the time visitors spend in an exhibition (1998, 171–72). Incidental comments in interviews support a positive connection between seating and time: “There was this one painting I just sat in front of for twenty minutes, just looking at it.”³⁸ “Where they had the Aboriginal people on the TV talkin’, I sat and watched that right through.”³⁹

In addition to extending the length of time spent with displays, seating can have an even more qualitative impact on processing content. In the data, the co-occurrence of sitting and thinking suggests that while the body posture of sitting enables the body to be passive, it can encourage the mind to be active: “when you sit and analyse it”;⁴⁰ “to sit back and decide”;⁴¹ “I sit and think and all of a sudden I’ll go back to that [image in my mind].”⁴² “And sometimes you’ve just got to sit and think about what you’ve seen and perhaps go back.”⁴³ Whether these connections between sitting and thinking are literal or metaphorical matters little, for metaphors often have at their root real world functions (Lakoff and Johnson 1980). In sum, sitting appears linked to engaging the mind in reflective processes. Connections between body states and thinking modes were likewise raised in ‘Resonating’, following Damasio (1994).

The data further showed that being able to lean in the museum can provide some of the same benefits as being seated: “[Leaning] makes you relaxed, I think.”⁴⁴ The *Frieze* exhibit provides a wide and solid waist-high

wall which invites the upper body to absorb some weight from the lower body (see Figure 7.4):

- F: I thought it was nice that it was a helpful height for me to put the headphones on and *lean*, so you're not standing there thinking, "Ooh, this is, you know—"
- M: The whole thing about going 'round [this city] is that you get sore feet as you're going to museums all day, aren't you? So you get sore feet! [laughs]
- T: *Yeah, yeah. So you enjoyed leaning?*
- F: *Yeah. You're just more comfortable, more relaxed, so you take more of it in.*⁴⁵

While the connection between relaxation and cognition—'you're . . . more relaxed, so you take more of it in'—should be far from a trivial issue in museums, Marilyn Hood reports that museums vary in their acceptance of different body postures. In some American museums, for instance, '[s]itting on the floor or leaning one's weary body against a wall is not encouraged, if not outright prohibited' (Hood 1993, 717). By providing appropriate furniture and human-friendly interior architectural features, museums can both take care of visitors and avoid disdain for casual behaviour; "Well, I would've sat on the *floor* [if there hadn't been seating]."⁴⁶



Figure 7.4 Leaning and listening at the *Frieze* exhibit

Of course, the provision of seating involves far more than simply providing it. Different user groups have different needs. One issue is the impact of seating on the channelling possibilities of people in wheelchairs: “The chairs are in the way [of me being able to use the touchscreen]. When I go to these places, I’m only doing 50 per cent of it, ’cause everything else is not built for wheelchairs” (see Figure 8.6, in Chapter 8, this volume).⁴⁷ A solution to a design problem such as this could be providing multiple touchscreens in different spatial configurations, with the same content. Positioning a touchscreen at an appropriate height without seating would not only accommodate people in wheelchairs but could also serve standing children: ‘benefits of accessibility are shared by multiple groups; for example, tactile elements placed low are accessible to both visitors in wheelchairs and children’ (Davidson, Heald and Hein 1991, 274).

Portals in Space

Just as seating can support pause for reflection, other interior architecture features can likewise regulate locomotion through the museum. One such feature encouraging visitors to draw nearer, to take pause, and focus their attention, is the arrangement of walls and openings to form alcoves or recesses. By using interior architecture to both present and partially conceal exhibits, visitors are invited to explore the environment, to be active in following a suggested channel: “It does draw you in, ’cause it’s like, ‘What else is there?’ because you can obviously see that there’s something else there.”⁴⁸ This display, the *Len Siffleet* exhibit, presents a recessed photograph with text placed perpendicularly on both interior walls of the recess (see Figure 7.5):

- F: The picture in the middle, saw that first, and got closer and realised there was a story about both of the men which sort of got you reading to hear both sides of it. . . . It sort of made you get closer to the photo, I suppose.
- T: *Closer to it?*
- M: Yeah, it draws you a bit closer, then you realise that there’s something there that’s written down.
- F: So you’re closer to the actual picture, whereas the other displays you can sort of walk past, read the text and keep your distance from the display whether it’s a good or bad display. So that one you’ve got right in your face while you’re reading the text as well.⁴⁹

The exhibit architecture, then, encouraged a relationship of close proximity with visitors. As noted in ‘Resonating’, the creation of a proximal relationship can equate to increased affinity with the exhibition environment. Moreover, that visitors felt drawn closer to investigate is exploratory



Figure 7.5 Drawing visitors closer: the recessed *Len Siffleet* exhibit

behaviour that the sense of ‘mystery’ promotes (see Kaplan and Kaplan 1982, 1989). Progressing from seeing the photograph to reading about it reflects the continuity characteristic of mystery: visitors maintained a sense of continuous revelation as they changed their vantage point. The satisfaction derived from successfully exploring an environment—one which promises more to discover as one enters deeper into it—is also apparent in this comment about a different display, the *Avro Anson* training plane exhibit:

I saw [the display] from the *other side*, [through] the little *slot window*. And I wanted to see what the *rest* of it was, and that's when I walked around the *corner*. And I thought, "Oh, this is good."⁵⁰

Another exhibit, *Dinosaurs*, is an audiovisual presentation viewable through an alcove in the wall (see Figure 7.6). This exhibit arrangement also acted to channel visitors towards it: "I think [the alcove is] good because it makes you walk *close* to it. It *draws* your attention."⁵¹ The display likewise capitalised on the qualities of mystery:

It's enticing . . . the *mystique* of not *really* being able to stand in front of it the way I can everywhere *else*, you see. I *can* stand in front of everything, so I might be *glad* if I can't. It's the *mystery* of it that adds to its enjoyment for me. . . . Probably this one has *intrigued* me and *drawn* me because of the *slot* in a way that nothing else *did*, actually. Nothing else has led me to wonder "How do you get to this?" It's very clever having the slot.⁵²



Figure 7.6 Viewing the *Dinosaurs* audiovisual, set within an alcove

As well as raising intrigue, alcoves and recesses can further assist visitors to focus by minimising negative impacts of other visitors: “You’ve got your head in there and you’re not being distracted so much by all the other noise out here.”⁵³

You don’t have other people walking in *front* of you. You don’t have the obstruction or the *distraction* of other people so much because you’re much more pinned onto one thing. . . . And then you move on and then the next person can poke their head in.⁵⁴

Such space design relies on the socially shared convention of turn taking (Atkinson and Delamont 2005). Delimited exhibit space is subject to the sociocultural codes of proxemics (Hall 1966), where physical distances maintained between people are in accord with their social relations: “Five people can’t be looking at it at once, it’s just you and your friend or whoever you’re coming through with. So you’re sort of sharing it with them.”⁵⁵ The small spatial envelope not only aids focused channelling for individuals but also creates opportunity for an intimately shared social experience.

At yet another level, the architecture of the *Dinosaurs* exhibit contributed towards an elevated appraisal of the exhibit itself: “It made you feel like you were looking at something a bit more *special*, ’cause it’s not totally *out there* and you’re looking through the peep hole at it.”⁵⁶ At an even higher symbolic level still, the architecture was read as a spatial portal into another dimension: “I thought it was good the way you looked through *there*. . . . you’re looking through a reality-, sort of like a time warp . . . instead of it just being on the *wall*.”⁵⁷ Similarly, the *Len Siffleet* exhibit recess (see Figure 7.5) represented symbolic meaning:

But I like the impact of *this*—such a graphic photo there—contained within-, it’s almost like a *doorway* into another world, I suppose, if you look at it from this side into that side.⁵⁸

Channelling visitors through a ‘reality time warp’ or a ‘doorway into another world’ by the simple use of exhibit architecture shows the potential richness of spatial elements in the museum environment. Environmental cues are subtle yet powerful, and indeed play a role in the construction of meaning.

*

Spatial channels, formed by the design of walls, doors, openings, furnishings and interior architectural details, influence how people feel and consequently act in space. The museum is a vast and complex building to be negotiated; the visitor reads and responds to spatial cues as a mainstay of their visit. An important aspect of spatially negotiating the museum is to achieve and sustain attentional focus on museum content. Spatial

materialities can also contribute to the meanings visitors make in relation to that content. This spatial layer of meaning is joined by meanings construed by interpretive media. And just as spatial channels influence visitors' focusing processes, so do the multiple media used in museums.

MULTIMODAL AND MULTIMEDIAL CHANNELS

Along with being in a spatial environment, museum visitors are in an environment containing many other interpretive elements. Exhibition environments are rich communicational landscapes, engaging multiple senses and orchestrating a myriad of media. Analysis of visitor accounts showed that a key process in visitors' sensemaking is how attention is directed and maintained, or channelled, across such varied interpretive elements. Channels forged across interpretive elements may be *restorative*, *fragmented*, *selective* or *synchronous* in quality. While these characteristics may co-occur, they are detailed separately below to illustrate their defining dimensions.

Restorative Channelling

The varied resources through which exhibition environments communicate can assist visitors' progression through museums: "That [exhibition] had . . . lots of different ways to display things, so I think that helps . . . being a *diverse* display."⁵⁹

I just think it's good to have different *kinds* of displays . . . you're taking in a *lot* of information, I think. Delivering that information in different ways is probably handy. It sort of helps you get through all these rooms. [laughs]⁶⁰

Visitors noted that the sheer quantity of information in museums warranted 'breaking up': "It's a lot of *information* . . . That's why . . . it's good that it's *broken up* [with different types of display]."⁶¹ More specifically, media diversity 'breaks up' the stream of stimuli, creating variety in visitors' channels through the museum:

- F: [I]t breaks up the monotony of having to read *panels* and *panels* and *panels* of text. . . . [Y]ou've got the film *showing* so I guess it's a bit of a rest on the *mind*, so you're not reading so much! [laughs]
- T: *Right, right. So that's an easier medium?*
- F: Yeah. Yeah, I guess. But it just breaks it up. I mean, if you had *films* all throughout the museum it'd be *too much*. It's nice to break it up with different forms of delivering the information.⁶²

Variety in exhibition environments has been identified as advantageous as it 'introduc[es] a change that catches the attention and reawakens the nervous

system', with moderate levels of diversity enabling 'the senses to maintain optimal levels of responsivity' (Rui Olds 1999, 77). Further, variety has also been predicted to encourage 'mindfulness' (Moscardo 1999, 28), and to lessen the reduction of attention across a museum visit (Bitgood 2000, 40). Indeed, a mix of media may channel visitors through the museum by sustaining visitor attention across displays:

And the way they're actually displaying things nowadays is a lot better than they used to. . . . [I]nstead of just having to *read* it all, they've got audio tapes going and *moving* things that sort of bump you along. Touchscreens that if you're interested you can get more out of, and so on. . . . [I]t's easier to learn from, 'cause you get a bit *tired*.⁶³

That interpretive media can 'bump' visitors 'along', supporting progression through the museum, reflects the role of interpretive media in channelling visitors. Further, note that the visitor indicated that learning was still possible even if he was fatigued; types of display not requiring reading had a *restorative* effect. Participatory exhibits are identified as restorative, as reawakening the nervous system, in the following:

I'd like to see *more* hands-on things, because it's really *tiring* just walking around *reading*. . . . [T]he kids' section was really good, because there was lots of things you could *do*. . . . That was quite fun! [laughs] Because you're getting *tired*, you need something else to think about other than, "Oh, *read* this, walk along, *read* this, walk *along*."⁶⁴

To 'read this, walk along, read this, walk along' paints a disparaging picture of the kind of channel forged by text-heavy exhibition environments.

The examples above lend support to Stephen and Rachel Kaplan's notion that in the state of mental fatigue 'the mind per se is not fatigued', but more specifically it is the fatigue of having to direct one's attention (Kaplan and Kaplan 2003, 1485). When people are mentally fatigued, they can still participate in 'activities that are fun, exciting, fascinating, and transforming' (Kaplan, Kaplan and Ryan 1998, 17). Fascination, in particular, plays an important role in restorative environments; 'fascination involves attention that does not demand effort. Something that is fascinating is hard to resist noticing or participating in' (ibid., 18). Important to this discussion of channelling is that 'fascination' can derive from content or process (Kaplan 1995, 172). Namely, fascination evoked through the process of engaging with multimodal and multimedial exhibits can in itself facilitate *restorative channelling*.

Fragmented Channelling

A unique richness of exhibition environments is their orchestration of a wide range of communicative resources. However, complex combinations

of representational resources have the potential to add to the cognitive burden on visitors, as much as they may relieve it. In particular, attempts to communicate with visitors through multimodal and multimedial exhibits can cause fragmentation in the communications channels presented to visitors. For instance, *fragmented channels* can result from spatially separating physical objects from their corresponding textual labels. In this instance, artefacts and text were linked via a numbered system, a classical form of exhibit design:

Even to just try and work out what *line* or what sentence belongs to what *item* is not *easy*. . . . [Y]ou have to actually sort of *stop* and *look* and then look for the number then relate them backwards and forwards. The lines aren't *with* the item, so there's a lot of static in there.⁶⁵

Spatially separating object and text, requiring visitors to search for identifying or contextualising information, can increase visitors' cognitive load. When visitors perceive the cost of engaging with an exhibit as too high in relation to the perceived benefit, their engagement can be curtailed (see also Bitgood 2006): "I was finding it difficult to actually associate the animal with the *text*, so I sort of gave that *away*."⁶⁶ As noted in 'Resonating', the presence of 'static' interferes with sensemaking by introducing irrelevant signals into the environment. The need to suppress distractors is fatiguing. The increased burden can in turn interfere with short-term memory: "You'd *forget* what you were looking at. By the time you found it on that *list* then maybe you were way back over there."⁶⁷ Spatially separating object and text can thus derail their interplay and so diminish the depth of channelling:

There's so *much* you can quite easily get distracted by, another brightly coloured *moth* . . . then you're interested in the *moth*, or then you're interested in the *birds*, so you lose your perspective on what exactly you're looking at, like the specific information you're looking for.⁶⁸

On the surface, being distracted by, and interested in, other specimens in an exhibition environment may appear a positive quality in stimulating visitors. Processes of channelling, however, go beyond the initial capture of attention: ideally they direct and maintain visitor attention in a sustained way towards deeper engagement with museum content. Rather than 'lose' perspective, successful channelling assists visitors to build perspective.

Another example of fragmented channelling surfaced in relation to *Vital Space*, 'Australia's first interactive arcade-like cinema game' where visitors '[u]se state-of-the-art touch-screen consoles and interact with the explosive action happening on the large screens'⁶⁹ (see Figure 7.7). While *Vital Space* had all the appearances of an "educational tool", the overriding response to it was one of confusion: "What the hell's going on here?! [laughs]."⁷⁰ "We were so confused about the *technology*, I guess, as to what we were doing

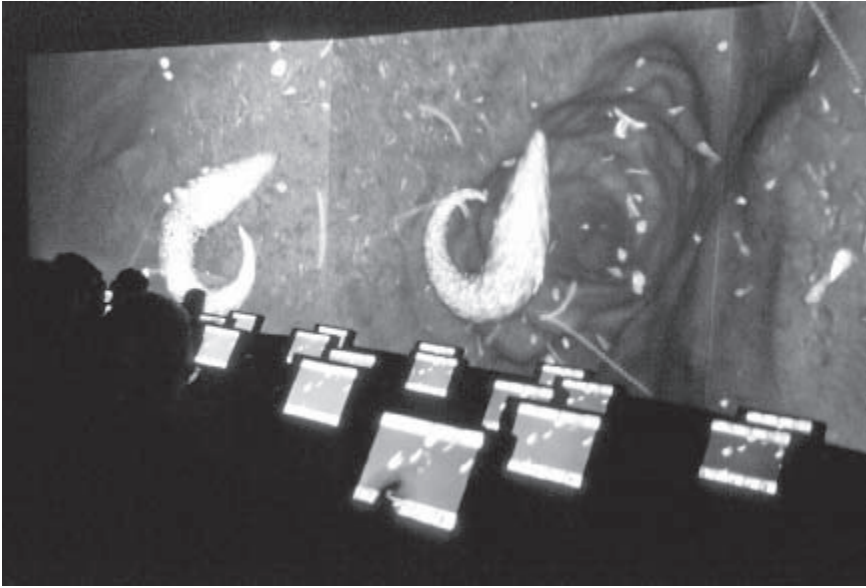


Figure 7.7 Surround-screen and touchscreens of *Vital Space*

with the consoles, that it wasn't a learning experience."⁷¹ *Vital Space* is an example of how '[i]t is all too easy to sacrifice *coherence* in a highly *complex* setting' (Kaplan, Kaplan and Ryan 1998, 14; emphasis added).

The relationship between complexity and coherence in environmental settings is described by Kaplan and Kaplan: if a setting is both low in coherence and low in complexity, it may be characterised as 'not much there'; if a setting is low in coherence and high in complexity, it may be characterised as 'messy'; if a setting is high in coherence and low complexity, it may be characterised as 'clear and simple (boring)'; if a setting is both high in coherence and high in complexity, it may be characterised as 'rich and organized' (1989, 54).

Vital Space was low in coherence and high in complexity. The interface of *Vital Space* was 'messy', rather than 'rich and organised', in a cascading set of ways. Much of the confusion experienced at *Vital Space* was about why, when and how to choose options presented on the touchscreen, which enabled visitors to explore parts of the human body: "I didn't really understand. So it was a matter of just choosing *one* [option] and choosing it blindly."⁷² Some visitors didn't even venture to explore *any* options: "I'm like, 'But, we didn't get to choose any of the *options!*'"⁷³ The prevailing sentiment was that the display lacked prompts on how to engage with it: "It was a little bit difficult . . . it didn't provide many sort of *helpful* hints on dealing with it."⁷⁴ While the touchscreen options represented the suggestion of channels, visitors needed guidance to follow them: "I looked at [the touchscreen options], and there were no prompts. Even though they

mentioned it *beforehand*, I didn't have any instructions . . . so I decided to let them be."⁷⁵

A lot of guesswork involved, I think. Even though the screen was *there* you're sort of waiting for prompts when to really start interacting with it. 'Cause you've got the "Log-on" and everything.⁷⁶

It was apparent that the display lacked sufficient intra-display guidance. While the beginnings of channels to follow were present, visitors were left waiting for overt channelling throughout the 20-minute program. The display did not contain sufficient intuitive cues for visitors to take control and make their own choices. Within a constructivist paradigm, it has been advocated that '[g]ood learning environments are inherently "messy"', wherein learners are presented with many elements and choices through which 'to create their own order' (Semper 1996, under "Environmental psychology"). However, it was clear that requiring visitors to create their own order out of the 'messy' *Vital Space* did not constitute a 'good learning environment'.

Another channelling difficulty of *Vital Space* stemmed from the two screens offered to each visitor, a small personal touchscreen and a large main screen wrapping around the front of the theatre. These offer separate channels for visitors, and so compete for their attention: "You tend to get locked into the [smaller] *screen* . . . and you miss out on the experience of the larger *screen*. It's quite interesting to look up and actually see much better quality imagery."⁷⁷

It was *hard* because you've got this big *screen*, but the whole time I was looking at the little screen as well, so that was difficult. . . . [I]t was supposed to be having this almost 3D-type image in front of you, and having that little screen kind of detracted your attention from getting into the big screen experience of it.⁷⁸

Exploring a touchscreen while at the same time being offered a surround-screen experience takes multimediality too far: "I think they're trying to combine the two, and I don't know that it *works*."⁷⁹ Visitors were expected to simultaneously explore factual information about the body on the touchscreen and follow a fictitious storyline on the large screen at the front of the theatre. As attention is necessarily selective, to divide attention is difficult:

It gave you an overview of different parts of the body, but you were trying to do that *while* the storyline is running as well . . . it's pretty hard to try and do both things at once.⁸⁰

The two exhibit examples above illustrating fragmented channels—static showcases with numbered objects and text, and an interactive cinema

experience—represent opposite ends of the continuum of exhibition design. The prospect of fragmented channels holds equally across these low- and high-tech educational technologies. Fragmented channels require visitors to divide their attention. Moreover, fragmented channels do not sufficiently support visitors in making links between multiple representational resources. A more measured approach to exhibition design is presented in ‘Selective Channelling’.

Selective Channelling

Selective channelling pointedly directs visitor attention. A selective channel can be created through singularly capturing visitors’ attention. A selective channel can also be created through the provision of emphasis, of a distinctive figure against a more complex ground. Selective channelling is important in its function of suppressing distractors in the environment. As addressed in ‘Impeding Resonance’, the ability to pay attention is dependent on suppressing distraction. Moreover, as ‘the resources of attention have a limited capacity and are depleted over time with effort expended’, designers are prudent ‘to minimize mental demands that sap visitors of their resources for attending’ (Bitgood 2000, 31, 41). By offering salient elements in the environment, visitors are assisted to selectively focus; they may follow selective channels.

Just as attention can be seen as a spotlight (Freiwald and Kanwisher 2004, 577), literal spotlights can be used to highlight and selectively channel visitor focus: “Whoever works out the lighting for the displays does a really good job . . . it just highlights all the things.”⁸¹ The very selective use of lighting, such as a spotlight object surrounded by darkness, eliminates other elements in the visual field: “The painting that’s in the dark is really good. . . . [Y]our attention’s drawn to that, there’s nothing around it that’s distracting you.”⁸²

A selective channel can also be executed through a clean, minimalist approach: “Its set up is nice and *clean* and *clear*. . . . [I]t’s not *cluttered*.”⁸³ “I would rather prefer to put something very *impressive* and the *rest* of the piece should be neat and clean, and so people would be captured by what you want to say and nothing else.”⁸⁴ A sole focus, one clear and selective channel, may minimise the fatigue of suppressing distractions:

There’s lots of things capturing my *attention* but also *distracting* from what you want to say to me, probably [see Figure 7.8]. So you’d better focus on *what* you want to say and make the rest *clean* . . . especially in this kind of exhibition where there are too many things to *see* and people get *tired* and *bored* and they want to just catch the clear idea *immediately* exactly in one second. Because if I have to read through and everything I, “Oh! Too much! Okay, let’s go somewhere else.”⁸⁵



Figure 7.8 Set dressing of *Gene Technology* display

To expect an immediate grasp of the focus of a display is a plea made in the context of the overall conditions of visiting, the conditions in which semiosis must occur. Fatigue, boredom and limited timeframes were conditions recurrently affirmed by visitors across this study, and were particularly noted as exacerbated by reading text. It is clear that reading text contributes significantly to overload and fatigue in the museum.

However, the strategic placement of text can work positively to create emphasis within a display case, selectively channelling visitors to focus on certain objects. Channelling visitors' focus is important given the typical abundance of objects in museum display cases:

Maybe a sign to *emphasise* one aspect every so often. Because there's so much there to look at, if you had something to focus *in on* occasionally. 'Cause someone must enjoy all the sea animals, but [laughs] I can't relate to them as I could relate to the *birds*. So if there's something there *pointing* at one in particular and emphasising something.⁸⁶

Note that the visitor found unmediated resonance with the birds. What is significant is his remedy to stimulating engagement with the sea animals: 'a sign to emphasise one aspect every so often'. At the base of this remedy is the need for directed attention, channelling in a mediated fashion, when natural fascination is lacking. An example of something to 'focus in on' is the use of a question embedded within a showcase. Questions can provoke curiosity and more active mental engagement (Spicer 1994; Bitgood 2000). The *Fauna* showcase has questions located within it (see Figure 7.9). One of the questions, '*Which birds have more colour?*', was described as "a good talking point,"⁸⁷ reflecting the stimulating and focusing potential of questions.



Figure 7.9 Encouraging active and focused looking with a question

Another way to create a selective channel is to create a hierarchy with the potential to successively channel visitors more deeply. This could be achieved by emphasising a single object representative of the theme of an entire display case:

In *one display case* . . . where they *do* have so much stuff and there *is* so much information, just removing one of those items . . . and talking *more* simply and more *entertainingly* about *one* piece. . . . [P]ull one piece *out* from all the rest of the visual static, then talk about that one and *if* I'm interested, *then* I can . . . *dig* through the rest of the information.⁸⁸

The above visitor describes an interpretation strategy aligning with Jay Rounds' (2004) notion of an 'interest scent', enabling visitors to more efficiently make decisions as to what they would like to attend to in order to maximise the 'Total Interest Value' of their visit; "It's really simple and *quick*, which gives you a reference to the rest of the stuff in the case, but also gives you some sort of *interest* . . . If you *want* then you can go and learn more about it."⁸⁹ In the language of channelling, providing 'a reference to the rest of the stuff' is an invitation to follow a channel further downstream. It is likewise, in effect, an 'interest scent'.

A selective channel can also be created through linearly presented audio-visual displays: "It's sort of *easier* to sit down and *watch*, because it's *more* simply *presented* when they're running through it."⁹⁰ Similarly, this visitor indicated a preference for being 'guided' or 'directed'—that is, for being selectively channelled:

A movie is the best because you don't get *tired* and *bored*, it takes five *minutes*, you get the *message*, it could be very *impressive*, you know. Even better than a *computer* where you can guide what you want to see, but not the *same*. People *like* being *guided*, being *directed*, rather than "I wanna see that, that." *No*, just sit down, look at your movies in ten minutes and get the message.⁹¹

In an era encouraging the provision of choice for visitors, the above distinctions are notable. Selective channelling appealed to these visitors, in relation to its cost-benefit ratio, and in its potential for increased comprehension.

The audiovisual *Frieze* exhibit simultaneously presents eleven screens of moving images (see Figure 7.10). Despite its complexity, the *Frieze* selectively channels visitors in several ways. First, its large central screen serves as the core visual channel of the display, and the ten smaller screens flanking it serve as related offshoots. In this way the exhibit creates *emphasis*: "I thought it was wonderful how they had the main image in the middle but supporting images on either side."⁹² The large central screen serves as a focusing aid: "I like the big picture in the middle, 'cause if you just wanna focus on that, you can. And if you like to *mainly* focus on that and then *glance* at some of the other things."⁹³ The two levels of hierarchy presented by the arrangement of the screens helps visitors both to selectively focus and to access a controlled complexity.



