Multimodal Semiotics

Functional Analysis in Contexts of Education

edited by Len Unsworth
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Len Unsworth
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This book derives from research papers presented at the National Conference of the Australian Systemic Functional Linguistics Association, *Multimodal Texts and Multiliteracies: Semiotic Theory and Practical Pedagogy*, conducted with the Australian Literacy Educators Association at the University of New England, in Armidale, Australia in September 2006. The contributors include both established and emerging scholars in education, linguistics and functional social semiotics. The research presented is contextualized in the first chapter as drawing on the fundamental theoretical bases of systemic functional linguistics (SFL) envisioned by Michael Halliday as one dimension (1D) of a social semiotic embracing many different semiotic systems. The work in this book deals with recent developments in a growing tradition of SFL – inspired multimodal semiotic research. It also maintains and enhances the traditional links between SFL research and issues in education. The book is divided into four main sections, each with a particular textual focus (3D Space, Film, News and Public Media, and School Curricula materials). Within each section the chapters introduce new developments in a range of multimodal analyses and explore issues raised by these in contexts of education.

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Chapter 1

Multimodal Semiotic Analyses and Education

Len Unsworth

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Introduction

This chapter contextualizes and outlines the work presented in the subsequent chapters dealing with new developments in multimodal semiotics related to educational contexts. Key to this contextualization is an understanding of the derivation of this work from within the tradition of systemic functional linguistics towards the development of an expanded, socially responsible multimodal social-semiotic theory significantly influencing and influenced by fundamental issues in language, literacy and multimodal communication in education (Christie and Unsworth, 2005).

Towards a multimodal social-semiotics: the pursuit of an agenda

The fundamental and unifying theoretical bases for the advances in social-semiotic research represented in this book derive principally from the systemic functional linguistic (SFL) work of Michael Halliday and his colleagues (Halliday, 1973, 1978; Halliday and Hasan, 1976, 1985; Halliday and Matthiessen, 2004; Martin, 1992; Martin and Rose, 2003). SFL posits the complete ‘interconnectedness’ of the linguistic and the social. According to SFL, the structures of language have evolved (and continue to evolve) as a result of the meaning-making functions they serve within the social system or culture in which they are used. However, Halliday emphasizes that language is only one semiotic system among many, which might include forms of art such as painting, sculpture, music and dance and other modes of cultural behaviour not usually classified as art, such as modes of dress, structures of the family and so forth. All of these modes of meaning-making interrelate and their totality might be thought of as a way of defining a culture (Halliday and Hasan, 1985: 4).
This conceptualization of language as one of many different interrelated semiotic systems, and hence the assumption that the forms of all semiotic systems are related to the meaning-making functions they serve within social contexts, indicates the strength of SFL in contributing to frameworks for the development of multimodal and intersemiotic theory. SFL-related theorizing proposes that the meaning-making functions of all semiotic systems can be grouped into three main categories, or metafunctions: ideational, interpersonal and textual. These three kinds of meaning-making or metafunctions are related to three corresponding situational variables that operate in all communicative contexts: Field, Tenor and Mode.

Any communicative context can be described in terms of these three main variables that are important in influencing the semiotic choices that are made. Field is concerned with the social activity, its content or topic; Tenor is the nature of the relationships among the people involved in the communication; and Mode is the medium and channel of communication. In relation to language Mode is concerned with the role of language in the situation – whether spoken or written, accompanying or constitutive of the activity, and the ways in which relative information value is conveyed. These situational variables are related to the three overarching areas of meaning, or metafunctions – ‘ideational’, ‘interpersonal’ and ‘textual’. For example, if I say ‘My daughter is coming home this weekend’, ideationally this involves an event, a participant and the circumstances of time and place associated with it. Interpersonally it constructs me as a giver of information and the reader/listener as a receiver (as well as perhaps suggesting I have at least some acquaintance with the listener). Textually, it locates ‘my daughter’ as the ‘Theme’ or orientation or point of departure for the interaction, simultaneously suggesting that ‘my daughter’ is given information that we both know about (‘Given’) and the new information is that she is coming home ‘this weekend’ (‘New’). If I say ‘Is my daughter coming home this weekend?’, the ideational meanings remain the same – the event, the participant, the circumstances have not changed. But the interpersonal meanings have certainly changed. Now I am demanding information, not giving it (and there may be some suggestion of estrangement between the listener and me). Similarly, if I say ‘This weekend my daughter is coming home’, the ideational meanings are still the same, but this time the textual meanings have changed. Now the orientation (‘Theme’) is the weekend and this is the given or shared information. What is new or unknown concerns what my daughter is doing. So the different structures reflect different kinds of meaning, which in turn reflect different aspects of the context. The metalanguage of systemic functional grammar derives from this linking of language structure, meaning and context.

It is this metafunctional aspect of SFL and its link to the situational variables of social contexts that has provided a common theoretical basis for the development of similar ‘grammatical’ descriptions of the meaning-making resources of
other semiotic modes (but see Van Leeuwen (1999) in relation to sound and music). Extrapolating from SFL on this basis, Kress and van Leeuwen (1996) proposed that images, like language, also always simultaneously realize three different kinds of meanings. Images construct not only representations of material reality but also the interpersonal interaction of social reality (such as relations between viewers and what is viewed). In addition images cohere into textual compositions in different ways and so realize semiotic reality. More technically, the ‘grammar of visual design’ formulated by Kress and van Leeuwen (1996) adopted from SFL the metafunctional organization of meaning-making resources:

- **Representational/ideational** structures verbally and visually construct the nature of events, the objects and participants involved, and the circumstances in which they occur.
- **Interactive/interpersonal** verbal and visual resources construct the nature of relationships among speakers/listeners, writers/readers, and viewers and what is viewed.
- **Compositional/textual** meanings are concerned with the distribution of the information value or relative emphasis among elements of the text and image.

Similar extrapolations from SFL have provided social-semiotic descriptions of ‘displayed art’ (O’Toole, 1994), music and sound (Van Leeuwen, 1999) and action (Martinec, 1998, 2000a, 2000b), and also of 3D space (O’Toole, 1994, 2004; Ravelli, 2006).

Links with education – from SFL to multimodal semiotics

Halliday, as the seminal and most prominent theorist in SFL, is unique among major linguists in that he has never acknowledged a clear distinction between theoretical and applied linguistics. He has always maintained a profound interest in education and has acknowledged from the early stages of this work, as in the Nuffield/Schools Council Programme in English and Linguistics (1964–1971), that working on matters of educational interest has often extended and clarified theoretical issues in language as social-semiotic. This tradition of SFL work in contexts of education has certainly been maintained by other SFL scholars, in some cases directly and extensively (Martin, 1984, 1989, 1991, 1993a, 1993b, 1993c, 1996, 1998, 2000).

It is not surprising then, that educational contexts have remained key sites for the expansion of SFL-based social-semiotic theories into other modalities, such as the work on images (Kress and van Leeuwen, 1996, 2002, 2006; Lemke,
During recent years it has also become apparent to many educational researchers, including most who do not have any links to the social-semiotic research traditions of SFL, that the increasingly multimodal nature of our textual habitat has made it necessary to reconceptualize the nature of literacy and literacy pedagogy (Kamil, Intrator, and Kim, 2000; Leu, 2006; Leu, Kinzer, Coiro, and Cammack, 2004; Russell, 2000), with their initial focus on the integrative role of language and images in contemporary texts. Kress has argued that it is now impossible to make sense of texts, even their linguistic parts alone, without having a clear idea of what these other features might be contributing to the meaning of a text. (Kress, 2000: 337)

Writing about Books for Youth in a Digital Age, Dresang (1999) noted that

[i]n the graphically oriented, digital, multimedia world, the distinction between pictures and words has become less and less certain; (1999: 21)

and that

[i]n order to understand the role of print in the digital age, it is essential to have a solid grasp of the growing integrative relationship of print and graphics. (1999: 22)

In both electronic and paper media environments then,

[a]lthough the fundamental principles of reading and writing have not changed, the process has shifted from the serial cognitive processing of linear print text to parallel processing of multimodal text–image information. (Luke, 2003: 399)

Andrews (2004) has explicitly noted the importance of the visual–verbal interface in both computer and hard copy texts:

[I]t is the visual/verbal interface that is at the heart of literacy learning and development for both computer-users and those without access to computers. (Andrews, 2004: 63)

And the New London Group argued that what is required is an educationally accessible functional grammar, that is, a metalanguage that describes meaning in various realms. These include the textual, the visual, as well as the multimodal relations between different meaning-making
processes that are now so critical in media texts and the texts of electronic multimedia. (New London Group, 2000: 24)

Applied research and work on advancing professional practice in multimodal literacy pedagogy has focused on the articulated use of systemic functional grammar and discourse and parallel social-semiotic accounts of images such as Kress and van Leeuwen’s (1996; 2006) grammar of visual design (Callow, 1999; Unsworth, 2001, 2006a; Unsworth et al., 2005).

However, during this period the work of SFL-influenced researchers in multimodal social-semiotics and in education has been advancing more broadly in several different areas. One aspect of this is the expansion of the semiotic theory to other modalities. Pioneering work in sound and music by van Leeuwen (1999) is being further explored in education (Noad and Unsworth, 2007). Work on filmic text has been undertaken (Van Leeuwen, 1991, 1996) and, as previously noted, considerable work is now emerging on the semiotics of space (O’Toole, 1994, 2004; Ravelli, 2006). Another major aspect of recent work is concerned with the investigation of intermodal relations or ‘intersemiosis’, focussing on exploring the ways in which images and language function both separately and integratively to construct meaning in multimodal texts (Kress, 1997, 2003; Lemke, 1998a, 1998b, 2002; Macken-Horarik, 2003a, 2003b, 2004; Martin, 2002; O’Halloran, 1999, 2003a, 2003b; Royce, 1998, 2007).

Some of the ongoing SFL-influenced research in multimodal semiotics is conducted by educational researchers engaging the social-semiotic theory in a transdisciplinary manner to directly address pedagogic issues in the increasingly multimedia characterized learning environment of students today (Callow and Zammit, 2002; Goodman and Graddol, 1996; Unsworth, 2001, 2004, 2006b, 2006c, 2007). Other studies emanate from research in social science and humanities frequently exploring materials and contexts of educational relevance and hence in indirect but significant ways theoretically resource pedagogic research involving multimodal and intermodal relations (Baldry and Thibault, 2006; Iedema, 2001; Painter, 2007; Stephens, 2000). Hence the productive conflation of the theoretical and the applied continues in a Hallidayan inspired multimodal social-semiotics.

Relating new developments in multimodal semiotics and education

Each of the four major Parts in this book has a particular textual focus (Space, News and Public Media, Film and School Curriculum Materials). However, within each Part the chapters address new developments in theorizing the nature of intermodal relations and intersemiosis and extend our understanding of the central social-semiotic issues in a range of educational contexts.
Part One is on Semiotics and 3D Space. In Chapter 2, Louise Ravelli shows how the foundational frameworks for the analysis of 2D texts have been adapted and extended to provide new theoretical frameworks to engage with ‘space’, that is, to ‘read’ 3D texts. The focus for the analysis is the Scientia building at the University of New South Wales, Australia. The chapter highlights some of the key theoretical principles which need to be incorporated in these analyses, such as foregrounding and intersemiosis, and reflects on the role and relevance of such analyses in contemporary society. In Chapter 3, Theo van Leeuwen focuses on the construction of space in discourse, since discourses about space provide normative understandings of space and play a role in the control and maintenance of social practices (Fairclough, 2007). But this kind of investigation requires an understanding the ‘grammar of space’, the semiotic resources available for representing space in discourse. Van Leeuwen describes such resources through an exploration of a range of multimodal texts dealing with the social practice of ‘going to school for the first time’. In Chapter 4, Maree Stenglin explicates the semiotic concepts of Bonding and Binding to show how a strong sense of affiliation is created around particular 3D icons, rallying people around shared values. In her analysis of spaces in the 1995 ‘European Museum of the Year’: the Olympic Museum, Lausanne, Stenglin, focuses on the Olympic flame to exemplify some of the social processes through which Bonding icons become ‘charged’ with ideational and interpersonal meanings. In Chapter 5, Pauline Jones reports a case study of a small school in a town with a population of about 300 people, in which she uses SFL-based linguistic analyses and more recent analytic frameworks dealing with the semiotics of space. Jones is concerned with the apprenticeship of pupils into academically valued discourses, requiring learners to manage shifts in language use from that which construes material, embodied contexts to that construing disembodied, virtual contexts. She draws on extracts from classroom interactions, students’ and official school texts, floor plans and photographs from the school in this small disadvantaged community to explore how this attempted apprenticeship into academically valued discourses plays out. It is suggested that, in this setting, patterns of interpersonal meaning choices ‘conspire’ with particular spatial arrangements within and across the school and its communities in the replay of broader social relations.

In Part Two of the book, in Chapter 6, Chiaoi Tseng is concerned with Semiotics in Film. She introduces new research on the ways in which filmic cohesion contributes to the creation of text coherence, expanding the linguistic approach developed by Hasan (1984; 1989) to apply to multimodal discourse. The study shows that examining cohesive quality of a multimodal text needs to take into account chain interaction in two aspects: (1) mono-modal chain interaction based on Hasan’s method and (2) cross-modal chain interaction drawing on synergistic ties across different modes, as developed by the author. The implications of this work for advancing the development of filmic discourse analysis
are briefly discussed. In Chapter 7, Betty Pun examines the co-patterning and combination of different sounds in films, and the manner in which sound resources integrate with other semiotic resources. The discussion draws on van Leeuwen’s (1999) discussion of sound, especially the ideas of sound perspective – which relates to the placing of simultaneous sounds on a scale of foreground, mid-ground and background – sound interaction – which is concerned with the interactions among various sounds, as well as Ravelli’s (2000; 2006) understanding of intersemiosis – that is, the coordination of meanings across co-deployed semiotic systems. Using two short scenes from the films of contemporary Hong Kong film-maker Wong Kar-wai, the discussion aims to show how the co-deployment of different sound elements helps underscore specific interesting aspects in the visual images (for instance, abrupt and seemingly disjunctive colour changes) as well as in the sound track (such as the use of silence) in the scenes, and in turn helps contribute additional dynamism to the films.

Part Three of the book deals with Semiotics in News and Public Media. Chapter 8 by Helen Caple examines a recently emerged genre of the ‘image nuclear news story’ with a dominant news photograph, a heading and short caption. Caple explores the verbal–visual intersemiosis, proposing that key to the interplay between the interpersonal and the texture in these stories is the complementarity between the image plus heading and the ensuing verbiage, with the heading and image combining to provide the evaluative stance from which the story is to be read. The voice of the newspaper is then visible in the convergence of meaning borne out by such interplay. In Chapter 9, John Knox pursues further explication of the relationships among language and other semiotic modalities in online newspapers with a view to theoretically resourcing the development of multimodal dimensions of teaching communication in English to speakers of other languages. In Chapter 10, Jan Connelly draws on recent work in multimodal semiotics to outline pedagogic strategies for teaching critical multimodal literacy with her focus on sets of public space visuals drawn from a range of international contexts.

Part Four, the final part of the book, is concerned with Semiotics in School Curricula. Chapter 11 by Kristina Love shows how a video-based DVD communicates a simplified version of SFL (Halliday and Matthiessen, 2004) and genre theory (Martin, 1992), using video clips, animations, tutorials and various interactive functions to show how language in its various modes is used in effective teaching in ‘Literacy Across the School Subjects’. Beverly Derewianka and Caroline Coffin, in Chapter 12, elaborate further on the specialized literacy of the history curriculum in their analysis of the visual representation of time in history textbooks. The authors show that while the great majority of visuals in history textbooks tend to depict settings in time (photographs of historical events, cartoons of incidents, drawings representing a particular point in time), these do not necessarily enable students to deal with chronological sequencing and how time is packaged into eras, epochs, ages and so on, let alone the
complexities of visuals that represent passages of time imbued with elements of causation and evaluation. In Chapter 13, Susan Feez examines Montessori Education from a functional semiotic perspective, considering the centrality of its recontextualizing of educational meanings through multiple representations. The examination deals largely with the Montessori reading pedagogy, a pedagogy which materializes knowledge about grammar in order to lead emergent readers to reading fluency. Chapter 14 by Emilia Djonov introduces a system for describing the potential of hyperlink traversals to transcend, reveal or obscure the structure of a website and thereby offer freedom of navigation and either facilitate or hinder user orientation. Based on a systemic functional conceptualization of the central principle for structuring websites, ‘website hierarchy’, the system can be employed to evaluate both websites and their use. This is demonstrated by discussing selected results from the analyses of a children’s edutainment website and the navigation paths of 14 students through it. The results are interpreted in relation to insights from professional hypermedia design and usability studies and the opinions about the website expressed by the students and an educational consultant involved in the website’s re-design. The transdisciplinary approach adopted in this research is key to understanding how the interaction of hypertextuality and multimodality affects the relationship between hypermedia production and use. Finally, in Chapter 15, Ulla Oksanen takes us to the secondary school visual arts curriculum. Oksanen explores conceptual metaphors in the artistic representation of ‘the Landscape of the Knowledge Society in 2015’ by senior secondary school students in Finland.