Figure 7.10 Eleven screens of the *Frieze*, with a soundscape overlay, enable selective and synchronous channelling

A selective channel is also enabled by the use of headphones at the *Frieze* exhibit. At one level of focus, the headphones minimise external distractions, directing visitors' attention selectively towards the accompanying footage of the display:

All the rest of [the gallery] just sort of disappears . . . you totally tune out to whatever else is going on around. . . . [I]t's not as *rushed*; you put [the headphones] on and you don't worry about anybody else because you're totally focused on the footage. . . . [I]t does totally engross you in what's going on.⁹⁴

As a particular form of media, the headphones 'affect *who* can be and is addressed and *how*' (Kress 2000b, 187; emphasis added). A second level of focus is thus enabled by addressing visitors in a personal manner, imbuing a sense of ownership over the material: "With the headphones . . . it just makes you feel like you're more involved in the production, rather than just standing back and watching and listening to it on the loudspeaker."⁹⁵ An impersonal loudspeaker address would not have the same effect in creating a selective channel: "You've got your own little cinema going on, your own private *showing*. . . . It wouldn't work if it was just a gallery with loudspeakers. You have to put the headphones on."⁹⁶

While the *Frieze* employs the medium of headphones, it communicates through the representational mode of sound. The audio mode as a semi-otic resource may take one of several culturally-influenced patterns, such as music or speech. The *Frieze* does not employ speech, but contemporary Indigenous music, as well as sound effects relating to the images onscreen. These choices manifest particular channelling qualities. For example, the stereophonic headphones afford the directional relay of sound: "It was great, because you kept hearing back and forth between your ears."⁹⁷ "It was amazing sound . . . you felt like you were sort of moving with it."⁹⁸ Second, the above visitor who described not feeling as 'rushed' suggested a slowing down of channelling through the museum. Given the routine perception of visitors feeling time-limited, not feeling as 'rushed' is a valuable quality. The visitor not feeling hurried was not due to any difference in his availability of time, but from environmental elements acting to slow down his rate of channelling. This is a significant point, as it demonstrates that retaining visitors for longer periods can be a matter of design: "It sort of felt *timeless!* [laughs] That's the feeling it gave you, it gave you kind of a timeless feeling. So, it could've been an hour, it could've been five minutes."⁹⁹ Our internal clock, how we subjectively experience time, can be biased by external stimuli in the environment, and music is one such stimulus that can influence our sense of how much time has elapsed (North and Hargreaves 1999). The potential holding power of music is apparent at the *Frieze*: "The music *holds* you."¹⁰⁰

However, some visitors assume that speech would be the form of sound delivered through the headphones: "I think the absence of *dialogue* was

really striking. Like you expect to pick up the headphones and hear someone talking.”¹⁰¹ The assumption of verbal commentary prevented some visitors from donning the headphones, fearing their gaze would be channelled too selectively: “I thought I won’t put the headphones on because it might make me concentrate on one thing, rather than looking all over the thing.”¹⁰² They assumed the headphones would provide narration only for the main screen within the montage of eleven screens: “I’d rather just stand back and look at it myself. . . . I’d rather see the *whole* picture . . . just looking wherever your eyes take you.”¹⁰³ These visitors were, in effect, resisting being directed along a selective channel. In free-choice learning environments such as museums, it is only natural that visitors will want to maintain some independence in the channels they follow. However, the type of channelling occurring through the copatterning of sound and images at the *Frieze* exhibit is not so much selective channelling, but a more subtle kind of multimodal synchronous channelling.

Synchronous Channelling

Synchronous channelling is enabled when elements of multimodal and multimedial exhibition environments work in harmony. Interrelationships between multiple representational resources may be attention-directing, and they may also differentially contribute to meaning-making. For instance, a synchronous channel can be created by placing object and text in near proximity, both directing visitors’ attention and enhancing meaning:

But if it’s near the *bird*, like a short sort of bullet point: “Did you know that this bird is *endangered*?” or “It can only be found-,” that sort of stuff, right *near* the particularly striking *display*, then that brings a lot more of the *stories* and the *histories* of the birds and the *contexts* of the birds or the insects or the animals into play a bit more.¹⁰⁴

Bringing contextualising information ‘into play’ through proximity describes, then, how linguistic text can be made to synchronise with the visual experience of looking at objects. When text is embedded in an appropriate place within a showcase, a multimodal yet synchronous channel can be created. A synchronous attention-directing channel was facilitated for this visitor by a touchscreen attached to the front of a display case: “As I was going through the multimedia [touchscreen], it brought my attention to look at the specific items in the case.”¹⁰⁵

To return to the *Frieze* exhibit, sound effects heard through the headphones form an attention-directing, synchronous interplay with the onscreen images. Specifically, as the sound effects correlate to images randomly over the eleven screens, visitors redirect their gaze to locate the image matching the sound: “It’s not always on the main screen, so I was trying to *look* at the picture that corresponds.”¹⁰⁶

F1: It was also good to hear . . . the little sounds from each of the images. The water *dripping* and the shuffling of the *feet* and the *rice*.

F1: Yeah. The water trickling, looking across the screens trying to find which picture it related to.¹⁰⁷

The sound effects, then, act to delicately guide visitors' attention across the eleven screens. Visitors "trying to see some of the sounds"¹⁰⁸ note how the images and sounds reference each other, channelling visitors within the exhibit: "I liked the way that all the different *pictures*, all the *sounds*, interact with each other."¹⁰⁹ This requires the visitor to be a willing partner, active in the cocreation of a synchronous channel formed by sound and image:

It does actually draw you in more. . . . Sometimes you didn't actually realise straight away, because you're looking-, you're concentrating on one thing and then, "Where is that sound coming from?" so you go over to the other thing. So it's quite good, actually.¹¹⁰

A synchronous attention-directing channel can be forged through the dynamic coordination of multimodal and multimedial elements of the *Dialogue* exhibit (see Figure 7.11). The display presents a twelve-minute audio-visual oration, selectively illustrated by several artefacts:

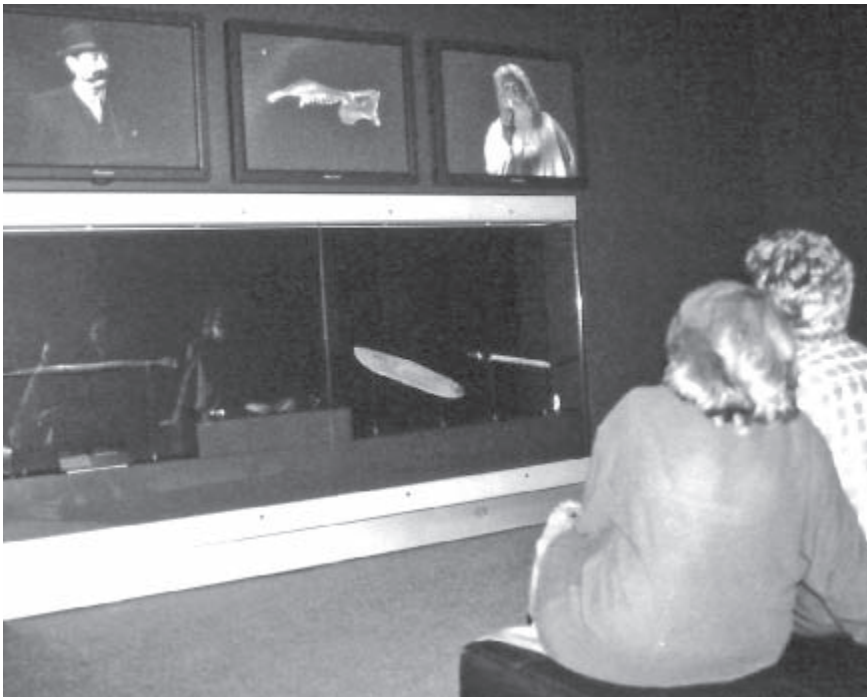


Figure 7.11 The *Dialogue* display, with three screens and showcase beneath

I really like the way that you have multiple *screens* and you have inanimate objects that get *highlighted* during the story to bring out the story. . . . [I]t sort of *reinforces it*.¹¹¹

The artefacts bring out the story, and reinforce it, in multiple yet coordinated ways. First, the artefacts are presented in a static display case, beneath the plasma screens. Second, as the onscreen actors speak, they hold the artefact relevant to the narrative at that moment in the dialogue, and a still image of the artefact is presented on the centre screen (see Figure 7.12). Third, the same artefact is simultaneously spotlit in the display case, with the other artefacts left in darkness. Illustrating the narrative in this way capitalises on the way in which different media *distribute* communicative signals (Kress and Jewitt 2003), and takes advantage of the relative permanence of the broadcast of signals (Preziosi 1979b). That is, the selective use of light and speech transforms the relatively permanent display case into a stage for the



Figure 7.12 Spencer and Irrapmwe discuss artefacts in the showcase

ephemeral transmission of signals. This has the benefit of finely directing visitor attention, and at the same time contextually integrating the artefacts within an interpretive narrative.¹¹²

As well as being attention-directing, the synchronous channelling of multiple representational modes and media may assist in more substantive aspects of meaning-making; '[a] message in any one medium seldom, if ever, contains all of the 'meaning' of a transaction' (Preziosi 1979a, 47). A particular strength of exhibits, as multimodal and multimedial assemblages, lies in the differential contribution to meaning of varied semiotic resources:

I think if you just had hundreds of panels of *text* and there was nothing in front of you, there's no *visual aid* in front of you to actually *picture* and *realise what* was going on, it would be very hard to imagine it. . . . [I]t provides a visual guide that helps you understand a little bit more.¹¹³

But you've gotta have both because you can read all the information under the sun, which the technical information¹¹⁴ is the best part, and the *photos*, but you look at that [diorama] and you go, "Wow!", that really hits it home compared to just a photo.¹¹⁵

The above combination of text, photographs and a three-dimensional diorama of a battlefield illustrate how '[n]o one sign-system creates the human world in itself. No single perspective is complete in itself. Rather, each contributes its partly-unique perspective on the totalities of sociocultural experience' (Preziosi 1979b, 3). Here, meaning was grasped towards the 'totalities of sociocultural experience' by both reading information and from the 'feel' derived from the Lancaster bomber simulator:

[The simulator is] a great *addition* to the sort of *still*, if you like, displays and so on. Yeah, I just think it adds to the whole effect. You get to read a bit of information and you also get an actual feel for it.¹¹⁶

An advantage of such combinations is that different types of interpretive media in the museum carry different possibilities, different affordances, for meaning-making. Consider this observation about a computer-animated representation of dinosaurs: "The thing about the [computer animated] *video* is there's no *size* in there. It doesn't give you an idea about the *size* of the objects."¹¹⁷ To remedy this lack, the following visitors suggest combining the partly-unique perspectives of the computer animated 'video', showing movement, with a static dinosaur skeleton, showing form and size:

F: If you've got the still life [skeleton] here and the [animated] movement over there, you can visualise *that* skeleton doing *that*.

T: *Oh OK. Right. So it's good to see both?*

F: And size-wise.

M: It's good to see both, yes.¹¹⁸

Such processes of convergence, of forming greater meanings through integrating multiple representational modes and media, also draw more fundamentally on the phenomenon of perceptual completion, as examined in 'Perceptual Resonance'. A strength of exhibition environments is their communication through multiple modes and media. This strength, however, also presents much potential for overload and confusion, for fragmented channelling. Exhibition environments, then, present fertile contexts for further research in examining how design can assist visitors to find enriching, synchronous channels through a myriad of communicational elements.

*

So far this chapter has looked at how channelling processes occur across various levels. Visitors forge channels, or are channelled, through the design of space, exhibit architecture, objects, lighting, text and media. Channels may take on various qualities, such as being *fragmented*, *restorative*, *selective* and/or *synchronous* in nature. Further, visitors recurrently made reference to 'story', 'theme' and 'narrative' in their experiential accounts. It seems that a major point of channelling is that visitors are escorted along storylines, or that visitors themselves construct stories. The design of space, exhibit architecture, objects, lighting, text and media contribute to how stories are told in the museum. It appears that the vehicle of choice for channelling content in the museum is through narrative. Indeed, it would seem that using narrative as an overall structure may contribute to the quality of synchronicity.

NARRATIVE CHANNELS

Narrative channels are important in aiding visitors' conceptual advancement through the museum. The absence of narrative can be a disconcerting experience:

T: *Would you like to tell me more about what you 'loathe' about the [natural and cultural history museum]?*

M: It seems to me there's no *narrative*. It's a hotchpotch. No doubt it's intentionally *post-modern*, but I think one looks in vain for a sense of real *context*, historical *depth* and *story*, really. And it's *cluttered* and at least the weekend we were there, overcrowded and hard to find one's way *around*.¹¹⁹

M: It's not very thematic, is it? It's crap.

- F: The only part that was thematic was the Aboriginal galleries, and you could sort of track a narrative or a story or a theme there, a little bit, but after the British arrived, it's just all *mixed* up. And it's all *dark* and everything is jumbled in the cases. . . . It's just all over the place.¹²⁰

Notice above how a lack of narrative is coincident with clutter and difficulties in wayfinding. Interpretive channels and spatial channels exist in relationship with one another. The exhibition environment is a complex orchestration of the conceptual and the physical, with each part taking meaning from other parts in the ensemble. Note also the reference to being able to 'track' a narrative. Visitors are active coparticipants in the creation of narrative channels.

So while developers may draw on narrative to create exhibitions, visitors only find meaning if they 'are able to construct a narrative that works for them' (Roberts 1997, 144). Consider, for instance, the following description of the *Stilled Lives* exhibit (see Figure 7.13):

There was no actual *narrative* to it; there was just really rows of things that didn't *connect*. And you went from section to section, from *jewellery* to *stuffed animals* to *bugs* with no real point.¹²¹

In contrast to this visitor's account, the installation artist *did* draw on a narrative, a narrative of 'how we are connected to the web of the world': the



Figure 7.13 Dolls and light bulbs in *Stilled Lives*

display was inspired by ‘fragments that make up the world; the same world that we all share’.¹²² Many visitors, however, found it difficult to see such a ‘point’ to *Stilled Lives*.

To have a ‘point’ is to answer the ‘so what?’ question; ‘[p]resentations which don’t have themes beg the question, “so what?”’ (Ham 1992, 23). Having a readily identifiable, unifying theme aids in the construction of meaning. With a theme ‘it’s easy for us to organize all the facts and supportive details in our minds because we can “stick” them to the theme’ (ibid.). The thematic construction of meaning is apparent in this response to a gallery at the tightly-themed war museum/memorial:

The whole *room’s* about *aircraft* and the role it played in war. Like the people behind the aircraft, *missions* and things like that. So I think they’re focusing on the young *trainees* and young pilots and the physical conditions that the pilots had to *go through*.¹²³

The above account illustrates the greater structure of a thematic presentation; “I only wish museums would take a *theme* and *build* on that theme. . . . *Major* things which have *branches*.”¹²⁴ The identified theme of the exhibition is ‘aircraft and the role it played in war’, and the theme’s branches relate to military personnel and their missions, training and conditions. In this way, a core narrative channel is supplemented by offshoots.

The focused quality of a narrative channel, as a major idea with sub-points, also assists visitors to achieve focus. This visitor described a gallery at one of the science and technology centres in this study:

The [exhibition about] medical developments [stood out for me]. There was the medication for *flu*, the changes to the contact lenses. And I found *that* very interesting . . . because it’s a bit more *focused*. It was for specific *things*. It was *lung*, *skin*, the contact lenses and the flu.¹²⁵

Channelling the visitor along a central idea, ‘medical developments’, and its subpoints, ‘lung, skin, the contact lenses and the flu’, enabled the visitor to achieve focus. Significantly, a theme provides visitors with an organising principle; ‘an organizing storyline against which the pieces can be understood facilitates learning’ (Chadbourne 1991, 41).

The interrelationship between achieving focus and the presence of thematic channels is illustrated by visitors’ experience of the war museum/memorial. Visitors spontaneously articulated the institution’s core narrative: “The whole theme of the whole [institution], I think, is people sacrificing their lives for a cause.”¹²⁶ “It’s focused on our own people who have been involved in wars.”¹²⁷ As the war museum/memorial embodies focus, so too can its visitors maintain focus:

This is more focused. I mean, when you look at museums and art galleries, they've all got an element of focus, but this is more *focused* and therefore more interesting, I think, because it's got a *total* focus. And we always like to come here.¹²⁸

A graspable focus can thus act to motivate visitors. Even if an institution as a whole does not have a 'total focus', exhibitions within institutions can achieve focus. For instance, this visitor expressed enthusiasm for temporary exhibitions, as "normally they've got a certain *theme*."¹²⁹ Such positive reception of readily identifiable themes suggests that permanent exhibitions within all kinds of interpretive institutions could benefit from more tightly-focused thematic display.

Significantly, narrative channelling, to "take a *theme* and *build* on that theme,"¹³⁰ enables the quality of coherence as well as the achievement of complexity. First, a cautionary note on an attempt to achieve complexity. Recall the confusion and overload experienced by visitors at the *Vital Space* exhibit, as documented in 'Fragmented Channels'. Another source of fragmentation in the exhibit was the attempt to simultaneously convey multiple themes: "It was kind of a mixture between *space* and *medicine* and *human interaction*"¹³¹; its content consisted of intermingled channels. Visitors may prefer to be more tightly channelled along a single theme:

It would've been better if they'd either focused *fully* on being in a hospital or something like *that*—doing a medical operation or whatever on someone, trying to work out what was wrong with them—*or* done the whole space thing—us trying to manoeuvre our way through *asteroids* or something like that. . . . If they had less information, and perhaps a little bit more orientation just on space, it would be a bit more *informative*.¹³²

The visitor suggests that a higher level of coherence would be possible if the display was pared down to a more focused narrative. To address several themes simultaneously does not 'take a theme and build on that theme'. *Vital Space* took several themes, but did not manage to take them very far.

The *Frieze* exhibit provides a positive example of building on a theme to achieve complexity. The story of the *Frieze* is not told through words:

M: I think this is the *best* [display] . . . [because of] [t]he music and the images and what the images are *telling you*, the story that's being told to you. I probably liked that better than wandering up and *reading* something. That sort of *affected* me much better and much quicker.

F: Easy on the eye and the ear.¹³³

With eleven screens of moving images presented simultaneously, the exhibit would seem at risk of being overly complex. As stated above,

however, the Frieze was ‘easy on the eye and the ear’. Visitors did indeed make reference to the amount of things happening in the display: “There’s so much to see, you can’t pinpoint one thing; you’re taking it all in.”¹³⁴ They reported that “your mind was taken up by everything that was being shown in front of you.”¹³⁵ “Your mind is really *busy* all the time.”¹³⁶ These observations speak to the dimension of complexity in which there are ‘a sufficient number of representations to fill the mind and to ensure that the focus will not be shared with other content’ (Kaplan and Kaplan 1978, 149). Complexity is not only about the number of things but also about ‘visual “richness,” or diversity’ (Kaplan and Kaplan 1982, 83). The various screens satisfied this dimension of complexity by offering diverse channels of interest: “I think it’s actually good because . . . I can be interested in one thing and ten other people will be different, interested in something else.”¹³⁷

There’s various different aspects you could look at. Like . . . the helicopter mustering. You might want to concentrate on that, whereas someone else might want to concentrate on something that’s on one of the other screens.¹³⁸

Consistently, the wealth of stimuli in the *Frieze*, its complexity, proved unproblematic, unlike the complexity of *Vital Space*.

The reason why chaos was avoided in the *Frieze* is that its high complexity was coupled with high coherence: “It all related.”¹³⁹ For an environment to make sense, for it to have coherence, its ‘parts need to hang together and in some sense “belong” there’ (Kaplan and Kaplan 1978, 148). The quality of coherence can be seen in visitors’ accounts: “All of the pictures, even though they were different, they all melded well together.”¹⁴⁰ “All the different sound effects were coming off onto one kaleidoscope of sounds. . . . All the different sounds kind of blended in together.”¹⁴¹ As a whole, the melange of sounds and images furnished a common narrative:

Even though it’s just a *flash*, as long as they’re all *connected*—and these *are*—I think it works *well*, yeah. It’s not as if we’re sort of flashing from opposite sort of stories.¹⁴²

With both high complexity and high coherence, the *Frieze* is rich rather than confusing, and so invites multiple viewings: “I think it’s something that you could *watch* over and over again and you’d pick up different things every time.”¹⁴³ “We actually watched it twice through, because you can’t keep up . . . I would be happy to watch again because you could sort of *stay* with one of the *images*.”¹⁴⁴ In contrast, visitors were unwilling to give *Vital Space*, with its high complexity and low coherence, a second viewing: “I wouldn’t go back and do it *again*.”¹⁴⁵ The point is, if visitors are lost in the first pass, they are unlikely to grant an exhibit a second try. As the *Frieze*

both made sense on the first pass and embodied an intriguing complexity, it successfully left visitors desiring more.

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The vehicle of choice to channel visitors along content in the museum appears to be through narratives, themes or stories. Narratives are organising themes with subsidiary branches, with a point to tell. *Narrative channels* are constructed through the breadth of representational modes and media employed in museums. While delimiting content, the use of story has innate mechanisms that encourage visitors' minds to be active. Further impacts of storytelling by exhibitions will be examined in the following chapter, 'Broadening', including the stories visitors themselves began to hatch while in the museum.

CHANNELLING AS FOCUSING SEMIOSIS

'Channelling' arose as a construct to account for visitors' descriptions of pathways through the myriad of communicational elements in exhibition environments. Such pathways are for the body and for the mind, encompassing senses of physical, attentional and conceptual directedness. Channelling is a layer of meaning-making, a layer of semiosis, that speaks to how visitors advance through the form and content of museums; '[a]s the person moves on a path through the physical museum space, a path through the mind is walked as well' (Carr 2003, 19). Both the visitor and the exhibition environment are active agents in channelling processes. Visitors exercise self-direction and free-choice, and exhibition environments contain information at many levels suggesting paths through which they may be negotiated. This reciprocity aligns with a transactional perspective, and a material semiotic network perspective, in which human and nonhuman elements bear mutual influence in a networked system.

The processes identified in this chapter largely relate to channelling processes aided by relatively subtle cues in the environment, rather than to channelling that is overtly instigated through explicit signage, maps or guided tours.¹⁴⁶ My interpretation of visitor accounts deem such channelling processes as essential to the museum experience of the casual adult visitor, for museums are complex buildings filled with multitudes of objects and interpretive media, and museum visiting is typically an occasional leisure activity. In such a novel environment, channelling processes are important to how visitors may comprehend both the space and the content of museums, and create a sense of purposeful directedness. Specifically, channels that are *spatial*, *restorative*, *selective*, *synchronous* and *narrative* in nature may act to alleviate some of the demands facing museum visitors:

[A] museum is a strange place in that the subject matter slides past the walking visitor like a kaleidoscope, demanding attention and a change of focus at a pace not experienced elsewhere. In a museum, as opposed to in a church or school, the tempo of the experience is controlled . . . by the visitor himself [*sic*]; and thus a heavy burden of decision-making falls upon the visitor. (Graburn 1984, 181)

The burden on visitors to direct and redirect their focus across the complex assemblages that are exhibition environments is addressed by the channeling construct. Achieving focus emerged across visitor accounts as a vital element in making sense of the multiple representational resources in museums. The overarching theme of this discussion, ‘Channelling as Focusing Semiosis’, therefore entwines semiosis with processes of achieving and maintaining focus.

‘Spatial Channels’ documented ways in which space is ‘read’ by visitors. That the design of space can be read as having meaning beyond its sheer materiality invites a semiotic perspective: soaring ceilings and a spacious interior read as a museum adopting an open-minded approach; an audiovisual display contained in a separate, enclosed space read as the audiovisual being long in length; a lack of seating read as an institution preferring visitors to briskly channel through; an exhibit placed along what is perceived as a thoroughfare read as a sidenote deserving only a cursory glance as passing by; an exhibit physically set back through an opening in an exhibition wall read as representing a time warp. So alongside meanings read from artefacts and other media, architectural spaces are a source of meaning in the museum visit. Space is an agentic part of the communicational landscape. The building is read as a three-dimensional ‘text’; spatial meaning is an essential aspect of the multimodal meaning of museums. An architectural structure not only ‘serve[s] to ‘contextualize’ or ‘ground’ other kinds of semiotic formations’ but also carries meaning *itself* (Preziosi 1979b, 6).

The influence of architectural elements on processes of attention and learning emerged as a strong theme in the visitor accounts comprising ‘Spatial Channels’. For instance, the arrangement of walls to create spatial envelopes of varying shapes and sizes not only influences visitors’ physical passage through exhibition space but can also work to block distraction and assist visitors to focus. The presence of seating acts to regulate locomotion through the museum. While seating slows down the rate of physical channelling through the museum, it appears to enhance conceptual channelling by encouraging visitors to spend time in reflection. Architectural elements are read for opportunities to draw nearer to museum displays, and to engage in exploratory behaviour. For example, thresholds such as doorways and openings or recesses in exhibition walls may arouse a sense of mystery, in that the gradual revelation of information can rouse a sense of intrigue in the visitor experience. Recesses and partial openings in exhibition walls, in their creation of spatial envelopes, can further

act to minimise distractions and assist visitors to focus on the display at hand.

While recurring patterns related to the reading of, and effects of, space were found across visitor accounts, so too were differentiated responses to the same material organisation of space. For instance, visitor responses to the quality of spaciousness could be positive or negative. With regard to navigating the museum and its content, some visitors expressed a preference to be overtly and linearly channelled, while others were pleased to serendipitously submit themselves to the environment. It would be beneficial, therefore, if exhibition environments offered visitors alternatives for channelling, providing spatial envelopes of varying sizes, as well as tighter and looser options for wayfinding. Although visitors may be differentially affected by the design of space, even these differences are not entirely idiosyncratic, but reflect patterned preferences held by visitors. Overall, the influence of space and spatial relations on visitors' meaning-making suggests the importance of considering space as a semiotic resource. That is, spatial elements contribute to the production and consumption of meaning, and therefore need to be considered as an inherent part of the multimodal museum.

Visitor accounts in 'Multimodal and Multimedial Channels' encompass negotiation of the diverse interpretive media used in exhibition environments, and again affirm the importance of channelling as a process of focusing semiosis. Analysis of visitor accounts suggests these channels to be *fragmented*, *restorative*, *selective* and/or *synchronous* in nature. Manifesting one, or several, of these qualities speak to how visitors' experiences are affected by the myriad of communicational resources used to construct exhibition environments. It is universally accepted that contemporary museums ideally offer multisensory experiences and a diverse range of interpretive media. What the visitor accounts in this study showed are nuanced ways in which these resources may enhance or hinder the visitor experience. So rather than simply increasing the senses appealed to, or diversifying the types of media used, visitor accounts demonstrate that these accessibility initiatives need to be executed with sensitivity to their impacts on visitors' sensemaking.

For instance, 'Fragmented Channelling' documented how multiple representational resources can impede relations between visitors and exhibits, by requiring visitors to split their focus of attention, therefore making it difficult for visitors to coordinate the available resources into a coherent whole. While multimodality theorists talk about how whole meanings are formed through the integration of multiple representational resources, visitor accounts showed how this integration process may sometimes be obstructed. A fundamental obstruction is the spatial separation of elements intended to form a greater whole, such as when object and text are not located in close proximity. How information is 'spatialised' is an essential element of exhibitions, orchestrated as they are as three-dimensional 'texts' (Pang 2004, 40). Another way whole meanings can be obstructed is through the provision of too much choice and complexity within a single exhibit,

overloading and confusing visitors. This was seen in the *Vital Space* example. Research from other fields has shown that too little or too much control can result in ‘psychological “strain”’ (Conway, Vickers and French 1992, 95), and greater numbers of choices can overload the cognitive system and degrade performance (Omodei et al. 2005). Providing a ‘modest’ set of choices rather than an ‘extensive’ set has been found to be more beneficial, for both consumers and students (Iyengar and Lepper 2000), and the findings of this research suggest that such an approach would also be suitable for exhibition environments.

In sum, *fragmented channels* work against maximising the emergent experience of visitors. For example, when exhibits present fragmented channels, they unfavourably affect the ‘cost-benefit ratio’ of engaging with exhibits (Bitgood 2006). Further, fragmented channels do not catalyse a sense of ‘effortlessness’. Jan Packer identified four key ‘situational factors’ motivating visitors to engage in learning in educational leisure settings: a sense of discovery or fascination, multisensory experiences, perceived effortlessness, and the provision of choice (2004, 2006). What this present study further contributes is the relative importance of preserving visitors’ sense of effortlessness. While the provision of choice may well be desirable, it also has the potential to overload visitors, thwarting effortlessness.

Restorative, selective and *synchronous channelling* are positive, helpful ways in which multiple representational resources can be engaged with by visitors, maximising the emergent experience of visitors. *Restorative channelling* may be catalysed by the process of engaging with varied interpretive media, enlivening visitors’ ability to focus across the course of a visit. Restorative channelling appears to align with the ideas that the nervous system is relieved by moderate levels of diversity in environmental stimuli (Rui Olds 1999), and that mental fatigue may be overcome with the fascination of *process* (Kaplan 1995). In this context, the process of engaging with different types of interpretive media. The choice entailed in restorative channelling emphasises *interdisplay* choice rather than *intradisplay* choice. That is, rather than single displays offering many options from which visitors may choose, exhibition environments are restorative when displays across an exhibition or institution draw on diverse forms of presentation, encouraging varied ways of visitor engagement.

Selective channelling assists visitors to pay attention to select elements of the environment, easing the fatiguing burden of having to suppress distractors to achieve and maintain attention. Selective channels may be created when visitors’ attention is caught and directed by minimalist design, or by an element distinctively emphasised against a background of others. Selective channelling would appear complementary to Jay Rounds’ (2004) suggestion to provide clear ‘interest scents’ by which visitors may make frugal decisions as to whether to engage with an exhibit or not, preserving their energy across a museum visit. When visitors experience *synchronous channelling*, visitors harmoniously and effortlessly make meaning through

multiple representational resources, often sensitively capitalising on inter-sensory mechanisms of perception, mechanisms which were introduced in 'Resonating'. Through synchronous channelling, visitors may experience an exhibit as both highly complex and highly coherent, resulting in a rich yet comprehensible experience.

Restorative, selective and synchronous channelling are enabling forms of channelling providing clues as to how the perception of effortless may be achieved. All three forms of channelling speak to Stephen Bitgood's assertion that finding ways to minimise the 'mental effort required by visitors . . . is not "dumbing down." It is having mercy on the limited resources of attention that visitors possess' (2000, 40). Channelling is not about content per se, but how the organisation of content may assist visitors to achieve and maintain focus. The issue of mental effort further intersects with opportunities for visitor choice and control. As discussed above, interdisplay rather than intradisplay choice presented opportunities for restorative channelling. In fragmented channelling, offering visitors intradisplay choice and control was shown to potentially overload and confuse visitors.

This distinction is significant in a postmodern-pluralist-constructivist era, wherein exhibition developers have been encouraged to: give visitors choice and control so that they will be made 'mindful' (Moscardo 1999, 63); 'provid[e] a wide set of choices and options that give learners opportunities to create their own order out of a variety of elements' (Semper 1996, under "Environmental psychology"); '[d]evelop museum learning experiences that provide choices and put the learners squarely in control of their own learning' (Falk and Dierking 2000, 189). It has been argued that giving visitors control facilitates mindfulness as they must actively make decisions (Moscardo 2000). The data in this study, however, suggest that offering too many options can add to the burden on visitors, rather than liberate them. Putting visitors in a position of control needs to be tempered by respecting fundamental attentional limitations, and tendencies towards fatigue and overload. Deborah Perry similarly argues that 'given too many choices, the visitor may feel overwhelmed' (1994, 28), and Kristine Morrissey reports that while '[i]nteractive media are often praised for their ability to give the learner control . . . research does not support the assumption that user control is always advantageous' (1991, 110–11).

Distinguishing being *in* control from having things *under* control adds another layer of understanding. In *Making Visitors Mindful*, Gianna Moscardo aligns with the view that a condition contributing to 'mindlessness' is when one has 'little control, few choices', and an outcome of this are 'feelings of helplessness' (1999, 25). An opposing view is that 'control is an unsatisfactory antidote' to helplessness, '[p]eople only want control in certain circumstances; much more often they do not want the responsibility that comes with control, but rather want things to be *under control*' (Kaplan and Kaplan 2003, 1485; original emphasis). The difference between being in control or having things under control is demonstrated by comparing

visitor experiences at *Vital Space* and *Dialogue*, as documented earlier in this chapter. To a certain extent, visitors could be in control at *Vital Space*. Bereft of appropriate channelling, however, visitors didn't feel their engagement with the display was under control. They left feeling confused and unsatisfied. *Dialogue*, a display at which visitors were presented with no choices or opportunities to be in control, nevertheless gave visitors a sense that things were under control as they progressed along the 12-minute synchronous channel that the exhibit offered. And, as shall be addressed in the next chapter, *Dialogue* also succeeded in 'making visitors mindful'.

Finally, how content may be organised in museums for ease of channelling was further explored in 'Narrative Channels'. Visitors' accounts suggest that visitors seek conceptual directedness through being able to identify an overarching structure of 'story', 'theme', or 'narrative'. As visitors use these terms interchangeably, I collectively refer to these structures as narrative channels. The suitability of narrative in structuring the content of museums has been widely advocated (see, for instance, Bedford 2001; Tilden 1997; Roberts 1997; Ham 1992). Similarly, multimodality theorists describe narrative or theme as driving the selection and arrangement of multiple semiotic resources in the production side of exhibition environments (Pang 2004; Ravelli 2000). This study reciprocally indicates that visitors draw on narrative in sensemaking. That is, visitors make sense of the fragments of meaning provided by multimodal and multimedial resources by assessing their relations to a larger cohesive whole, conceived of as a story, theme or narrative. This finds alignment with Jerome Bruner's (1986) conception of narrative as one of two central ways in which thought and experience are organised. That visitors apply such an overarching scheme in sensemaking also aligns with the idea that narrative itself is a semiotic mode, with socially-recognised conventions guiding its use in the production and consumption of meanings (see, for instance, Dicks et al. 2005, 72); narrative can be considered an indigenous 'ordering principle' (Atkinson and Delamont 2005, 833). Further, that visitors need to work to track a narrative, and that narrative may be used as a conceptual organiser by exhibition developers, locates the active agency of narrative channels both with visitors and with developers. While developers may draw on narrative to create exhibitions, visitors only find meaning if they 'are able to construct a narrative that works for them' (Roberts 1997, 144).

The coincidence of narrative channels with visitors' phenomenological reports of feeling focused lends further support to the idea that channelling is about focusing semiosis. Moreover, a focused institution or exhibit was often co-occurrent with a clear narrative structure. Indeed, the harshest criticisms across all the visitor accounts in this study concerned the simultaneous existence of clutter, difficulties in wayfinding and a lack of discernable narrative. Contemporary exhibition display can challenge authoritative approaches in museums, showing commitment to an inclusive ideology by 'refus[ing] to provide a "master narrative"' (Casey 2001, 231). However,

how this pluralist approach is executed influences how (and even whether) visitors achieve and maintain focus. For whatever knowledge paradigms are adopted in museums, there is no escape from the basic attentional and perceptual needs of visitors. I am not advocating a singular approach to storyline in exhibition environments—far from it, as explored in the chapter to follow. What I *am* suggesting is that there is a difference between content/substance and pedagogical structure: it is evident that an institution may still adopt a ‘many-stranded approach to national history’ (ibid.) even while assisting visitors to achieve focus.

The underlying pluralist premise of ‘admit[ting] many voices to the debate’ (Casey 2001, 231) is an important one. The acknowledgement of voice invites the question of whose realities are being advanced in museums. This presents a shift from narrative to discourse, a shift from stories as conceptual structure to stories as advancing particular substantive realities. How the substantive discourses of museums and exhibitions are materially realised is postured as a semiological issue. An important agenda driving research in multisemiotics is to analyse ‘discourse realized in a multiplicity of semiotic resources’ (Sidiropoulou 2006, 124). The consideration of discourse moves this discussion into territory addressed by the next chapter, ‘Broadening’.

8 Broadening

I'd rather a museum be somewhere where you can form your own *view* rather than *telling* you what to believe, kind of thing.¹

How visitors find themselves in relationship with the interpretive content of museums is the primary focus of this chapter, 'Broadening'. That is, what content-related meanings did visitors derive through engaging with the exhibits in this study? The umbrella construct of 'broadening' idealises what visitors derive when it: 'broaden[s] their awareness and understanding' (Archer and Wearing 2003, 14); when it 'broaden[s] the possibilities of response' (Carr 2001, 181); when it involves 'exploring new boundaries and enlarging the self' (Archer and Wearing 2003, 17) or when it prompts the visitor 'toward broadening his or her horizons and then acting on that new-found breadth' (Beck and Cable 2002a, 39). Processes of broadening occur across multiple planes. The following is not intended as exhaustive, but as indicative of variety in the construct of broadening: the opportunity to see something one would not otherwise see is an example of *experiential broadening*; to grasp a theoretical principle is an instance of *conceptual broadening*; to be provoked to assess one's feelings or to feel differently, *affective broadening*; or to appreciate a contrasting point of view, *discursive broadening*. In exhibition environments, such broadening processes are routinely interfused one with another, with potency gained from their interfusion.

As suggested by the visitor quote above, the sense that a person is forming their own view appears an ideal. This aligns with the idea that interpretation is best thought of as 'provocation' rather than 'instruction', stimulating visitors 'to search out meanings for [themselves]' (Tilden 1997, 32, 36). Yet complicit in visitors' perceptions that they are forming their 'own' views are material and discursive exhibition environments. In the case of the above visitor, he perceived that he was forming his own view, a conservation discourse, by visually reading an immersive reconstructed environment, the *Forest* exhibit. This is an example of the museum's power to 'show' rather than 'tell' (Spock 2006, 177–78). While open to the negotiation of polyvalent meanings by visitors, the reconstructed environment nevertheless materially embodied the discursive agendas of its producers.

The communication approach of the exhibit provided a 'space' in which the visitor felt active in the creation of meanings. A common theme across this chapter is the creation of such spaces, dialectical spaces in which visitors may perform 'educational work' (Weinberg 1994). Dialectical spaces occur between the concrete and the metaphoric, the tangible and the intangible, the particular and the universal (Beck and Cable 2002b; Larsen 2002; Bedford 2001; Weinberg 1994). As Jeshajahu Weinberg so aptly phrased it, 'the museum's educational work is taking place in the space created between one pole and the other' (1994, 239). Dialectical spaces are further characterised as juxtapositions between the heart and mind, imagination and reason, emotion and intellect (Brochu and Merriman 2002; Beck and Cable 2002b).

What the immersive walk-through *Forest* example speaks to, along with other accounts to follow in this chapter, is the idea that discourses are not just constructed through language, but are articulated through all kinds of representational resources (Kress and Van Leeuwen 2001). The research aspiration to analyse 'discourse realized in a multiplicity of semiotic resources' (Sidiropoulou 2006, 124) thus finds expression in this project. I align with a definition of 'discourse' as 'a construction of some aspect of reality from a particular point of view, a particular angle, in terms of particular interests' (The New London Group 1996, 78). Specifically, this chapter will show that the manner in which exhibition environments mobilise multiple representational resources, in service of particular discourses, influences how visitors can be coparticipants in the creation of these discourses.

By 'manner' I refer both to the *poetics* and the *politics* of display, following Roger Silverstone (1989, 1999, 2005) and Henrietta Lidchi (1997). The politics and poetics of display form yet another dialectical space in which visitors negotiate meanings:

Step inside a museum . . . and you will cross a threshold into a confident representational world: a world of objects, stories and images whose overriding intention is to convince you of its authority and its authenticity, and to please you by its poetry and style. . . . The mass media are both persuasive and aesthetic. An understanding of their significance and their power must take into account both dimensions. (Silverstone 1989, 140–41)

The 'poetics' of exhibiting is the use of aesthetic and narrative strategies in the selection and arrangement of components, such as objects, images and texts. The 'politics' of exhibiting refers to the intention of museum display to persuade as rhetoric, as a representation of some 'reality', and explicitly acknowledges exhibitions as socially-constructed knowledges, as constructing and drawing on particular discourses. What is of particular interest from a designer's point of view is how such 'politics' of display finds expression through the 'poetics' of display. The interrelation of the poetic and the political reflects museum display as neither neutral nor unproblematic

(Mason 2006). In an example drawn from later in this chapter, the poetics of a display may aim to give visitors the impression of trustworthiness and transparency, while the politics of the same display may constrain its content to support a commercial discourse. Ultimately, it is valuable to conceive of exhibits as mediators, as mediating within all of the aforementioned dialectical spaces.

The meanings made by visitors across the research sites in this study—twenty-two exhibits located in six institutions—could be reported in many ways. Following its focus on the substantive meanings formed by visitors, this chapter examines broadening processes in two groupings: ‘Broadening in the Sciences’ explores meanings negotiated between visitors and selected science-based exhibits in this study, and ‘Broadening in the Humanities’ traverses meanings negotiated from selected humanities-based exhibits in this study. As relevant, excerpts from exhibit developers’ statements are included within the text. The chapter concludes with a discussion entitled ‘Broadening as Performativity’. This considers how visitors are supported to perform as active, self-aware agents in negotiating the poetics and politics of display.

BROADENING IN THE SCIENCES

‘Broadening in the Sciences’ surveys how visitors participate in broadening processes, as catalysed by science and technology exhibits. It is composed of three parts. First, ‘Physical to Theoretical, Theoretical to Physical’ examines visitor responses to technically-interactive exhibits. Second, ‘Standing in Testimony to Life’ explores visitor engagement with displays of flora and fauna in museums. Third, ‘Science as Storied’ examines visitors’ negotiations with more contextualised construals of science and technology.

Physical to Theoretical, Theoretical to Physical

Hands-on exhibits aim to assist visitors to do educational work in a dialectical space between the physical and the theoretical, the concrete and the abstract. An educational premise of such exhibits is that multisensory representations ‘provide the initial fragments of meaning . . . to which more complex abstract representations can become linked’ (Anderson 1997, 83). By enabling firsthand concrete experiences, by broadening visitors experientially, the objective of such exhibits is to broaden visitors conceptually. For instance, the *Richter Rumbler* exhibit aims to mediate between the physical and theoretical. By placing their hands on a metal plate, visitors can feel the relative lateral movement of earthquakes measuring from three to six on the Richter scale (see Figure 8.1). Visitors are familiar with news media reports, for instance, of how earthquakes rate on the Richter scale: “You hear it measured *this* and you’re thinking, ‘What does that mean?’”² The exhibit



Figure 8.1 Visitors feel the lateral movement of earthquakes via *Richter Rumbler*

enables visitors to attach concrete meaning to such abstract values: “The chance to feel the differences between the numbers on the scale.”³

I think I’ve got a deeper insight into what it must be like to experience it, the actual degree of physical movement, which has always been theoretical. I’ve never experienced it, so I never really knew before. That’s given me something to *hang* the idea onto now.⁴

The exhibit is also useful to visitors who have previously experienced actual earthquakes, in that they can use the exhibit to estimate their abstract value: “[The exhibit] made me think about the Richter scale and how probably in New Zealand most of the earthquakes I felt were probably in the *fours*.”⁵ Conversely, these visitors missed out on experiencing an actual earthquake, but knew its correlating abstract value: “We used to live in a town that *had* an earthquake, but we weren’t there to *experience* it. . . . [We wanted to feel] the level of it, it registered five on the Richter scale.”⁶ The exhibit also provides knowledge which could serve future adaptability (Rounds 2006): “If you find yourself in that situation you might be able to *gauge* the *strength* of it.”⁷ Further, visitors’ imaginations were stimulated in comprehending the phenomenon of earthquakes: “I was just imagining what it would be like, with an earthquake and having the noise of things crashing around you.”⁸

Because you've got your hands on there, you can kind of get a feel for how much the earth's moving. If you can *touch* you can *imagine* more rather than just seeing it. It has a more vivid image.⁹

The exhibit thus assists in making sense of real-life events. The sense-making is variously retrospective, vicarious, prospective. The exhibit serves to process life experiences, reaching back into the past and extending into the future (Hein 2004, 2006). In these ways exhibits are semiotic artefacts, mediating in the continuing trajectory of meaning-making through time and space (Thibault 2004, 44).

Further, the experiential broadening afforded by *Richter Rumbler* has nuanced value. Visitors can extend not only what they know of the *degree* of movement of earthquakes, but also the *quality* of movement: "I thought it would be more of a vibratory sense rather than *that* physical movement. So that was a surprise."¹⁰

I was quite surprised how much more *movement* there was between, say, five and six. I mean it really made that *effect*, is what I got from it. It was the *frequency* of vibrations. One point to the next point. That was quite surprising to me, that six was so *slow* and a *long*, slow movement.¹¹

A conceptual point of the exhibit is that the increase between each number on the Richter scale is tenfold: "I actually *read* about it, about how the scale increases. I didn't realise it was such a big difference between, say, *four* and *five* . . . ten times, for each increase."¹² As mentioned by this visitor, the tenfold increase is described on the exhibit's text panel; the physicality of the display is augmented with theoretical textual information. From a multimodal perspective, different modes of communication are able to carry different parts of the overall informational load. A more advanced theoretical point is that this tenfold increase reflects the difference between a linear and a logarithmic scale, a point not contained within the display's textual information:

I *think* it's probably trying to show how it's not a *linear* progression, it's a logarithmic progression. . . . [between] five and six there's a *huge* jump, four and five there's a *less* of a jump, but still quite significant. But it doesn't *explain* that anywhere there.¹³

The lack of explanation of this theoretical knowledge may provide a clue as to confusion experienced by visitors at *Richter Rumbler*. That is, while the Richter scale values from one through eight are represented on the exhibit's interface, earthquakes measuring one and two are labelled 'Too small to show', and seven and eight 'Too big to show' (see Figure 8.1). This means that only selecting the values three through six produce a response in the display. Choosing the values of one, two, seven and eight produce no

response: “Even though I’d read that it was ‘Too big to show’, I still wanted to *try* it. [laughs] Or ‘Too little to show’. I was still wanting to get some sort of feedback from it.”¹⁴ “They probably should give you an *interaction*. If the light’s there, why not have something to *show* it? . . . [It’s] a little bit of a *waste*.”¹⁵ It would seem that the expectation of mechanically interactive components to actually respond to visitor input is strong; a reasonable expectation of visitors. The absence of any response from the exhibit is not sufficient for visitors to comprehend the reason *why*: the tenfold logarithmic increase (or decrease) in lateral movement between each value made the choice ‘unshowable’. On this point, *Richter Rumbler’s* mediation between the physical and the theoretical could see improvement.

The *Light Harp* exhibit (see Figure 8.2) provides another example of limited mediation between the physical and the theoretical, of experiential broadening that did not lead to the conceptual broadening intended by the display. Only one visitor mentioned a technical aspect of the exhibit: “It’s

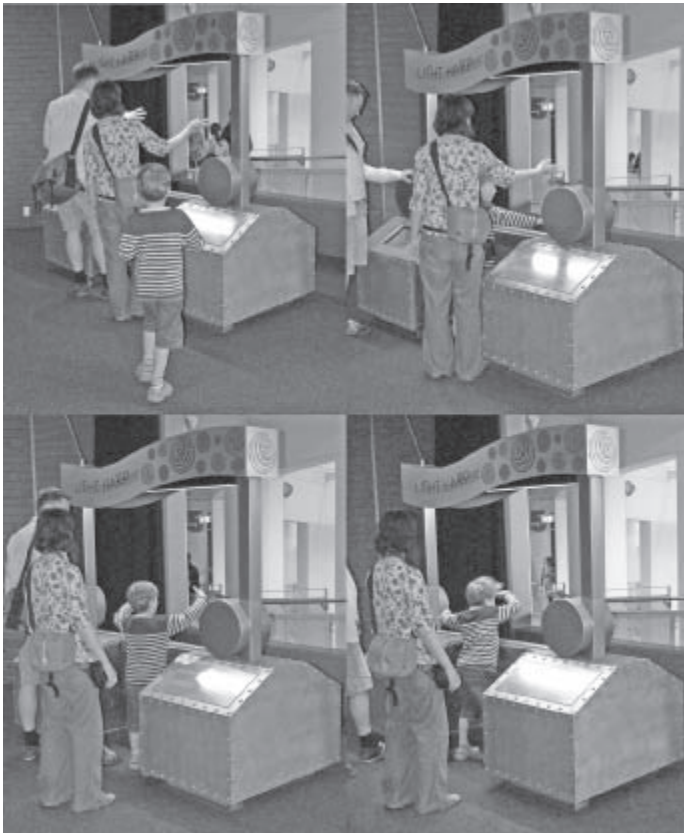


Figure 8.2 A family plays ‘music’ at *Light Harp*

a light-sensitive instrument . . . I think once you break the light beam it makes a *note*.”¹⁶ Significantly, no interviewees articulated the basic scientific principle underlying the exhibit, that light beams travel in straight lines. Instead, visitors interpreted *Light Harp* as literally indicative of the role of technology in music: “It’s just modern technology, what instruments would be like in the future.”¹⁷ “Music today is nearly all electronics.”¹⁸ Affective responses were also notable: “Music *always* makes you feel good. I think we all *enjoy* it. Music is a *pleasure*.”¹⁹ “It was pleasurable, *soothing*.”²⁰ “It’s for all *moods* isn’t it, music? It’s *just* wonderful.”²¹ Further, the novelty value of *Light Harp* appeals to visitors: “Most unusual.”²² “It was *fun*, being able to change all the different instruments.”²³ “It was unusual and plus you get to hear the *sounds* that you probably sometimes would never *hear again*. . . . And some of them I didn’t even know what they *were* to start with [laughs].”²⁴ The exhibit thus broadens visitors experientially by enabling them to play ‘music’ with the synthesised sounds of different instruments.

That the novel physical experience of the exhibit would catalyse conceptual thinking about the science behind the exhibit was suggested by this visitor, a science teacher interviewed at a different exhibit in this study:

The light wave *machine*, that *really* impressed me. The novelty appealed to me. . . . I could see why the curiosity level would be *elevated* in people. *How* does this work? *Why* does this work? And it’s one of those ones that sparks curiosity, sparks thinking.²⁵

While this ambition may well have been shared by the exhibit’s developers, this study suggests that it was not realised by visitors’ engagement with the display. Mediation within the dialectical space between concrete experience and conceptual broadening did not generally occur at *Light Harp*. However, the fun and affective responses experienced by visitors, the poetics of the display, support the political discourse that even if specific scientific learnings do not result from engaging with interactive displays, the greater value of such experiences lies in fostering positive attitudes towards science. Visitors may indeed have broadened affectively through associating the realms of science with ‘fun’.

Standing in Testimony to Life

Displays of flora and fauna can enable a fundamental form of experiential broadening, the act of seeing new things: “Seeing things that I hadn’t *seen* before”;²⁶ to give you “a *broader spectrum* of what the landscape of Australia has.”²⁷ The museum can offer a window on parts of the world otherwise inaccessible to visitors: “I’ve never been to the alps before. I enjoyed seeing what it’s like. I’ve never seen snow, so it’s interesting.”²⁸ The museum can also be broadening by raising awareness of the origins and habitats of flora and fauna: “Being able to just become aware of the *varieties* that

are *native*.”²⁹ “I didn’t realise they *had* little—what are they?—possums or something in the snow.”³⁰

Even if what visitors see in the museum is not ‘new’, museum display may still be broadening through its mediating function as a communication genre. A basic form of semiotic mediation is textual labelling information, enabling visitors to engage in identification processes. In so doing, visitors may broaden their knowledge of species: “I’m particularly interested in the *snakes* because I’ve just moved to New South Wales and I’ve just had a King Brown, I think it’s a King Brown, *in my garden*.”³¹

Picturing animals, bugs, wildlife that we *knew* and *recognised*. For instance that butterfly there. I’ve seen that butterfly. It was interesting to then look at the board and say, “Oh, that’s the . . .”³²

The snake and butterfly examples above demonstrate retrospective sense-making of life experiences outside the museum. They are instances of museum experiences connecting to, and enriching, real-life experiences. They reflect the continuity of learning processes and the semiotic mediation of museum display in this trajectory, which occur across time and across context.

Another beneficial aspect of the semiotic mediation of museum display is the way in which it can make wildlife more convenient for study. As shown in ‘Framing’, this educative function of display may moderate visitors’ emotional lament:

M: A bit sad to see them dead, but it is a way of identifying them.

F: We went through Healesville Sanctuary yesterday and we were walking in the aviaries up there which was just wonderful.

M: And that was all *alive*.

F: But at least these are *still*. [laughs]³³

The showcasing function of museum display enables visitors to see what might otherwise be difficult see, providing an opportunity for experiential broadening: “It was good to be able to see it up close and really look at it, instead of having to track through miles of bush, *maybe*, and not see it at all.”³⁴

I’d rather see them alive but from a scientific point of view they’re interesting. I mean, a lot of Australia’s animals you wouldn’t see *normally* because they’re nocturnal and they’re small.³⁵

The immersive *Forest* display exhibits living flora and fauna specimens (see Figure 8.3). As documented in ‘Framing’, the exhibit was criticised by some visitors for reconstructing something naturally available in the regional



Figure 8.3 The *Forest* exhibit: from misty rainforest, to animal enclosures, to human uses of forests and the impact of bushfire

geographical area. However, the *Forest* also acts to broaden visitors by the very semiotic mediation it affords as a museum display. Through embedded enclosures of live specimens, the exhibit broadens visitor conceptions of the community of organisms living in the wild:

I liked the little displays where they had the animals, particularly the tree frogs and the stick insects . . . to think that they're actually *out there* and we wouldn't normally see them if we were just walking through the same sort of thing out in the bush.³⁶

Further, the space-time trajectory that is sensemaking can mean that the next time the visitor is out walking in nature they may have a conceptually broadened awareness of ecological complexities not easily noticed by the casual eye. In this way, the museum experience has the potential to enrich a future life experience (Hein 2006):

[The message was that] any environment's very *complex* and you need to *stop* and *look*, because there's lots of things going on that you may not *realise* when you walk through an area of *bush*. . . . [T]his is encouraging you to stop and be more aware of what's happening in a natural environment.³⁷

Museum display not only provides greater access to and knowledge of the natural world, but it may also foster universal values such as the beauty of nature (Beck and Cable 2002b). In turn, this can lead to affective broadening: "If they're uniquely Australian there's a sort of *pride* that builds up."³⁸ "It *did* make me feel like I was in the bush. . . . [T]here's a *calming* feeling, as much as anything and a *fulfillment*."³⁹ "I'm just totally *overcome*. . . . I just adore nature, I love birds. This is *awe* inspiring to see it all together."⁴⁰ Close inspection of the tangible world may also catalyse intangible values more akin to discursive broadening:

The *nests*, I was fascinated, 'cause you don't often get that close and not to that kind of *variety*. Other living beings apart from us are really *clever* and we don't often, [laughs] or the *wider* public, doesn't really necessarily take that *in*. . . . You know, just have a look at what great architects they are.⁴¹

Ultimately, the data showed that visitors were brought into relationship with natural heritage interpretation's metadiscourse to *value* nature (Archer and Wearing 2003): "[Let's] really *value* what we *have* and let's hope we don't lose more species."⁴²

The message is that these [habitats] are *precious*. And especially with the Mallee⁴³ that people don't really *value* very much, I don't think. And that they're under *threat* and a lot of the animals are under threat, *and* the plants.⁴⁴

Further, the 'linking of tangible resources to their intangible meanings' potentially encourages visitors to 'both care *about* and . . . to care *for* resources' (Larsen 2002, 19; original emphasis): "It's showing what those areas are *like* and *possibly* trying to get people interested in *preserving* what's there."⁴⁵

Significantly, exhibits do not have to overtly address conservation with textual mediation for visitors to link conservation values to the content of

displays; discourses may be materialised through all manner of representational resources (Kress and Van Leeuwen 2001). For instance, the immersive *Forest* exhibit creates ‘an aesthetic where there is a space for poetic, affective responses’, for ‘dialogic’ interactivity (Witcomb 2006, 359):

M: I thought there was a conservation message. It wasn’t really *pushed* strongly I didn’t think, you were left to make your *own* judgements, kind of thing. But I think as you moved from front to back you sort of get that kind of impression that’s what it’s saying.

T: *Do you appreciate that subtlety?*

M: Yeah, I think so. Yeah. I’d rather a museum be somewhere where you can form your own *view* rather than *telling* you what to believe, kind of thing.⁴⁶

What is instructive is that the above visitor drew the message of conservation from “the *visual* contrast between what’s right here out front and what’s up the back.” What is ‘out front’ is a misty rainforest, and ‘up the back’ are representations of humankind’s different uses of forests, such as a picnic table, and timber fashioned into power poles (see Figure 8.3).