Conclusion

The work presented in these chapters is part of an ongoing enterprise among networked researchers from different research fields who engage in transdisciplinary studies involving their own specialization and developing work in functional social-semiotics. Transdisciplinary research, according to Halliday (2003 [1990]), is very different from ‘inter-’ or ‘multi-disciplinary’ research because the latter implies that one still pursues research focused within the disciplines, while building bridges between them and/or assembling the research efforts into a ‘collection’; whereas the real alternative is to transcend disciplinary boundaries to achieve the kind of integrated focus necessary to research issues in the fields such as multimodal semiotics and education. This kind of transdisciplinary approach has been demonstrably productive to date and seems crucial in the future for those in social-semiotics and in education who need to understand how the emerging textual habitat integrates multiple meaning-making systems, such as language, image, sound, movement; multiple ‘text’ generation devices, such as digital cameras, scanners, computer software viz.
multimedia authoring systems; and multiple communication formats such as computer screens, ipods, handheld/pocket personal electronic organizing devices, mobile phones. Developing an understanding of the social and pedagogic impact and the potential of this kind of textual habitat necessitates a framework that encompasses its multiple dimensions as a unified resource. The research orientations evidenced in this book will facilitate the envisioning of such a framework.

References


Part One

Semiotics and 3D Space
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Chapter 2

Analysing Space: Adapting and Extending Multimodal Frameworks

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Introduction

In the emerging field of multimodal discourse analysis, one of the most exciting sites of application is that of 3D space: examining aspects of the built environment for its meaning-making potential. For the built environment – homes, offices, public buildings, parks, etc. – does indeed make meaning. These are spaces which speak – often their meanings are so familiar, we no longer hear what they say; sometimes, new and unusual sites draw attention to their meanings, and are likely to be hotly contested. This chapter will suggest ways of analysing 3D texts, based on the framework of Kress and van Leeuwen (2006). This framework, developed primarily for the analysis of 2D images, has been successfully extended to a range of other multimodal texts. Extension to the built environment includes Pang (2004), O’Toole (1994), Ravelli (2006), Safeyaton (2004), Stenglin (2004) and White (1994), whose studies will inform the analyses presented here. This chapter will identify some of the key theoretical principles which underline this approach, including the notions of text, context and metafunction; and will describe some of the main areas of analysis for 3D texts. Also, ways of bring the analyses together will be considered. The analyses will be demonstrated in relation to the Scientia building at the University of New South Wales, Australia.

Starting points

Starting points for the analysis include a number of assumptions. First, 3D sites will be addressed as texts: as meaning-making wholes, which function within a given social context. The built environment is understood ‘as a social and cultural product, continually (re) produced through use’ (MacLeod, 2005: 13). Meanings are systematic, in that they arise from socio-cultural practice; but they
are not fixed, as apart from being subject to diachronic and phylogenetic change, they are also inflected through the particular reading position of the user (Cranny-Frances, 1992). Importantly, these texts are social semiotic constructs; as with language, they do not re-present some pre-existing ‘reality’, but actively construct it. We will see in relation to the Scientia building how it is that the design of the building constructs meanings about what the University is, what it stands for, and how it relates to its users.

The second assumption of the analysis is that meanings are multifunctional. There is not one type of meaning, but several. This derives from Halliday’s metafunctional hypothesis for language (Halliday, 1978), and is extended to account for other communicative texts, such as visual ones and spatial ones, as already noted. The hypothesis states that there are three key types of meaning. The first type of meaning relates to a conventional sense of ‘content’ in terms of ‘what a text is about’: what it refers to or represents. In Halliday’s terminology, this is ideational meaning; related and largely synonymous terms include representational meaning (O’Toole, 1994; Ravelli, 2006) and presentational meaning (Lemke, 1998). In buildings, this encompasses the literal functions and uses of a building (what is it for? what can be done there?) as well as its symbolic roles (what does it stand for?). Meaning, however, is not just about what is ‘in’ the text or what it stands for, but it is also about how the text enables interaction between those who are engaged in the communication process. The interactants may be referred to as the producers or institutional owners of a building (a University, for instance, as an institution); and its users (students, staff, visitors, for example). Their interaction is referred to as interpersonal meaning in Halliday’s terms, also referred to as interactional (Ravelli, 2006) or orientational (Lemke, 1998). Through interpersonal resources, particular roles and relations are established and enabled for the interactants, and stances or attitudes towards the text are conveyed. In buildings, we see different ways in which users are enabled to access and use a building, and different ways in which buildings construct a persona for themselves in relation to others around it.1

These two kinds of meanings need to be brought together as a coherent whole, and thus the third type of meaning is textual, also referred to as compositional (O’Toole, 1994; Kress and van Leeuwen, 2006) and organizational (Lemke, 1998; Ravelli, 2006). Textual meanings create connection and provide coherence; they prioritize some meanings and background the others. In buildings, we see this in the connections which are made between related spaces, the pathways which flow through and around buildings, and the attention which may be drawn to a particular feature. The three kinds of meanings, which will be referred to here as representational, interactional and organizational are simultaneous and present in all texts; any one text is a composite of all three. Even though attention may be drawn to one rather than another at a particular point, and even though theoretical description separates them, they cooccur, and can be thought of as multiple lenses through which to examine the one text.
The final assumption is that, like any text, 3D texts are not singular, indivisible units, but are a complex of related units, akin to the notion of rank in language (Halliday, 2002). Thus when examining 3D texts, such as buildings, it is important to identify the rank of the analysis. Is it the building as a whole which is being considered? Or is it its component elements, such as rooms within a house, or shops within a shopping mall? Or is it some smaller unit, such as the walls within a room or a display within a shop? The analogy with rank is suggested here primarily as a heuristic (see though O’Toole, 1994 and Pang, 2004 who develop it more systematically as a theoretical category), and for the purpose of recognizing that the analysis of ‘one’ text can focus on quite different aspects of that text.

Approach

The approach here will be to both apply and adapt the analytical frameworks proposed by Kress and van Leeuwen (2006). Their frameworks can be reasonably immediately applied to 3D texts in that we can – and often do – ‘look at’ these texts as if they are a 2D image. The exterior of a building, or an interior space, can be viewed as if it is a ‘snapshot’. Of course, these texts are not 3D images, and it is therefore important to adapt the frameworks to account for the spatial reality of these texts. First, they are 3D, and so can be ‘moved through’. Second, they are always geographically located in some way, and so it is important to also ‘look around’ these texts and consider their relation to other texts and spaces in the surrounding environment. Thus, it is necessary to consider how we ‘look at’, ‘look around’ and ‘move through’ these texts.

Text: the Scientia

The text for analysis in this chapter will be a ceremonial building at the University of New South Wales (UNSW, Australia), the Scientia, which was intended to be and which has indeed become a landmark building (Safeyaton, 2004) for the University. The analysis will focus on the exterior of the building (for additional analysis of the interior spaces see Ravelli and Stenglin, manuscript under preparation). Completed in 1999, the Scientia marks a significant step in the transformation of the UNSW campus, and hence of the image of the institution itself. Originally a collection of disparate, uninspiring boxes interspersed with carparks, the campus is now a dynamic, contemporary and cohesive site, giving the University both a stronger visual identity and a significant increase in ‘the quality of its public realm’ (Nimmo, 2001). Designed by MGT Architects, and awarded the 2000 Sir Zelman Cowen Award for Public Buildings, by the Royal Australian Institute of Architects, the Scientia is described as ‘a major work of ceremonial architecture (which) has transformed the University of New South
Wales campus and given it a remarkably poetic and emblematic focus. . . . (it) is a rare, highly refined work whose language is international yet whose varying and changeable transparencies are both elegantly rational and pragmatically Australian. The UNSW and the Sydney metropolis are privileged by this consummate work of public architecture’.

The Scientia stands at the top of the ‘University Mall’, forming a visually distinctive punctuation point for the central pedestrian link from the main road of Anzac Parade. The ‘top’ here is both literally up high, being one of the highest points of the campus, and the end of the University Mall. Even from a distance, the Scientia is a focal point, for its large size, its unusual visual structure, and its high placement at the end of a clear axis. Externally, the Scientia appears to be two large rectangular shapes, facing the Mall, divided by a central passage, constructed of branching arms which thrust up towards the sky. This structure is itself enclosed in glass, but can be walked through (underneath), to the other side. The rectangular blocks are made of sandstone; the thrusting arms of laminated jarrah poles, tapering at the endpoints, and supporting the glass and steel of the enclosure. It is this central tree-like structure which marks the unique visual identity of the Scientia, and which is now ubiquitous in all aspects of University marketing (see Photo 1).

It is indeed a remarkable building, and functions to house the ceremonial halls, used for receptions, meetings and so on, as well as a number of smaller
gathering spaces. While it is only one part of an ongoing building project for the University as a whole, the Scientia has somehow managed to encapsulate the new identity of the University, and to draw the campus together as a whole. The metafunctional analysis proposed by Kress and van Leeuwen will now be applied and adapted to this text, to attempt to interrogate some of the meanings it makes, and some of the reasons for its (visual) success.

Space as arrangement: the organizational metafunction

The organizational framework includes resources for shaping texts: making them coherent, or fragmented, and prioritizing some meanings over others. Kress and van Leeuwen (2006) draw attention to five key sets of resources in relation to organizational meanings: Information values, Salience, Framing, Reading path, and Rhythm. Information values relate to the compositional layout of a text, and how the placement of items in relation to each other gives those items a particular information value, with the key contrasts being Given and New, realized on the horizontal axis; Ideal and Real, on the vertical axis; Centre and Margin in a circular relation; and Triptych, with a mediating item between two parallel supports. In relation to buildings, it is important to remember that values such as Given and New may not be realized just in a left–right relation, but also in a before–after relation. Thus, on a pathway, that which comes first may have the value of Given, and at the point of arrival the value of New. Also, the front and the back of the building may be constructed differently in terms of their information value. Salience refers to that which is made prominent, through a variety of resources, such as a large size, or a contrasting colour, a special use of illumination, cultural values, conflation with information value (e.g. that which as at the Centre of a Centre/Margin structure is likely also to be salient), and so on. Framing refers to the degree of seamlessness or separation between like units: Weak framing suggests seamlessness between items; Strong framing suggests separation (see also Van Leeuwen, 2005 on framing). Framing may be realized by a variety of resources, such as contrast or continuation of building style, the use of physical barriers such as fences, walls or windows; the use of design features such as the colour of paint to indicate continuity or contrast. The reading path in 2D texts refers to the likely way in which a reader will take in a visually complex text; in buildings it refers to issues both of ‘looking at’ the text (how is it taken in visually?) and ‘moving through’ the text (how is circulation or navigation enabled?). In the latter case it is realized by such resources as compositional vectors, such as the use of footpaths, or the use of framing practices to guide the user along a path and suggest relations between units. Rhythm refers to the repetition or interruption of design practices to create cohesion.
In relation to the Scientia, there is a strong and clear vector formed between the main (pedestrian) entrance to the University, and the Scientia itself, via the University Mall. This vector, significantly remodelled during the rebuilding program to create a clear and unified pathway, guides the navigation path of the user towards the Scientia. At the end of this vector, the evident salience of the Scientia, realized by its relative size, high placement and distinctive architecture make this the focal point for the campus – its most prominent feature (Stenglin, 2004). Indeed, it is particularly the thrusting arms of the central structure which attain this prominence, due to their distinctiveness – of materials, of shape, of apparent dynamism and through their role as a mediator in the triptych structure formed by the solid sandstone blocks to the left and right. The distinctiveness of the architecture creates strong framing between the Scientia and the buildings which surround it: it is clearly meant to be different. However, any potential lack of cohesion is mediated by the unifying vector of the University Mall, and by a soft rhythm of repetition of landscaping beside the pathway, at particular points as the pathway unfolds. Through the combination of these resources, the Scientia acts as Centre to the campus: the Scientia is the focus, the key; other buildings on the margins (all in disparate architectural styles, reflecting their respective eras) are unified in relation to this whole.

It is very important to recognize that this kind of meaning is, like any other, a social semiotic construct: the Scientia is made to be salient and focal. The Scientia is not literally the centre of the campus. There are many other entry points to the campus from which the Scientia cannot be seen at all, particularly when driving into the campus. And from the rear, as will be discussed further below, the impact of the building is quite different. Thus from these standpoints, the building does not dominate, or create coherence – from some points it cannot even be seen. And yet, part of the ‘meaning’ of the campus is now that the Scientia is its Centre. This is one of the ways in which the design of the Scientia has contributed to a strong and new visual identity for the campus.

In the organizational framework, information values intersect with pathways, and here, navigation of the central pathway, from the entrance to the Scientia, takes users from the space of the ‘Given’ and ‘Real’ – that which is known, and actual – to the space of the ‘New’ and ‘Ideal’ – that which is unknown – the promise (Kress and van Leewuen, 2006). The Ideal/Real values of the building are maximized at close distance (see photo 2). Having arrived at the threshold, the user, located in the realm of the Real, is forced to look up, at the scale of the building, at the dynamic arms thrusting up, to see the Ideal of the building, as symbolized by the central structure. The nature of this promise will be elaborated further below, but clearly this is intended to be read as a journey, and a transformative one at that, contributing to the symbolic power of the Scientia as an image.
At the point of arrival, however, there is a moment of confusion – a kind of *textual failure* (Safeyaton, 2004). There is no entry as such to the building from this side. There are two paths to the left but the smaller one looks very unimportant, and is presumably going to somewhere else on campus; the larger one looks as if it might lead to the rear of the building, but goes past the garbage bins, so also does not look like the appropriate direction. There is no pathway to the right. In fact, the main pathway goes through the building and underneath the branching structure, so there is little choice but to follow this, but the passage is not immediately inviting. For some it may take a little courage to complete this part of the journey – it is quite forbidding! Through this passage, and up steep stairs to the other side, the user is brought to the ‘rear’ of the building. Here, there is a more inviting, accessible entry, made so by its smaller
scale, and oblique placement of a wall to funnel users into this entry (see Photo 3). The user has arrived.

Space as persona: the interactional metafunction

The interactional framework encompasses both the roles and relations established among producers/users of the text, and any stance or attitude conveyed about the (representational) content through textual features. In Kress and van Leeuwen’s framework, key resources for the construal of interactional meanings include: Power, Involvement, Social Distance, Contact, and Modality, to which we would also add Control (Ravelli, 2006) and Binding and Bonding (Stenglin, 2004). For an extended development and application of the ‘grammar’ of space from an interactional perspective, see Stenglin (2004).

The dimension of Power relates to the relative equality, or lack of it, constructed between interactants, and this is realized primarily by vertical angles – if the angle is low, then the user ‘looks up’ at the represented participant, and this gives power to the representation; the reverse gives power to the viewer. Typically, great height is used to connote power of the building. In buildings, the horizontal dimension may also construct power relations: if a building is particularly solid, or particularly large on the vertical dimension (referred to as
its ‘cthonicity’ by O’Toole, 1994), then this is an additional way of connoting power, as can be other features, such as the quality or rarity of the building materials used. *Involvement* refers to the way in which the viewer is engaged in the text, in relation to horizontal angles. A centred perspective, giving a front-on viewing, relates to a subjective engagement with the text – the viewer is centrally involved with the image. An oblique angle, giving a side-on perspective, reflects a more detached engagement with the text. In buildings such angles are typically manifested in the direct or indirect entries provided to access buildings: can we walk straight in, or do we need to go round about? However, we will see below in relation to the Scientia that some of the ‘values’ here are more or less reversed.

The variable of *Social Distance* may range from the intimate and personal through to the public or impersonal, and is realized by the distance of the viewing position. ‘Up close’ obviously represents a closer social distance than ‘far away’. In buildings, this can relate to such features as fences, which may be designed to keep people away, or to the proximity of the building or its entrance to the street front. And of course, remembering that we can ‘move through’ 3D space, the degree of the social distance may be transformed by the nature of the approach. The system of *Contact*, in relation to visual images, reflects the function of the image as a Demand or an Offer, and is realized by the presence or absence of the gaze: direct eye contact construes a Demand; its absence an Offer. We can see a potential parallel here with buildings in the extent to which one can see in to, or through, a building. A building with few windows or obscured windows does not invite engagement in this way, and so is something to be contemplated; where windows enable the gaze inside, there is a Demand for interaction. Overall, the system of Contact needs further development to account for such variables as whether the Contact in a Demand is Intense or Weak. In images, this may refer to whether a ‘Direct’ gaze is perhaps partially obscured (for example, by batted eyelids); in other modalities such as web pages, it may refer to whether the gaze is realized in a dynamic way (for example, by features which are animated) or statically.6

The system of *Modality* relates to how ‘real’ or ‘truthful’ the text is construed; texts with a high modality are presented as ‘more real’, texts with a median or low modality are ‘less real’. The assessment of modality depends on the *coding orientation* of the text, however, in buildings we see that the use of new and unconventional styles signals a shift in coding orientation (famously, the Guggenheim Museum at Bilbao) within which a building may be simultaneously read as low modality (can that be a building?) or as hyper-real (what an amazing building!). The use of a new coding orientation has a number of effects. In organizational terms, it creates a sense of strong framing between the new building and its neighbours, highlighting contrast and difference. But interpersonally, these choices create a particular ‘face’ or ‘persona’ for the institution, priming visitors for the institutional roles to be enacted within.
Additional dimensions to the interactional framework include the degree of *Control* or *Freedom* that is enabled for users in and around a 3D space. Control and Freedom are realized by the extent to which users can freely access both the building and its interior; the extent to which their pathways are open or closed, and their behaviour with or without surveillance. Further, spaces can be examined in terms of the degree of *Binding* and *Bonding* which are construed (Stenglin, 2004). Binding refers to the degree of security or insecurity enabled for users, and ranges on a graded scale from the bound to the unbound, with the centre representing security and the extremes representing (different kinds of) insecurity. It is realized by a complex of both invariable features (such as the height and placement of base, wall and overhead planes) and variable features (such as the use of colour, light, texture to change the ambience within a space). Bonding refers to the extent to which a user is made to ‘identify’ with a space, using icons and features such as hybridization (e.g. multiple activities within the ‘one’ space) to create – or inhibit – a sense of belonging and solidarity.