Visitors ‘read’ the *Forest* exhibit as suggesting a conservation discourse:

At the start it all looked really natural and as you moved up there was just like a few plain *trees*. I don’t know whether that was to signify *logging* or something, but it’s quite *barren* up the top and it’s really *lush* down the bottom. . . . [It signifies] perhaps our *destruction* of the landscape.⁴⁷

[The display went] from all the elements of nature, like fire and water and all that, and then at the end it just came to humans and it was just *desolate* and humans sort of destroyed *nature*.⁴⁸

The discourse of conservation was thus realised through the use of semiotic resources other than written text. This kind of semiotic mediation is through the power of museum display to *show* rather than *tell* (Spock 2006). As suggested by the visitor above who appreciated making his own judgements, forming his own view, the approach to show rather than tell invited visitors to be coparticipants in the creation of this discourse. Visitors were actively engaged within a dialectical space between the concrete and the metaphoric, the material and the discursive.

Visitors can also arrive at conservation discourses by considering exhibits through the filter of other exhibits featuring extinct species: “Look after your environment [was the message of the *Forest* exhibit]. Particularly after walking through the [temporary] *Thylacine* exhibition.”⁴⁹ “I thought the *Tasmanian Tiger* exhibit was good. I liked the idea of them making a *feature* out of an animal that clearly we’ve *driven* to *extinction* . . . bring a bit of

a message of what we've done in the *past* to the *future*.”⁵⁰ Similarly, at the *Fauna* showcases: “If we don't watch out, this might be as close as we'll ever get to seeing them. I was in Portuguese East Africa, I saw a stuffed *Dodo*.”⁵¹ These examples demonstrate how discourses can be carried and developed from one exhibit to another, a form of ‘spatial interactivity’ (Witcomb 2003), or through time from institution to institution, again reflecting learning as a continuing trajectory through space and time.

In the following, a single taxidermied Tasmanian Tiger, set amongst other Australian native animals in a permanent display, influenced this visitor's formation of an overriding discursive perspective (see Figure 8.4):

You can sort of interact with the procession of marsupial animals down-stairs. I could just see all these kangaroos and wombats all heading towards extinction. [laughs] I don't know if that was meant to be that way, but . . . the one of the Thylacine in particular, I'd never seen one so up close before. And I thought, we're bastards. That's *gone*. But you think about the Thylacine, it's only one species of fifty thousand or so that recently [fades].⁵²

The visitor's description of the animals in ‘procession’ can visually be seen in the display, where they are mounted with a strongly directional quality. The particular ‘reading’ of this spatial configuration of specimens, as suggesting the threat of heading towards extinction, further exemplifies how discourses can be materially realised through all manner of representational modes, and not just through language. The visitors' account illustrates a higher-level



Figure 8.4 A procession of marsupials: “heading towards extinction”?

discursive reading of the material environment; an example of how the material and the discursive are cross-coupled in meaning-making (Thibault 2004).

While flora and fauna specimens presented in museums are dislocated from their ecological contexts, they nevertheless stand in testimony to life outside the museum. The semiotic mediation of museum display helps visitors to ‘see’ the tangible, material world. This, in turn, helps visitors to ‘see’ intangible, discursive values. Ideally, these intangible values inspire people to participate in taking care of this world. Most significantly, the role of museums as conservators of remnants of the past acts to forewarn audiences. Examples such as the Dodo and the Tasmanian Tiger act as potent reminders that other species, too, could find preservation only as museum displays. It may be an irony, but healthily provocative, that visitors do not want the museum to be the *only* place to see such things. Natural history displays may thus semiotically mediate with visitors on this paradoxical plane. Such meta-consciousness about the role of museum display is an astute example of a broadening process.

Science as Storied

A criticism of many technically-interactive exhibits, particularly exhibits demonstrating scientific principles, is their decontextualisation from real-life situations (Barry 1998; Caulton 1998). Visitor accounts showed that displays of taxidermied specimens may also be perceived as decontextualised:

We can’t see from that [*Fauna*] display *which* is depending on *what* in the ecosystem. *Who* feeds on *what*? Because the whole *thing* is a *net*. Each is dependent on the *other* in one way or another. So you’d like to know, where does the net go? How is it formed? ‘Cause that’s *really* what Creation is. And if we destroy *one* part of the net there’s a big *hole*.⁵³

More contextual presentations would likely be profitable for broadening processes: “To just show a skeleton doesn’t really signify it, but to show the part the animal played in the *story* of the continent.”⁵⁴ A genuine skeleton is direct material evidence, and yet to ‘signify’ it, the visitor noted the need for a display to illustrate an interrelationship within a broader scheme, within a ‘story’.

The *Diprotodon* exhibit, a replica skeleton of the now extinct animal, achieves such connection to a broader scheme. Through the juxtaposition of the skeleton against a background image of a dry salt lake, a large foreground image of the animal in a lush forested environment, and explanatory text panels, visitors made a conceptual link to stories of *change* in the environment: “The realisation that [the centre of Australia, now desert] hadn’t always been a *dead heart*. . . . [I]t makes you wonder what happened back then.”⁵⁵

[The message was] that Australia has a very different past to what we see now. Very different animals lived in Australia, compared to what we

see now. . . . [There are] different stories in the *land*. Things that you don't see, that have happened before.⁵⁶

Even greater conceptual broadening is projecting change as a trajectory into the future, conceiving the environment to be in a continuing state of flux: the display “indicates that our climate has been rather different in times past, and therefore probably has the message that it'll be somewhat different in times in the future.”⁵⁷

I think it's just really what Australia was before its present *age* with a different *climate* and everything. It shows you how different it was to what it is *today*, and maybe it'd change *again*.⁵⁸

The *Dinosaurs* exhibit explicitly deals with the storied nature of science. The multimodal poetics of the exhibit is a modified extract of footage from the BBC's *Walking with Dinosaurs* computer-generated television series,⁵⁹ augmented with dinosaur bones and fossils found in Australia. At one level, this serves to illustrate that dinosaurs once lived in Australia: “I didn't realise that some of them were from Victoria. I just thought it was somewhere *exotic*.”⁶⁰ The museum replaced the original narration with their own,⁶¹ and overlaid graphic images to freeze-frames of the original footage. These added images situate the found authentic dinosaur remains in relation to the animated dinosaurs (see Figure 8.5).

At another level, the greater intention of the display was to ‘link [the original] footage to reality so people got the idea that, in actual fact, all that speculation, all these moving dinosaurs, are just based on those few fossils. That is the real evidence. So, it was all about linking speculation with evidence’.⁶² Some visitors expressed deference and trust in the activities of ‘experts’:

F: I think it's fascinating the way that they've visually re-created the dinosaurs from what they've got.

T: *Yeah. Do you think that's accurate?*

F: *Yeah.* I think it would be quite accurate. Because they'd be using information that we have in Australia, but also information that they've gathered throughout the world to piece together the possible visual representations.⁶³

However, rather than blanket acceptance of the computer-generated representations, the exhibit developer hoped the politics of the display would spur critical thinking in visitors: ‘the message they should get across is, how reliable is all this given that you've got a tiny little bit of a claw and a little bit of a bone?’. Indeed, the exhibit could serve to query the seamless ‘reality’ of the television series:

I was captivated by the *Walking with Dinosaurs* series on *telly*. When you see it on telly you take it for granted and think, “Oh, well that's



Figure 8.5 Enlarged detail of animation freeze-frame with overlaid graphics of the two found bones (forearm and hind leg) constituting evidence of the theropod dinosaur in Australia

how it *must've* been.” But then, where did they get these [computer-generated] images [of dinosaurs] from? [laughs] Like there was one time I saw that they highlighted three or four or five *bones* out of the whole thing that they found!⁶⁴

By juxtaposing the recreated dinosaurs with the small number of found remains, visitors were invited to work in a dialectical space; a space comprising some material evidence, processes of representation, and processes of science. In particular, the mediation of the exhibit was to disrupt the assumed representational adequacy of the documentary-style television program. Television documentary ‘lays claim to be presenting reality, and by and large its claims are accepted’ (Silverstone 1988, 233). Furthermore, as the ‘discursive character’ of science exhibitions share television documentaries’ perception as authoritative (ibid., 234), the *Dinosaurs* exhibit also acted as a reflexive comment on the representational nature of museum display itself.

The exhibit developer demonstrated awareness of how meaning-making is 'resemiotised' from context to context through different material and discursive articulations (Iedema 2003):

Those tiny little fragments, they created an entire episode of a whole lot of things. And it's not a criticism of paleontology, but the way the media now portrays science, in that: everything has to be a major breakthrough, everything has to be really significant, everything has to have never happened before. And that's not the way science operates. So, it's actually the spin doctors that have taken over science, so you're creating a fake world of prehistoric animals doing this and this. They may have, they may not have, but there's no evidence whatsoever for it. And I think you don't want to hammer the science that much, but if you don't, a lot of people won't actually get that sort of scepticism that we really wanted them to develop.

To cultivate scepticism is to encourage visitors to engage in discursive broadening processes, to consider their frames of reference and to engage in 'communities of discourse' (Mezirow 1996). In particular, visitors had the opportunity to perceive processes of science, and their representations, as *storied*:

I thought they had a bit more evidence than that. . . . It seemed a bit-, not like *wishful* thinking, but they obviously had a *picture* of what they were *hoping* to find and, yeah, maybe other scientific areas are a bit like that, and then they find little bits and they think that it's all fitting together towards their *main* objective.⁶⁵

That scientists would have an overall narrative in mind by which to interpret pieces of evidence speaks to science as storied: 'Science . . . is story-telling. That is evident in the way in which we use our primary scientific instrument, the eye. The eye searches for shapes. It searches for a beginning, a middle, and an end' (Polanyi 2000, 31); 'Everywhere one looks in science, there are stories' (Hoffman 2000, 313); 'What are alternative hypotheses but competing narratives?' (Hoffman 2005, 308). Roald Hoffman (2005) emphasises science as a human activity, as both enabled and limited by human thought and decision-making. The museum wished to portray science as subject to human processes through time: 'One of the things we wanted to get across in the gallery is that scientific ideas are just based on available evidence, so as scientists accumulate more information these ideas can change'.⁶⁶ Indeed, this visitor noted scientific portrayals as fluid:

The video is sort of a dramatisation of it, so it's fairly untrue itself, *anyway*. It's only somebody's opinion, isn't it? Because they don't know the colour [of the dinosaurs], *all* that stuff they keep changing. It's all a completely different story to ten years ago, *anyway*, and it'll be a completely different story *again* in another ten years.⁶⁷



Figure 8.6 *Gene Technology* touchscreen pod and contextualising ‘laboratory’

The poetics and politics of the *Dinosaurs* display acted to broaden visitors’ possibilities of response. By disrupting the usual discursive character of the science exhibit and the television documentary as unquestionably authoritative, the exhibit shares power with visitors, the power that is held in acts of representation (Silverstone 1988). To portray the methods of science with greater transparency likewise shares power with visitors.

A contrasting treatment of science can be seen in the *Gene Technology* exhibit (see Figure 8.6). Through its poetics, the *Gene Technology* display explicitly seeks to articulate a discourse of transparency in relation to technological development, an ‘accessible public feeling’.⁶⁸

In an attempt to dispel some of the myths about gene technology, the exhibit tries to be very open about the subject matter. To support this a [reconstructed] ‘cut-away’ of the research laboratories . . . was intended to show visitors that gene technology research is done in a normal looking laboratory and not in some ‘darkened and secretive laboratory situation’. . . . The centrally located ‘touch screen globe’ is an opportunity for visitors to ask questions (albeit pre-programmed Q&As).⁶⁹

On the surface, the display appears an egalitarian approach to exhibit design. That is, the *Gene Technology* touchscreen invites visitors to ‘ask’ questions about gene technology, providing viewpoints from multiple stakeholders in answer to each of these questions (see Figures 8.7 and 8.8).

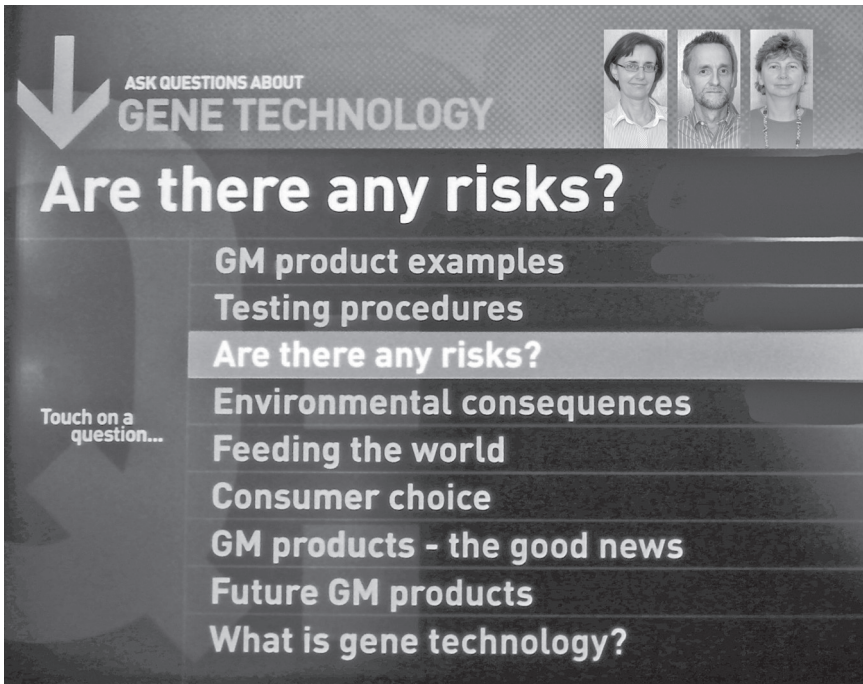


Figure 8.7 Visitors can ‘ask’ questions about gene technology

The ‘talking heads’ in the *Gene Technology* exhibit are a scientist, food regulator, gene regulator, consumer, cotton industry representative and food industry representative.⁷⁰ The display gives the impression that visitors could form their own informed view by weighing the multiple perspectives. The exhibit’s material organisation seems to have the potential to fulfil the notion that multimedia can democratise exhibition space. However, visitors did not find the touchscreen’s multiple viewpoints to be pluralistic: “When you touch the *screen*, the different *views* all tend to *lead* towards genetic modification. . . . I just think it’s leading us all into accepting genetic modification of *food* and crops.”⁷¹ “I think it’s *pro*-genetic modification.”⁷²

When these responses are considered alongside the exhibit developers’ admission that ‘corporate messages on gene technology guided the messages in this exhibit’ and that this ‘corporate’ line was seen as a primary ‘constraint’, the politics of the display would indeed appear ‘inhibited’ by an ‘industrial or commercial sponsor’ (Hudson 1987, 112). As a sample of the content from which visitors sensed a pro-genetic modification agenda, this is a transcription of the ‘talking head’ answers to the question, ‘Are there any risks?’



Figure 8.8 The gene regulator is selected to explain her answer, while the other ‘specialists’ wait to be chosen

***Does Gene Technology Pose Any Risks?
Is GM Food Safe for Us to Eat?***

- Food regulator: Genetic modification is the latest in techniques to modify food crops and the food that we eat. The role of the Food Authority is to ensure that such foods are safe to eat.
- Scientist: Eating GM⁷³ products is as safe as eating any other kind of food. In fact, you could almost say it’s safer because GM foods have undergone so much testing.
- Gene regulator: All sort of things we do in life pose risks, but everyday we do things to manage those risks. For example, we wear bicycle helmets. Some specific types of gene technology might pose risks to the environment or to people. That’s why we have a strong system to identify and manage the risks. If GMAC believed that there were risks with a GMO that couldn’t be managed, then they’re the ones that wouldn’t be allowed to proceed.

By limiting content to assuring visitors that genetically modified food is safe to eat, and that there are systems in place to manage risks, what may

visitors actually learn about gene technology? How does the display enable visitors to form their own informed opinions, and enlarge their views of the world? By not addressing, or even acknowledging, complexities surrounding gene technology, to what extent can the display facilitate conceptual or discursive broadening processes? By not dealing with at least some of the surrounding societal debate about genetic modification, visitors may construct resistant readings of the display, leaving them unsatisfied and wary:

Initially it might be *great* to develop a genetically modified cotton crop that is resistant to *pests*, but then what's the knock-on effect of that? Whatever the genetic modification *is*, when that leeches into the soil, what's the long-term effect of all of that?⁷⁴

It explained interpretations of why they did it by the people who spoke on the display unit. But, is it right? . . . [W]e don't know that the *full* story's being presented. Instead of really nice *tidbits* like reducing pesticides in the soil, which sound good to *everybody*, but is it the full story? . . . [W]e don't *know* that we are being *fed* really *good* stuff and other stuff's being suppressed.⁷⁵

Following a corporate line places the *Gene Technology* exhibit in danger of falling under David Larsen's categorisation of 'interpreganda': 'The primary goal of interpreganda is to convince the audience of the singular validity of a particular ideological or agency perspective' (Larsen 2002, 18). Limiting exhibit content to advancing a corporate perspective gives reason to consider the notion that '[i]nterpretation, alongside manipulation and censorship, form a delicate trio' (Lennon 1999, 77).

To its defence, the science and technology centre declares upfront on its brochure that it is 'An interactive showcase of Australian scientific innovation'. As a 'showcase' it is overtly designed to display its content to advantage. The following visitors were sympathetic to the way the institution promotes its interests: the way "they seem more and more for genetic modification" is "only natural because the [parent organisation of the science and technology centre] is a research institute."⁷⁶

This is what they're *working* for. It's nice to come in and see their point of view. They're working for *this*, and they're not doing it because they're mean and horrible and want us to all die of dreadful diseases. So, yeah, I'm happy to see one side of that.⁷⁷

As suggested by the above and the following, some visitors indicated a compliant reading of the interpretation offered by the institution: "I believe what they said, in particular the *scientists*. I don't think they were hiding anything."⁷⁸ "I think there's plenty of advantages . . . as long as any disadvantages are very carefully worked out and risks are taken care of . . . I do see benefits as long as *risks* are managed properly."⁷⁹ Whether or not such compliant readings were a result of engaging with the *Gene Technology*

display, or reflect views preheld by visitors, was beyond the scope of this research; however, David Larsen notes that '[i]nterpreting is mostly effective for visitors that already share the articulated point of view' (2002, 18).

An alternative approach, taken by one of the natural and cultural history museums in this research, provoked visitors to discursively engage with genetic modification. The display asked visitors to log their own opinions to questions, in an electronic media interface:

It was trying to put *forward* the pros and cons in getting people to make an *opinion* about these and see how it relates to them. Like, would I accept *plants* if they had a gene from another plant? Yes. If they had a gene from a bacteria? Yes. If they had a gene from a *virus*? For some reason I said "No." I thought, "Hey, viruses can't be all bad." [laughs] But it made you think about some of the preconceptions you've got. So you weren't just coming in here and just *looking*, your brain was made to tick over.⁸⁰

Such an approach, provoking visitors to consider their own preconceptions, aligns with Freeman Tilden's (1997) seminal conception of interpretation as provocation. The exhibit did not seek to pose as a final authority, but to engage visitors to think across a range of possibilities, so as 'to broaden the possibilities of response' (Carr 2001, 181; see also Spock 2006).

BROADENING IN THE HUMANITIES

'Broadening in the Humanities' is composed of three parts. First, 'That Guts Story of People' highlights how qualities of narrative engage visitors, chiefly drawing from visitors' negotiations with displays relating to war. Second, 'Who Is Telling Whose Story, and How?' explores issues of voice in cultural (re)presentation, through visitors' engagement with displays of Indigenous peoples. Finally, 'Speaking Silences Out Loud' documents visitors' awareness of marginalised discourses, areas in which visitors detect museums as holding silences and as filling silences.

That Guts Story of People

The war museum/memorial adopted the interpretive strategy of engaging visitors through 'stories of emotion and experience'.⁸¹ This has clear poetic and political implications. On a poetic level, visitor responses to *Len Siffleet* and other exhibits illustrate how 'to narrate history poetically is to get as close as one can to the texture of human experience' (Schwarz 2006, 24):

M: This [the *Len Siffleet* display] is very, very personal [see Figure 8.9]. One man going to execute another single individual. . . . [And] the photo over there of the chap that was in the prison camp. He's just a *skeleton*, he's wasting away. That *one-on-one* account. He's one



Figure 8.9 *Len Siffleet*: a personal story

individual sitting on a box, and his ribs and his *bones*, he's just emaciated, there's no other word for it. So those *personal* photos *impress me* more than the collective thing because there's a certain amount of camaraderie in the collective ones . . . but the guy sitting over there on the box, with all of his bones sticking out—and he's got a problem and it's his problem. This fellow here's about to lose *his* head, nobody else's, it's his head that's gotta go.

T: *Is it a sense of empathy that it would give you?*

M: Yes, yes, yes it is. It is, I mean, I wouldn't want that to be me. I wouldn't want that to be *anybody*, least of all me.⁸²

The presentation of 'one-on-one accounts' enhances the emotional involvement of visitors, through facilitating feelings of *identification* with 'the human character of the individuals' (Weinberg 1994, 233):

I've actually been trying to read more upon what's happened to single individuals rather than the big picture of it. So I've actually been trying to just pick out different soldier's stories. . . . It's pretty emotional, when you try and think how they must be feeling at certain times. Not step in their shoes, but get an idea how they must've *felt*.⁸³

Just as the above visitors at the war museum/memorial contrast the relative impact of collective narratives and individuals' stories, this natural and cultural history museum visitor advocates a 'guts story of people' in sharing the nation's histories:

You've got to tell them the *story* of rural Australia. Its *ups* and its *downs*, what it's like to be an *average* farmer, or a farmer's *wife* and/or *children*. . . . [T]he *story* of farmers—you've got a million dollars wrapped up in real estate. *What's* it producing? Very little in the way of income. So, *that's* the story of farming in Australia. It's not the great shipments of wool across before the Second World War, and things like that. It's *that* sort of a story. That *guts* story of *people*.⁸⁴

Andrea Witcomb concurs with the idea of poetically connecting with visitors through personalised narratives, suggesting it as an interpretive strategy which would politically relieve an institution from presenting an overriding master narrative of a nation's history:

Imagine an exhibition on pastoral life from the point of view of the experiences of all those who had contact with the station . . . A focus on the experience of everyday life might make it possible to present a history which is held together by a strong sense of narrative but which is nevertheless not presented as "the" history. (2005, 5)

When presenting personal stories it may seem appropriate to use emotive language to enhance the emotional involvement of visitors. Paradoxically, a way of involving visitors is to leave such textual elaborations *out* of storytelling. In this way, rather than suggesting to visitors how they should feel, visitors are given the space to form their own responses (see Bruner 1986, 35; Weinberg 1994; Bedford 2001). This unembellished approach to narrative guided development of the *Len Siffleet* display:

We could have done the 'Poor Len Siffleet. Brave, strapping, golden haired boy, fiancée left behind, heathen Japanese'. You could have *larded* that with emotional terms . . . If you see a picture of this guy with his fiancée, you don't have to be *told* that there's young love destroyed here, you can *work it out*. We gave our visitors the benefit of the doubt that they would be able to make their own meanings from the stuff that we presented.⁸⁵

That visitors extrapolated their own meanings and feelings from the *Len Siffleet* display was evident: "I think it's sad, a terrible story. Like in a few short paragraphs it tells the story and it's just fruitless."⁸⁶ "It's very *personal*, and it's very *pointed*. There's no misunderstanding about what's happening here."⁸⁷ A text panel described an account of events: '*Siffleet's*

family and fiancée waited and wondered, believing him to be a prisoner of war. They did not learn of his death until 1946'. Visitors were moved to internalise this statement's meaning:

The relatives never found out until three years later that he'd even *died*. . . . That would've been heartbreaking for them, for three years to be thinking that they're just captured and still alive.⁸⁸

It says in there how his family didn't know for five years later that he'd actually been beheaded. It sort of shows you the impact of how much suffering it causes even after, after the war or whatever happens. You know, not knowing.⁸⁹

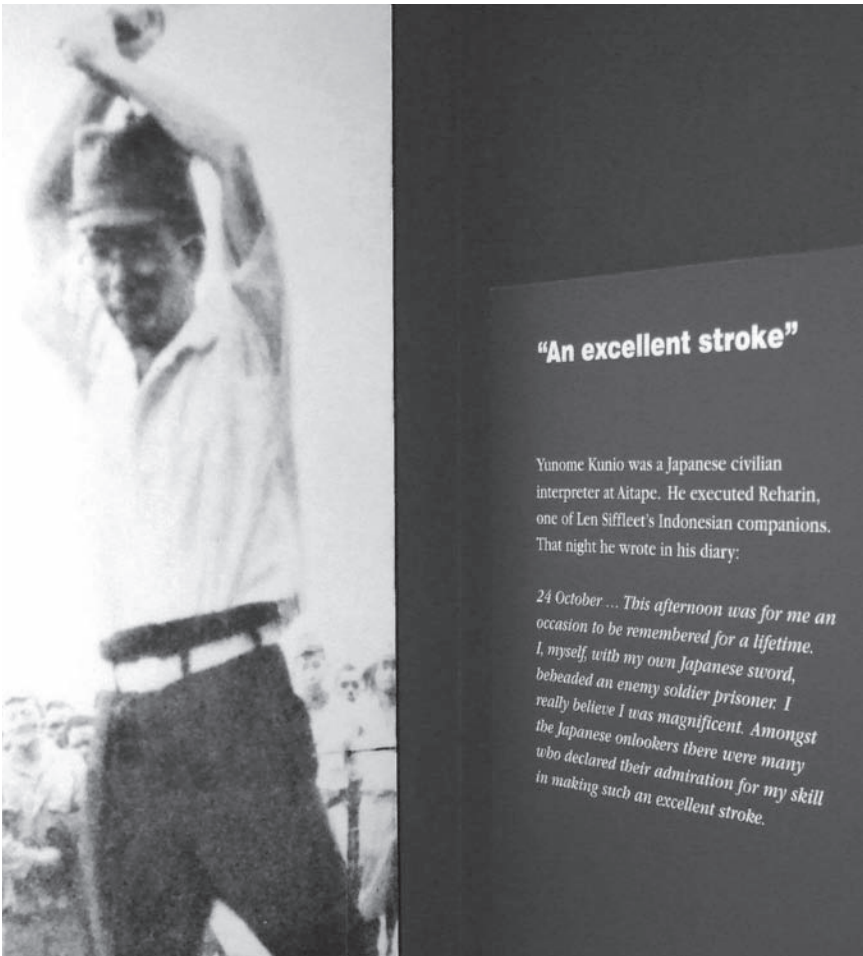


Figure 8.10 Executioner's diary entry: 'An excellent stroke'

Most provocative in visitors' construction of narratives at the *Len Siffleet* display were meanings formed by reflecting on an executioner's diary entry, presented on the opposing text panel (see Figure 8.10): '*This afternoon was for me an occasion to be remembered for a lifetime. I, myself, with my own Japanese sword, beheaded an enemy soldier prisoner. I really believe I was magnificent. Amongst the Japanese onlookers there were many who declared their admiration for my skill in making such an excellent stroke*'.

Routinely, visitors' emotional response was a feeling of disgust: "I think it's *bloody disgusting*."⁹⁰ "It was quite *disgusting* that someone could be so proud of the fact that they had taken someone else's life like that."⁹¹

F: Pretty disgusting, especially when you read the Japanese man's diary entry, it's pretty-

M: He marvels about it. It's disgusting; you think, "Oh gosh!" . . .

F: It's not something you'd expect, like you'd expect him to feel a bit remorseful about it, but obviously he doesn't.⁹²

I just thought how bad it was, I just thought that they're now heroes. To me it's cowardice. To shoot someone in war—that's fine—but they took a defenceless person and took his head off. Disgusting, disgusting.⁹³

Visitors negotiated meaning through discourses of immorality and injustice. So while the poetics of the display sought an affective response, visitors nevertheless entered into a political interpretation of the display. This sequence of responses was not unanticipated by the exhibit developers:

The effect was an 'Oh gosh!' story, an 'Isn't that terrible' story, an 'Oh, isn't that dreadful'. We were seeking an emotional response. Now that was slightly dangerous, because one emotional response could be 'Geez, those Japs were bastards'. But even if that were the case, and many people do, you know it concerns people's preconceptions of the Japanese.⁹⁴

The poetic decision to 'tell stories of emotion and experience' is thus also a political decision. The politics of the display are in alignment with the general mission of the war museum/memorial, which is to commemorate the sacrifice of Australians who have served in war. It is an Australian-centric perspective and squarely commemorative. This concerns the politics of exhibit design: just as the conception of the science and technology centre as a 'showcase' is not compatible with a critical approach, the memorialising and commemorative functions of the war museum/memorial are likewise not compatible with a critical interpretative approach (compare Lennon 1999). The constraining effect of this dynamic appears manifest in what the *Len Siffleet* exhibit did *not* present to visitors:

The information that I got from that particular exhibit is very limited . . . we don't know what that particular individual *did* to warrant having his head chopped off . . . *why not* tell us exactly what the chap did? And if he was a spy, an information gatherer—and that was the Japanese procedure for dealing with spies, rather than just ordinary prisoners that they took—well, let's put it on the display.⁹⁵

Len Siffleet *was* executed as a spy; as such, 'he was fair game'.⁹⁶ That the exhibit did not identify Len Siffleet as a spy was an interpretive decision by the exhibit developers to not privilege that bit of information within the constraints of the display: 'I was really comfortable with *leaving* stuff out. What was the guts of this? What was the core of it? The real core of it was *experience*. . . . [The fact that he was a spy] was not fit-in-able detail'.⁹⁷ The discourse of war chosen thus aligned with a 'guts story of people', personalised stories, rather than engaging overtly with cross-cultural differences, for instance; '[w]ar discourses involve . . . a certain version of what actually happens in wars' (Kress and Van Leeuwen 2001, 4–5). The visitor above, a veteran of the Vietnam War, independently brought critically discursive readings to the exhibit, which in themselves suggest alternative approaches that could have guided development of the *Len Siffleet* display, had it ascribed to a different politic:

I look beyond the physical trauma of what the picture there is *saying*, and I'm looking a little deeper than that, at the cultural differences between the two. The fact that Japanese would see this in one light, and we would see it in another light. . . . the average person would look and say, "Oh, isn't that *disgusting*, isn't that *terrible*." Well it *is*, but there's more to it than just the picture.

Ultimately, I examined all of the above about the *Len Siffleet* exhibit not to diminish its power as a commemorative artefact, but to illustrate the point that a commemorative interpretive approach is distinct from a critical interpretive approach; 'Not being able to detach itself fully from the sacred and emotional sides of commemoration, the memorial museum institution lacks the possibility of being really critical' (Lennon 1999, 78). This visitor observes a challenge to taking a critical approach in exhibition development at a war museum/memorial:

- M: Picking up shells and loading them into a cannon and things like that might give you a bit more of a feel for it. But I can't imagine what you would have to *do* to make people realise that this is something we should never go through again.
- T: *Yes, yeah. So, rather, what the [war museum/memorial] might also have is why have war in the first place—is that what you mean?*

M: Yeah, but it's very hard to do that without degrading the efforts of everybody that went before them. That's *hard*.⁹⁸

The visitor raised the difficulty of reconciling tension between ideology, a critical view, and respect, a commemorative view. How could we help people internalise the moral lesson that we should never go through war again (compare Weinberg 1994), while still paying tribute to those who have already served in war? The war museum/memorial is indeed mandated to pay tribute to Australians who have served in war, and visitors certainly appear to treat the efforts of service personnel with great respect. Even so, a discourse most prominently raised by visitors was that it would be best to prevent war, in concert with the above visitor. So while the memorial itself does not raise this discourse, by documenting the events of war it catalyses affective broadening and (vicariously) experiential broadening in visitors, in turn prompting visitors to engage at a higher discursive level. Visitor accounts suggest several ways in which the poetics of display at the war museum/memorial facilitate this move from the poetic to the political.

One way in which visitors arrive at metaperspectives on war is through working in a dialectical space between the concrete and the metaphorical:

That soldier sitting down in the mud [see Figure 8.11] . . . [it] *really shook* me. To be quite honest I nearly *cried*. I just thought that was, *what?* There's no glory of war, that's what war is. You know, the lone



Figure 8.11 Soldier in the mud: “That’s what war is”

soldier sitting there all on his own, probably thinking, “Where am I? What am I gonna do?”⁹⁹

Another visitor similarly moved from the concrete to the metaphorical, also noting the encapsulation of ‘that’s what war is’: “[The message meant by this diorama was] don’t go [to war]. [laughs] . . . It’s like this whole place—it just shows how *dumb* war is. That’s what war is.”¹⁰⁰

Visitors may also extrapolate from the stories of individuals, recognising that these stories are representative of a wider realm of occurrences: “I just realised that was just one isolated incident in wars. And I mean it would have happened a hell of a lot more than just that one picture, or that one particular story.”¹⁰¹ Such is a quality of narrative, finding the universal in the particular (Bedford 2001). Moreover, visitors’ emotional involvement in narrative may be important to facilitate ‘the internalization of the moral lessons embedded in the story’ (Weinberg 1994, 231). Evidence of internalisation is suggested by the following comment, uttered in reference to the world-changing events of September 11, 2001:

More personal stories would be nice. I don’t think you could probably cope with too many of them because the whole experience is quite upsetting, and you sort of think, “Oh shit, are we on the verge of *this*?”¹⁰²

Visitors may also arrive at an overarching political perspective on war through the cumulative effect of the war museum/memorial’s galleries. As visitors channel through the institution, consecutively viewing galleries representing different conflicts, discursive assessments of war can surface: “[War] is a waste. The more you see of these [WWI dioramas], and then the Vietnam War, and the Korean War. . . . [A]t the end of it, the end result is this—*waste*. Terrible, terrible waste.”¹⁰³ Each gallery stands in concrete testimony to a separate theatre of war, assisting the remembrance of history:

I was thinking when I was looking through the First World War section and, I didn’t know who said it, but somebody said that a nation that doesn’t remember its history is bound to repeat it. And you look around here and you think, “Well, after the First World War, and Tobruk, why did they not learn from that? Why did they have to go and have a Second World War, and a Korean War, and a Vietnamese war, and God knows, are we going to have another one? And, will we ever learn?”¹⁰⁴

The war museum/memorial as an institution can thus be seen to mediate, to serve a living role, in the trajectory of time:

When you come into a place like this it just makes you realise what’s gone before. And then you step outside, and you leave this place behind,

and then you see what is happening in the world today, and just ask yourself *why* did it happen, and why is it going to happen again? But it *will, it will*.¹⁰⁵

So while the war museum/memorial remains committed to a commemorative approach, visitors may still use the institution's collections and displays as sites at which to engage in larger discourses about war. At its base, the institution serves as public consciousness of the human fallout of conflict. The very juxtaposition of 'a place like this', the remembrance of individuals' sacrifice for war, with 'what is happening in the world today', the recurring threat or instance of war, is cause for an unnerving dissonance. How many more future theatres of war will occur and thus need representation as exhibition galleries? To quote David Carr, 'to cause some kind of troubling incompleteness' is the 'purpose of the museum at its best' (2001, 176). In these ways, visitors can move from the concrete to the metaphoric, from the tangible to the intangible, from affective to discursive broadening.

Who Is Telling Whose Story, and How?

Exhibits interpreting particular cultural groups provide an opportunity to overtly examine *who* is telling *whose* story, and *how* these stories are being told. The *Frieze's* 'mosaic' of eleven screens of moving images with accompanying music and sound effects 'enables visitors to see, hear and "meet" contemporary Indigenous people, in their own environment'¹⁰⁶ (see Figure 8.12). 'Indigenous voices' were a high priority in its interpretive approach. Both the director and cinematographer are Australian Indigenous people. The *Frieze* 'is a poetic, creative work . . . not a documentary of information. . . . Messages are subliminal'.¹⁰⁷ In its poetics, the display illustrates the communicative power of exhibits to show rather than tell:

I see they're trying to portray it in a more positive light, a more enlightened *light*, than the sort of stereotypes that you do get, I guess without being—what's the word?—overly *direct* about it.¹⁰⁸

Breaking stereotypes of contemporary Indigenous people suggests that the display invites discursive engagement, even if through nondirect, non-linguistic, 'poetic-subliminal' means. In particular, visitors worked within a dialectic between the positively storied *Frieze* and negatively storied portrayals perceived outside the museum:

And then as you look around [the display] you see lots of little [Aboriginal] kids and they're all laughing and smiling, and I think that's really good 'cause . . . the Aboriginal people don't always get a good *wrap*. You know, they're supposed to be desolate and drunk and I think that was really good in that it showed Aboriginal people *normal*—whatever that is—in a non-Western, happy way.¹⁰⁹



Figure 8.12 A montage of stills from the *Frieze* exhibit

That the material images of children represent a counterdiscourse again supports the view that discourses may be realised through all manner of semiotic resources, and that the material and the discursive are cross-coupled in meaning-making. While the *Frieze* was not explicitly intended ‘to illustrate or to teach’,¹¹⁰ it was nevertheless interpreted by visitors as challenging dominant discourses. As Mieke Bal notes, the narrative power of images cannot be denied (1992, 588):

M: We live in Sydney and so you always get the urban sort of betrayal [*sic*] of [Aboriginal people].

F: The only sort of Aboriginal portrayals I’ve seen in the city aren’t good ones. And [the display] actually tells you that there is an important *history* there, and that they’re not *all that bad* as they are sometimes portrayed. So, that’s the story I got.¹¹¹

A key part of the *Frieze’s* positive Indigenous narrative stems from its display of ‘multiple layers and diversity’.¹¹² The exhibit presents scenes of “the modern right through to the traditional. There’s a wide *spectrum* of *environments* which Aboriginal people still belong to.”¹¹³ For instance, Indigenous people were shown as police officers, as working at McDonald’s, playing team sports, spear fishing, and preparing ochre and grain with traditional methods. Heightening awareness of diversity within Indigenous communities broadened visitors’ perspectives of Aboriginal people:

Well I suppose it’s to show how *diverse* Aboriginal culture really is. Or, how diverse the situations in which Aboriginal people find themselves in. From their traditional lands to their other land.¹¹⁴

As the *Frieze* positively restories Indigenous peoples, the relative physical location of the display was proposed as significant: “Aboriginals get a bad *wrap* here [in Australia], so, [this display should be] at *least* at the start of the Aboriginal section.”¹¹⁵ This comment speaks to the role of a single exhibit in the overall narrative of an exhibition; ‘[t]he *sequence* of the displays is as important for their semiotic effect as is their individual content’ (Bal 1992, 581; original emphasis). By placing the exhibit at the entrance to the exhibition, it would represent the beginning of a story. Beginnings of stories are important in that they set up expectations to be elaborated and fulfilled, and so launch the rhythm of a story (Egan 1988). The visitor’s suggestion to relocate the *Frieze* exhibit shows an intersection between channelling and broadening. Indeed, the processes of framing, resonating, channelling and broadening operate with mutually-influencing dynamics, in an overall system. This shall be explored in the next, concluding chapter.

Both the *Frieze* and *Dialogue* exhibits served as sites redressing ethnocentric discourses, broadening visitors’ perceptions of other cultures; ‘ethnocentricity is that quality that some of us have in which we look at anyone who’s

different than we are, or in a different group than ours, with suspicion, or hostility, or feel they're inferior in some way' (Mezirow 1996, 10). Discounting other ways of being can be seen as ignorance: "The way people sort of talk about Aboriginals and stuff like that, which often probably is due to ignorance."¹¹⁶ "And it showed some types of things that people are ignorant about. And I think it was just trying to *build* that rapport between the two *cultures*."¹¹⁷ In particular, ignorance was specifically attributed to a lack of acknowledgement of, or respect for, alternate systems of knowledge and know-how:

It's a really *wasted human resource* that we've not tapped into. And also it's a *people* who had great technological skills which we don't *recognise*. . . . [P]eople, like some politicians, say they didn't invent the wheel so therefore they had no technology. Which to me shows the great ignorance on the part of a lot of Australians. And I guess that's where I feel sorry, that Australians as a group don't *value* Aboriginal people.¹¹⁸

I just see that comparatively with the Indigenous people in the U.S. The histories are very similar, the *whole* European "We're better than they are; they're just nomads" . . . Aboriginal people are portrayed so *illiterate* and so *non-Western* . . . *hopefully* it makes people understand that they *do* have their own culture. Just because they're not Western doesn't mean they're not *good*, not *smart*. I couldn't walk across Australia and *survive!*¹¹⁹

The *Dialogue* display directly addresses such discursive differences, setting up a dialectical space by juxtaposing the projected views of historical figures Sir Baldwin Spencer (anthropologist and museum director, 1860–1929) and Irrapmwe (Indigenous elder, about 1830 to about 1905). The text panel at the exhibit's entrance explains that '[t]he *dialogue* imagines how these two men might view Aboriginal knowledge, law and property if they were alive today'. The following are their first exchanges in the dialogue, so acting to begin the story, to set expectations, for the twelve-minute audio-visual sequence:

Irrapmwe: So, you were the professor in Melbourne, and I was the professor in Alice Springs.

Spencer: I beg your pardon?

Irrapmwe: You were the professor in Melbourne, and I was the professor in Impartmwe, Alice Springs.

Spencer: I'm not sure what you mean!?

Irrapmwe: Look, I was a clever man. I had lots of stories, songs, ceremonies, everything! Nobody could beat me! I knew that Alice Springs law better than anyone.

- Spencer: Oh, yes, I see. Yes Charley. You certainly knew your stories, but I'm not sure you have the right to call yourself 'professor'.
- Irrapmwe: Why not?
- Spencer: You see this pen? [see pen with engraved initials 'W.B.S.', third row of screenshots, Figure 7.12, Chapter 7, this volume] This was my pen. I wrote books, letters and reports with this pen. Now you couldn't read or write at all, Charley. That's one of the things that showed us you were primitive. Part of a stone-age culture.
- Irrapmwe: Yes. I've been meaning to pull you up on that. I remember your other book. What was it called? 'The Native Tribes of Central Australia'. That was a good book. It had really good photographs. But we didn't really care for all that writing.
- Spencer: Like I said, you couldn't read or write.
- Irrapmwe: No! You're wrong there. And just a bit cocky! See this? [see possum jaw engraver, fourth row of screenshots, Figure 7.12] This was my pen. I went through tough school before I could use this, like university and the army all rolled into one. 'Initiation' you white fellas call it. I could carve our stories in sacred places and on sacred things with this! That's what I call real writing, professor. I wrote our history for us.
- Spencer: That's all very well, but-
- Irrapmwe: No 'buts', professor! You and Gillen knew a lot about us, and that was good. But I think that if you really want to be my brother, you'll have to see that our story is worth as much as yours. Not primitive, not stone age, just different. You had your law and we had ours.

With the support of material artefacts, Spencer's fountain pen and Irrapmwe's possum jaw engraver, *Dialogue* illustrates alternate discourses for the same aspect of reality. That is, both Spencer and Irrapmwe were respected members of their communities charged with documenting culture and history: "They had *pens* and writing and things like that, whereas say there the Aboriginal manuscripts were written over thousands of years, via *other* instruments."¹²⁰ In this way, the display explicitly draws on material artefacts to engage with the discursive.

Through witnessing the exchanges between Spencer and Irrapmwe in *Dialogue*, visitors demonstrated many instances of broadening. For instance:

[What stood out most was] the idea of *asking* the Aboriginal people to tell their own story rather than us *interpreting* it. . . . [It made me feel] kind of inadequate that we've probably never asked them to tell us their story.¹²¹

For a visitor to recognise non-Indigenous museum narratives as distinct from Aboriginals' own stories is an example of discursive broadening; '[t]he way that frames of reference are changed in our experience is by becoming critically reflective of our assumptions' (Mezirow 1996, 10). How this revelation made the visitor feel, inadequate, is a 'troubling incompleteness' seen by David Carr as the 'purpose of the museum at its best', 'inspir[ing] human change' (2001, 176). The visitor experienced affective and discursive broadening, within a dialectical space between heart and mind, emotion and reason.

Notably, not only *who* is telling *whose* stories, but also *how* these stories are told, was raised in visitors' awareness: "I think it's just understanding that they *have* got other stories to be *told*, and they'd like to tell it in *their way*."¹²² The (re)presentational aspect of display, the mediating function of museum exhibition, is intrinsically implicated: "[The Indigenous gallery] *captures* something that's pretty special. . . . [I]t's more interested in people's *feelings* than just displaying the artefacts as would've been done in the past."¹²³ Visitors made an inherent connection between respecting Indigenous peoples' feelings and the communication of meaning through display: "We do have to respect also that they do have their *own* feelings about what some of these artefacts are and what they mean."¹²⁴ Notably, an emphasis on cultural meaning over mere display emerged from visitors' accounts: "If it's just sort of *displaying* rather than showing the *culture* it's a bad thing because then you *lose* a lot of what's *meant*."¹²⁵

The museum is trying to *respect* the wishes of the Aboriginal community a bit *more*, and not just treating them as 'these are some interesting artefacts', but trying to perhaps get across a better idea of what the cultural significance of them is.¹²⁶

Visitors expressed the consequent importance of a consultative process: "Really it needs to be done in consultation with *them*, taking *their* laws and customs into account."¹²⁷ As Elaine Heumann Gurian notes, 'native people are the legitimate spokespersons for the use and display of "their" artifacts within the museum . . . The display of any objects without consultation . . . will become obsolete' (1995, 34).

As a case in point, the dialogue in *Dialogue* deals with the issue of secret men's business in Indigenous law and repercussions on museum display: '*That's a really dangerous thing, that! You can't show that here. You brought that [shield] to [this museum], too. So you know that shield was in my secret business! That's just for proper men, not for women and children, or men who don't know our law!*' (Irrapmwe speaking in *Dialogue*). While the Baldwin Spencer of the early 1900s wished to show the restricted artefact to the general museum audience, Irrapmwe pointed out that "he doesn't want to put [such] objects in a *museum* because that would kill his *culture*."¹²⁸ Visitors learned that there are "artefacts which are considered more sacred according to the law and the fact that a decision can be *made* about what should be shown and what shouldn't be shown."¹²⁹ If museums are about

preserving and communicating cultures, it would be counterproductive for museum display to lack cultural sensitivity:

I think that's something that we're only just coming to terms with *now*, is *imposing* stuff on people and you just think, "Well, yeah, okay why *should* all your sacred things, or things that mean a lot to you, be just put on display in probably an inappropriate *way*?"¹³⁰

An important aspect of the broadening of visitors' frames of reference is their perception of an admission of responsibility: "Europeans have now started to slowly see where they've gone *wrong, really*."¹³¹ Significantly, the dialectical space explored through the contrasting viewpoints in the *Dialogue* display offered insight into a process of reconciliation:

And probably the [message] that I see from the Aboriginals' side is, "Hey, consult us, let's work together on *doing* it" and from the European side, "Okay, we understand where you're coming from." And it was good, because I think it's pretty *hard* for any *culture* to expose themselves and say, "Look, hey, we didn't do it all right". . . . I thought it was pretty *frank*.¹³²

Not all visitors are comfortable, however, with an openly discursive approach to museum interpretation:

Frankly I think this entire [Indigenous gallery] is very much about blaming the past. I feel it's a victimhood mentality in Aboriginal people that is really not doing them much good. I do prefer what happens in other places where Aboriginal culture is *celebrated* rather than *compared*, and I think that this [approach] is very depressing.¹³³

The visitor casts the open redressing of past practices as an unhelpful discourse of victimisation. He brings to the museum an expectation of a 'celebratory' approach, which to him is "to show as much about Aboriginal culture as [one] could without resurrecting the past." The visitor, a zoologist by profession, goes on to suggest that in traditional artefactual display "the culture stands on its *own*, and you judge it according to whatever precepts you *bring* to it. *Here* I feel I'm constantly being told what I should believe about this." Yet traditional artefactual display is itself the articulation of particular discourses, and perceiving such an approach as 'celebratory' is another layer of socially-constructed discourse dependent on the viewer's frames of reference.

The *Spencer showcase* is likewise self-reflective (see Figure 8.13). As well as featuring a life-sized representation of an anthropologist, reversing the past practice of showcasing Aboriginal marquettes, it prominently features a quote from the Tasmanian Aboriginal Centre: '*We do not choose to be enshrined in a glass case, with our stories told by an alien institution which*



Figure 8.13 The provocation of the *Spencer showcase*

has appointed itself as an ambassador for our culture'. This provocative statement prompted visitors to reflect on the mediating function of classical museum display cases: "They didn't want their *lives* to be showcased and spectacted, like fish in a bowl."¹³⁴

I think what they're saying is that they want their culture to be *accessible*. And if it's enshrined behind the glass it's almost like it's on a *pedestal* and remote and inaccessible, I think.¹³⁵

Another visitor questioned the appropriateness of the showcase's approach in redressing the problem of cultural (re)presentation:

I'm not sure if printing it *on* the glass case itself sort of *diffuses* what the *original* person is trying to say. You can't have the culture behind the glass case and represent it accurately, because it's a story of dispossession. And so putting it in a glass case again just continues that dispossession.¹³⁶

One of the greatest insights, however, from the Indigenous displays in this research is a response to the same text on the *Spencer showcase*. Namely, the visitor made a thoughtful realisation about the nature of cultures and the limitations of their mediated (re)presentation through museum display:

I just think it's such a shame, because I think we're not seeing *everything* in a culture. . . . I'm just sad that we're *possibly* not seeing *all* that-, like myself as a visitor I think, "Wow, unless I go right into the outback, I'm just capturing just a slice of it!" As soon as I came I saw "You can't put our culture behind a glass cage."¹³⁷

While the visitor expressed disappointment, I do not interpret this as a negative response but as a positive response. It is another instance of growth-inspiring troubling incompleteness. His visit to the museum invited subsequent engagement with real-life experiences beyond the museum, to go beyond the museum 'right into the outback'. Ironically, the semiotic mediation of the display broadened the visitor's understanding such that he appreciated culture as a larger construct than could be wholly articulated through the museum. To become aware that the museum could only provide a glimpse, 'capturing just a slice of it', is to spur the visitor towards broader possibilities beyond the museum. This is indeed to prompt the visitor 'toward broadening his or her horizons and then acting on that new-found breadth' (Beck and Cable 2002a, 39).

Speaking Silences Out Loud

The museum can be broadening in nature by filling in silences that exist outside the museum. One such silence is the experience of serving in war. This silence exists within families: "My father fought in this battle. But he would never talk about it."¹³⁸ "My grandfather was in the First World War. He didn't talk about it!"¹³⁹ Significantly, the filling in of family silences may cultivate empathy with those who have served in war: "[My father] never spoke about it until he died. I was probably 16 when he died. But he never ever talked about the war, and this gives me an idea of all the horror he went through."¹⁴⁰ Insight into wartime experiences may also promote gratitude:

My dad was in the war, and he didn't talk about his experiences very often, but he more or less said, you had a *job* to do. And after an experience like that [in the *Bomber Command* simulator] I feel in a way that I'm glad I'm a woman and I'll never have to experience anything like that.¹⁴¹

Further, a valuable mediating function of the war museum/memorial can be to foster dialogue within families. The following is another example of a museum experience broadening real-life experience:

[My husband's] dad is just starting to talk about *his* experiences a lot more. . . . [W]e're just looking around to see if we can see anything on "Curtin's Cowboys." That's the group [my father-in-law] was with. So we're researching here on that, so that we can go back and tell him about it.¹⁴²

It is evident that the war museum/memorial fills in silences about war, helping relatives to gain insight into the experiences of those who have served. Such broadening assists with current relationships, and with the processing of memories of those no longer with us.

The subject of death itself was identified by visitors as a general silence within individuals, and in society. The discomfort people feel about death offers some explanation as to the typical visitor responses to *Stilled Lives* (see Figures 5.3 and 5.8 in Chapter 5, this volume): “If they were on *branches* I could’ve coped with it. I didn’t like that. It looked like a *morgue*.”¹⁴³

I prefer the lifelike [taxidermied] ones. That stark contrast shows the finality of *all* our existence, I think. . . . [W]e’re all going to end up like that at one stage. Which is not a very pleasant thought. So you don’t think of it often.¹⁴⁴

The irony is that taxidermied animals displayed in lifelike postures are just as dead as the animal pelts in *Stilled Lives*. These responses give alert to the fabricated nature of museum display, its representational blur between reality and fantasy (Silverstone 1989), and to its nuanced expression of the discursive through the material.

An artefact featured in the *Fear* exhibit, a mermaid-decorated coffin (see Figure 8.14), introduces the idea that the materiality of coffins can precipitate alternate discourses on death. The *Fear* exhibit addresses death by featuring content about a coffin-making company. The company, ‘Final Indulgence’, offers individuals the opportunity to design and decorate their



Figure 8.14 Mermaid-decorated coffin, *Fear* display

own coffin, motivated by the desire to redress prevailing discourses and consequent ceremonial practices related to death:

Up until recently as a society we have tended to believe death should occur in a hospital situation and funerals should be conducted as sombre, dark ceremonies . . . We thought that the coffins on offer . . . were boring and depressing and expressed nothing of the life of the person inside them. . . . [Our coffin-making process] makes the statement that the person inside is an individual and not afraid to carry that mark of individuality right to the grave.¹⁴⁵

Visitors noted that the exhibit fills a silence that exists generally among people: “It was interesting, the way people would *think* to think about their death, and bring it *out* into the *open* more or less. Whereas most people don’t wanna talk about it.”¹⁴⁶ The exhibit served to positively restore a ceremonial ritual of death: “It’s *overcoming* fears, being free to express yourself in death.”¹⁴⁷ Further, the museum was commended for mediating such a topic:

I just thought that was the most *wonderful* approach to death, but what excited me about it was its *edginess* . . . how extraordinary this place is that they would think to *include* something as edgy as that.¹⁴⁸

For this visitor, experiencing the exhibit motivated her to actively broaden her future real-life experience:

The two women talking about the *coffins*, about death. I’m still goose-bumpy from that. . . . In fact, what went through my head was—while seeing it—I’ll talk to my two children about it when I go back home, and friends, and I’ll actually make that commitment. If I *know* ahead of time *when* I’m going to die, we’ll have a *day*, a coffin-painting day or weekend or whatever. I think it’s a *wonderful* idea.

Museums may thus be broadening to visitors by addressing issues that are held in silence elsewhere in society, such as the experience of war and death.