As with many texts, the interactional meanings construed in the Scientia reflect a complex and multiple view of interaction, rather than a single, hegemonic choice. In relation to power, the authority of the institution is clearly evoked by the immense height of the central structure, by the placement of the building at a high point on the campus, by the width and solidity of the sandstone blocks and by the quality of the materials. In addition, the new and distinctive coding orientation of the central structure of the building, combined with the more traditional sandstone ‘flanks’, evoke power. This power is maximized at the threshold, where one is overawed to stand underneath this structure and look up. This is an experience – and a place – to be respected and revered; users are supposed to be impressed. Thus, part of the re-imagined – and semiotically constructed – identity of the University is a strongly asserted sense of authority and confidence in its new status; the institution no longer needs to be apologetic for its hitherto second-rung standing and reputation among Australia’s older Universities (Nimmo, 2001).

At the same time, however, this strongly expressed authority is mitigated in a number of ways. The length of the pedestrian journey along the University mall means that the social distance between the building and the user changes on approach: at first the building is far away, and while intriguing, it is less overwhelming. The length of the journey means that users have time to adjust to the scale of the building. Also, the pathway towards the Scientia is free and unobstructed in terms of access; there are no fences or gates to negotiate, suggesting a welcoming approach. Most importantly, the power variables change dramatically at the entry point to the Scientia. As noted, the actual entry is to the ‘rear’ of the building, where the overall scale of the building is lower, and so less intimidating: user and institution are now on more of an equal footing. And here there is an angled entry which funnels users in to the actual doorway.
As noted, Kress and van Leeuwen suggest that the front-on angle is more involving in 2D images (because it invites direct engagement) and the oblique angle is less involving. However with the Scientia, the front-on angle at the threshold, combined with the massive height and other features of the central structure, combine to produce an intimidating effect – to step through the threshold here requires enormous commitment and confidence. Yet the oblique angle at the rear, and the other features such as generally smaller scale of the building, are conversely less demanding of the user. Precisely because less commitment is required of the user, it becomes easier to approach and engage with the building at this point.

Other interactional features are also realized in a complex way. In relation to Contact, the sandstone blocks generally provide an impermeable perspective, and yet the central glass structure is transparent, enabling a view from the outside in. Similarly, louvered windows at the front and rear may be closed, further contributing to the impermeability of the structure, or open – and from the rear it is possible to see right through the building to blue sky at the other side. Thus the building functions both as an Offer, something to contemplate, and a Demand, an invitation to engage. Similarly, in relation to issues of Control, the clear directionality of the pathway and its prominent endpoint are a way of controlling user behaviour; at the same time, this is more an invitation than a command. It is still the user’s choice to embark on the pathway, and while the path is maximum clear, there are also breakout or resting points on the way, and some potential alternative directions, which afford the user some Freedom. Binding ranges from the relatively unbound on approach (no restricting fences, no overhead planes), to the relatively strongly bound in through the central passageway (the strongly bound overhead and wall planes), to the unbound again at the rear. Bonding on the exterior occurs through such activities as ‘hanging around’ on the steps and plaza-like grassed areas in front of the Scientia, and families taking graduation photos with the Scientia in the background (none of these activities are forbidden). Overall, the interactional features combine to suggest a place which is powerful and impressive, one which inspires awe and respect, but with which one can still engage.

Space as content: the representational metafunction

The representational framework is closest to a traditional sense of ‘content’, what a text ‘stands for’ or what it is ‘about’. Here, we can begin by considering the basic denotations and connotations of ‘signs’ used in the text; in the case of buildings, this may be of the materials used in the construction, or of shapes in the design, and so on. It is also relevant to consider the functions and uses of the text: what functionality is evident in the uses to which the text (building)
can be put? In addition, the selection and inclusion of particular objects or features may suggest representational meanings (Ravelli, 2000). Kress and van Leeuwen draw particular attention to the Process types which are represented in visual images, and these may be drawn upon both when ‘looking at’ a building and when ‘moving through’ it, considering what sort of behaviour is enabled within a particular space. Process types include Narrative Processes, realizing some kind of ‘action’ by the presence of narrative vectors, in terms of either action, reaction or mental and verbal Processes. Or they may be Conceptual, without vectors, realizing a more static event, including Analytical Processes which relate attributes to carriers; symbolic attributes distinguished by their unusual size or placement; and Classification Processes which construe taxonomic relations (see Kress and van Leeuwen, 2006 for further descriptions of all of these).

With regard to the Scientia, it is evidently a potent symbol for the University, but of what? Considering connotations first of all, generalized representational meanings can be drawn from the materials used and their finishes. The materials include sandstone, glass, wood, steel, granite. Through their selection and finishes, a general motif of contrast can be seen. Sandstone, especially in a city such as Sydney, immediately connotes a sense of history, authority, solidity. Modern materials such as glass and steel, however, connote contemporaneity, even dynamism. Thus the old and the new are invoked at the same time, suggesting that the institution is at once authoritative, dignified, but also dynamic, and cutting-edge. Some of the materials are solid (wood, stone), others transparent (glass). Some are natural (wood, stone), others are manufactured (glass, steel). Some are textured (sandstone), others are polished and smooth (wood, glass, steel). The building is at once chthonic, solid, through the heavy sandstone blocks, and thrusting, light, through the central structure. These contrasts in finish and type support the general connotations of the fundamental materials: UNSW is represented as a complex institution, solidly grounded in history, dynamically engaging with the present and the future.

As with all the metafunctions, it is important to remember that this is a semiotic construal: it is not necessarily the case that the UNSW ‘is’ an institution of this kind, rather that it is being represented as if it is an institution of this kind. In relation to other Universities in Sydney and Australia, UNSW is relatively young, and its claims to pre-eminence in the current field is just that, a claim. However, the building succeeds in re-imagining this identity, and in constructing a new understanding of what the University is, and what it stands for.

The shapes on the exterior of the building also contribute to representational meanings, both in terms of connotations and through evoking specific process types, when the building is viewed ‘as if’ it is an image. The over-sized central structure potentially connotes a range of things (and because it is a connotation, this is likely to have multiple interpretations): students at UNSW, in a class-based exercise, responded that the structure reminded them of ‘a tree’; ‘the tree of knowledge’; ‘the open pages of a book’ and so on. Importantly,
because this central structure stands symmetrically between the two heavy sandstone blocks, and because of its exaggerated size and unique design, it thereby acts as a symbolic Attribute – of the building, and of the University. At the same time, the projecting nature of the branches/arms, thrusting up towards the sky, create a narrative vector: whatever is being symbolized here, it is dynamic, it is a process, it is ongoing.

Stepping back from the building itself and considering the space ‘around’ the building, we can see that the strong vector along the University Mall can be seen to function as a narrative vector also. It is the user’s movement along this vector which invokes the sense of a journey. Thus here we see the one resource, the vector, functioning in relation to all three types of meaning; in organizational terms, it creates a vector mapping out the Information values of the different spaces in relation to each other; interactionally, it contributes to the simultaneous Command and Invitation functions of the building; and representationally, it contributes to a sense of action taking place as the user traverses the path.

In addition, representational meanings are construed through what is placed inside these spaces, and from the ways in which these spaces are used. What such spaces stand for, what they are ‘about’, depends at least in part on what goes on there. Neither of these features can be immediately inferred from the exterior: in many respects the Scientia appears to be an abstract, ‘empty’ space, although from the grandeur of the exterior one would probably guess at ceremonial functions. This is indeed one of the primary functions of the building, although other functions, such as the fact that the main hall is used to conduct exams, or to host wedding receptions, or that one of the smaller meeting rooms is regularly used as a restaurant, would be difficult to guess at. Yet the Scientia is intended to be both the ‘ceremonial and communal heart’ of the University, 10 to be a place of ‘spontaneous gathering and some ceremonial focus’. 11 Indeed the flat areas at the feet of the building, and areas of grass along the pathway towards the building, are used for informal gatherings, as previously noted. These are places where one can stop and simply ‘look at’ the building, though the lure of the central structure, and the strongly defined pathway, necessarily encourage the user to keep ‘moving through’ to the other side. Given however, that overall the interior functions of the building are somewhat hidden from view, it is the visual impact of the exterior which takes precedence in understanding what the building represents: the integration of the contrasts mentioned above, the authority and prestige of the institution, its connections with knowledge, its dynamic nature.

Space as a unified whole: bringing the metafunctions together

As noted earlier, buildings and similar spaces are a kind of 3D text; that means they have some kind of unity of purpose which ties them together and enables
them to function as whole units, rather than disparate parts. Here, then, as well as considering the metafunctions as strands of meaning, it is important to consider how these are brought together as a whole. A range of resources from SFL can be of use here, including considering the genre of the text: its overall socio-cultural purpose, and how it is organized to achieve that purpose, and the discourse-semantics which contribute to the texture of the text (Martin, 1994; Martin and Rose, 2003, and see Pang, 2004 on narrative design, and McMurtrie (2005) for an application of the notion of genre to buildings). Another useful notion is that of intersemiosis (Ravelli, 2006). Intersemiosis refers to the coordination of semiosis across different sign systems, and depends on the foregrounding of particular patterns (Halliday, 1973), related through their consistency (Hasan, 1989). Intersemiosis draws together otherwise disparate elements and relates them as a meaningful whole. While any text is open to multiple interpretations, the general thrust of the compliant reading (Cranny-Frances, 1992) of the Scientia, across each of the metafunctions, is clear: organizationally, that the Scientia is the new heart of the University; interactionally, that it exerts the authority of the institution, while enabling users to feel that they are able to gain access; and representationally, that its symbolism should be viewed as both complex and positive. These are certainly the meanings that students read into the building, that ‘one comes to this building to be at the height of education’;12 that ‘while UNSW is a relatively young university, it is here to stay and will become an old institution’; it ‘connotes the feeling of grandeur, excellence, prestige’; it ‘is open to all, and embraces knowledge’, and so on. Yet texts do not have to be read, or experienced, compliantly: students also include hints of negativity or apprehension in their responses: ‘even though it’s an uphill battle, UNSW gives a clear path towards becoming a graduate’, and ‘you have to work hard to get here and graduate’. Others are more overtly resistant, rejecting the overt symbolism of the building: ‘it’s trying to be something it’s not’; ‘it’s just a building’. Thus to fully understand these complex kinds of texts, it is important to consider the range of ways in which they might be read and understood.13

Thus, 3D texts such as the Scientia are open to interpretation and analysis, as any other visual or linguistic text is. The metafunctional frameworks, inspired by Halliday’s work on language, and adapted for visual texts by Kress and van Leeuwen, provide a solid foundation for analysing 3D texts, but need to be extended and adapted to account for the specific affordances of different kinds of texts. An additional issue remains, however, and that is to reflect on the social purpose and relevance of such analyses. In relation to language, linguistics provides an effective tool to intervene in such issues as the development of literacy, or the social critique of powerful – and widely distributed – texts. In contrast, it might be said that few of us will actually engage in the building of buildings, and even fewer in the building of socially powerful buildings. Yet, I would argue, that these buildings are still texts, they make and enable meanings, they are
socio-cultural constructs, and as such, need to be understood, appreciated, critiqued, applauded and criticized, just as any other text can and should be. They are part of our social world, and that is what we need to understand.

Notes

1 This may be ‘around’ the building in terms of geographic space, that is, the neighbours; ‘around’ the building in terms of diachronic space, that is, other buildings of the same period; or ‘around’ the building in terms of function, that is, buildings serving a similar purpose, even if geographically distant.

2 The building was renamed the ‘John Niland Scientia Building’ in 2006, acknowledging the role of the former Vice Chancellor, John Niland, in the transformation of the University campus. ‘Scientia’ derives from the Latin term for ‘knowledge’.

3 Jury Verdict; Sir Zelman Cowan Award for Public Buildings; Royal Australian Institute of Architects; *Architecture Australia* November/December 2000; accessed at www.architectureaustralia.com.

4 Famously dubbed ‘Mussolini Parade’ by campus wits, with reference to the strongly directed building program of Vice Chancellor John ‘The Builder’ Niland.

5 At night, this prominence is further exaggerated by lighting which enhances the central structure, and it is this structure (rather than, say, the sandstone blocks) which is now the visual icon of the University.

6 There are many other ways in which this system could be extended. For example, Magelhães (2006) draws attention to a British postcard promoting multiculturalism. Three participants are represented in a medium shot; an Asian woman, and an Anglo man, both gazing directly at the camera, and wearing clothes with the British Union Jack on them, and an Afro-Caribbean, with his back turned to the camera, showing the back of his head, upon which is shaved the outline of the Union Jack. Magelhães suggests this is racist, as only the black is not in a ‘demand’ position. However, I would suggest this is a different kind of Demand: the hairstyle, being radical, and centered, is salient, and literally ‘demands’ attention. This is a way of inviting direct Contact, and is how this particular participant chooses to represent himself to the world.

7 For example, in relation to images, the use of black and white in an image may have a higher modality in a scientific and technical coding orientation than in a naturalistic coding orientation; see Kress and van Leeuwen, 2006.

8 One extreme may be that a space is ‘too bound’, being too closed-in for comfort; the other is that it may be ‘too unbound’, with a sense of insufficient enclosure.

9 See Ravelli and Stenglin (manuscript under preparation) for an extended discussion of the interactional framework in relation to the exterior and interior of the Scientia.


In addition to compliant and resistant readings, Cranny-Frances (1992) adds tactical readings, by their nature unpredictable in how a user may respond to the text. Perhaps a tactical reading of the Scientia is manifested in the University’s use of one of the rooms as a restaurant; this was not part of the original function and has been a creative adaptation of an otherwise under-utilized space.

References


Chapter 3

Space in Discourse

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Introduction

Most approaches to space and language continue to be inspired by the philosophy of Immanuel Kant who saw space as one of the basic a priori – and universal – principles of human cognition. Here I explore a different point of view, the point of view that our understandings and representations of space derive from, and can be directly linked to, social action, the way we use space in acting out social practices. A look at the history of maps can illustrate the point. Early maps were half picture, half map, explicitly representing space as a setting for complex actions and including geographical detail only insofar as it was relevant to these actions, just as do many contemporary tourist maps and route maps. In the early days of modern science, maps played a key role in practices of seafaring, trade and colonialism and still included pictorial elements, for instance pictures of ships. But gradually action was left out and space came to be represented as an objective order, existing separately from, and prior to, human action. Kay O’Halloran (2005) has described how the same process took place in the development of mathematical drawings. For the sixteenth-century scientist Tartaglia geometry, the science of space, was fully engaged with the social actions it sought to understand and improve. His drawing of the mechanics of hitting a target shows the marksman, the target and the mountainous setting of the event in realistic detail, with a line diagram illustrating the mechanical principle superimposed. A century and a half later, such drawings would become abstract geometrical diagrams, leaving out the social actions which, of course, they continued to serve.

Foucault’s influential book Discipline and Punish (1979) explored the use of space for enforcing and maintaining power relations. ‘Whenever one is dealing with a multiplicity of individuals on whom a task or a particular form of behaviour must be imposed’, he wrote in his discussion of Bentham’s Panopticon, ‘the panoptic schema may be used . . . It is the diagram of a mechanism of power reduced to its ideal form’ (Foucault, 1979: 205). Today the principle of the Panopticon continues to be an important management tool. Eley and
Marmot (1995: 76), in a book subtitled ‘What Every Manager Needs To Know About Office Buildings’, write that good team work is ‘encouraged in locations where lines of sight and access routes on the office floor link many workplaces’, and the German management consultant (Boje, 1971: 64), writes that open offices create ‘a new type of office user’, who ‘speaks more softly, is more considerate, dresses correctly and carefully and conducts arguments at a calmer pitch’. Clearly a critical analysis of power should not ignore the fundamental role of space in enacting social practices: ‘The material environment predisposes us in very specific, important and lasting ways in our doings and sayings’ (Iedema, 2000: 65). Here, however, my focus is on the construction of space in discourse. I am assuming that discourses about space provide normative understandings of space and play a role in the control and maintenance of social practices (Fairclough, 2007). But to be able to study this, first of all we need to understand the ‘grammar of space’, the semiotic resources available for representing space in discourse.

Methodology

In this study I use a multimodal, multigeneric corpus of texts which focus on a specific social practice, ‘going to school for the first time’. It is a diverse collection of texts, including teacher training texts, brochures for parents, books for young children, press reports, radio broadcasts, advertisements for school uniforms and necessities, and also critical texts, texts that seek to de-legitimize compulsory schooling, such as Ivan Illich’s Deschooling Society (1971). They represent a range of genres, including reports, narratives, advertisements, advice columns, and so on, and they address a range of audiences – teachers, parents, children, general readers, etc. But despite this diversity they have one thing in common. They all provide some version, some recontextualization, of a particular initiatory practice that is fundamental to the institution of compulsory schooling, the ‘first day at school’.

In these texts I then single out all verbal and visual representations of space, aligning them with other key aspects of social practices on a grid in the way shown in Table 3.1, which analyses the text in Example 3 (the ‘~’ sign stands for simultaneous actions). In the ‘space’ column I include the natural or constructed layout of spatial settings as well as the fixtures of these settings, such as trees, or furniture, or pictures on the walls, but not the ‘props’, the objects that play a direct role in the performance of the practice, as a tool for one action or another. I would interpret the ‘charts and pictures’ in Example 1 as part of the setting, for instance, but not the ‘audiovisual aids’ in Example 2, which I would interpret as ‘resources’.