On the other hand, museums themselves may hold silences. The most prominent silence held by museums, as voiced by visitors in this study, regarded the representation of women: “I’m not sure just how well represented women are in this [museum].”¹⁴⁹ A male visitor describes, with specificity, his view on the relative silence around women:

I think the basic story of Australia is not told very well from the woman’s viewpoint. Right? I think women put up a *hell* of a lot in getting this country going. . . . What *effect* have the *women* had on Australia? Most of all this stuff you see *men* featured. They went and found this,

dug it up, and all that sort of thing. But, where's the women? I've got a wife who's one of Australia's top scientists. And I'm very much *for* women taking their rightful place and showing what they've done. Who *are* the famous women? And I'm not talking about Cathy Freeman.¹⁵⁰ But, does this generation of kids know who Nancy Wake was? . . . The most decorated woman in the Second World War.¹⁵¹

The institution where women in war could be foregrounded is at the war museum/memorial. Yet it, too, was observed as lacking in content pertaining to women: "Of *all* [exhibits] you see around here . . . they've never said how many women and children were killed in the Second World War. . . . [N]one has been mentioned, not to my knowledge, so far."¹⁵² This visitor at the *Dialogue* display likewise expressed desire to redress the male/female balance:

And I would've liked to have seen it from a *female* Aboriginal point of view. Where was their *place*? Like, we had the *male*'s, King Charley's point of view, *but* what were the *females* doing at that time?¹⁵³

Indeed, some of visitors' most striking past museum experiences related to exhibits about women. In a "living Viking museum" in Scandinavia, a visitor was struck by a 'guts story' of women: "When you just see *how* an ordinary housewife lived [laughs] perhaps a thousand *years* ago and you understand how she brought up her *kids*."¹⁵⁴ This male visitor was struck by an exhibit at a museum of contemporary art, which gave voice to women:

M: It was a *movie* done by-, I think the fellow was *Iranian*, but he actually shot the whole thing in *Morocco*. And it was *two* images. One film on one side, one film on another, in a darkened room. And one was images of *men* and one was images of *women*. And that kind of *struck* me. And the whole thing was in black and white. What he was trying to get across was that this is how women in Islamic-Muslim religion are *treated* and this is what they're trying to get away from, because eventually they walked out of this desert onto a beach, got in boats and sailed away. So that struck me. Whereas the men were sort of *stuck* there looking towards them and "What are you doing?"

T: *How did that affect you then? Or, why does it stay with you, do you think?*

M: I don't know. I think it's because, number one, it was in black and white and you were going from two images and two separate images—one of male and one of female—and how their *emotions*, I guess, in film, were in their society. The men were doing things and *working*, whereas the women just seemed to be wandering *aimlessly*. But they actually wandered aimlessly out of the desert onto the beach

and sailed away. And then they seemed to have smiles on their faces as if they were *happy*, getting away from something.¹⁵⁵

This excerpt illustrates a dialectical space within which the visitor was able to perform. Part of the dialectical space was poetic, formed through the exhibit's material design and the narratives it created through moving images. The visitor worked actively in reconciling the spatially-opposed films of males and females. Interfused in this dialectical space was the political. The visitor negotiated meanings from the display through discourses of oppression and liberty. The 'voice' given to women in the display was, evidently, without words, exemplifying a key concern of this chapter: how discourses may be realised in exhibition environments through multimodal representational resources. Visitors can be actively enlisted to make higher-level interpretations through image and sound and spatial relations, as much as through the linguistic. Through analysis of visitor accounts, I have come to the conclusion that broadening processes are most intently catalysed when the poetics and politics of exhibits encourage visitors to be coparticipants in the creation of discourses. I conceptualise such coparticipation as 'performativity'.

BROADENING AS PERFORMATIVITY

This chapter examined processes suggesting the broadening of visitors: broadening of horizons, awareness, understandings, the self. Analysis of visitors' accounts suggests that visitors can experience broadening across *experiential*, *conceptual*, *affective* and *discursive* planes. Such broadening processes may be most powerfully catalysed through working in dialectical spaces, such as those between the concrete and metaphoric, the particular and universal. These dialectical spaces are a function of the mediating power of exhibition environments, and can be further analysed as engaging both poetic and political dimensions. The idea of broadening as 'performativity', then, has interest in *how* visitors may engage in these dialectical spaces: how visitors' possibilities of response may be broadened, and how visitors may grow in knowledge of the discourses within which exhibitions are materialised.

To draw on the concept of performativity is to recognise the active agency of visitors in making meaning of exhibits; 'to pose the audience as a verb rather than a noun, and as an activity, a performance . . . an audience which, in its acts of creative consumption . . . constitutes itself as a performer' (Silverstone 2005, 195). Further, performativity speaks to the meaning-making processes of museum professionals, whose discursive practices influence the discourses within which exhibitions are realised (Kress and Van Leeuwen 2001; Iedema 2003). In this sense, museums themselves are 'performances':

[T]he museum is not only a cultural artifact made up of other cultural artifacts; museums serve as theater, encyclopedia, and laboratory for

stimulating . . . all manner . . . of relationships. As such, museums are ‘performances’—pedagogical and political in nature. (Preziosi and Farago 2004, 4–5)

The way in which ‘performativity’ undergirds broadening processes thus relates not only to the meaning-making of visitors, but also to the meaning-making practices of exhibition developers, and to museums as institutions. As a material semiotic network, all are held together, and shape one another, through the ongoing performance of relations (Law 2007, 2004, 1999). Semiosis in museums is a dynamically networked enterprise, an activity that is distributed across the ecosocial environment (Thibault 2004). Reciprocal relationships between the material and the semiotic give form to an institution’s rhetorical functions and catalyse visitors’ performance within these (Noy 2008). At their core, exhibitions are material-discursive phenomena that come about through material-discursive practices. Meaning is therefore produced performatively, not just through words, but in how the world is (re)configured through the ‘causal relationship’ between the material and the discursive (Barad 2003).

An overt application of performativity is demonstrated by the technically-interactive exhibits discussed in ‘Physical to Theoretical, Theoretical to Physical’. In such exhibits, ‘communication occurs in the performance of actions. . . . [through] human action/machine reaction, the exhibits supposedly reveal a principle of science’ (Dicks, Soyinka and Coffey 2006, 84). The intended broadening of visitors, then, is reliant on a conception of learning as proceeding from concrete activity to abstract conceptualisation. Yet the effectiveness of interactive exhibits in helping visitors to build scientific knowledge is variable, as suggested by this study, and as reported in the visitor studies literature, noted in ‘Exhibition Design as Mediation’ (Chapter 2, this volume). The lack of evidence that such an approach is consistently educationally effective lends support to Kieran Egan’s (1988, 2005) perspective that educators’ elevated focus on learning as proceeding from the concrete to the abstract has led to the neglect of more powerful ways of learning, which Egan suggests are through the imagination and through the story form.

The prevalence of technically-interactive exhibits has not diminished in the face of such evidence, however, for science centres value the role hands-on exhibits play in constructing the overarching discourse that science is ‘fun’. In doing so, science centres actively work against conceptions of science as ‘dull’ (Tlili, Cribb and Gewirtz 2006, 212). Through accepting the invitation to ‘play’, visitors are indeed coparticipants in the creation of the discourse that science is fun, in the transformation of ‘science and technology into a game’ (Silverstone 1988, 233). Technically-interactive displays are also sustained as they have come to occupy a place in the marketing discourses of such institutions: ‘interaction’ is ‘also marketing terminology, overlaid on another discourse of profitability, cost, customer satisfaction’ (Henning 2006, 314); hands-on exhibits serve to mediate economically (see Silverstone 1988, 1989).

Further, hands-on science and technology centres typically limit the (re)presentation of science to that which is ‘task-centred’, ‘mechanical, practical and applied’; they ‘communicate science as a particular kind of “thing”—as human-initiated mechanical movement’ (Dicks, Soyinka and Coffey 2006, 87). Science is routinely presented in discrete disciplinary divisions, such as physics in science centres and biology in natural history museums; such is reflected in the different types of science exhibits in this research. These divisions are identified by Charlotte Lee (2007) as stemming from different ‘communities of practice’. An exhibit designer interviewed by Lee, who had worked in both science centres and natural history museums, noted typical perceptions of the communities of practice: science centre staff tend to perceive natural history museums as ‘boring and dead’, and natural history museum staff see science centres as ‘just chaos’ (ibid., 195). The designer urged a more integrated approach to the presentation of science, rather than the traditional separation of physics from biology, and hands-on institutions from hands-off institutions. Thus, by transcending these discursive practices so as to offer visitors more integrated treatments of science, broadening processes could be more holistically catalysed; indeed, perhaps through the very setting up of dialectical spaces between the different fields of science.

Hands-on exhibits provide a literal example of the performativity of material semiotic networks. However, the act of walking, gazing, and musing over static museum objects in glass cases is equally as performative, even if operationalising a contrasting pedagogical discourse. In ‘Standing in Testimony to Life’, visitors’ responses to static flora and fauna exhibits showed performativity to lie in the power of exhibits to show rather than tell, and in the emotional responses evoked in visitors. Gaynor Bagnall advocates that ‘[i]t is the reality of the emotions felt by the visitors, the emotional realism, that contributes to their ability to ‘perform’ (2003, 93).

In this study, displayed animals elicited emotional responses in two ways. Visitors could feel distress or sadness at the sight of ‘dead stuffed animals’ on display; visitors could also feel moved by seeing the beauty or diversity of the natural world. Either way, an emotional realism was experienced, hence enabling visitors to ‘perform’. It may be an irony that whatever the emotional response, whether negative or positive, visitors performed by entering into a conservation discourse. Visitors thus aligned with the overriding agenda of institutions to encourage people to value the natural world (Archer and Wearing 2003; Larsen 2002). Visitors’ awareness of the purpose of museums to preserve and display that which has been lost to the outside world acted as a powerful message, in and of itself. For visitors did not want the museum to be the *only* representation of flora and fauna species, as has eventuated with the now extinct Dodo and Tasmanian Tiger. This concern demonstrates visitors’ meta-awareness of a larger ecosocial role of museums as material semiotic networks.

In ‘Science as Storied’, contrasting discourses of science were shown to directly impact on the intellectual performativity of visitors at exhibits. In

its poetics, in its selection and ordering of communicative components, the *Gene Technology* display suggests that visitors may engage in an egalitarian performance of meaning, by appearing to enable a degree of self-direction and a range of material by which to form one's own view. The politics of the *Gene Technology* exhibit, however, restricts its content to that which supports corporate interests. As such, the performativity suggested by the poetics of the display is curtailed by its politics; the agenda of the exhibit was to render faith in a discourse of science and technology as trustworthy, rather than to assist visitors to form their own view about the implications of gene technology. In contrast, the *Dinosaurs* exhibit presented a discourse of science as entailing speculation. By materially pointing out the few bones on which entire dinosaurs were deduced, the exhibit served to disrupt the 'representational adequacy' (Silverstone 1988; Preziosi 1995), the seamless 'reality', of the television series of the same name. In this way, the exhibit redressed the power imbalance often present in televisual and museum representations; it overtly presented the exhibit as an 'open work' awaiting a 'performance of meaning' (Carr 2001), inviting visitors to reconcile material evidence, processes of science, and processes of representation.

Performativity catalysed by the poetic use of narrative was demonstrated by visitor responses in 'That Guts Story of People', particularly at the war museum/memorial. Visitors were shown to actively perform through mechanisms of narrative, experiencing feelings of identification with the subjects of stories, internalising moral lessons embedded in stories, and in drawing the universal from the particular (Weinberg 1994; Bedford 2001). Further, the use of the narrative form, in using unadorned language, in leaving spaces for visitors' own imaginations and emotional responses, leaves 'meaning open or "performable" by the reader' (Bruner 1986, 25–26). The emotional responses readily induced by visitors' engagement at the war museum/memorial suggests that visitors experienced an 'emotional realism', and were able to perform at the site by identifying with it affectively.

The politics of the war museum/memorial, the manner in which it seeks to persuade, is to instil in its visitors greater understanding and respect for Australians who have served and sacrificed in war. Reciprocally, the institution serves as a site at which visitors may feel as though they *are* paying their respects, and visitors even undertake a pilgrimage to it for that express purpose. Choosing to commemorate the dead is in itself an interpretive decision (Lennon 1999, 78). Karina Lennon's suggestion that commemorative interpretation and critical interpretation are incompatible would seem to be borne out by the approach of the war museum/memorial in this study.¹⁵⁶ However, as the visitor accounts in this chapter showed, visitors may nevertheless use the site to engage in critical reflection about the nature of war in society. By documenting the people and events of wars, by troubling visitors through its concrete testimony of violent histories, the memorial indeed 'await[s] a performance of meaning' by its visitors (Carr 2001, 173), and through that succeeds at catalysing broadening.

In ‘Who Is Telling Whose Story, and How?’, exhibits dealing with the collection and display of Indigenous culture illustrated how visitors could be assisted to perform through exhibits with a self-reflective nature. That is, by being open about the dilemmas of dealing with past practices of artefactual collection, and by being open about present concerns with cultural (re)presentation in museums, the exhibits invited visitors to perform as members of a ‘community of discourse’ (Mezirow 1996). Such an approach is articulated by Lisa Roberts as follows:

An easy way to foster visitors’ narratives, and one that is rarely practiced, is for museums to be upfront about their own process of construction—that the knowledge they present is incomplete and unfinished; that it is derived through a never-ending process of discovery and revision; and that its advancement is subject to ongoing debate. . . . Were [exhibits] to focus on the process of thought or the arguments surrounding their development, visitors could more readily enter into dialogue and actively consider their own responses. (1997, 143–44)

The *modelling* of discursive engagement, particularly in the *Dialogue* exhibit, serves this vision for museum professionals by Selma Thomas: ‘At our best, we teach our visitors about themselves, about their culture, and about the *means of discourse*. We give them a vocabulary, both spoken and visual, that helps them understand, interpret, and discuss’ (1999, 271; emphasis added). Notably, the reflexive approach of the *Dialogue* exhibit and the *Spencer showcase* worked to denaturalise museum display in visitors’ minds as a cultural communication device. To denaturalise modes of communication, to make their conventions more transparent, is part of the semiotic agenda to moderate the power held in acts of representation (Chandler 2007). In particular, visitors were led to appreciate museum display as neither neutral nor unproblematic. Such raised awareness can lead to recognition of the limitations of display in communicating cultures, the limitations of display in representing some ‘extramuseological’ reality (Preziosi 1995, 13).

In ‘Speaking Silences Out Loud’, visitors demonstrated their own performativity within the larger ecosocial environment in which they and museums are embedded. Specifically, by expressing awareness of marginalised discourses, visitors showed their dynamic relationship to the social construction of, and representation of, knowledge. Visitors perceived that discourses could be marginalised elsewhere in society but addressed in museums, such as the experience of war. In contrast, visitors could also perceive that museums themselves marginalised discourses, such as those relating to women through history; museum display, as forms of media, ‘provide *frameworks* both for remembering and forgetting the past’ (Silverstone 2005, 190; emphasis added). Where museums redress discourses marginalised elsewhere, museums provide unique opportunities for visitors to grow through broadening processes. Where museums appear to marginalise

discourses, museums themselves have opportunities to grow. Silences in the museum can be expressions of museums' political power as mediators, in their 'conscious and unconscious consistencies of inclusion and exclusion' (Silverstone 1988, 237; see also Silverstone 1989). Rhiannon Mason urges exhibition professionals to 'critically examine the paradigms and discourses within which they work', for the 'operation of discourse is always linked to systems of power within society' (2005, 205).

Ultimately, to consider broadening as undergirded by performativity is to privilege how visitors are supported as active, self-aware agents in negotiating the poetics and politics of display. The value I place on sharing power with visitors, in fostering the ability of visitors to participate within communities of discourse, reveals my own political persuasion. At its base, this is an emancipatory ideal that I see as fulfilling the purpose of museums to equip an informed citizenry. I hold this view against a contemporary backdrop that has been trying to semiotically naturalise the notion of technically-interactive exhibits as symbolising a democratic approach to display; '[a]dvocates of new media celebrate its democratizing potential, its ability to make multiple viewpoints available, to turn visitors into authors' (Henning 2006, 315). How this naturalisation process has infiltrated discursive practices is reflected in the following description of an exhibition development process:

Key aspects of being 'democratising' in the exhibition were the emphases on choice, consumption and fun. . . . Providing more choice, consumption and fun was providing more agency and, therefore, was more empowering to visitors. This was a concept of the visitor as an 'active citizen', which contrasted to more passive visions of them elsewhere. (Macdonald 2002, 186)

However, providing such 'visible' interactivity (Henning 2006, 312) does not necessarily equate to equipping an active citizenry, as concluded by Sharon Macdonald about the said exhibition: 'There is little sense that visitors come away from the exhibition more empowered in relationship to the subject-matter' (2002, 240). As seen in this study, particularly at the *Gene Technology* and *Vital Space* exhibits, enabling visitors to literally enact choices can be illusory and confusing, and may not lead to more democratic understandings of the substantive content of exhibits. In contrast, the *Dialogue* display did not enable visitors to self-select matters of interest, nor did it enable visitors to assume any level of physical control. However, it did set up a dialogic interactivity over which visitors could assume a level of control, as they reflected on the contrasting discourses presented before them. Andrea Witcomb advocates such a dialogic perspective:

Taken seriously, dialogue could become the basis for a new understanding of interactivity in museums. Such an understanding would break the association between a mechanistic understanding of interactives and

attempts to democratize the museum, as well as too uncritical a reliance on technology, as the basis for the way forward. (2006, 360)

The notion of broadening as ‘performativity’, then, is not tied to enabling visitors access to the content of exhibits in ‘visibly’ interactive ways; although it does not necessarily exclude it, either. Rather, exhibition developers have much choice in how they orchestrate the poetics and politics of display, and it is through these complex orchestrations that the potential exists for catalysing visitors’ contemplative and critical engagement with the content of displays.

The layer of semiosis that ‘Broadening’ speaks to is one that is commonly the interest of exhibition evaluators and researchers: the meanings visitors make of the interpretive content of exhibits and exhibitions. That meaning arises through the interplay between the material and the discursive is an essential understanding, particularly for those charged with developing exhibitions. It was an unexpected outcome of this research that three data analysis chapters would precede this one. Patterns recurring across the visitor data inspiring the chapters ‘Framing’, ‘Resonating’ and ‘Channelling’ have taken this book over wide-ranging terrain. These nuanced excursions, impelled by the breadth of concerns in visitors’ accounts, demonstrate some of the complexity and diversity of meaning-making processes in exhibition environments. Taken together, these four chapters map, in an exploratory manner, the transactional space between casual adult visitors and exhibition environments.

9 Design for Exhibition Ecologies

Meaning-making activity is a result of the dynamical interplay and integration of processes on many different levels. . . . ranging from the neurological processes in the human brain to the persistence in historical time of an entire culture's ways of making meaning and the resources for doing so.

Paul J. Thibault (2004, 315, 10)

Disciplinary dilemmas facing exhibition design spurred this research. How could exhibit design be more tacitly articulated? How could we come to deeper conceptualisations of the visitor experience, so as to advance exhibition design discourse? How could we more intimately grasp the interface between visitors, contemporary media and interpretive strategies? How is the inward visitor experience affected by design choices? Could we identify the essence of the exhibition medium, for any given case? What would this look like? How could we get inside visitors' ways of thinking and being in the museum? How could we account for exhibit design as mediated, and as mediating, as exercising intention and power? How do exhibits modulate thresholds between representation and experience? What is the ecology of visitors-in-exhibitions?

The experiential accounts of hundreds of museum visitors suggest they are in relationship with exhibition environments over multiple levels, encapsulated here as entailing the processes of framing, resonating, channelling and broadening. Conversely, when things don't gel, these relational processes can be impeded, circumvented or fragmented. The four processes together describe a system, a system with nuanced effects on the creation of meanings and the facilitation of experience. The four constructs are neither about visitors nor exhibitions alone, but about aspects of relation between them. They capture how visitors and exhibition environments become integrated with each other in a moment-by-moment fashion and through extended space-time scales. The duality of the findings—being at once about visitors and about exhibition environments—suggests where museum professionals have agency in fostering quality visitor experiences: within the textures of these relational processes.

Visitors' accounts traversed wide and varied territory, provoking the conceptual range of the previous four chapters. I did not set out to query visitors about generic notions of 'museum', about the influence of architecture, about perceptual phenomena or about discursive silences in the museum. Yet in explicating their experiences, visitors drew on these to qualify their responses. Documenting these webs of meanings was made possible by a qualitative, grounded methodology that flexibly followed leads raised by visitors. A key implication is that 'meaning' in the visitor experience is only partially derived from engagement with the interpretive content of displays. Studies focused on the meanings visitors make of the subject matter of exhibits—on what visitors 'learn'—therefore address only a select portion of the meanings visitors engage with while wandering around exhibitions.

While intensive, pursuing what was salient to visitors was necessary in coming to a clearer understanding of how design mediates within the visitor experience. What visitors were doing was this: providing glimpses into the ecology of exhibitions, a network of micro- and macrorelational processes between visitors and their surroundings. Indeed, upon reflection, the research performed for this book has been 'media ecology work' (Strate 2002). Media ecology is the study of mediated environments. The reference to ecology emphasises interdependent relationships: 'the ecology created by the interplay of elements as a system, the constructedness of spaces, and the meanings they make possible' (Long 2011, 1). Media ecology is about 'relational possibilities' within mediated environments, inclusive of, but also more than, substantive content (2). Media ecology encompasses phenomenological aspects of 'doing' and 'being' in mediated environments, and study of what can 'overwhelm, distract, limit, and frustrate us' (2). It pays attention to the 'biases' of media, such as their 'dimensions of time and space, and progress through symbolic, physical, ideological, social, and sensory biases' (3). All of these qualities have in some way been explored through the interpretation of visitor accounts over the previous four chapters.

Moreover, media ecology, from a systems perspective, examines interconnectivities between simultaneously occurring phenomena within media environments (Heise 2002). Taking an ecological perspective implies that one is seeking to know 'how such interactions lead to a balanced and healthful environment' (Postman 2000, 11). The processes of framing, resonating, channelling and broadening, and all of their subprocesses, describe a great many interconnectivities between visitors and exhibition environments. When each of these processes is proceeding well, the ecology of the situation presumably is 'healthful'.

A MUTUALLY-SHAPING, RECURSIVE SYSTEM

For the purposes of identifying and analysing their dimensions, framing, resonating, channelling and broadening have been examined in separate consecutive chapters. The order in which the constructs are presented in

this book may suggest that the processes have a dominant flow: visitors perceive museums and exhibits through particular frames, a sense of resonance draws them to specific elements in exhibition environments, they channel physically and conceptually through the museum and the derivation of substantive meanings act to broaden visitors. Having had a museum experience, this may then reframe future museum experiences, and so the cycle continues. The following account illustrates the processes working in concert with each other within an exhibition, with evidence of such a directional flow:

I think the *value* of the museum is that there are *real* pieces *there*. Like on the net you can see the *pictures* of it, but *here* you can see it [FRAMING], and I think, “Wow! Look at that.” . . . just seeing some of the *Creation*. And I just think, “Wow! That’s just a fabulous world. How did that come about? And *why* did we let this *go*? Why do we let a beautiful animal like the Tasmanian Tiger *die*? *Why* did we do that?” [RESONATING & BROADENING] And then there was a question mark which was quite *challenging* for me; it said, “Have we *learnt*?” [CHANNELLING]. . . And as I walked away I thought, “Mmm, I wonder if we *have* learnt, as a *people*, as human beings, that we just don’t *let* nature *die* out like it did?” I think, “Ooh, what a *shame*.” ’Cause I think of the *kiwi* over there [in New Zealand]. It’s *protected* now, but we almost *lost* it. And I think we’d never see that *live*, walking around anymore. I see it in zoos, I see it on footage like we just did there and I just think “What a *shame*.” We’ve gotta learn from those things and *develop*. [BROADENING]¹

The visitor’s reference to museums’ value residing in ‘real pieces’ reveals a displayer-of-artefacts institutional frame, and his contrast of images from the Internet with these real things suggests a materially-distinct exhibit frame. These frames provide a boundary for what he finds resonance with, the display of animal specimens. The visitor’s resonant energy with other living things spurs him to reflect on the origins and fragility of life, and humankind’s role in the conservation of life, initiating broadening processes. The interpretive label ‘Have we learnt?’ pointedly channels his thoughts. By extrapolating the example of how the Tasmanian Tiger became extinct onto the plight of the kiwi, New Zealand’s flightless bird, the visitor participates in a broadening process.

The four processes, however, need not and do not always work in this linear or circular fashion. To assume so would be an overly simplified view. Rather, the processes cultivate relationships visitors have with exhibition spaces in mutually-shaping, recursive ways. Together they form an interwoven system acting at multiple levels, subject to simultaneous integration. So as well as interrelations *within* each process, such as the interlacing of various forms of broadening, there are also interconnectivities *across* the processes. In the following account, the visitor’s sensemaking and behaviour emerges through the reconciliation of framing and channelling. That is, the visitor’s

strategies for spatial channelling are reciprocally influenced by his classification of museums as particular types, a framing process (see Figure 9.1):

- M: You look at the map of this thing and it doesn't exactly *flow* through [CHANNELLING]. This [museum] isn't too bad because it's an "experience" one [FRAMING] where you actually walk through. Whereas other [museums] where you try and find particular displays etcetera, then ah- [CHANNELLING]
- T: *Right. So you don't mind that the map doesn't work for you because you walk-*
- M: At the beginning you do, 'cause you think, "Aah, hang on, how do I know where I'm gonna be?" or whatever, "What am I gonna be looking at?" [CHANNELLING]. But once you get in you realise that it's not that sort of museum [FRAMING]. As I said, the British Museum

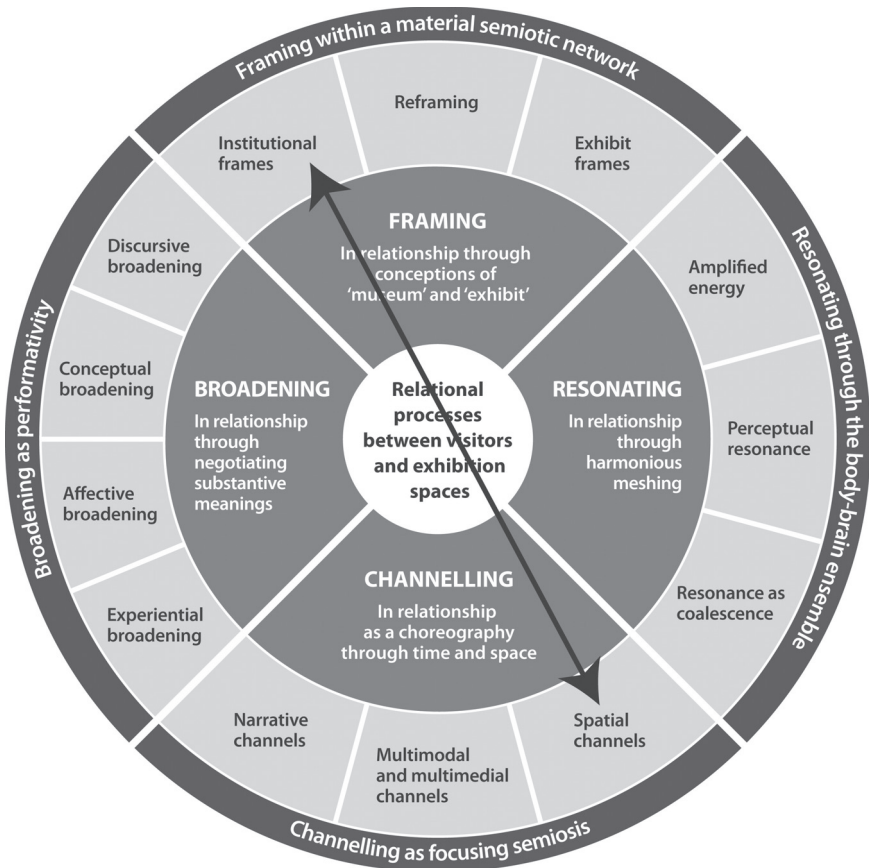


Figure 9.1 Reciprocal influence between institutional frames and spatial channelling

you might be going to the Egyptian section or the Mexican section, and you want to know where you are. With this one you go through and you come across things like this display [the *Frieze*] and think, “Oh, yeah” and jump in. [CHANNELLING]²

The approach to channelling through the museum makes sense to the visitor via a feedback loop with framing. In figuring out how to channel through the museum, framing processes alert him to the idea that it is not the type of museum that lends itself to navigation of discrete categories.³ Upon realising that the museum does not fit within a traditional displayer-of-artefacts frame, the visitor gives concession to the map and building design for not enabling precise navigation. This, in turn, undergirds his channelling processes. Framing the museum as experiential, the visitor surrenders himself to the environment. This example illustrates a systems view, in which the nature of the system emerges through the dynamic relationships between its parts. Specifically, framing the museum as more experiential shifted the balance of agency within channelling processes, from the visitor using his own agency to tightly orchestrate the visit, towards submitting to the active channelling agency of the environment.

In a final example, how processes of resonance function in relation to the whole system is quite striking. The account shows that a resonant response to museum architecture can directly catalyse broadening processes (see Figure 9.2). The visitor’s experience of the general environment of the museum, rather than reflecting on any particular exhibit content, induces a profound sense of the accomplishments of humankind:

- F: Well, the first thing that struck me was the openness, the *light* . . . [RESONATING]
- T: *You mentioned the light and dark contrast between the old and new [museums]. Is that something that makes any difference to your museum experience?*
- F: Yeah. I have a sense *interiorly*, a *movement* of opening *up*, breathing free, *delighting* in being here, *marvelling* in *wonder*. Whereas I didn’t have that sense of interior expansion in the old museum. I felt sort of closed in and constricted, “Oh, this is a job to look at stuff.” . . . It’s the architecture. It’s a really major *feature* here. [RESONATING]
- T: *Right. You mentioned that you feel an ‘internal expansion’. Can you describe that any more for me?*
- F: Well, what do I mean by that? I’d have to use terminology that mightn’t make sense. A sense of *freedom*, a freedom from *constraints*, of *joy*, of *wonder*. Mmm. [RESONATING AND BROADENING]
- T: *Good. Is it more emotional than intellectual?*
- F: No, it’s *both*. I’d say intellectual in a spiritual sense, if that makes sense. Not intellectual in a rational-logical-thinking sense, but intellectual

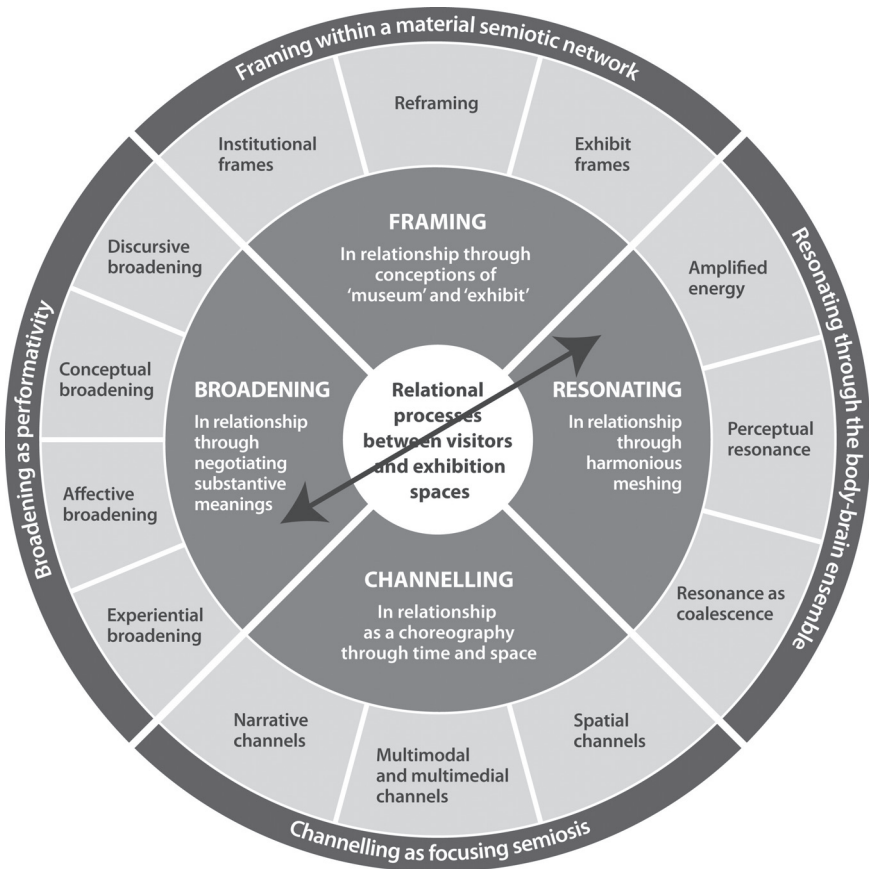


Figure 9.2 Reciprocal influence between resonating and broadening

as the intellect being the apex-of-the-soul type sense. That’s moving into spiritual theological categories. . . . So there’s definitely a spiritual dimension to it. But emotions get involved as well.

- T. *Right. Is that a sense of empowerment?*
- F. No, no. More *humbling* really. At least it’s *humility* more than empowerment. With all the marvel of what people have *achieved* and their creativity, the creativity of *others* who had the *vision* for this sort of thing. [RESONATING AND BROADENING]⁴

Inherent in each of the three excerpts above are visitors’ higher-level semiotic readings of the material environment. The first semiotic reading was at the level of museum display. The vocabulary of museum display—in this instance, a taxidermied, extinct Tasmanian Tiger combined with historical

film footage—was read as emblematic of what could be left of other endangered species if history were repeated. The second semiotic reading was at the level of the museum. To gain insight into culture through experiential displays, rather than through discretely categorised artefacts, was read as emblematic of a different categorisation of museum. The third semiotic reading was at the level of architectural meaning. Soaring ceilings combined with natural light was read as emblematic of the heights of visionary achievement. These examples explicitly show how the material becomes entrained to the semiotic, and how the semiotic is given form through the material. Taken together, these examples demonstrate how the museum experience is at once *multisemiotic*: museum visitors attribute meaning at multiple scalar levels.

The essential issue at hand is the visceral nature of being human, in a human body, while at the same time filtering experience in culturally- or socially-ordered ways. Recall the visitor above, for instance, who shared his angst and then his acceptance of adopting a different kind of navigational approach for a differently-classified museum. And while it might be a rare visitor who could articulate, so finely, such responses to form, space and light, the visitor's account about architecture provides insight into the continuous loops between the experiential and the symbolic. Both excerpts are examples of the constant eddies between the physical-material and the semiotic-discursive in sensemaking:

[M]eaning-making activity, or semiosis, is cross-coupled to physical-material processes which constitute the substrate of semiosis. By the same token, the activity is guided and modulated along its trajectory by higher-scalar constraints that arise in the symbolic (e.g. semantic) neural space of the individual. (Thibault 2004, 6)

Indeed, dealing with the phenomenological and the semiotic, and their reciprocal dynamics, formed much of the research work over the last four chapters, such was the nature of visitor accounts. This research agenda was urged by Donald Preziosi more than three decades ago already:

[S]emiotic inquiry and the study of perceptual and cognitive psychology need to become increasingly sensitive to the overlapped nature of their concerns . . . [they] comprise compatible and complementary (and supplementary) perspectives on the constructive orchestration of meaning. (1979a, viii)

That this interdisciplinary work still warrants attention is reflected in Preziosi's more recent observation: 'we are just beginning to appreciate some of the central semiological and psychological mechanisms upon which the objects of museological stagecraft and museographical . . . discourse are dependent' (2006, 55). Similarly, Jay Lemke advocates studying the

‘experiential, meaning-construing trajectory’ of multimedia users, through twin perspectives:

A phenomenological perspective, which I believe necessarily complements a semiotic one, reminds us of the importance of time, pacing, feeling, affect, and embodiment . . . Phenomenology asks us to . . . recoup the experiential feelings and nominally subjective (though not necessarily merely individual) aspects of what it means to act and be in time and with the world. (2009, 141)

Applying semiotic terminology to this conceptual framework has not been taken lightly. In retrospect, I can see that my initial motivation to learn something of the ‘intellectually expressive aspects’ of exhibit design set up a particular dialectical space in which I as a researcher have been participating in a performance of meaning.⁵ Namely, examining relationships between *material design* and the *intellectually expressive* is in itself meaning-making that couples the physical with the discursive—what I understand now as an essential core of the overall semiotic project. However, it does not seem too much of a liberty to position visitors, too, as working within a dialectical space between material design and the intellectually expressive as they wander around museums. Indeed, as suggested by the visitor accounts in this study, it would appear a reasonable view of the transactional space between visitors and exhibitions. Moreover, museums’ interpretive processes draw on multiple semiotic systems to (re)produce knowledge, and to construct coherent representational worlds, in the form of exhibits. So the work of exhibition development professionals is, consciously or unconsciously, semiotic in nature. Plainly, conscious engagement with semiotic processes is preferable:

Deconstructing and contesting the realities of signs can reveal whose realities are privileged and whose are suppressed. Such a study involves investigating the construction and maintenance of reality by particular social groups. To decline the study of signs is to leave to others the control of the world of meanings which we inhabit. (Chandler 2007, 11)

As with any field, semiotics originates from, and maintains, multiple traditions. Within the museum literature, the ‘worst’ form of semiotics has been noted as bestowing a ‘uniformly bad’ ‘political valence’ on museums (Witcomb 2003, 11). While ‘Exhibition Design as Mediation’ and ‘Broadening’ (Chapters 2 and 8, this volume) follow Chandler’s lead and deconstruct the political—the function of exhibits to persuade—this is not to suggest that this persuasive function is necessarily ‘bad’. Situated, ethnographic multisemiotic study is interested in how an institution’s drivers manifest in exhibition environments, whether these be commercial or recreational or educational or social-justice concerns. A multisemiotic view is not so much

interested in passing judgement on museums as sites for socialising, reminiscing, playing or learning. Rather, it seeks to examine *how* institutions are semiotically organised as such sites—that is, how metamuseal discourses are materially realised, and reciprocally, how what is available materially, or technologically, impacts on discourses brought into play. A benefit of such study can indeed be to surface—to denaturalise—habitual rememberings/forgettings, disciplinary assumptions, illusory pluralism, commercial rhetoric and the like. As explored in Chapter 2 (this volume), power is exercised in stagecrafting exhibitions. As the stageplay of exhibition design continues through time, it is important to stay aware of the drivers of our work.

Semiotics has also been unfavourably critiqued when theoreticians ascribe fixed meanings to exhibitions, a brand of semiotics that ignores the meanings made by museum visitors (Hooper-Greenhill 1995; Witcomb 2003). My own critique and distance from approaches dissociated from real-life, situated meaning-making is noted in Chapters 3 and 4 (this volume). I do not subscribe to semiotics as a ‘science’, as searching for fixed structures, but see meanings as historically and culturally influenced, as transformed over time and context. And while individuals do construct polyvalent meanings of the same situations, second-order analysis of such meanings can suggest socially-shared conventions which assist in the understanding of cultural forms such as museum display (Atkinson and Delamont 2005, 826–28). The hundreds of experiential tales in this research are definitely subjective; however, they are hardly idiosyncratic. A considerable level of shared experiences, and meanings, amongst clusters of visitors are apparent. Namely, patterns exist in the frames held by visitors, in how resonance is achieved, in how channelling proceeds and in occurrences of broadening. Visitor accounts show that there are ‘biases’ inherent within the structure of representational environments, giving rise to patterned responses, many that can be considered ‘semiotic’.

To understand the ecology of exhibitions from the perspective of the visitor, and from the perspective of a designer, it is therefore valuable to conceptualise the museum experience as ‘semiosis’, rather than more simply as meaning-making. That is, as a confluence of sensemaking processes that cocouple the physical-material and the semiotic-discursive, encompassing the immediate here-now experience, the trajectory of the individual through space and time, as well as socially-meaningful conventions that have evolved, and continue to evolve, also through space and time (Thibault 2004). The idea of semiosis accounts for larger-scale historical-ecosocial-cultural trajectories as well as integrating individuals’ body-brain processes. The trajectory reaches back in time, and also projects forwards, with previous experiences providing ‘ways of orienting to and being “in” particular kinds of situations’ (ibid., 5). Paul Thibault’s articulation of sensemaking as a simultaneous interplay of processes at multiple scalar levels maps well over the conceptual framework formed by the constructs of framing, resonating, channelling and broadening.

Framing processes are processes of semiosis, cocoupling the physical with the discursive, as they illustrate people's processing of the material 'stuff' of museums from a metaperspective. Namely, how is a museum distinct from a library or a theme park? What does an exhibit offer over a television program or a book? Visitors' experiential accounts demonstrate the importance of dialogic resonance between bottom-up sensory cues in the environment and top-down, culturally-influenced perceptual patterns, in processes of perceptual completion. Visitors' participation in channelling processes reflect the simultaneous experience of the physical environment and the guidance of cultural conventions in negotiating and 'reading' architectural formations. Finally, broadening processes pointedly highlight intersections between the material and the discursive, as visitors work in dialectical spaces between the poetics and politics of display.

The idea of 'semiosis' serves designers who need to work with material specificity, with understanding of very human and cultural ways of being and knowing, and with awareness of the wider intellectual impact of their work. This is a conception of the museum experience recognising its embodied and situated nature. Just as experience is physical and physiological *and* culturally mediated, so too is semiosis (Kress and Van Leeuwen 2001, 27–28). Knowledge of the continuous transactional exchanges between people and their environments—'organisms are integrated with and engage in meaningful transactions with their inner and outer environments on diverse space-time scales' (Thibault 2004, 7)—lends itself to understanding the ecology of visitors-in-exhibitions.

IMPLICATIONS FOR PRACTICE

How might museum professionals work within exhibition ecologies, within the textured web of relations visitors find themselves acting in, using the constructs of framing, resonating, channelling and broadening? In relation to framing, what are the dynamics between frames that an institution projects and frames that its visitors hold? What frames does an institution project through its marketing and branding? Through its house style? Does it wish to renegotiate these? Museums, exhibits, exhibit developers and visitors are actors within a material semiotic network, with reciprocal influences on each other. How are these relations reframed when institutions undergo redevelopment? What happens if new players start acting within the network? Artists, for instance, creating social history exhibits, or the general population creating exhibits through crowdsourced content?

What happens if museums borrow conventions from other material semiotic networks? If they borrow from other ecologies, such as the performing arts or formal education sectors? What happens to visitors' expectations, satisfaction and participation when media in other contexts see significant change? How can reframing processes enliven, enrich and expand audiences?

When does reframing alienate audiences? How far can the essence of 'museum' be pushed, until it no longer resembles a museum? What framings must be retained for museums to endure in an increasingly virtual world? How might an eighth 'act' of exhibition design manifest? No doubt we will have one. What framing conventions and mediations will become naturalised? My guess is that museums will continue to exist within public buildings, with growing augmentation by virtual media networks. Especially as we are increasingly mediated by screen-based worlds, the basic human pleasure of going somewhere palpable will likely remain a drawcard for tangible museum spaces—somewhere enabling contact with the fibres of life and of things, somewhere infused with the energies of real people and communities, somewhere with the rejuvenating feel of civic architecture and landscaping.

These very kinds of human desires form substrates for relational processes underlying the construct of resonating. The visceral, moment-by-moment experience in the museum has deep implications for design and is one of the great differentiators of exhibition environments as communication technologies. The bodiliness of being in the museum has the power to evoke effortless responses. What kinds of 'lock and key' complementarities offer themselves in an exhibition space? Design sensitive to the ambient character of space, and the cumulative experience of adjoining museum spaces, can refresh, excite and invoke exalted or respectful pause. A positive bodily connection can amplify visitors' energy to attend to the environment, not only to pay attention but also to make sense of it, to reflect on it meaningfully. In relation to the substantive content of exhibits, designers can work with the dynamics at play needed for sensory fragments to resonate in visitors' minds as greater conceptual wholes. What is needed to aptly, economically and evocatively represent an idea, circumstance or concept in exhibit form? Designers can also encourage a sense of deep coalescence with exhibition environments. How does an exhibition space enable visitors to feel a sense of belonging, a sense of feeling part of something beyond themselves?

But we have to be careful. Technological bells and whistles, as well as abundant artefacts and specimens and text and images—the potentially rich resources of museums—can be but a cacophony of competing elements, a confusing array of stuff and options and stimuli. There can be so much to see that visitors can't see anything. These are common ingredients for thwarting the relational processes between visitor and exhibition. Overloaded, visitors skim the exhibition glassy-eyed or turn on their heels for respite from what seems too much to bear. It's not that visitors want a watered-down experience or for content to be reduced to simplistic messages. It's about the limited attentional resources people naturally have, the fatigue of suppressing distractors to focus attention. It has nothing to do with not wanting thoughtful intellectual engagement. The solution is to achieve complexity and richness, without causing confusion and overload. The construct of channelling encapsulates ways to foster this relational process between visitors and exhibitions.

How does an exhibition's orchestration of representational modes and media promote restorative, selective and/or synchronous channels? Does it offer fragmented channels, contributing to the immediate and cumulative burdens on visitors? Designers can incorporate spatial envelopes of varying proportions across an institution—cavernous open spaces and cave-like intimate spaces. Each has benefits of its own. What kinds of channelling opportunities does an institution offer for navigation? Do these detract from or enhance the museum visit? How are narratives expressed, not only through words but also through the assemblage of all the material elements of an exhibition? What kinds of choreographies through time and space do visitors characteristically engage in, in a particular institution, not only in wayfinding but also in piecing together an overall gestalt?

As visitors engage within the ecology of exhibition environments, they expect a broadening of self. What orientation does the institution take towards this? Is it to fashion the visitor into compliance with the institution's perspectives? Is it to open the visitor up to discovering that there is much more to seek and learn? What kinds of dialectical spaces does an exhibition offer? How is the ecology of an exhibition space built through the poetic and the political? The tangible and intangible? How does it engage imagination and reason? Emotion and intellect? What overarching discourses are expressed through an exhibition's interpretive approach or choices in interpretive media? Are visitors assisted to see the discourses within which exhibitions are constructed? Are institutions ready to address more holistic views of science and its engagement with the world, to undo the binary between science centres and natural history museums? In all kinds of institutions, is there a need to denaturalise certain forms of display? To develop others? Why? How? Would change engender visitors' agency within the ecology of the exhibition space? How could change enrich the value of exhibition-based experiences within visitors' lives?

IMPLICATIONS FOR RESEARCH

Whether visitors engage in each of the four processes during every visit to an exhibition environment, or at least feel frustrated for their impedance, is a question of interest. The evidence-based way in which this theory was built—from gaining entry into the coalface between hundreds of visitors and a wide stock of exhibition environments—makes me think that they probably do. As questions spurring further research to this end, it is interesting to contemplate how the museum experience might proceed *without* these processes. If visitors did not hold any frames, any conceptions of 'museum' or 'exhibit', how would they negotiate what they see at the museum? If visitors did not experience resonance with any part of an exhibition environment, would they find the motivation to effortfully engage with it? If visitors felt an absence of any cohesive channels through the space, media or content of

an institution—chaos!—how would they persevere through a museum visit? If visitors did not experience any broadening of their sense of the world, any sense of the museum adding value to their lives, would they care to visit at all?

The theory presented in this book was developed from data attained in six different institutions of the sciences and humanities: two natural and cultural history museums, two science and technology centres and two tightly-themed museums. How would framing, resonating, channelling and broadening be utilised in interpretive sites *not* included in this study? In, for instance, art galleries, zoos, botanical gardens, national parks or heritage sites? Such sites do not always consist of the same kinds of formal buildings, exhibitions or interpretive media that each of the institutions chosen for this study shared in common. However, it is possible that the processes are sufficiently generic to extend to such sites, with nuances.

How do different audience segments engage in framing, resonating, channelling and broadening? Are there marked differences, for instance, between frequent and infrequent visitors? Singletons and groups? Males and females? Adults and children? Local, national and international visitors? Home-schoolers and honeymooners? Young families and retirees? People with specialist subject interests and people simply out for an enjoyable day? How about people enacting different visit identities, such as ‘explorers’, ‘facilitators’, ‘rechargers’, ‘hobbyists’ or ‘experience seekers’ (Falk 2009)?

This study used, as its starting point for discussions with visitors, experiences at singular exhibits. This approach worked well for probing the visitor experience with a high level of specificity, especially from the point of view of a designer. While the interview questions gradually widened to include other exhibit experiences, and a much broader set of data ended up in the analysis due to visitors independently widening the discussion, it is nevertheless important to note this exhibit-based starting point. Starting discussion around a singular exhibit would likely draw out a different kind of conversation than interviewing visitors after they had experienced an entire exhibition or interviewing from a whole-visit perspective. What more, therefore, could be found out about framing, resonating, channelling and broadening if they were studied from such wider vantage points?

A different kind of conversation would be had, again, if visitors were interviewed two or six months after their visit (Falk, Dierking and Adams 2006). It would be instructive for future research to include a longitudinal dimension. Over cumulative museum visits, can differences or tendencies be detected in a visitor’s processes of framing, resonating, channelling and broadening? How does reframing influence subsequent visits? What effects does reframing have on visitation patterns? The ‘broadening’ documented in this study was largely limited to what visitors could articulate about the here-now experience. As meaning-making occurs as a trajectory over space and time, how does broadening in the museum interlace with future meaning-making events? Studying the effects of different points in space and time,

on the processes of framing, resonating, channelling and broadening, would further enrich the understanding of visitor experiences.

Research potential exists in museum experiences that are *not* exhibit-based. What effects do promotional materials have on framing? How do front-of-house staff assist in channelling visitors? How do overt signage and orientation devices channel visitors? Are significant broadening experiences those which involve special public programs, such as workshops or behind-the-scenes tours? What framing, resonating, channelling and broadening opportunities are made possible by guided tours? By institutions' websites? By museum programs for school children? Would the constructs have application in learning environments beyond the museum? Would they find applicability in other free-choice learning settings such as public libraries, special-interest camps or adult learning programs? What about formal learning settings? How could schools create resonant environments, amplifying students' energy for learning? What kinds of synergies could be forged by capitalising on museum frames in the school context? Namely, in catalysing serendipitous exchanges between learners and rich learning environments?

This research examined the ecology of exhibition spaces, foregrounding the visitor viewpoint. As sketched in 'Envisaging the Discipline' (Chapter 1, this volume), such an approach was rendered necessary to more fully understand the impact of design decisions on the museum visitor experience. It would be invaluable now to turn towards exhibition developers. Could the design decisions of experienced exhibition developers be analysed in relation to the constructs of framing, resonating, channelling and broadening? It would be instructive to follow an exhibition's development and then to turn again to visitors' experiences upon installation. This dynamic interfacing would make for complex and interesting study. Engaging in this reciprocal dance would invite a final research question. And that is, could the processes of framing, resonating, channelling and broadening form the basis of a generic exhibition development framework?

POSTSCRIPT

At a metalevel, the conceptual framework formed through these four processes is not about typing visitors or typing exhibits. Nor is it about typing experience. It is about how visitors and exhibitions find themselves in relationship with each other. The framework transcends any particular learning theory and any particular epoch in exhibition design. It dispels binaries between cognition and affect, between body and mind. Critically, it averts examining visitors in an insular fashion, or exhibits as independent entities. Rather, the processes simultaneously engage characteristics of the visitor *and* characteristics of the exhibition environment. Such symbiotic relationships were brought to light through a research methodology focusing on the transactional exchange, on aspects of relation, between person and environment.

Identifying and understanding these relationships offers an evidence-based foundation on which to base design decisions within exhibition contexts.

Reflective of my inherent interests as a designer-researcher, then, I offer this book as a meditation on the transactional space between visitors and exhibitions. I have benefited from the work of many who have journeyed before me, reflected in what could be seen as an eclectic array of constructs drawn into this project. By interrelating and recasting these into this particular package, my aim is to make a contribution to two communities of practice: those with an interest in understanding visitor experiences and those seeking to further the discourse of exhibition design. Of course, these two communities are often one and the same.

Notes

NOTES TO CHAPTER 2

1. 'Discursive' is meant in the Foucauldian sense, in that discourses are systems of representation, recruiting historically-located ways of seeing and talking about things and associated practices (Hall 1997, 44). Institutional contexts, including museums, in turn become sites for discursive formations such as exhibits.
2. "Enlightenment Europe," British Museum website, accessed February 8, 2011, http://www.britishmuseum.org/explore/world_cultures/europe/enlightenment_europe.aspx.
3. Of course, history is not always so neat. At the end of the eighteenth century, newly created museums in America were still of the cabinet of curiosities kind, for instance with Peale's Museum displaying the macabre and spectacular in a murderer's trigger finger and a four-legged and four-winged chicken (Hudson 1987, 22). Even so, Peale's Museum drew on the rationality discourse, as the 'Museum of Rational Entertainment', and also drew on democratic discourse, inviting the general public to muse over its treasures (Lorenc, Skolnick and Berger 2010, 16).
4. Early institutions were the National Museum of Technology in Paris (1799), London's Science Museum (1857), Munich's Deutsches Museum (1925) and Chicago's Museum of Science and Industry (1933).
5. "Coal Mine," Museum of Science and Industry website, accessed May 1, 2011, <http://www.msichicago.org/whats-here/exhibits/coal-mine/>.
6. "History of the Institute's Walk-Through Heart," The Franklin Institute website, accessed May 1, 2011, <http://www2.fi.edu/exhibits/permanent/giant-heart-history.php>.
7. Gardner's theory was first published in 1983.
8. For instance, effective lawyers in the legal domain have the linguistic intelligence to phrase 'convincing arguments', the interpersonal intelligence to 'skillfully interview witnesses' and the logical intelligence to 'follow a torturous chain of reasoning to its ultimate conclusion' (Gardner 1993, 319).
9. Florence Belaën, "L'analyse de l'apparition d'un nouveau genre culturel dans les musées des sciences: les expositions d'immersion" (paper presented at the International Cultural Heritage Informatics Meeting, Paris, September 8–12, 2003).

NOTES TO CHAPTER 3

1. A male visitor in this study, thirty-five to forty-four years old, reflecting on Te Papa Tongarewa, National Museum of New Zealand; words transcribed in italics were emphasised by visitors.
2. What many of these authors have in common is the analytic lens of ‘Systemic Functional Linguistics’ (SFL). I have not followed suit as SFL’s reliance on applying, and necessarily extending, a *linguistic* theory to *nonverbal* entities presents me with a philosophical and practical impasse. Like others, I see reason to avoid a verbocentric view: ‘there are the strongest possible reasons for taking a completely fresh look’ at the semiotic landscape (Kress 2000b, 183), as ‘[t]heories of language will simply not serve to explain the other semiotic modes, unless one assumes, counterfactually, that they are in every significant way like language’ (Kress 2000a, 153).

NOTES TO CHAPTER 4

1. F55–64. See note 5 below.
2. This study is not an ‘ethnography’, taking as its point of analysis ‘the place of culture in human affairs’ (Chambers 2003, 390), requiring long-term observation or embeddedness within a particular group (Gay, Mills and Airasian 2006, 444). For an ethnographic account of the relationship between museums and family culture, see Ellenbogen (2002).
3. *Stilled Lives* was created by the artist Janet Laurence.
4. The BBC is the British Broadcasting Corporation.
5. Visitors’ accounts were transcribed verbatim, noting laughs, pauses and words stressed by visitors in italics. Male and female interviewees are shown as ‘M’ and ‘F’, respectively, and as the interviewer, I am shown as ‘T’. The gender and age range of visitors is provided as notes. In visitor quotes throughout this volume, an ellipsis (. . .) indicates where words have been omitted for brevity.