1. Charts and pictures adorn the walls.
2. Audiovisual aids such as television and tape recorders are frequently used.
The grid charts the key elements of social practices, insofar as they are represented in the text. This includes in the first place a sequence of actions and the actors who participate in them in one role or another, but may also include the dress and grooming of the participants, the performance style of the actions (e.g. in terms of formality), the semiotic and material resources for performing them, the times when the actions take place, the eligibility conditions of the various concrete elements of the practice (the ‘qualifications’ needed for participating in it, for example, age or gender of participants, the required properties of material resources and so on), and finally of course the spatial arrangements for the practices, which is the subject of this chapter. Van Leeuwen (in press.) discusses these categories in greater detail.

3. In the afternoon Miss Laurie reads a story to the class, but Mary Kate didn’t hear much of it. She was fast asleep on the floor by the doll’s house.

<table>
<thead>
<tr>
<th>Actor</th>
<th>Action</th>
<th>Space</th>
<th>Time</th>
<th>Resources</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teacher</td>
<td>reads story</td>
<td>in the afternoon</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Child</td>
<td>sleeps</td>
<td>on the floor by the doll’s house</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Finally, I sort the space expressions I have entered in the grids lexicogrammatically and multimodally, interpreting the resulting categories in terms of their social functions, and matching the verbal and visual realizations whenever possible. The category ‘Setting’, for instance may be verbally realized by Circumstances of Location and visually by an ‘Establishing Shot’, as will be explained in more detail below. The types of space expression I have identified in this way are then summarized in a system network, and it is with the presentation and explanation of this network (shown in Table 3.5) that the greater part of this chapter will be concerned.

**Locating action**

Many representations of space and spatial arrangements are directly linked to actions. This involves both the positions taken up during a particular stage of the social practice and the transitions between such stages.

‘Positions’ provide an explicit representation of the spatial arrangement for a social practice or a stage thereof. This may range from body positions such as standing or sitting, to indications of a location such as ‘in school’, or ‘at home’. ‘Transitions’, similarly, provide an explicit representation of the transition from
the space of one social practice or part thereof to that of the next. They may be as minimal as a change of posture, for example standing up or sitting down, or involve a larger or smaller change of location.

Positions are linguistically realized either by Circumstances of Location (rest), that is, by locative phrases with prepositions indicating a static location, such as in and at, or by what we could call ‘position processes’, such as sitting on, flanked by, etc.:

4. Each activity is carried out at a special table.
5. The teacher is backed by a shining collage of gold and silver foil and flanked by bookshelves.
6. Assembly is usually held in the school hall.

Visually, positions are realized by what, in film language, is called an ‘establishing shot’, a picture that shows the whole of a location, insofar as it is relevant to the action, and thereby allows subsequent detail pictures to be ‘placed’ in the whole by the viewer (e.g. Figure 3.1).

Transitions are linguistically realized by Circumstances of Location (motion), that is, by phrases with prepositions that realize motion to or from a location, such as towards, to, from or by what we might call ‘motion + location’ processes such as enter, gather round, etc.:

7. They entered the classroom.
8. The children gather round their teacher.
9. The teacher removed him to a place beside her desk.

Visually, transitions are realized by movement from one position to another. In film this is typically accompanied by the camera panning or tracking along with the movement, but still pictures can depict movement too. A typical illustration in books for young children shows the teacher standing at the entrance of the school, waiting for the child to enter, while the mother is saying goodbye to the child – a transition from ‘outside’, where the farewell episode takes place, to ‘inside’ where the ‘first day at school’ activities will take place.

Both ‘positions’ and ‘transitions’ (and also the ‘descriptions’ I will discuss later) can be further located by being given a setting. The setting relates a located action to an adjoining location, or to the whole of which it forms a part. Linguistically this is realized by double Circumstances of Location (e.g. ‘on a chair’ and ‘in the middle of the room’ as in Example 10) or by spatial anchoring processes such as adjoin, be nearby, etc.:

10. Mrs Thompson seats herself on a chair in the middle of the room.
11. She was fast asleep on the floor by the doll’s house.
12. The toilets are a long way from the classroom, in a separate block.
Visually, settings are realized by the presence of foreground and background. Figure 3.1 is an example, as it shows both the spatial arrangement with the teacher on a chair and the children on the floor, and the classroom setting. Figure 3.2 only shows the spatial arrangement and leaves the setting out.

So far, the discursive construction of social space may seem a straightforward matter of indicating where and in what kind of spatial arrangements things happen. But it is not necessarily as simple as that.

The floorplan in Figure 3.3 is taken from a study of the transition from home to school (Cleave et al., 1982) which combines ethnographic description with precepts and best practice examples for teachers. It shows an actual class and it is recommended as good practice in the accompanying text because it contains elements children will be familiar with from nursery school, which, it is said, will help them settle in more easily.
The floorplan in Figure 3.4 I drew on the basis of the following passage from a children’s book (Morgan, 1985: 28):

13. The classroom had big windows, set high in the wall. Through one of them Mary Kate could see the top of a tree and a patch of sky and through the other she could see the church tower. All round the walls were paintings and drawings and big coloured diagrams and pictures. In one corner there was a doll’s house and a cot with a doll in it and in another was a table piled with books. There was a stove with a huge fireguard round it and, most wonderful of all, there was a little playhouse, with windows and a door and real curtains.

Although I tried to draw only what was in the text, this was not entirely possible. The text does not indicate the shape of the classroom, for instance, yet
I needed to draw corners to place the doll's house in a corner. I also wanted to bring out the similarities between the two floorplans. But these difficulties illustrate my point: the description in the story is selective. It includes what the child already knows from home or nursery school (maybe with the exception
of the ‘table piled with books’), and leaves out the new and unfamiliar, especially the fact that the room is arranged for a whole class of children. Yet Figure 3.3 also leaves things out – the ‘paintings and big coloured diagrams and pictures’, for instance. It shows only the horizontal dimension of space, the dimension of action and functionality, and not the vertical dimension, the symbolic dimension. In the linguistic description these two are intertwined.

In short, the discursive construction of social space is not necessarily informed only by a concern to indicate where things are located, not just a matter of adding some ‘reality indices’ (Barthes, 1977) to provide a sense of setting and atmosphere. It is informed also by the functions and meanings of space. When we read that ‘each activity is carried out at a special table’, we do not learn much about location. What we do learn is that different activities are to be kept quite separate, and that activities take place at tables, not on the floor, that a certain discipline is imposed on playing which does not exist at home, and that this discipline is largely imposed by the spatial arrangement of the classroom.
Again, when we learn that the teacher is ‘backed by a shining collage of gold and silver foil’, and ‘flanked by bookshelves’, the point is not so much to tell us exactly where the teacher is, but to emphasize her authority, to endow her with the symbolic attributes of royalty (gold and silver) and learning (books).

**Arranging and interpreting space**

In an account of English classrooms in inner London High Schools, Kress *et al.* (2005) describe how teachers use space to establish particular relations with their students and to control what should and what should not happen in class. Different teachers, they show, do this in different ways. Some classrooms used a traditional ‘transmission’ approach, with individual student tables lined up in rows. In another class, which they describe as ‘participatory/authoritarian’, tables were put together to create teams of four to five students facing each other, realizing a participatory ‘teamwork’ approach that differs from the traditional ‘transmission’ approach. But the ‘participatory’ was mixed with the ‘authoritarian: the students’ tables were angled to allow the teacher total visual control from the front of the classroom. This placed strong constraints on the students’ posture, at least if they wanted to see the teacher and follow the lesson, so much so that the traditional ‘transmission’ approach would in fact have allowed more postural freedom. They also described spatial arrangements at the level of body positioning. In one ‘mixed ability’ class, student tables were again put together to form teams of four or five students, but this time according to ability. When the teacher approached a table with ‘high ability’ students, she did not sit down but casually leant on the table, coming quite close to the students. When she approached a table with ‘low ability’ students she sat down, which created more distance.

Clearly, if space is functionalized and hierarchized for the purposes of an institutional order, spatial arrangements such as the positioning of tables becomes a particularly important and powerful ‘preparatory practice’ (cf. Van Leeuwen, 2008). In discourse, such activities of *arranging space* are realized by material processes of architecture, interior decoration, furniture arrangement, body positioning, etc. (*hang, put, organize, set-up, situate, position, seat*, etc.), or, visually, by showing such actions:

14. Organize space within the base so that children have corners for privacy and quiet.

15. A friendly and very efficient teacher had set up activities for every child.
16. Someone had put flowers on the teacher’s desk.

*Interpreting space* – normatively and authoritatively assigning functions and meanings to spaces and spatial arrangements – is another important form of
social control. Assigning meanings is realized by verbal ‘signification’ processes such as convey, signal, etc., or verbal processes which project relational clauses with signification processes. Assigning functions is realized by purpose constructions (see Van Leeuwen, 2000), or by visual processes of ‘showing’ and ‘demonstrating’.

17. She [the teacher] shows her a peg on which to hang her coat.
18. ‘There is a drawer to put your things in’, she [the teacher] said.
19. The environment may be intended by adults to convey a specific message.
20. The mysteries of the dark alcove in the corner and that something called ‘The Hall’ were revealed [by the teacher].

Not all space interpretations nominate who (in the above example mostly the teacher) assigns meanings and functions to spaces and spatial arrangements. At times the meanings and functions are represented as inherent in the spatial environment, so that the environment itself facilitates or controls actions or signifies symbolic meanings. Such de-agentialized space interpretations are realized by processes which have space itself as the Actor. They are examples of the category of ‘spatialization’ (Van Leeuwen, 1996), the case in which a space is substituted for a social actor.

21. An uninterrupted expanse of floor gave Ian ample opportunity for riding round and round in his favourite pedal car.
22. The environment signals friendliness and welcome.

The quote from Iedema (2000, p. 65) I used earlier in this chapter is another example:

23. The material environment predisposes us in very specific, important and lasting ways in our doings and sayings.

Description and legitimation

Like the examples discussed in the section ‘Arranging and interpreting space’, descriptive clauses can also link spatial arrangements and locations to actions, for instance by coding a space or a spatial fixture or arrangement as Carrier or Token in a relational clause, or as Existent in an existential clause, or by coding spatial functions or meanings as Attributes or Values in relational clauses. In Example 24 an action is realized as a pre-modifier in a nominal group, and in Example 25 by substituting a tool for the action in which it is used. Visual descriptions may be realized by pictures focusing on specific parts of spatial settings, or by what Kress and van Leeuwen (2006) call ‘symbolic processes’, pictures in which an object symbolizes an attribute of a depicted person, and in
which that object is represented in a visually conspicuous way, for instance by placing it in the foreground, or by being held in a way that is clearly not related to the normal function of the object. Many of the illustrations in children’s books about ‘the first day at school’ show crucial objects such as ‘the peg on which to hang your coat’ or ‘the drawer to put your things in’ in this way.

24. These are the reception classes, one on each side of the corridor.
25. Carpeted areas are for floor toys.

Other descriptions do not link to actions in this way and seem to provide description for its own sake, perhaps to add a sense of realism. Yet analysis of such descriptions often shows that they do not just describe the concrete material environment but also hint at less concrete motives. In ‘First Day’ texts, for instance, child safety and child-friendliness are often emphasized, betraying a concern to put school in a favourable light, to legitimize school. Here is an example of safety:

26. There was a stove, with a huge fireguard around it.

And here are some examples of child-friendliness, where, again, the point is not to locate exactly where ‘everything’ is but to indicate child-friendly and attractive (or in the case of critical descriptions, child-unfriendly and unattractive) attributes of the environment and the fixtures in it.

27. Everything is just the right height for Mary Kate.
28. It was light with rows of desks and pictures on the walls.
29. All around the walls were painting and drawings and big coloured diagrams and pictures.

This can also be done visually. It is for example perfectly possible to show the ‘lightness’ indicated in Example 28 above, or to use descriptive details such as pictures on the wall to convey values, as in Figure 3.5, where the picture of the sheep and the lamb perhaps indicates a reassuring sense of maternal care.

Example 30 lists only those spaces that also exist in nursery schools, again stressing the familiar, and avoiding mention of any new and potentially threatening aspects of the environment.

30. A reception class contains at least some of the basic elements of the nursery education described above, such as a home corner or a wendy house, a book corner, a carpeted area for floor toys, and, less commonly, trays for sand and water.

Other descriptions stress authority and hierarchy:
In short, descriptions select spaces and spatial elements not only to link them to specific actions and to stress their functionality, or to ‘interpret space’, but also to stress hierarchy and to provide what elsewhere (Van Leeuwen, 2007) I have called ‘moral evaluation’ – the use of value-laden adjectives such as ‘healthy’, ‘light’, ‘airy’, ‘natural’, etc. to trigger moral concepts that can legitimize the practices whose spaces and spatial arrangements are described. The signifiers of such moral evaluations are often relatively marginal to the represented social practices – ‘decorative’ objects such as pictures on the wall, or non-functional qualities of the space, such as ‘light’ and ‘airy’. But the textual salience of these apparently peripheral objects and qualities clearly points at their symbolic importance, and their role in getting children (and parents) not just to accept schooling as a fact of life, but also to like it and identify with it. The specific values expressed here, for example, child-friendliness and a modicum of
connection with earlier ‘pre-school’ indulgence, are specific to the social institution I am concerned with here, compulsory education. But elsewhere description will play the same three general roles of signifying functionality, hierarchy and moral value, even though the signifiers and the legitimatory discourses they invoke will be different.

**Subjective and objective space**

Elsewhere (Van Leeuwen, 2005) I have discussed the difference between subjective and objective representations of time. A similar distinction can be made in the case of the representation of space. *Subjective space representations* link the space construction to an Actor either by means of ‘relative’ circumstances (*to her left, on his right, above him, etc.*) or by projecting spatial descriptions through perception clauses. There can of course be variants, such as Example 34, where the two elements are disjoined and where the second clause is in itself objective, but subjectivized by the (behavioural) perception clause which precedes it.

32. A long corridor stretched out before them.
33. Through one of them Mary Kate could see the top of a tree and through the other she could see the church tower.
34. Mark looked around the room. It was light with rows of desks and pictures on the wall.
35. The subjective experience of space can also be realized visually, through ‘point of view’ pictures.

**Word and image**

Tables 3.2, 3.3 and 3.4 present social practice analyses of three text excerpts. All three deal with the same ‘First Day’ episode, the telling or reading of a story by the teacher. Table 3.2 repeats the analysis of Example 3. Table 3.3 analyses the text in Figure 3.1, and Table 3.4 analyses the text in Figure 3.6. Visually represented elements of the social practice are italicized to bring out which elements are communicated only verbally, which only visually, and which both verbally and visually.

Clearly the picture books use verbal representation only for the actions and (some of) the actors. Actors, locations, spatial arrangements and material resources are all visualized, and so present the concrete elements of the practice in more detail than words alone could have done. In Figure 3.5 even time is visualized. Yet structurally the verbal and visual space representations are quite similar. There is a foreground with a teacher on a chair and children on
the floor, and a background signifying a setting (a corner with a window, pictures and drawers; a plant, books and pictures; a doll’s house).

Table 3.2  Reading a story (1)

<table>
<thead>
<tr>
<th>Actor</th>
<th>Action</th>
<th>Space</th>
<th>Time</th>
<th>Resources</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teacher</td>
<td>reads story</td>
<td>on the floor by the doll’s house</td>
<td>in the afternoon</td>
<td></td>
</tr>
</tbody>
</table>

Table 3.3  Reading a story (2)

<table>
<thead>
<tr>
<th>Actor</th>
<th>Action</th>
<th>Space</th>
<th>Time</th>
<th>Resources</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teacher</td>
<td>tell the story</td>
<td>teacher on chair; children around teacher on floor; corner with window, picture and drawers in background</td>
<td></td>
<td>book</td>
</tr>
<tr>
<td></td>
<td>reads story</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>~</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Children</td>
<td>listen</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 3.5, finally, summarizes the distinctions I have made in this chapter in the form of a system network, again italicizing those that can be realized both verbally and visually. The only category that needs words and cannot be realized in both ways, is ‘interpreting space’. But this should not be taken as suggesting that images are inferior to words in the range of functions they can fulfill. Clearly they can present more detail and indicate the relative position of objects in space much more economically and in much greater detail than is possible with words.

Table 3.4  Reading a story (3)

<table>
<thead>
<tr>
<th>Actor</th>
<th>Action</th>
<th>Space</th>
<th>Time</th>
<th>Resources</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teacher</td>
<td>tells story</td>
<td>teacher on chair; children in front of teacher on floor; plant, books and pictures in background</td>
<td>2:30 pm</td>
<td>book, glove puppet</td>
</tr>
<tr>
<td>Children</td>
<td>listen to story</td>
<td>children on floor</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Child</td>
<td>holds puppet</td>
<td>glove</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 3.5  The discursive construction of space

Table 3.5, finally, summarizes the distinctions I have made in this chapter in the form of a system network, again italicizing those that can be realized both verbally and visually. The only category that needs words and cannot be realized in both ways, is ‘interpreting space’. But this should not be taken as suggesting that images are inferior to words in the range of functions they can fulfill. Clearly they can present more detail and indicate the relative position of objects in space much more economically and in much greater detail than is possible with words.

References


Chapter 4

Interpersonal Meaning in 3D space:
How a Bonding Icon Gets Its ‘Charge’

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Introduction

In recent years, explorations of interpersonal meanings in 3D spaces have been extended to include two new social semiotic tools: Binding and Bonding (Stenglin, 2002, 2004, 2007, 2008, in press a, in press b; Martin and Stenglin, 2007; Ravelli and Stenglin, in press). Binding is a scale that organizes spaces along a cline from extreme openness to extreme closure. Extremes of Binding evoke both claustrophobic and agoraphobic responses, whereas median choices produce comfort zones of security, or freedom and possibilities. Bonding is also concerned with interpersonal meaning in space but focuses on affiliation rather than insecurity. It explores ways of building togetherness, inclusiveness and solidarity through connection. In pedagogical institutions such as museums, Bonding is materialized by a range of resources including different types of social interaction, different types of learning activities (Macken-Horarik, 1996, 1998) and the re-alignment of visitors around shared attitudes.

Another significant resource that materializes Bonding is the Bonding icon, a social emblem of belonging. Bonding icons include buildings (e.g. the Sydney Opera House), leaders (e.g. Nelson Mandela), songs (e.g. the Maori haka), symbols (e.g. flags) as well as medals, badges, trophies and even paintings (e.g. the Mona Lisa). All Bonding icons share two important characteristics: values get ‘charged’ into them and communities tend to either rally around them or reject them. To develop our understanding of Bonding icons further, this chapter will explore some of the social processes that ‘charge’ a Bonding icon with feelings, values and universal meanings. In particular, the chapter will explore the ways Binding and Bonding co-articulate in one site – Le Parc Olympique, Der Olympische Park or The Olympic Park in Lausanne, Switzerland – to charge one particular Bonding icon, the Olympic flame.

The Olympic flame has become a transcendent symbol of the Olympic movement since it was first introduced to the Games in 1936. Carried by torch relay
from Olympia, its journey ceremoniously culminates in the lighting of the cauldron to signify the start of the Games. The torch relay was first introduced into the modern Olympics by Carl Diem, Secretary General of the Organizing Committee of the XI Olympiad in Berlin. During the Berlin Games, the torch relay was pivotal to Nazi propaganda (Kruger, 2003: 21). Despite this, the Olympic flame has been lit every 2 years since July 1936 and in the year 2000 it is estimated that one million people gathered to welcome the flame in Sydney. Such extraordinary popularity appears to testify to the strong potential of the flame to function as a Bonding icon and this chapter hopes to identify some of the social processes involved in shaping the ways people think, value and feel about the flame.

The Olympic Park is an important site to analyse because it is home to the Olympic Museum. Museums are important cultural institutions because they have a pedagogical function. Like schools, they share the common goal of public education. According to the late British sociologist Basil Bernstein, museums are also agents of symbolic control concerned with the transmission of knowledge. In fact, Bernstein identifies people who work in museums, galleries, the opera and the arts as diffusers. Their aim is to shape ways visitors think, feel and value, and in doing so they have the potential to align the general public into different communities with different belongings. They do this by employing specialist discursive codes to shape the habits of thinking, reasoning and consciousness in a society (Bernstein, 1990: 135). This chapter aims to explore some of the ways they do this.

The chapter is divided into three key sections. Section 1 sets the context by orienting the reader to the Olympic Park. Section 2 introduces Binding and applies it to an analysis of both the Park and two spaces within the Museum. Section 3 analyses how Binding and Bonding resources co-articulate at the Olympic site to ‘charge’ the Olympic flame.

**Setting the context: the social functions of the Olympic Park**

The Olympic Park serves three very different social functions. First, as its name suggests, it is a park open to the general public 24 hours a day. It is situated on a hill opposite the Lake of Geneva overlooking the French Alps. Although most visitors enjoy a leisurely stroll through the grounds, cyclists and joggers also regularly use the Park for exercise. The Park is therefore a public space accessible to all visitors for the purpose of exercise, rest and recreation.

Second, the Olympic Park houses the Olympic Museum, which was inaugurated on 23 June 1993. In addition to hosting permanent and temporary exhibitions, the Museum includes the Olympic Studies Centre for research as well as a video library of IOC film archives. The Olympic Park is also home to the International Olympic Committee (IOC) headquarters.
Although the site has been purpose built to serve a diverse range of functions – park, museum and IOC headquarters – each of these functions share the same two fields: one concrete, the other abstract. The concrete field shared by them all is *sport* for each of them is concerned with competition in 35 recognized sports such as archery, baseball, boxing, tennis and rowing while the abstract field they all share is Olympism, the overarching philosophy of the Olympic movement. Conceived by Baron Pierre de Coubertin, Olympism involves the fusion of body, spirit and mind; the synthesis of sport, culture and art as well as the intangible values of unity, fair play and friendship. Above all, it is concerned with ‘respect for universal fundamental ethical principles’ (Olympic Charter 2004, Fundamental Principles, paragraph 1). These are the spirit of friendship, fair play and solidarity – abstractions that are collectively referred to as ‘the Olympic spirit’.

**A short ‘stroll’ through the Olympic Park**

Most visitors to the Olympic Park begin their visit at the bottom of the hill opposite the Lake of Geneva. They have two choices for traversing the site: they can use the escalators, which offer the most direct route through the Park to the Museum; or they take a meandering path which weaves its way up the hill past an outdoor café and the IOC headquarters before depositing the visitor at the Museum building. Lining the path are brightly coloured lanterns, wooden benches inviting visitors to sit, rest and muse as well as gardens designed by landscape architect Jose Lardet. Interspersed throughout are the following four types of objects as the Olympic Park is also a sculpture garden:

- 3D installations
- sporting equipment (e.g. high jump, pole vault and shot put)
- sculptures
- Olympic symbols (e.g. the Olympic cauldron, an olive tree and the Olympic flag).

These objects belong either to the field of sport or the field of Olympism. The 3D installations are made from steel rods and painted in bright vibrant colours. Their function is to recreate demonstrable sporting records like the current world long jump record. They are concentrated at the beginning of the Park and along the winding visitor pathway. They clearly belong to the field of sport together with the sporting equipment that is on display.

The sporting equipment includes a shot put, a pole vault and a high jump. All demonstrate current world records – the high jump and pole vault through the height of the horizontal bar; the shot put through a long white line painted on the ground in front of the shot-put stand. Visitors to the Park thus not only ‘see’ these world records, many also reach up to touch them. In particular, all
museum visitors come into contact with the world high jump record because they literally walk under the high jump bar as they prepare to enter the museum building.

The sculptures and Olympic symbols, on the other hand, materialize and evoke the field of Olympism. The sculptures are mainly bronzes and have been commissioned by artists from all over the world such as Hungary, Spain, China and Croatia. They are scattered throughout the entire Park and represent the fusion of sport and culture.

Three Olympic symbols are also on display in the Olympic Park: the flag, a cauldron housing the flame and the olive tree. Most of these symbols are located at the top of the hill close to the Museum building although Olympic flags are also found at the beginning of the Park. However, these are not the only symbolic meanings in the Park. Eight columns frame the entrance to the Museum building and these intertextually reference the Temple of Zeus in Olympia, where the Games first started. Similarly, the façade of the Museum building is constructed from white marble from the island of Thasos, a gift from the Greek government. The geographic connection is clearly significant as is the colour of the stone: white is a symbol of purity and here references the ideal of ‘fair play’ that is part of the Olympic spirit. (Given the restrictions on the number of images that can be used in this chapter, readers are encouraged to take a virtual tour of the site by visiting: www.olympic.org/uk/passion/museum/virtual/garden_uk.asp.)

Binding: how are the spaces designed to make visitors feel secure?

Binding is a theoretical tool that is concerned with the interpersonal relationship between a user and a space. It focuses on how spaces can be designed to make occupants feel comfortable and secure. In particular, it is concerned with the way a space closes in on, or opens up around, a user. If a space encloses a person firmly making them feel cocooned, sheltered, embraced – it makes them feel Bound. If the enclosure is too tight, the person is likely to feel smothered and suffocated, that is, Too Bound. If spatial boundaries are removed so that a sense of expansiveness opens up around a person they are likely to feel Unbound. If there is inadequate enclosure, the person is likely to feel vulnerable and oppressed, or Too Unbound. In Appraisal terms, Binding is concerned with the feelings of security or insecurity that spaces evoke.

As Binding is concerned with feelings, which are gradable, it can be represented as a scale with insecurity positioned at both ends. This means it is not possible to further intensify either dimension of insecurity, the Too Bound or the Too Unbound. Choices for security, in contrast, are less extreme than the end points. Hence they constitute a ‘middle ground’ for Binding – one that can
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be graded into finer distinctions, from high through medium to low. This means a space can feel strongly, moderately or weakly Bound OR weakly, moderately or strongly Unbound (see Figure 4.1).

**How does Binding apply to the Olympic site in Lausanne?**

In considering how to analyse the interpersonal experience of the Olympic site, we need to be mindful that visiting involves moving in time through a sequence of spaces that take us from the external spaces of the Park to the interior spaces of the museum building. Thus the point of departure for our analysis needs to be logogenesis. Logogenesis refers to the ongoing way meaning is created through the unfolding of a text (Halliday and Matthiessen, 2004: 43). We will therefore begin by exploring Binding in the unfolding sequence of outdoor spaces, and then shift to a brief consideration of how it is experienced inside two of the museum spaces: the atrium and the first section of the ground floor exhibition ‘Origins of the Olympic Movement’. (For a comprehensive and metafunctionally diversified account of spatial semiosis in an exhibition, see Martin and Stenglin, 2007.)

The outdoor spaces *in the Park* all fall within the Unbound gradation of the Binding scale. Most visits to the Park begin at the bottom of the hill opposite the Lake of Geneva where the outdoor spaces wide, open and feel very strongly Unbound. They contain wooden benches oriented to the Lake and views of the Alps in the distance. It is a very open and expansive but quiet, tranquil and peaceful environment.

As visitors traverse the path and slowly ascend the hill, they often come across a number of clearly delineated outdoor spaces that feel moderately Unbound. One of these contains the outdoor café with plastic white chairs and a long reflective pool. A row of white columns to the rear of the space delineates one spatial boundary that provides some sense of enclosure while a row of low hedges delineates another. Although the seating in the area is flexible, the low

![Figure 4.1](image-url)  
**Figure 4.1** Refined Binding scale. In the refined Binding scale, the Bound and Unbound dimensions are further graded into strongly (st), moderately (mo) and weakly (w) Bound or Unbound.
height of the hedge means that the chairs are often oriented to panoramic views of the Lake.

Finally, as visitors approach the Museum building, the outdoor spaces change slightly again. This time they shift towards the *more weakly* Unbound gradation. The Museum’s façade, in particular, provides strong vertical enclosure while the two rows of columns lining the pathway to the entrance doors suggest a reasonable sense of enclosure. The result is that visitors approaching the building feel that the space is subtly beginning to close in around them.

Importantly, when visitors approach the entrance to the museum building the façade that greets them appears to be quite low. At most, the building seems to be two storeys high.1 This is an important choice as it means the museum does not interpersonally overwhelm or diminish the visitor by towering over them as some public buildings do. Rather, the architects have used human scale, meaning that the museum closely resembles the domestic scale of many homes that people live in. This domestic scale, together with the slight variations in Binding that visitors experience as they meander towards the museum through the Park, enable the institution to establish and maintain a relationship of security with visitors before they enter the actual museum building.

When visitors walk through the entrance doors and move from the Park into the Museum, choices from the Binding scale shift from the Unbound to the Bound dimensions. In particular, crossing the museum threshold enables spatial boundaries to materialize more firmly around occupants, and visitors are likely to find themselves enclosed in cocooned, womb-like spaces. In fact, the atrium, the first space they encounter, is *moderately* Bound but as visitors approach the ground floor exhibition space the choices for enclosure change. Lower ceilings, firm walls and very low levels of lighting mean that the spatial enclosure becomes firmer in the exhibition, and visitors are now likely to feel *strongly* Bound.

The design of the visitor path at the Olympic site is therefore important as it interpersonally maintains a relationship of spatial security between visitors and the Unbound external and Bound internal spaces they traverse. In particular, visitors to the Park move along a trajectory of *strongly* to *weakly* Unbound spaces culminating at the doorway to the Museum where Bound choices for security follow. Such strong choices for spatial security both externally and internally are important as they increase the likelihood that visitors will feel at home, remain at the site longer and engage with the key pedagogical messages the institution wishes to communicate. It also means that happiness and satisfaction are likely to flow from the experience of visiting.

Having explored how the relationship of spatial security is negotiated with visitors to Olympic site, let us now turn our focus to the communing potential of the same spaces by looking at the ways Bonding, affiliation and solidarity, is negotiated.
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Bonding and Binding: how they co-articulate at the Olympic site, Lausanne

Bonding is a multidimensional resource concerned with aligning people into groups with shared dispositions. In pedagogical institutions such as museums, it is materialized, in part, by different types of social interaction, different types of learning activities (Macken-Horarik, 1996, 1998), the attitudinal re-alignment of visitors (who not only learn a new field but learn to value it in the way the institution wants) and Bonding icons. Each Bonding resource will now be explained and exemplified with reference to the Olympic site.

Unbound spaces: Bonding through social interaction in the Olympic Park

As discussed in the preceding section, in the Olympic Park the spaces are all Unbound to varying degrees. This means that visitors feel relaxed and free in this outdoor environment. The implications of this for social interaction are that visitor behaviour tends to be correspondingly relaxed: people feel free to laugh out loud, speak noisily with one another, run along the path, take photographs and joke with their companions. Children also climb trees and jump off walls.

The freedom visitors feel in the Unbound spaces of the Park encourages them to explore their environment and physically interact with the sculptures and sporting equipment on display. A common choice for interaction with the sculptures at the Olympic Park, and a source of amusement for many social groups, involves imitating the actions of the athletes, especially the joggers. These imitations are often visually recorded in photographs.

The interactions with the sporting equipment include trying to reach the high jump bar, lifting the shot put from its stand, feeling its weight, simulating the action of throwing the shot put, standing behind the line and imagining being able to throw it the record-breaking distance depicted on the ground. Interestingly, the imaginative explorations observed in the Olympic Park with the sporting equipment are the same as those that Ravelli describes in her account of the Olympic Store (2000).

Unbound spaces: Bonding through hands-on learning in the Olympic Park

In terms of learning theory, the interactions with the objects in the Unbound spaces of the Park, the sculptures as well as the sporting equipment involve hands-on learning or learning through actions. In this instance, the actions involved are running, jumping and throwing. Significantly, all of these are
familiar to most visitors. The organizers thus have not chosen to depict obscure sports such as fencing or synchronized swimming. Rather they have selected everyday sports that visitors can relate to, and are highly likely to have had some experience of in their own lives. So the social interaction involving the objects in the Park aims at exploring shared experience – an important choice for connecting with visitors. It is also significant at another level: hands-on learning aligns people into practically oriented communities. Communities aligned around doing.

**Unbound spaces: Bonding through Attitudinal re/alignment in the Olympic Park**

Given the importance of feelings in negotiating Bonding, Appraisal theory is highly relevant to our exploration of Bonding, especially the system of Attitude, which is concerned with positive and negative evaluations of emotions, people and things. Attitude comprises three sub-systems of evaluation: Affect, Judgement and Appreciation. Affect is concerned with feelings and shared emotions. It aligns people around empathy. Judgement has to do with judging people’s behaviour and aligns people around shared principles while shared appreciation aligns people around joint tastes and mutual preferences. (For a more detailed description of each system see Martin, 1997, 2000, 2001; Martin and White, 2005; White, 1997, 1998, 2002, http://www.grammatics.com/appraisal.)

Significantly, all three systems unfold axiologically to negotiate affiliation in the interactions visitors have in the Unbound spaces of the Park and the objects on display there. When imitating the actions of the sculptures (jogging) and jumping up to reach the horizontal bar on the high jump stand, for instance, people frequently exchange laughter and smiles. In other words, lots of positive Affect is shared during these interactions – visitors feel happy and satisfied. When looking at statues depicting an athlete’s torso, on the other hand, many visitors exchange positive appreciation of their aesthetics: ‘Wow! Look at that! Isn’t it beautiful!’

However, it is the evocation of Judgement that is crucial to the negotiation of Bonding that happens in the outdoor spaces of the Olympic Park as it is a bridge enabling a significant field shift: a shift from sport to Olympism. This shift first occurs in the volume of respiration installation located mid-way along the unfolding visitor path. This sculptural installation consists of two cubes: a large one painted blue and a much smaller one painted yellow. They stand together and a text panel explains that they represent ventilatory volume, that is, the quantity of air breathed in or out by a normal person at rest (small yellow cube) and a top level athlete (large blue cube). The contrast is so visually sizeable that visitors cannot help but be struck by the extraordinary respiratory capacity of the elite athlete. As one visitor was overheard saying, ‘That is way, way beyond the norm!!!!’
Not only does this installation evoke positive judgements, it simultaneously encourages visitors to measure themselves against the capacity of elite athletes. In this way, the field has shifted – no longer are visitors participating in everyday sports, they are now making comparisons and positive judgements of the character of Olympic athletes: in particular their capacity, tenacity and resolve alongside positive valuations of these traits.