NOTES TO CHAPTER 5

1. M25–34-Track5
2. While *museum* is used as an umbrella term by professional bodies to include institutions such as social history and natural history museums, art galleries, science and technology centres, botanic gardens and zoos, this generic classification was not shared by this visitor.
3. F65–74-Fear2
4. Natural and cultural history museum tagline, 2008.
5. F55–64-Fauna1
6. M35–44-Dialogue1
7. M35–44-Dialogue1
8. F45–54-Babies5
9. F45–54-Babies5
10. F65–74-Avro1
11. F25–34-Frieze5
12. M35–44-Bomber6
13. M18–24-F18–24-Vital7
14. M25–34-Babies7; ‘The display aimed to show people “the real thing” i.e. real animals mounted or preserved, or models made from casts of real

- animals (e.g. snakes and lizards)'. (Exhibit developer, natural and cultural history museum)
15. *F55-64-Spencer6*
 16. *F18-24-Fauna8*
 17. Naturally-occurring talk of an adult male visitor.
 18. *F35-44-Environ7*
 19. *M45-54-Spencer4*
 20. *F25-34-Filing8*
 21. *M45-54-Dialogue8*; the use of present tense in this comment shows that visitors may not be aware of changed collection policies and practices.
 22. *M25-34-Babies8*
 23. *M45-54-Forest1*
 24. *F25-34-Spencer2*
 25. *M45-54-Forest1*
 26. *M25-34-Babies8*
 27. *M25-34-Babies8*
 28. *M45-54-Forest1*
 29. *M55-64-GeneTech2*
 30. Colloquial for 'you've got to'.
 31. *M55-64-GeneTech2*
 32. *M35-44-Dialogue1*
 33. *M25-34-Environ2*
 34. *F55-64-Fauna1*
 35. *F25-34-Filing8*
 36. *F45-54-Diprotodon8*
 37. *M45-54-Fauna4*
 38. *M55-64-F55-64-Forest3*
 39. *F55-64-Forest3*
 40. *M35-44-Fear1*
 41. *F35-44-Track8*
 42. Science and technology centre tagline, 2001.
 43. *F65-74-Forest4*
 44. *F25-34-Vital2*
 45. *M35-44-Light5*
 46. *F45-54-Diprotodon8*
 47. *M35-44-Dialogue1*
 48. *M35-44-Dialogue1*
 49. *F18-24-Frieze6*
 50. *F25-34-Ship9*
 51. *F35-44-Dialogue4*
 52. *F45-54-GeneTech7*
 53. *F35-44-Dialogue4*
 54. *M35-44-Dino1*
 55. *M25-34-Avro6*
 56. *M45-54-Siffleet4*
 57. *F45-54-Bomber1*
 58. *F65-74-Avro1*
 59. *F35-44-Fear9*
 60. *F25-34-Avro8*
 61. *M55-64-Filing1*
 62. *F25-34-Avro8*
 63. *M55-64-Filing1*
 64. *F35-44-Light3*
 65. *F18-24-Siffleet9*

66. *F55-64-Fauna6*
67. In the institution's 2000 Visitor Profile Survey, 9 per cent of visitors came to see dinosaurs, 8 per cent came for building/architecture/design/layout, 8 per cent came for educational purposes/stimulating learning experience for self, 7 per cent came for fun/enjoyable experience and 6 per cent came to see *Phar Lap*.
68. *F45-54-Diorama9*
69. *M25-34-Bomber4*
70. *F45-54-Diorama9*
71. *M25-34-Bomber4*
72. *F35-44-Avro6*
73. *F45-54-Avro7*
74. *F45-54-Diorama7*
75. *M65-74-Avro1*
76. *F65-74-Bomber9*
77. *F35-44-Bomber9*
78. The following piece of travel writing is an example of content-sensitive promotion that directly and unapologetically frames the experience as not fun or entertaining: 'Despite the fact that there's an extensive and interactive visitors' centre and rolling gardens, which are nothing short of breathtaking, Port Arthur's history—both recent and otherwise—do not make it a fun day out. Instead, it is an intriguing and poignant reminder ... Expect to be enlightened as opposed to entertained' (David Smiedt, "Voyeur," *Virgin Blue Magazine*, no. 21, April 2003, 48). Port Arthur is a historical penal prison site at Port Arthur, Tasmania, that also became the site of Australia's largest massacre in 1996, in which thirty-five people were killed by a lone gunman.
79. *M25-34-F35-44-Avro6*
80. *M25-34-Avro6*
81. *M65-74-Diprotodon10*
82. *M25-34-Babies7*
83. *M18-24-Frieze10*
84. *M45-54-Fear6b*
85. *M45-54-F45-54-Ship4*
86. *M18-24-Frieze10*
87. *M18-24-Frieze10*
88. *F45-54-Dino8*
89. *M25-34-F25-34-Frieze5*
90. *M45-54-Dino4*
91. *F25-34-Babies3*
92. *M25-34-F25-34-Vital8*
93. *M25-34-Fauna2*
94. *M45-54-Ship4*
95. *M25-34-Stilled3*
96. *M65-74-F65-74-Stilled8*
97. *M25-34-Stilled3*
98. *M25-34-Stilled1*
99. *M65-74-F55-64-Stilled4*
100. *M65-74-F65-74-Stilled8*
101. *F25-34-Stilled3*
102. *F(1)35-44-F(2)35-44-Stilled2*
103. The visitor's intertextual reference to *Indiana Jones* movies suggests how museums can be framed through popular film (Oberhardt 2001).

104. *M25-34-Babies*8
105. *M55-64-Babies*4
106. *M45-54-Stillied*5
107. *M55-64-Babies*4
108. *M25-34-Stillied*1
109. *M25-34-F25-34-Vital*1
110. The ABC is the Australian Broadcasting Corporation.
111. *M25-34-Fear*10
112. *F55-64-Frieze*1
113. *F55-64-Spencer*6
114. *F45-54-Babies*2
115. A Hills Hoist is an outdoor washing line invented in Australia.
116. *M45-54-Filing*6
117. *M45-54-Environ*4
118. *M45-54-Forest*1
119. *M25-34-Babies*7; Phar Lap originated from New Zealand but is popularly considered an Australian racehorse.
120. *F25-34-Vital*1
121. For instance, the First World War dioramas at the war museum/memorial—almost a century old—emerged in this study as highly significant to visitors.
122. *M25-34-Babies*7
123. *F25-34-Babies*8
124. *M45-54-Richter*6
125. *M25-34-F25-34-Frieze*5
126. *M25-34-Babies*7
127. *F25-34-Dino*6
128. *F45-54-Spencer*4
129. *F35-44-Filing* 6
130. *F45-54-Spencer*4
131. *M55-64-Babies*4
132. *M45-54-Babies*2
133. *F35-44-Fear*4
134. *M45-54-Frieze*2
135. *M45-54-Forest*1
136. *F25-34-Dialogue*2
137. *M25-34-F25-34-Frieze*5
138. *M45-54-Avro*2
139. *F45-54-Dino*8
140. *M55-64-Siffleet*5
141. *F35-44-GeneTech*1
142. *M45-54-Ship*4
143. *M45-54-Ship*4
144. *M65-74-Diorama*2
145. *M35-44-Avro*5
146. *M25-34-Environ*3
147. *F45-54-Babies*5
148. *F45-54-Vital*4
149. *M25-34-Environ*2
150. *M25-34-Environ*3
151. *F25-34-Dino*6
152. *M25-34-Babies*7
153. *M45-54-Forest*1
154. *M45-54-Spencer*4

155. F55-64-Forest3
156. F45-54-Vital4
157. F55-64-Forest3
158. M45-54-Spencer4
159. M45-54-Spencer4
160. M25-34-Vital8
161. M45-54-Dino4
162. M45-54-Ship9
163. M55-64-prelim study
164. M65-74-Stilled4
165. F45-54-Dino4
166. F65-74-Stilled7
167. F35-44-Spencer8
168. F35-44-Spencer8
169. M35-44-Dino1
170. M55-64-GeneTech2
171. M35-44-Fear1
172. M45-54-Frieze2
173. F35-44-Filing4b
174. F45-54-Frieze4
175. M25-34-Fauna2
176. F18-24-Track1
177. M45-54-Filing2
178. F45-54-Vital4
179. M35-44-Avro2
180. M45-54-Filing6
181. F45-54-Frieze4
182. M45-54-Avro3

NOTES TO CHAPTER 6

1. M35-44-Dialogue1
2. Eysenck and Keane suggest that the assumption of ‘two attentional systems will probably be shown to be oversimplified as our knowledge of attention increases’ (2005, 150).
3. F25-34-Diprotodon4b
4. Exhibit developer, natural and cultural history museum.
5. F54-65-Frieze1
6. M18-24-Frieze10
7. F35-44-Filing4b
8. F55-64-Fauna1
9. F25-34-Filing8
10. M35-44-Frieze7
11. F45-54-GeneTech2
12. F55-64-Avro3
13. M25-34-Diorama5
14. M35-44-Avro5
15. M55-64-Dino5
16. M45-54-Frieze2
17. F25-34-Dino3
18. F18-24-Frieze6
19. F25-34-Avro8
20. F45-54-Dino8
21. M45-54-Frieze2

22. *M55-64-Filing7*
23. *F25-34-Dino3*
24. *F25-34-Frieze5*
25. *F35-44-GeneTech1*
26. *M18-24-F18-24-Vital7*
27. *M55-64-Fear5b*
28. *M25-34-Fear10*
29. *M35-44-Fear1*
30. *M55-64-Fear5b*
31. *M65-74-Stilled 7*
32. *M25-34-Environ3*
33. *M18-24-Richter5*
34. *F55-64-Avro3*
35. *F25-34-Dialogue2*
36. *M45-54-Stilled5*
37. *F35-44-Stilled2*
38. *M35-44-Dialogue1*
39. *F65-74-Fear2*
40. *F45-54-Dino8*
41. *F65-74-Fear2*
42. *F35-44-Fear4*
43. *M25-34-Environ2*
44. *F25-34-Diprotodon4b*
45. *F45-54-GeneTech7*
46. *M45-54-Stilled5*
47. *M45-54-Ship4*
48. *F45-54-Bomber1*
49. *M35-44-Bomber6*
50. *M65-74-Diorama2*
51. *M25-34-Diorama1*
52. *F55-64-Siffleet5*
53. *M65-74-Diorama2*
54. *F55-64-Diorama3*
55. *M75-84-Diorama4*
56. *M25-34-Diorama5*
57. *F45-54-Richter4*
58. *M18-24-Richter5*
59. *M45-54-Richter3*
60. *F35-44-Bomber3b*
61. *F35-44-Track8*
62. *F35-44-Track4*
63. *M35-44-Track7*
64. *F35-44-Track4*
65. *M25-34-Track5*
66. "Blind 'see with sound,'" BBC News, Lakshmi Sandhana citing Dr Peter Meijer, senior scientist at Philips Research Laboratories, last modified October 7, 2003, accessed February 24, 2007, <http://news.bbc.co.uk/1/hi/sci/tech/3171226.stm>.
67. *F55-64-Avro4*
68. How evocative odours are is relative: 'To a generation that grew up predominantly on home cooking rather than processed foods, the smell of cake-baking is evocative in a way that more recent generations would perhaps more readily identify with the smell of a McDonald's outlet' (Kavanagh 2000, 15).
69. *F55-64-Avro4*

70. *F18-24-Diorama10b*
71. *F25-34-Ship9*
72. *M45-54-F45-54-Ship4*
73. *M45-54-Ship9*
74. *M25-34-Ship7*
75. *M35-44-Bomber7*
76. *M25-34-Bomber4*
77. *F25-34-Ship9*
78. *M45-54-Ship9*
79. *F45-54-Bomber1*
80. *F65-74-Bomber9*
81. *F25-34-Vital1*
82. *M45-54-Babies6*
83. *F65-74-Bomber8*
84. *M25-34-Fauna2*
85. *M45-54-Ship9*
86. *F35-44-Filing6*
87. *M25-34-Diorama5*
88. *F25-34-Avro8*
89. *M45-54-F55-64-Avro3*
90. *M25-34-Fauna2*
91. *F18-24-Fauna5*
92. *M45-54-Stillied5*
93. *F45-54-Avro7*
94. *M45-54-F75-84-Babies6*
95. *M25-34-Avro6*
96. *M65-74-F65-74-Siffleet6*
97. *F65-74-Bomber9*
98. *F55-64-Fear3*
99. Te Papa Tongarewa, National Museum of New Zealand.
100. *M35-44-Dialogue1*
101. *F35-44-Dialogue4*
102. *F35-44-Spencer1*
103. *M45-55-prelim Bomber*
104. *F25-34-Vital1*
105. *F35-44-Dialogue4*
106. *F25-34-Dialogue2*
107. *M25-34-Dialogue3*
108. *F45-54-Diorama7*
109. *M25-34-Fear10*
110. *F45-54-Frieze4*
111. *F35-44-Fear4*
112. *M55-64-Spencer7*
113. *F(1)35-44-F(2)65-74-Bomber9*
114. *F55-64-Fear3*
115. *F45-54-Fear6b*
116. *M65-74-Avro1*
117. *F35-44-Stillied2*
118. *M18-24-Dino7*
119. *M45-54-Richter3*
120. *M45-54-Siffleet4*
121. *F35-44-GeneTech1*
122. *F55-64-Fear3*
123. *M25-34-Environ2*

124. *M35-44-Dino1*
125. *M45-54-Babies2*
126. *M45-54-Stilled5*
127. *F25-34-Spencer2*
128. *M18-24-F18-24-Vital7*
129. *F25-34-Vital8*
130. *F55-64-Stilled4*
131. *M45-54-Stilled5*
132. *M45-54-Stilled5*
133. *M45-54-Babies6*
134. *F75-84-Frieze8b*
135. *M45-54-Fear6b*
136. *M45-54-Fauna4*
137. *M25-34-F45-54-Diorama7*
138. *M35-44-Dino1*
139. *M35-44-GeneTech8*

NOTES TO CHAPTER 7

1. *M35-44-GeneTech8*
2. *M25-34-Vital1*
3. 'Novel' in the sense that they are removed from the everyday and so are not assisted by energy-preserving automated responses (O'Neill and Dufrense-Tasse 1997).
4. 'The new information and communication technologies, we are told, portend the end of space as we know it. Once we lived in a civic world where you had to go to particular places to do particular things. The infobahn, by contrast is antispatial. It puts an end to geographical and institutional separations. And, with the demise of spatiality, so the social distinctions of space also wither away' (Cope and Kalantzis 2000, 225).
5. *M25-34-Environ2*
6. *F45-54-Babies5*
7. *M25-34-Stilled1*
8. *M25-34-F35-44-Avro6*
9. *M18-24-Frieze10*
10. *F65-74-Bomber9*
11. *M18-24-Frieze10*
12. *M18-24-Frieze10*
13. *M25-34-Dialogue3*
14. *F65-74-Dialogue7*
15. *M35-44-Dino1*
16. *M45-54-Avro3*
17. *M18-24-Frieze10*
18. *M45-54-Babies6*
19. *M18-24-Frieze10*
20. *F55-64-Fear3*
21. *M45-54-Frieze2*
22. *M55-64-Forest3*
23. *F45-54-Diorama7*
24. *M45-54-Frieze2*
25. *F35-44-GeneTech1*
26. *M65-74-Diprotodon10*
27. *M35-44-Dino1*

28. M35-44-Dino1
29. M35-44-Dino1
30. M65-74-Forest4
31. F35-44-Stilld2
32. F35-44-GeneTech1
33. F45-54-Richter4
34. F35-44-GeneTech1
35. F65-74-GeneTech3b
36. F35-44-Dialogue4
37. M25-34-Dialogue3
38. M25-34-Babies7
39. M45-54-Frieze3
40. M18-24-Vital7
41. M25-34-Dialogue3
42. M65-74-Siffleet6
43. F55-64-Diprotodon8
44. F55-64-Frieze7
45. M25-34-F25-34-Frieze5
46. F35-44-Dialogue4
47. M45-54-GeneTech9
48. M25-34-Siffleet *prelim*
49. M18-24-F18-24-Siffleet7
50. M45-54-Avro2
51. F25-34-Dino6
52. F45-54-Dino8
53. F25-34-Dino3
54. M35-44-Dino1
55. F25-34-Dino3
56. F25-34-Dino3
57. M18-24-Dino7
58. M25-34-Siffleet *prelim*
59. F25-34-Dino3
60. F25-34-Avro8
61. F18-24-Frieze6
62. F25-34-Avro8
63. M45-54-Babies6
64. F35-44-Dialogue4
65. M35-44-Dino1
66. M65-74-Fauna7
67. F65-74-Fauna7
68. M25-34-Fauna2
69. 'Immersion Cinema Experience' promotional flyer.
70. M55-64-Vital5
71. F45-54-Vital3
72. M25-34-Vital8
73. M18-24-Vital7
74. M25-34-Vital8
75. M55-64-Vital5
76. F45-54-Vital4
77. F45-54-Vital4
78. F25-34-Vital8
79. F45-54-Vital4
80. M25-34-Vital1
81. M55-64-GeneTech2

82. *F18-24-Siffleet9*
83. *M45-54-Fauna4*
84. *M35-44-GeneTech8*; this visitor was a native French speaker.
85. *M35-44-GeneTech8*
86. *M45-54-Stillied5*
87. *M25-34-Fauna2*
88. *M35-44-Dino1*
89. *M35-44-Dino1*
90. *M18-24-Dialogue5*
91. *M35-44-GeneTech8*
92. *F18-24-Frieze6*
93. *M45-54-Frieze2*
94. *M25-34-Frieze5*
95. *F18-24-Frieze6*
96. *F25-34-Frieze5*
97. *M35-44-Frieze7*
98. *F25-34-Frieze5*
99. *M35-44-Frieze7*
100. *F55-64-Frieze1*
101. *F18-24-Frieze6*
102. *F45-54-Frieze9*
103. *F45-54-Frieze4*
104. *M25-34-Fauna2*
105. *M35-44-Fear1*
106. *F25-34-Frieze5*
107. *F(1)18-24-F(2)18-24-Frieze6*
108. *M25-34-Frieze5*
109. *F55-64-Frieze7*
110. *M25-34-Frieze5*
111. *M45-54-Dialogue8*
112. "The one that I'm comparing it closely with is the one about DNA technology up in the 'Science and Life' [gallery]. Which *really* is very good. It has four screens that come on sequentially and describe the process of DNA . . . extraction and auto-aggregate-radiography and all sorts of other things. And it's just really *explanatory*. . . . It's rather like *that* [exhibit, *Dialogue*]. I mean, the use of multiple *screens*, the use of other artefacts being highlighted while the video's *on* so you can see what they look like in *life*. It's a really good way of doing it." *M45-54-Dialogue8*
113. *F25-34-Avro8*
114. The technical information is "what *year* it was in and all that sort of stuff, and *where* it was."
115. *M25-34-Diorama1*
116. *M25-34-Bomber4*
117. *M35-44-Dino1*
118. *M45-54-F45-54-Dino4*
119. *M55-64-Forest3*
120. *M25-34-F45-54-Diorama7*
121. *M25-34-Environ2*
122. "Close Up: Janet Laurence," *The Arts Show*, ABC TV, transcript of an interview with Janet Laurence, accessed August 12, 2003, <http://www.abc.net.au/artshow/trans/s163364.htm> (page archived).
123. *F25-34-Avro8*
124. *M65-74-Diprotodon10*
125. *F45-54-GeneTech2*

126. *M25-34-Siffleet3*
127. *M65-74-Diorama6*
128. *M45-54-Avro3*
129. *F25-34-Vital8*
130. *M65-74-Diprotodon10*
131. *F25-34-Vital8*
132. *F25-34-Vital8*
133. *M35-44-F55-64-Frieze7*
134. *F25-34-Frieze5*
135. *M35-44-Frieze7*
136. *F55-64-Frieze1*
137. *M45-54-Frieze2*
138. *M25-34-F25-34-Frieze5*
139. *F18-24-Frieze6*
140. *F18-24-Frieze6*
141. *F55-64-Frieze7*
142. *M45-54-Frieze2*
143. *F18-24-Frieze6*
144. *F55-64-Frieze1*
145. *F25-34-Vital 2*
146. Formal orientation and wayfinding devices, such as directional signage and maps, are efforts to overtly channel visitors. Such devices did not fall within the scope of this study, nor did visitors spontaneously raise such tools in interviews to any significant degree. As there were many other issues independently raised by clusters of visitors, this 'silence' may have significance and therefore may warrant further research.

NOTES TO CHAPTER 8

1. *M25-34-Forest7*
2. *F25-34-Richter1*
3. *F45-54-Richter8*
4. *M45-54-Richter6*
5. *M45-54-Richter3*
6. *M25-34-Richter7*
7. *M25-34-Richter7*
8. *F45-54-Richter8*
9. *M18-24-Richter5*
10. *M45-54-Richter6*
11. *M45-54-Richter3*
12. *F45-54-Richter8*
13. *M45-54-Richter6*
14. *F45-54-Richter8*
15. *M25-34-Richter7*
16. *F45-54-Light4*
17. *F25-34-Light1*
18. *M75-84-Light2*
19. *M35-44-Light5*
20. *F25-34-Light1*
21. *F55-64-Light8*
22. *M75-84-Light2*
23. *M35-44-Light5*
24. *F35-44-Light3*
25. *M45-54-Richter6*

26. M25-34-Environ5
27. M25-34-Environ3
28. M45-54-Environ4
29. M25-34-Fauna2
30. F45-54-Environ4
31. F55-64-Fauna6
32. M25-34-Fauna3
33. M65-74-F65-74-Stilled7
34. F35-44-Stilled2
35. F35-44-Environ7
36. F18-24-Forest7
37. F35-44-Forest8
38. F55-64-Fauna1
39. M45-54-Forest1
40. F55-64-Fauna6
41. F35-44-Stilled2
42. F55-64-Fauna6
43. The Mallee is a geographical area in Australia, with its own unique arid ecology.
44. F55-64-Environ6
45. M55-64-Environ8
46. M25-34-Forest7
47. F18-24-Forest7
48. F18-24-Forest2
49. M45-54-Forest1; *Thylacine* is the scientific term for Tasmanian Tiger. The exhibition was a temporary travelling installation entitled *Tasmanian Tiger: The Mystery of the Thylacine*.
50. F45-54-Spencer4
51. M65-74-Fauna7
52. M45-54-Stilled5
53. F65-74-Fauna7
54. M65-74-Diprotodon10
55. F65-74-Diprotodon2
56. M18-24-Diprotodon7
57. M55-64-Diprotodon1
58. F45-54-Diprotodon9
59. The BBC is the British Broadcasting Corporation.
60. F35-44-Dino2
61. 'The narration that went with [the BBC footage from *Walking with Dinosaurs*] was highly speculative. It was just basically based on nothing. They were talking about these dinosaurs having social behaviour . . . So they actually gave us permission to get our own narration.' (Exhibit developer, natural and cultural history museum)
62. Exhibit developer, natural and cultural history museum.
63. F25-34-Dino6
64. F25-34-Dino3
65. F25-34-Dino3
66. Exhibit developer, natural and cultural history museum.
67. M35-44-Dino1
68. Exhibit developer, science and technology centre.
69. Exhibit developer, science and technology centre.
70. The 'specialists' providing answers were identified by face and name on the original touchscreen. Both faces and names have been deidentified in the images shown here.
71. F45-54-GeneTech2

72. *F35-44-GeneTech1*
73. GM, genetically modified; GMAC, Genetic Modification Advisory Committee; GMO, genetically modified organism.
74. *F45-54-GeneTech2*
75. *M55-64-GeneTech4*
76. *F45-54-GeneTech2*
77. *F35-44-GeneTech1*
78. *M25-34-GeneTech5*
79. *M55-64-GeneTech2*
80. *M45-54-Stillied5*
81. Exhibit developer, war museum/memorial.
82. *M45-54-Siffleet4*
83. *F35-44-Siffleet10*
84. *M65-74-Diprotodon10*
85. Exhibit developer, war museum/memorial.
86. *F45-54-Siffleet1*
87. *M45-54-Siffleet4*
88. *F35-44-Siffleet10*
89. *M18-24-Siffleet7*
90. *M65-74-Siffleet6*
91. *M25-34-Siffleet3*
92. *M18-24-F18-24-Siffleet9*
93. *F45-54-Siffleet1*
94. Exhibit developer, war museum/memorial.
95. *M45-54-Siffleet4*
96. Exhibit developer, war museum/memorial.
97. Exhibit developer, war museum/memorial.
98. *M45-54-prelim study*
99. *F55-64-Diorama3*
100. *M35-44-Diorama1*
101. *F18-24-Siffleet7*
102. *F25-34-Avro8*
103. *M65-74-Diorama2*
104. *M45-54-Siffleet4*
105. *M45-54-Siffleet4*
106. Exhibit developer, natural and cultural history museum.
107. Exhibit developer, natural and cultural history museum.
108. *M25-34-Frieze5*
109. *F45-54-Frieze4*
110. Exhibit developer, natural and cultural history museum.
111. *M25-34-F25-34-Frieze5*
112. Exhibit developer, natural and cultural history museum.
113. *M55-64-Frieze1*
114. *F45-54-Frieze9*
115. *F45-54-Frieze4*
116. *F25-34-Frieze5*
117. *M35-44-Dialogue1*
118. *F55-64-Frieze1*
119. *F45-54-Frieze4*
120. *M35-44-Dialogue1*
121. *F25-34-Dialogue2*
122. *M35-44-Dialogue1*
123. *M55-64-Spencer7*

124. *M25-34-Dialogue3*
125. *M18-24-Dialogue5*
126. *M25-34-Dialogue3*
127. *F35-44-Spencer1*
128. *M18-24-Dialogue5*
129. *M25-34-Dialogue3*
130. *F35-44-Spencer8*
131. *F35-44-Dialogue4*
132. *M35-44-Dialogue1*
133. *M45-54-Dialogue8*
134. *F25-34-Spencer2*
135. *F35-44-Spencer1*
136. *M18-24-Spencer5*
137. *M35-44-Dialogue1*
138. *M65-74-Diorama2*
139. *F45-54-Diorama7*
140. *M35-44-Bomber6*
141. *F45-54-Bomber2*
142. *F45-54-Avro7*
143. *F65-74-Stilld8*
144. *M45-54-Stilld5*
145. *Fear* touchscreen written content, Kim Eastman and Susie Aulich, 1999.
146. *M25-34-Fear10*
147. *F35-44-Fear9*
148. *F55-64-Fear3*
149. *F55-64-Fear3*
150. Cathy Freeman won the gold medal in the women's 400-metre sprint at the Sydney Olympic Games in 2000.
151. *M65-74-Diprotodon10*
152. *F65-74-Bomber9*
153. *F35-44-Dialogue4*
154. *F65-74-Filing5*
155. *M35-44-Frieze7*
156. In contrast, the Canadian War Museum, Ottawa, with the mandate to 'Educate. Preserve. Remember.', appears to combine a commemorative and critical approach to the interpretation of war. While documenting Canada's military history and commemorating past sacrifices, the institution also explicitly addresses issues such as what war is and why different cultures engage in war, and it asks its visitors to ponder what they personally could do to facilitate peace.

NOTES TO CHAPTER 9

1. *M35-44-Dialogue1*
2. *M25-34-Frieze5*
3. Classical museums neatly arranging static objects were described by another visitor as akin to a "physical reference library"; *M25-34-Track5*.
4. *F45-54-Dino8*
5. Due to the 'intellectually expressive aspects' of exhibit design, curators have been cautioned in regard to 'relegating design considerations to the designer' (Rabinowitz 1991, 37).

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