The cumulative effect of the coarticulation between Binding and Bonding in the Park is overwhelmingly positive predisposition to further engagement. As the Binding analysis has shown visitors to the Park feel comfortable in the open outdoor spaces and this is reflected in their laughter and smiles. Feeling secure means that they are able to actively interact with the objects on display and develop multi-layered attitudes that include a positive Valuation of sport, a positive Appreciation of the aesthetic qualities of the sculptures together with the beauty of the athletic body alongside positive judgements of the Capacity of the elite athletes participating in the Games including their tenacity and resolve. It is therefore not surprising that all the visitors observed over a 3-hour period in May 2006 meandered to the end of the path, past the IOC headquarters and the burning Olympic flame, up the stairs, past the iconic white columns . . . and crossed the threshold into the Museum feeling positively predisposed to learning more.

**Bound spaces: Bonding through social interaction in the Olympic Museum**

The learning that occurs inside the Museum concerns the same two fields that were introduced in the Park, sport and Olympism, but in addition to evoking attitudes, the exhibitions also inscribe them. This is particularly evident on the text panels located beside objects and important displays. To ensure that visitors notice these text panels and learn to value in the ways the institution desires the organization of the spaces in the Museum is very different to the openness of the Park.

This does not imply, however, that all visitors compliantly accept the attitudes and values of the institution. Those familiar with the Games know that the modern Olympics have been marred by administrative incompetence, nationalism, racism, terrorism, political boycotts, drugs, corruption and commercialization. So it is indeed likely that some visitors will take a critical stance and reject the institution’s positioning. But the positive predisposition that is built up in the Olympic Park plays a key role here in engendering a favourable attitude and positive inclination towards Olympism. This openness does flow into the Museum spaces and as a result creates a powerful point of departure for the communication of the institution’s key messages.

With respect to Binding, the first thing one notices inside the Museum is that most of the display spaces feel Bound. This is especially true of the first
permanent exhibition space, which feels strongly Bound. Strongly Bound spaces in museums and galleries tend to be spaces in which key objects, thematic text panels and labels are exhibited. They also tend to be spaces for reflection, contemplation, and concentration; looking, reading, thinking, musing and learning. They can therefore be thought of as ‘SHHHH! spaces’ (Mills, 2006) and the way museum visitors behave in them tends to be restrained. In particular, visitors tend to read – mainly to themselves or quietly to elderly companions. People also observe carefully and look closely at objects, photographs, paintings and dioramas. So those who choose to engage are a potentially captive audience, especially when they first enter an exhibition, as ‘museum fatigue’ has not yet set in.

Bound spaces: Bonding through transmission learning in the Olympic Museum

In terms of learning, strongly Bound spaces tend to be conceptual spaces exploring ideas, which means, they are suited to transmission learning. Hence they have enormous potential to apprentice visitors into communities aligned around specialized and theoretical field knowledge. Such knowledge is based on technicality and nominalization, and this makes them ideally suited to dealing with abstractions such as Olympism.

The other significant point about learning in the strongly Bound spaces of most museum exhibitions is that the space becomes the teacher. This is materialized, in part, through careful design choices involving salience such as strong spotlighting on key thematic text panels. Such choices enable crucial texts and objects to command the visitor’s attention, and communicate imperatives such as: Look at me! Read me! Pay attention to me! In this way, theoretical knowledge and understandings are fore-grounded to visitors. By making written text panels salient in this way, attention is drawn to them so that they can fulfil their pedagogical function of building shared understandings of specialized field knowledge and enabling the institution to inscribe important cultural values. This dual focus encapsulates the bi-focal essence of learning in museums: learning a new field and learning to value it in the way the institution wants.

It comes as little surprise, then, that the first permanent exhibition in the Museum, ‘Origins of the Olympic Movement’ begins by attempting to build shared understandings of Olympism. Given that Olympism is abstract, amorphous and difficult to define, the point of departure for it in the exhibition is a display of concrete Olympic symbols – symbols that most visitors are familiar with and have already fleetingly encountered in the Park: the flag, the motto ‘Citius, Altius, Fortius’ and the Olympic cauldron. These symbols, moreover, are Bonding icons: evocative emblems of belonging which have a strong potential for rallying.
Bound spaces: Bonding through icons in the Museum

Bonding icons have two important characteristics: values get ‘charged’ into them and people can either rally around them or reject them. The ‘charging’ of values occurs through the genesis of shared meanings that evolve amongst members of a community over a period of time. The result is a Bonding icon which functions by compressing a reservoir of ideational and interpersonal meanings as will be discussed in relation to the Olympic flame. Interpersonally, the attitudes involve strong feelings of Appreciation, Judgement and Affect that multiply exponentially, as we will now see, to construct a transcendent symbol.

Ideationally, the torch is a flame, a light that burns and provides illumination and warmth. In the context of the Olympic Games, the flame becomes the nucleus of a carefully orchestrated activity sequence. Conceived by Carl Diem, these activities have been designed to evoke extremely powerful interpersonal attitudes as described in Table 4.1. Column 1 outlines the three stages of the torch relay. Column 2 lists the key activities while the final Column records the key attitudes each activity evokes.2

As Table 4.1 shows, the lighting ceremony sets the context for the torch relay by continuously foregrounding two key attitudes: positive appreciations of the valued historical lineage of the flame3 and positive judgements of its sacredness. The actual relay, which lasts several months, capitalizes on these values to draw people to participate in, and ‘witness’, the passing of the ‘sacred’ torch through their community. Such gatherings not only celebrate and idealize the reverence of the torch, they also have the potential to foster a strong sense of social cohesion.

The organizers also use the relay as an opportunity to promote a message of peace and fraternity. For many communities, the concept of world peace evokes a very strong sense of propriety, a valued ideal. Such strong appreciation is important to Bonding as it constructs group alignment around shared valuations. In these ways, values associated with peace and unity get charged into the flame as the torch relay unfolds and multiply to produce a powerful energy that culminates in the symbolic release of pigeons during the Opening Ceremony. This synergy is continuously evoked throughout the duration of the Games by the burning of the Olympic cauldron.

Having pointed to the rich repertoire of cultural meanings that have been associated with the Olympic flame since 1936, we will now briefly explore which of these meanings the Museum organizers have chosen to inscribe in the key text panel about the Flame in the exhibition.

The Olympic Flame

The Olympic flame, one of the symbols of our time, reflects the ritual and spiritual properties attributed by the ancient Greeks to the sacred fire. It has a two-fold significance: historical and pedagogical. The first torch relay was
<table>
<thead>
<tr>
<th>Relay Stage</th>
<th>Main Activities</th>
<th>Key Attitudes Evoked</th>
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| 1. Start of the torch relay  
(a few months before the Olympic Games commence) | Lighting of the flame in the Valley of Olympia, a sacred precinct dedicated to the worship of Zeus, king of the Gods; the ceremony takes place in front of the temple of Hera (an ancient sanctuary)  
Actresses play the role of priestesses  
Choreography and costumes are based on Antiquity  
Ancient technique used for lighting the flame  
High priests pass the flame to the first runner | + Appreciation (valuation: site and temple link to antiquity/history)  
+ Judgement (propriety: the Valley is a token for the sacred, a revered site)  
+ Affect (security: the temple as sanctuary is a token of safety)  
+ Appreciation (valuation: link to antiquity/history)  
+ Judgement (propriety: priestesses represent the idealized sacred realm) |
| 2. The actual relay  
Transportation by runners using a range of modes (foot, car, train, bus, plane, boat) and across countries, continents and oceans  
People gather to celebrate the journey of the torch: so it becomes a symbol of unity  
It heralds the coming of the Olympics: a peaceful sporting competition aimed at promoting fraternity and world peace | + Appreciation (valuation: torch as something historical, significant, worthwhile transporting)  
+ Judgement (tenacity, capacity, resolve: range of modes used for transport)  
+ Appreciation (valuation: of torch as something worth seeing)  
+ Appreciation (composition: token of harmony and social unity) |
| 3. Opening ceremony of the modern Olympic Games  
The final runner lights the cauldron and is usually a young athlete who represents hope for the future  
Pigeons are released symbolizing peace | + Judgement (capacity, tenacity, resolve, propriety, veracity)  
+ Appreciation (valuation: of hope)  
+ Judgement (propriety)  
+ Appreciation (valuation) |
organised for the Games of the XI Olympiad in Berlin in 1936, lit at Olympia, in front of vestiges of the Temple of Hera. The torch passed from hand to hand in an uninterrupted succession of relay stages, carried by young people of different nationalities, languages, religions and races – to reach the host city of the Olympic Games and burn there for their duration.

The basis of the ceremonial kindling of the sacred fire and the lighting of the Olympic flame at the main site of the Games varies little, but the arrangements for its transportation differ depending on the places and distances involved; invariably, however, its passage is attended by large and enthusiastic crowds.

Clearly there is explicit reference to Antiquity and correspondingly explicit and positive Appreciation (valuation) of the flame’s ‘ritual and spiritual properties’ and ‘sacred’ nature. Notably, the sacredness of the flame is inscribed twice in the text panel to emphasize this revered quality. Although the Berlin Games of 1936 are mentioned, overt reference to the Nazis is not made; rather the torch relay is explicitly linked to Antiquity through its association with the Temple of Hera where the lighting ceremony takes place. By implication, values of sacredness evoked through the mentioning of the Temple are transferred to the Berlin Games while the Nazi origins of the relay and their associated negative ethics are elided. Significantly the text explicitly points to the unifying potential of the torch to transcend barriers of race, nationality and religion.

Having inscribed the ‘sacred’ nature of the Olympic flame as the attitudinal point of departure, the exhibition continues the evocation of layers of meaning associated with the torch while engaging the visitors’ emotions. First there is a display of all the original torches ever used in the modern Olympic Games. Together with Appreciations of the beauty, differences and aesthetic qualities of the torches this display evokes strong feelings of satisfaction and happiness (Affect) at being able to view the ‘sacred’ vessels up close. Directly above these torches, an installation of monitors screens audio-visual footage of the torch relay since its inception. This footage covers the three stages of the torch relay over a period of more than 60 years. It therefore visually captures the key historical events associated with the torch relay and has the potential to evoke all of the attitudes described in Table 4.1, and in doing so, aligns visitors around some shared appreciations, valuations and judgements.

The audio-visual footage also functions to personally engage many visitors by evoking recollections from their individual repertoire of memories. To exemplify this, I will share the reflections of one visitor who is also a former Olympic athlete from the 1980 Games in Moscow. For this visitor the footage of the journey of the torch became a metaphor for his own personal journey. In particular, it evoked memories of arduousness that characterized training in all seasons especially summer and winter, the difficult terrains that had to be
traversed, the challenges of cross training as well as the determination, resolve and sacrifices involved in preparing for the Games. In fact, the personal repertoire of memories evoked was so poignant and the emotions so stirring that the visitor was actually moved to tears in the audio-visual space (personal communication with Roland Stocker, September 2006).

Clearly not all visitors will experience an affectual charge of this intensity but those who have participated in a torch relay are likely to remember their experiences of it and the feelings it evoked. As a spectator in the Sydney 2000 relay the main memories are the anticipation of gathering in the early hours of the morning to watch it pass through the city of Sydney together with the recollection of the self-sacrifice involved when a young 17-year-old Aboriginal boy was selected as a runner on the South Coast instead of a well-known environmental campaigner from Bega. The significance of this was enormous: a marginalized Indigenous youth was given the chance to represent his town, his community and Australia’s Indigenous people. Other unforgettable memories include the way people’s voices would crack with emotion as they recounted their experience of the torch relay. Such responses illustrate how the ideational content in the exhibition can deliver ‘an affectual charge’ by evoking some extremely powerful attitudes. These in turn have the strong potential to reverberate with shared judgements and appreciations of values to align visitors into communities of affiliation.

Conclusion

An analysis of the co-articulation of Binding and Bonding at the Olympic site in Lausanne has shown some of the ways ideational and interpersonal meanings get evoked and compressed into one icon. Clearly prosody is important. Prosody refers to the way ‘choices resonate with one another from one moment to another as a text unfolds’ (Martin and Rose, 2003: 54). This resonance in turn constructs a ‘stance’ which ‘defines the kind of community that is being set up around shared values’ (Martin and Rose, 2003: 54). Prosodically, the first phase of the journey, strolling through the Unbound spaces of the Park, is central to building a positively aligned community as it firmly establishes a favourable predisposition to learning more about Olympism. This disposition rests on the evocation of shared affect, appreciation and judgement.

The second phase of this journey, the Museum visit, builds on this positive foundation by inscribing positive Appreciation of heritage and positive judgements of the values of sacredness to the Olympic flame. This explicit inscription occurs in Bound spaces where the institution has the powerful voice of an agent of symbolic control. Audio-visual footage and the torch display then co-articulate to evoke a repertoire of compelling emotions. In this way, careful
choices for Binding and Bonding have enabled the organizers to shape the polarizing dimension of communing to their advantage and ‘charge’ the Olympic flame with the overwhelmingly positive ideational and interpersonal associations.

Notes

1 In reality, the Museum building spans four storeys. In addition to the two storeys that are visible from the (Level 0 and Level 1), there is another storey, Level 2, housing a terrace and restaurant but is hidden from visitors to the Park. There is also a book and video library, 3D cinema room and temporary exhibition space all located below ground on what is known as the Basement level.

2 The illumination provided by the flame also has the potential to evoke meanings associated with enlightenment, revelation and purification. The flame as a token of illumination also has clear intertextual links with canonical Christian texts like the Bible. In particular, Gen. 3–4, where God created light and associated it with the values of goodness. Such meanings evoke strong appraisals of Judgement (propriety: goodness versus the forces of darkness and evil). Also in the Christian tradition, the flame is associated with the Holy Spirit through the tongues of fire. Furthermore the flame has the potential to evoke other meanings. The way natural elements such as the wind may distort and beat a flame but it can often rise again means that it can also function as a token for the indomitable spirit – positive tenacity, capacity and resolve. There is also the association of something compelling about flames linked to the simile ‘like a moth to the flame’.

3 Significantly, the current values of peace, unity and fraternity espoused by the modern torch relay have been substantially recontextualized at the Olympic site in Lausanne and not only in relation to the Nazi associations with the torch relay. The Ancient Olympics were also not concerned with peace. They were actually concerned with killing to win, especially in contact sports and chariot races.

References


Chapter 5

The Interplay of Discourse, Place and Space in Pedagogic Relations

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Introduction

Schooling, for many, remains a major site for successful apprenticeship into academically valued discourses. Such discourses require learners to manage shifts in language use from that which construes material, embodied contexts to that construing disembodied, virtual contexts (Hasan, 2001). Responsibility for mediating these shifts for young learners lies, for the most part, with teachers in their decisions concerning the framing and classification (Bernstein, 1990) of contexts. While linguistic analysis provides a rich picture of situated mediating practices, classification and framing are also relevant to relationships between and within pedagogic spaces and geographical locations – aspects of setting over which teachers may have little agency. This chapter draws on a case study of a small socially disadvantaged school to explore the negotiation of interpersonal and experiential meanings (O’Toole, 1994; Martin and Rose, 2003). It is suggested that, in this setting, patterns of communicative choices ‘conspire’ with particular spatial arrangements in the replay of broader social relations.

[Pedagogic] practices constitute, interrelate, and regulate the possibilities of two communication principles:

1. **Interactional.** This principle regulates the selection, organisation sequencing, criteria, and pacing of communication (oral/written/visual) together with the position, posture, and dress of the communicants.

2. **Locational.** This principle regulates physical location and the form of its realization (i.e. the range of objects, their attributes, their relation to each other, and the space in which they are constituted). (Bernstein, 1990: 34)
Bernstein’s proposition that the locational features of a communicative context contribute to its meaning-making possibilities provides the point of departure for this chapter. Focussing on a small rural school, it will be argued that ‘place’ shapes the organization of space and the forms of interactivity in the classroom. First, the major conceptual frameworks for the chapter will be introduced. Then a range of illustrative material is presented in order to describe the school context and to discuss its semiotic arrangements. The data presented is drawn from one of two case studies of classroom discourse (Jones, 2005) which were concerned with how teachers’ interpersonal meaning choices positioned learners in respect to educationally significant discourses. This particular case study suggested that the geographical and architectural features of the local school context are relevant as they appeared to interact with linguistic practices to constrain access to the language use necessary for educational success.

Bernstein’s (1990, 1996, 2000) theory of pedagogic relations provides a very useful framework for approaching the work of pedagogic practices in the distribution of ‘forms of consciousness’ (1990: 13). Interested in the production and relay of educational knowledge, he separated the classroom site from that of official policy and curriculum development, and these sites further from that of research. Here, while the focus is on the classroom context – its locational and interactional principles – the nature of the relations across all three sites is important from Bernstein’s perspective, particularly the classification or relative strength of boundaries between and within sites, the individuals occupying them and their meaning-making practices. In this respect teachers’ work is crucial. Through their pedagogic practices, teachers negotiate local and official sites, thus positioning learners varyingly within curriculum discourses.

The local pedagogic site

Large schools are pretty well much the same, there are a lot of similarities among them; but there is more variety among small schools, each one tends to be different, depending on its community.

(Isabel, a teacher with much experience of small schools, December 2006)

The school selected for the case study serves a town of approximately 300 people. Nearby, there are coal mines and power stations which provide some employment, but this is an overwhelmingly poor community and school numbers fluctuate as families move to pursue economic opportunities. The town is divided by a busy highway and consists mostly of older mining cottages and some newer modest brick houses. Large backyards are often homes to domestic animals and pets, vegetable gardens, assorted old machinery and vehicles.
There is a tendency towards loose classification of spatial function, activity and the roles fulfilled by individuals in the town and surrounding areas where secondary industry co-exists with primary production, heritage and tourism as well as residential spaces. One memorable image from the fieldwork stage of the research simultaneously encompasses an old stone chapel, a petrol station at the junction of two highways, and the huge working chimneys of a coal-fired power station as cattle grazed and children skylarked on their bikes around a roadside verge. In town, the store is at once the video, grocery, fast food shop, the post office, an agent for services such as gas and electricity, as well as the school canteen; the hotel has the only Automatic Teller Machine in town. Such multifunctionality embeds the school in its community; it offers a preschool programme, provides a venue for public meetings and hosts the annual town fair.

The teacher-principal lives in a regional city about 40 minutes away she is the only full time staff member. Here, as in many small schools, the varied roles associated with different individuals in larger schools such as teacher, head teacher or curriculum leader, counsellor, administrator, maintenance supervisor and community liaison are loosely classified; that is, undertaken by this one individual. The term ‘one teacher school’ often masks the fact that two or more teachers staff such schools, as administration and management occupies an increasing portion of the teaching-principal’s time. This principal supervises another teacher, a teacher-aide, a cleaner and a groundsperson – all of who are part-time employees and from the local community. Other staff members also have multiple, loosely classified roles; for example, the school cleaner is a grandparent/carer and president of the parent organization. The effect of this loose classification of roles is to intensify individuals’ engagement with the school, and, because of problems ‘getting away’, to weaken relations with the official curriculum site.

Likewise, for the 17 children attending, school blends home, community and school relationships. A number of the children are siblings and cousins who spend most of their time inside and outside of school together with the effect that their attachment to the school is also intensified. Discussions at school often draw on experiences closely tied to events and activity in the local community which children have shared during the weekends and after school.

The timetable frames the school day. Times are allocated for working alone or in pairs, usually in the morning session during which English is the focus. Then older students often work with younger. There are also frequent times when learners are organized into junior and senior groups for subjects such as Mathematics. This mode of organization is usually made possible by the involvement of another staff member, either the teacher-aide or the part-time teacher. Small group work independent of an adult was not a feature of the pedagogy observed in the case study, although the older students frequently worked on individual tasks under loose supervision of an adult. A more common interactive pattern in the school (as shown in Figure 5.1) is one in which the children
are seated in a single group on the floor in front of the teacher in an open area of classroom. In Bernstein’s terms, the hierarchical relations between teacher and students is evident in such organization of bodies and space yet at the same time because of the mixed age group, the boundaries between ages and grades are weakened. So too are the boundaries between subject areas because this single group arrangement commonly occurs in cross-curriculum or thematic studies involving English literacy, and such curriculum areas as Science and Technology, Creative and Practical Arts and Human Society and Its Environment (HSIE).

At the time of the research, the students were engaged with a curriculum unit about ‘Natural Disasters’, a vehicle for the subject areas of English and HSIE. Because the middle years of schooling require students to engage increasingly with subject-specific discourses, the students in the upper primary years were the focus for the research. These children routinely and enthusiastically undertook individual project work, producing elaborately decorated texts featuring a good deal of information copied from print and electronic texts. Because they were less accomplished at independent research, a major aim of the curriculum unit was to develop these skills. The unit was carefully planned to develop students’ writing skills in a scaffolding approach similar to that associated with genre-based pedagogy (Martin, 1999).
The nature of curriculum discourses

The discourses of official pedagogic sites are known to differ from those of many homes and communities. Painter (1999: 68) describes the latter as associated with knowledge that ‘appertains to the visible material world, that is functional for the routine living of daily life, that is non-specialised’. Bernstein (1999) refers to these everyday discourses as ‘horizontal’. In contrast, those discourses favoured by curriculum are termed ‘vertical discourses’ and are expressed in texts such as those in Figure 5.2.

The text is typical of those located and appropriated by the students in the case study. It features highly technicalized language (e.g. humidity, water vapour, saturation). These terms are subsequently presented as definitions in which relational processes (underscored) feature heavily:

Relative humidity is the most commonly used measure of atmospheric moisture and is defined as the ratio of the amount of water vapour.

Figure 5.2 Weather and fire text

The world of this text is not one associated with immediate observable activity in a specific time and place. Rather it is a world of identification, classification and description in a timeless present tense, one in which events and processes are one step removed from the material world, ‘packaged up’ as nominalizations (bold) (e.g. the most commonly used measure of atmospheric moisture, the ratio of the amount of water vapour; that which air could hold at saturation). The ‘doers’ or actors in this text are not humans or specific participants but generalized atmospheric phenomena (e.g. Low-relative humidity, lack of rain, high temperatures, air movement). It is small wonder that these young learners experience difficulty negotiating such texts without assistance. Facility with such ‘decontextualized and disembedded’ (Hasan, 2001: 49) texts is highly prized by official curriculum.

Hasan (2001) has examined the ontogenesis of vertical discourse in the conversations of mothers and very young children, observing that some children develop these orientations to meaning early in life, prior to entering the classroom. She distinguishes between situation-dependent meanings and those that are context independent (Hasan, 2001: 54). Situation-dependent meanings are those produced in actual contexts; that is, those bound to experiences involving senses, either immediately or in the retelling – it is a sensible world. By contrast, decontextualized meanings are produced in virtual contexts: these are text-based realities that cannot be bodily experienced – this is an intelligible world. Hasan proposes that these two uses of language are not binaries, rather there are continuities between the two and a given stretch of talk will often feature both kinds of meanings to varying degrees. It is a learner’s pathway into vertical discourses that is important to understand. It relies on the management of relations between actual and virtual contexts achieved through the particular interpersonal meanings deployed by caregivers and teachers (Hasan, 2001). Such academic language use is not acquired quickly, and access is unevenly distributed across social groups (Cloran, 1999; Hasan, 2001). In the case study, the intimacy of life in a small town provides some challenge to the teacher’s efforts to develop her students’ capacities with decontextualized language:

and to me, to provide opportunities for [the students] to talk and express themselves is of major importance because their language seems to be based more on being able to talk to people they know all the time on a very intimate basis, therefore lots of nouns, verbs etc are left out of their conversation and so it’s quite a challenge to force the issue. Instead of them saying ‘have you got that thing from yesterday that I need’, it’s quite a challenge to force the issue to get them to use the nouns and the verbs to express themselves, so that anybody can understand them, not just someone that was there at the time or somebody that knows what they are talking about. (extract from teacher interview)
The communicative context of the case study school

The curriculum unit was designed to move from scaffolded literacy activities based around recent local events of floods and bushfires to independent tasks to do with more generalized and technical understandings of a range of different types of natural disasters.

In the brief extract from classroom talk below, a small group of learners is researching the effects of bushfires in preparation for jointly constructing a paragraph of an information report. Having recognized that they were experiencing difficulties, I am assisting them to take notes. Points at which talk overlaps are indicated thus //.

Extract 1

1 PJ: this is interesting children – (reading aloud) SOME SCIENTISTS FEEL THAT FIRE IS NATURE’S WAY OF RENEWING THE LAND. IN 1988 FIRES RAGED THROUGH YELLOWSTONE PARK IN THE US. MANY PEOPLE WANTED THE FIRES PUT OUT BUT AS THERE WAS NOT PROPERTY (no houses and buildings) IN DANGER THEY WERE ALLOWED TO BURN. AFTER THE FIRES WERE OVER THE VEGETATION GREW AGAIN VERY QUICKLY. That’s interesting

2 Mel: that’s kind of boring

3 Sally: that’s what they have to do sometimes to burn off to keep other fires to come and to give more um/

4 Jenny: /excuse me Ms Jones

5 Sally: and to let other things/

6 /alalalalalal (a brief interruption from another student)

7 PJ: yeah that’s right, good girl, yep and did you notice/

8 Jenny: /so the animals can have more food

9 PJ: the an/

10 Jenny: /Jayden! Jayden! (calling to a student working in another group)

11 (laughter from several students)

12 PJ: did you notice that?

13 Sally: yes

14 PJ: did you notice that what they um said here is true . . . it happened around Lithgow after the fires last year did you see all the vegetation growing back?

15 Rob: yeah, the things growing weird

16 Greg: that looked weird

17 PJ: it did look like the trees had beards

18 Mel: fern kind of stuff growing off it and like the rest of the tree was dead and there was all this green stuff growing off it
Here, I am working to mediate the learners’ understandings of hazard reduction and revegetation despite some initial student reluctance (turns 2, 6 and 10). During the initial reading (turn 1), the term *property* is elaborated for the students. Then in the brief discussion that follows, the language associated with virtual contexts (technical terms – *vegetation* and *regrowth*, generalization – *fires*) is related to an actual context, the aftermath of bushfires observed by the children. The key technical concepts nominalized in the written text (*vegetation*, *regrowth*) are reintroduced to the learners via this local event (turns 14 and 21). Learners are also given some dialogic space to recall and describe the phenomenon (turns 15–20). In this space the nature of children’s engagement shifts. At the same time, Sally receives help to appropriate the language necessary. A written-like model of the concept in use (turn 21) is provided in note form suitable for the paragraph to be constructed. Thus, through this recontextualization and collaborative knowledge building via language somewhere between the children’s everyday language and the textbook, some progress is made towards decontextualized language use.

The turn taking procedures above are instantly recognizable to all; for my part they are mostly unconscious, acquired through long-term engagement with the institution of schooling. Within these turns, interactive moves are more sensitive to some learners’ needs, employing several simultaneous mediating tools (talk, written text and guiding questions) to maintain a relatively strong framing of the interaction while the classification between the actual, material context and that of the virtual is weakened. In Hasan’s research, the adult’s role in weaving discourse in and out of virtual contexts at the same time as attending to the material in this way is critical. She points out that such framing of contexts in the early years rests on cooperation between adult and child, reliant on the close affectively-loaded relations associated with the site of primary socialization (2001: 72). However, schooling is a site of secondary socialization; shaped by different pressures of time, numbers, curriculum and accountability. Framing here rests on relationships usually of a more distant nature and realized by different interpersonal meanings choices. Such choices are recognizable as institutional roles yet at the same time create the particular pedagogic practices
of individual classrooms (Jones, 2005). That there is some resistance enacted here is noteworthy. The children were unaccustomed to the degree of framing in this and other similar scaffolded tasks, for some students the departure from the ‘specialised interactional practices’ (Bernstein, 1996: 32) of this classroom was cause for conflict.

The specialized interactional practices

The following transcript represents the beginning of another lesson from the unit of work. This lesson more closely aligned with normalized classroom practices than that above; that is, several similar lessons were observed during the fieldwork stage of the research and interpersonal relations were, for the most part, harmonious. The quite lengthy episode takes place after the children have been on an excursion; here they are reconstructing events. This is a lesson closely tied to a material context (Hasan, 2001), although a reconstructing activity requiring a movement towards generalization, it is nevertheless an experience that has been bodily experienced. The students are gathered similarly to the gathering depicted in Figure 5.1, the teacher seated in front of them with her back to the chalkboard. The events are reconstructed almost entirely via spoken language; although the teacher makes some very brief chalkboard notes to be available later to support an independent writing activity. The extract of talk featured in the transcript begins with a framing move as the teacher signals the nature of this particular lesson – that this will be an occasion to talk.

Extract 2

1  Teacher:  
   let’s talk about things
   what was the first thing we did?
   where did we go?
2  Ss:  
   oh oh (bids for turns)
3  Teacher:  
   what was the first thing you did?
   where did we go?
4  Mark:  
   Museum of Fire
5  Teacher:  
   Museum of Fire

Soon however the framing is relaxed somewhat so that the children become information givers, contributing personal anecdotes to the unfolding text.

Extract 3

1  Matty:  
   Ms Lee
2  Teacher:  
   mmm?
   Matthew?
3 Matty: we had a fire
we forgot to turn the stove off
and it burnt burnt all the plastic
and burnt all of the um lunch stuff

4 S(u)* we’ve had two fires!

5 Teacher: and that’s exactly what David down at the Fire Museum was talk-
ing about
who can think of what he said adults should have before they use
stoves and other electrical equipment?
Greg?

6 Greg: a licence

7 Teacher: a licence

8 Matty: he thought we should all have to get a licence to use one
hey Miss Lee, we had another one too

Space prevents discussion in any great detail here but some important points from the linguistic analysis of the lesson will be made. Generically, this is not quite an everyday conversational encounter among social equals, rather a special kind of discussion punctuated by the teacher’s demands for information from the children. One of the interactive practices of this classroom (and many others) that is not present in everyday conversation is the short exchange of minor clauses (turns 1–3) that secures Matty’s right to speak. It consists of a dialogic move (turn 1) calling the teacher’s attention (Miss Lee!). The teacher responds with permission to take the floor by firstly signalling her engagement (turn 2 mmm), and then monitoring the turntaking by nominating him (Matthew?). Matty then proceeds to tell of an accident in his home (turn 3), his initial move to give information (we had a fire) is followed by a three expanding moves which add further information and intensify the experience (burnt all the plastic and burnt all the um lunch stuff).

While the sharing of the anecdote takes place within a text dictated by a strongly classified socially sanctioned teacher–pupil relationship, it is nevertheless a weakening in classification of topics and contexts. The teacher is quite consciously doing this ‘reclassifying’ (Hasan, 2001: 63) because of her desire to provide opportunities for children to use decontextualized language, in this case the reconstruction of events. She completes this exchange with a declarative affirming the response and delivered with emphasis (exactly) (turn 5) which draws together the discourses of everyday experience and the curriculum, confirming Matty’s anecdote and linking it with the educational content of the excursion. In doing so, she amplifies the importance of fire safety at home, linking it to an ‘expert’ opinion about the general class of adults and their competency re-fire safety. In this way the discourse is nudged towards generalization of individual experience; everyday, activity-based experience is reconstrued as educational knowledge.

* S(u) = unidentified student
The lesson continues to unfold in two parallel strands of discourse: that of the retelling of the excursion events and the sharing of a number of anecdotes from the children that are loosely connected to the topic of fire and accidents with fire. These are punctuated by particular points at which the teacher brings the curriculum intent of the excursion into relief by providing some generalizing linking statements as above.

There is, later in the lesson after a series of cautionary tales about the dangers of domestic fire, a brief return to the earlier, more abstract understandings of the effects of fire.

Extract 4

1 Sally: but Miss Lee what about . . . what about burning off?
   it does a good thing the fire
   cause cause burning off it stops fire
2 Teacher: it’s sort of a preventative thing though isn’t it?
3 Sally: yeah it’s fire that’s useful fire

But by this point in the lesson, focus is firmly in the realm of actual and recalled experience, involving knowledge associated with the early years curriculum, at best a ‘lifeskills’ discourse or ‘practical code of conduct’ (Hasan, 2001: 71). To pursue the talk in the direction of the senior curriculum outcomes requires a much stronger framing of the communicative context than evident in this and subsequent lessons. Opportunities for revisiting these meanings did not occur as the older students’ frustration with what they perceived to be the slow pacing of activities escalated such that the original curriculum plans were abandoned.

Such student control over the communicative context was a common feature of this classroom. Lessons were frequently modified and occasionally abandoned in response to student interest and desires. As a result, the older students did not experience the sustained engagement necessary to acquire the planned curriculum knowledge and skills. While the importance of relevance is acknowledged, when learners are in control of discursive terrain the knowledge under construction risks being restricted to that tied to ‘quotidian’ (Hasan, 2004: 33) meanings and compensatory curriculum. Additionally, as boundaries between community and school are blurred and home-community events (already/always imbued with affect) become curriculum then intersubjectivity appears to intensify. Conflict constantly ran so close to the surface in this particular classroom, it was usually prudent to accede to the students’ demands. Thus the teachers’ control over framing was considerably weakened, with the result that for Sally and others, the momentum towards vertically orientated discourses stalled as they turned to individually producing their wall chart-projects as before.
To understand these pedagogic struggles is to understand how ‘the pull toward the local’ influences this communicative context. General features of place in terms of population, multifunctionality of activity and individuals’ roles, and the close community relationships have already been described. However, Bernstein’s notion of the locational (1990: 34) refers to the more specific arrangements of architectural space and objects for which more delicate descriptive tools are available.

Reading the locational

Since Walkerdine’s early analysis of ideology and classroom semiotics (1990), current advances in multimodality and systemic functional linguistics have described the ways in which buildings such as private homes, office blocks, museums and other public buildings function as semiotic spaces (e.g. Ravelli, 2006; Stenglin, 2004; O’Toole, 1994). Of these, O’Toole’s work is adapted here (see Table 5.1) to demonstrate something of how the locational principles of the school site, shaped as they are by features of place, constrain and enable certain forms of pedagogic practice.

Applying a metafunctional approach (Halliday, 1994), O’Toole argues that architectural space simultaneously makes experiential, interpersonal and textual meanings. The experiential dimension relates to the use for which a space has been designed, the interpersonal to the way in which it relates to its users, and the textual to the way it functions in relation to its environment (O’Toole, 1994: 85–87). Further, a rank scale is used to distinguish the units of building, floor, room and elements. Thus the school building and classroom and their contents can be ‘read’ as a text.

The school building (see Figure 5.3) has evolved since its construction in the late nineteenth century. It contains vestiges of changing pedagogic needs and fashions; some of which reflect local circumstances, others have been shaped by official pedagogic policies and practices.

The following analysis draws selectively on O’Toole’s framework to describe the ways in which the spatial arrangements (depicted in Figure 5.4) contribute to the specialized interactive practices observed above.

Experientially, the building meets its practical educational function; accessible to all, built close to the front of the block and hence services. The loose classification of function of activity and people observed earlier is also evident. It is a single story building, the many ‘sub-functions’ assumed by the activity of schooling are loosely classified, contained on one floor in the sole building. These are further evidence of the complex nature of work here, they include access, teaching, learning, storage, library, administration, cleaning and maintenance, caring and counselling. Of the eight rooms in the building, the classroom is understandably the most salient. However, the increase in administration associated with teaching is reflected in the subsequent appropriation of
### Table 5.1  Semiotic features of the classroom space

<table>
<thead>
<tr>
<th>Unit</th>
<th>Experiential</th>
<th>Interpersonal</th>
<th>Textual</th>
</tr>
</thead>
<tbody>
<tr>
<td>Building</td>
<td>Practical function: public/educational; utility Orientation to services</td>
<td>Size</td>
<td>Relation to town</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Facade</td>
<td>Relations to road</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Cladding Colour</td>
<td>Relation to adjacent buildings</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Orientation to neighbours</td>
<td>Proportions</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Orientation to road</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Orientation to entrant</td>
<td></td>
</tr>
<tr>
<td>Floor</td>
<td>Sub-functions: access, teaching and learning, storing, administration, caring, cleaning, counselling, meeting</td>
<td>Height</td>
<td>Relation to outer world</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Spaciousness</td>
<td>Relation to connectors; stairs (external cohesion)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Accessibility</td>
<td>Relation of verandah (internal cohesion)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>View</td>
<td>Degree of partition</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Sites of power</td>
<td>Permanence of partition</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Separation of groups</td>
<td></td>
</tr>
<tr>
<td>Room</td>
<td>Specific functions: access, entry, classroom, library, sports store, art/stationery store, printing, kitchen, office, play corner</td>
<td>Comfort Lighting</td>
<td>Scale</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Sound Welcome</td>
<td>Relation to outside</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Style: colonial, heritage, rustic</td>
<td>Relation to other rooms</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Foregrounding of function</td>
<td>Connectors: doors, windows</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Focus: teacher’s chair, chalkboard, fireplaces</td>
</tr>
<tr>
<td>Element</td>
<td>Light: window, overhead lights, blinds</td>
<td>Relevance</td>
<td>Texture</td>
</tr>
<tr>
<td></td>
<td>Air: windows, fans</td>
<td>Functionality:</td>
<td>Positioning to: heat/light/other elements</td>
</tr>
<tr>
<td></td>
<td>Heating: gas heater</td>
<td>convention/surprise</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sound: carpet, partitions</td>
<td>Newness</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Seating: plastic, wood, individual</td>
<td>Decorativeness</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Teaching tools: books, computers, chalkboards, whiteboard, posters</td>
<td>Stylistic coherence</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Display: shelving, pinboards, easel, fabrics</td>
<td>Projection (.TV, video, cassette player, computer)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Storage: cupboards, baskets, plastic tubs</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Adapted from O’Toole, 1994, p. 86.
**Figure 5.3** View of the school building from the street

**Figure 5.4** Classroom plan
Pedagogic space by partitioning a section of the classroom space for an office, and later in the annexing of further space in the kitchen for stationery and photocopying. Most recently, the individual workspaces indicated on the verandah have given way to a larger photocopier, printer and fax machine. The volume and number of different elements necessary ensure that these are cluttered rooms. Noise is a feature of all schools and the proximity of so many different activities in one space provides some challenge, managed here by carpet and temporary partitions.

Most large furniture is very much related to function, and in this setting must allow for the myriad of activities associated with learning across the primary years and administering a school. It includes desks and chairs for 'traditional' learning as well as computers, bookcases, play furniture, administration equipment, domestic appliances and shelving. In the classroom, texts and a range of other teaching tools suitable for such a range of ages require considerable display and storage space. As a result a number of everyday household objects such as plastic baskets, pegs and shoe storage hangers co-exist with more conventional institutional items such as bookshelves, pinboards, walls and string.

Interpersonally, the school building evokes nostalgic notions of the small school as the focus of its community, of times when children walked or rode horses and bicycles to school or simply hopped the back fence. It is larger than most of the homes around it, although not overwhelmingly so. A plain weatherboard building, it is painted in the green and cream heritage tones associated with a good many recently renovated public buildings. The building is parallel to the highway, facing the older neighbouring houses at the rear – its community. The playground, sheds and equipment occupy this interim space between the school building and the neighbouring houses. This backyard, frequently misted by woodsmoke and fog during the cold months, can be supervised from the back verandah of the school (elevated because of the slope of the land). The school building, in keeping with its public education charter, is accessible to all, the ramp providing access for wheelchairs and strollers. The primary colours of the classroom furniture and carpet are reminiscent of an institutional aesthetic that has lasted across NSW public schools for some 30 years. The teacher's desk is a focus of authority, situated prominently so that both ends of the classroom can be supervised. Parents and community members usually enter via the kitchen and verandah areas. The classroom area is slightly less accessible or visible from the office or kitchen, although the doors to the verandah area are seldom closed. The teacher welcomes community involvement in the school. On several occasions during the research, lessons were interrupted by the appearance of a parent anxious to speak with the teacher or one of the students. The blurring of boundaries between home and school settings is also suggested in the presence of a many temporary items such as videos, toys, sports gear, ornate stationary items brought in from home by the students.
Learners’ representations of experience decorate the classroom, arranged in repeated patterns around the wall and attached to thread strung across the room. The displays of thematic material reveal the teacher’s programme for the year to date, the ‘topic-based’ approach evidence of the loosely classified curriculum for some subjects. Age differences are minimized in displays: younger students’ work is presented alongside that of older students, often dealing with similar topics. Other static displays remind children of basic skills such as multiplication drills, and spelling conventions. School rules and those involving the use of particular equipment and spaces are the most overtly didactic of static elements. Many classroom elements are slow to change historically, the most obvious exception to this being the computers that are arranged along one wall of the classroom. They are accompanied by instructional texts for their use, so that students can be supported to work independently at this activity. The television monitor, video/DVD player, cassette player-radio ‘project’ voices and experiences from other contexts (O’Toole, 1994: 98). Frequently these are the cultural forms favoured by the children who are encouraged to bring in favourite films and music.

The arrangement of desks in similar sized groups and their positioning throughout the room suggests that students will work in age groups frequently, and that senior students have most need of access to library texts. The accessibility of learning materials such as puzzles, blocks, textbooks also reflects the independence necessary of students in small schools – responsibility for accessing and returning equipment is important.

Textually, the building sits comfortably in its surroundings, although it is clearly a significant town point. It is adjacent to other major points (the hotel, the shop, the bus stop), yet at a safe distance from the road. It is most close to the similarly presented teacher’s residence, rented to a local family now but a feature of days when the teacher lived in town. The entry/landing and verandah connect areas within the school building, partitioning of functions varying from the more permanent provision of office space to the temporary use of furniture and display boards. Those entering the classroom space are guided to one of the two chalkboards with open carpeted spaces in front. Focus within the classroom is on points where teachers’ authority traditionally resides – the chalkboard, the flipchart on an easel and the teacher’s chair. The open spaces suggest their use as information ‘hubs’ and spots for teaching moments. Interestingly, focus is also on the mantelpieces of boarded up fireplaces – traditional points for the enactment of home/family relationships, here they invite discussion and as we saw above, the ‘sharing’ of experience.

In summary, the architecture of the small school inflects many features of the official pedagogic site; for example, the selection and design of furniture and equipment, the colour palette and the relative size and dimensions of the building. However the strong influence of the local is evident also. The spatial arrangements at once reflect and help construct the many characteristics of
place discussed above: the loose classification of activity, the enactment of multiple identities and relations in relatively few spaces, the permeability of school and community contexts. While, generally, the interactive principle of a particular communicative context is said to dominate the locational (teacher–learner conversations from a number of different classrooms are usually immediately recognizable), I argue that the small school, because of the nature of its relationship with its community, is an instance of the locational principle ‘marking’ (Bernstein, 1990: 35) the interactional. In this instance, place and space interplay to shape habitual classroom interactions. For the children, the school context represents an extension of the social and emotional environment of home and community; peopled by those familiar, revolving around shared events and happenings in a physical environment with little distinct partitioning. Such blurred boundaries risk exacerbating the pressure towards material embodied contexts associated with horizontal discourses, making excursions into virtual contexts associated with decontextualized language use difficult when weakened framing prevails. The result is that these students who depend on school for access to vertical discourses appear to have limited and haphazard experience of the relevant contexts.

Small schools serve many similar struggling rural populations; they occupy a special place in their communities and in Australian social history. My intention here is not to diminish the important work done, rather, through close description of aspects of place and space as well as discourse, to explore some of the ways in which the communicative environment of a particular educational site is produced. According to Bernstein (1990), this occurs in a dynamic between dialogue and physical location. It seems then there are two important and related directions for classroom-based research. First, we need to continue our efforts to understand how different ‘forms of consciousness’ (1990: 13) are produced through pedagogic discourse; that is, how learners are positioned as more or less successful via classroom communicative practices. This endeavour involves examining the minute by minute interactions between participants, as teachers and students weave talk between embodied and virtual contexts. However as Ravelli (2006: 119) argues, ‘to more fully understand the significance of language and its contribution to meaning-making, it is necessary to broaden the perspective, and to explore an expanded notion of “text”’. We also need to recognize and more fully understand the importance of the locational principle, or how classrooms and schools function in and relate to their communities. Teachers are already well aware of the importance of the learning environment, of how communities, buildings and surroundings impact on their daily lives and those of their students. However, what I am arguing here is for more developed descriptions of the meaning-making resources at play in classroom; that is, of the ways in which aspects of space and place co-operate with language to produce pedagogic discourse. Working with such a broad view of the semiotic environment also reveals something of the means for change.
While teachers usually have little agency over spatial arrangements at the fixed ranks of building and floor, there is much potential in the more dynamic ranks of room and element. Such work is the stuff of pedagogic design: for example, the arrangement of space; the selection and display of artefact, representation and image; the organization and movement of bodies and furniture; consideration of colour, lighting, movement pathways; the use and selection of multiple mediational resources such as texts, new technologies, image and models. All these feature in the communicative context and so, together with verbal art, constitute major tools for teachers’ framing practices, available for strengthening and weakening boundaries between curriculum areas, participant roles and structures, activities and settings. It is through these practices that teachers manage and reclassify contexts, negotiating horizontal and vertical discourses with learners and in doing so create possibilities of success for those most educationally vulnerable.

References


Part Two

Semiotics in Film
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Chapter 6

Coherence and Cohesive Harmony in Filmic Text*

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Introduction

Within film there is a complex interaction of co-occurring modalities, for example, words, images, sounds, colours, actions, etc. that combine and cohere to create meanings. This chapter proposes one method for investigating just how this meaning creation takes place. Methodologically, I explore the extent to which some analytic constructs from systemic functional linguistics can be extended to apply within and across filmic modes; in particular, I investigate the contribution made by Hasan’s (1984; 1989) notion of coherence and cohesive harmony to the construction of meaning in film.

Briefly speaking, this chapter aims at proposing a tool for filmic analysis, which is essential and has not yet been fully developed, particularly from the following perspectives:

First, multimodal frameworks based on social-semiotic theory have been substantially developed in recent years (cf. Kress and van Leeuwen, 2001; O’Halloran, 2004a; Ventola et al., 2004; Van Leeuwen, 2005; Baldry and Thibault, 2006; Bateman, 2008); however, the pursuit of common investigative tools for multimodal analysis often poses difficulties. As Macken-Horarick (2004: 6) points out, ‘The pursuit of a common framework for analysing multimodal texts produces two kinds of awareness: (a) awareness of a “lack of fit” between categories of one mode applied to another; and (b) awareness of the deconstructive power of this kind of analysis, which reveals gaps, silences and, surprisingly, providential riches in transmodal analysis’. For strengthening the analysis of interaction between modes, we still need more devices for systematically describing the cross-modal realization of meaning. Hence, this chapter proposes one of such ‘bridging devices’. I propose that examining how different semiotic modes work together to establish a coherent semantic edifice is an effective way to elucidate the cross-modal interaction and its contribution to the

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total meaning construction; and for this, Hasan’s linguistic methods for examining text coherence are proposed as appropriate tools for application since her aim is precisely to show how units in a language text are brought together to cohere.

Second, film theorists to date have attempted to provide useful tools for film interpretation and analysis but have not been able to formulate a well-rounded method that allows the investigations of meanings in filmic texts across different types and genres. This difficulty stems from their misrecognition that a corpus of filmic texts for an analytical purpose should be drawn based on the industrial/contextual process (cf. Mittell, 2001; 2004). Hence most film theorists tend to develop analytical approaches specifically for fiction films (cf. Bordwell, 1984; 1989), for documentary films (cf. Nichols, 2001), for television programs (cf. Mittell, 2004), and so on. It has been taken for granted that filmic texts under those different ‘contextual headings’ must be vitally different and there should be discrete systems for each merely because they are products of distinct mediums with different industrial imperatives and audience practices. Thus, when it comes to the intertextual comparison across filmic text-types, that is, the compatibility of a type of filmic texts in different mediums, or the issue of filmic genre, most analytical approaches become insufficient: and this is one reason why the notion of film genre has been a perennial conundrum that has plagued the realm of film for decades (cf. Tudor, 1973; Gledhill, 1985; Neale, 2000). On this account, the method for examining filmic coherence proposed in this chapter, alongside the previous development of methods for filmic analysis carried out by some researchers from the social-semiotic perspective (cf. Van Leeuwen, 1985, 1991, 1996; O’Halloran, 2004b; Baldry and Thibault, 2006; Bateman, 2007) can be seen as another significant tool for investigating meanings in filmic texts of various genres, and these analytical tools are imperative steps towards the future development of a more cogent model for film genre analysis and comparison.

In the following sections, I will first review Hasan’s conception of coherence and cohesive harmony in language text, and then examine if filmic cohesive chains and chain interaction based on Hasan’s principle can be used to investigate the cohesive quality of filmic texts. Through an analysis of a documentary film, I will propose a complementary approach to cross-modal cohesive harmony which lays bare the synergistic ties between units across different modes. Finally, I will give some thought to how the construct of filmic cohesive chains and cohesive harmony can contribute to the further development of more theoretical tools for filmic discourse analysis.

The notion of cohesive chains and cohesive harmony

Hasan, in her 1984 and 1989 works, proposes several methods for investigating how cohesion contributes to the creation of coherence in a language text.
Her approach consists of generating lexical chains of a text on the basis of lexical cohesive ties (Halliday and Hasan, 1976), followed by an investigation of the lexical tokens that realize two types of lexical chains: (1) *identity chains* consisting of identities of people, places and things and (2) *similarity chains* whose components are concerned with actions or qualities of the participants (Hasan, 1989: 84). Hasan describes these cohesive chains as ‘threads of continuity running through the text’ and asserts that each cohesive chain ‘supports and refines the domain of meaning for the others’ (89). The construct of both types of cohesive chains then results in the distinction of lexical tokens into *relevant tokens*, which enter into identity chains or similarity chains, and *peripheral tokens*, which do not enter into any kind of chain. Consider the following text:

1. Once upon a time there lived a young frog.
2. His name was Sniffy.
3. He often sat upon a very soft lily pad,
4. probably because he liked flowers.
5. One day, Sniffy was scrubbing his toes in the pond.
6. He felt something moving in the water.
7. It was his friend, Fluffy.

Nine cohesive chains are found in this text: the chains *a–e* are identity chains and the chains *f–i* are similarity chains, displayed as follows.

Identity chains:

<table>
<thead>
<tr>
<th>a</th>
<th>b</th>
<th>c</th>
<th>d</th>
<th>e</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. once upon a time</td>
<td>1. frog</td>
<td>3. lily pad</td>
<td>5. pond</td>
<td>6. something</td>
</tr>
<tr>
<td>5. one day</td>
<td>2. his name, Sniffy</td>
<td>4. flowers</td>
<td>6. water</td>
<td>7. it, friend, Fluffy</td>
</tr>
<tr>
<td>3. He</td>
<td>4. he</td>
<td>5. Sniffy, his</td>
<td>6. he</td>
<td>7. his</td>
</tr>
</tbody>
</table>

Similarity chains:

<table>
<thead>
<tr>
<th>f</th>
<th>g</th>
<th>h</th>
<th>i</th>
</tr>
</thead>
<tbody>
<tr>
<td>4. like</td>
<td>3. sat</td>
<td>2. was</td>
<td>1. young</td>
</tr>
<tr>
<td>6. felt</td>
<td>6. moving</td>
<td>7. was</td>
<td>3. soft</td>
</tr>
</tbody>
</table>

When we examine the lexical tokens in this text, the tokens incorporated in the nine chains are relevant tokens and the remaining lexical tokens in the text, for example, ‘scrubbing’, are peripheral tokens according to Hasan’s definition.
However, cohesive chains as such merely consist of a succession of message constituents rather than whole messages; but texts consist of a concatenation of messages. Thus, Hasan points out that if cohesion is to demonstrate what makes a text coherent, there has to be some way of examining the contribution of message components to messages as wholes. To quote Hasan (1989: 91):

Although the chains go a long way towards building the foundation for coherence, they are not sufficient; we need to include some relations that are characteristic of those between the components of a message. This is the relation that I refer to as chain interaction. . . . A minimum requirement for chain interaction is that at least two members of one chain should stand in the same relation to two members of another chain.

Building on Hasan’s principle, the chain interaction of the frog text is displayed in Figure 6.1. There it can be seen that only three out of the nine chains are involved in the interaction: chain a is connected to chain b by the relation of circumstance and chain b to chain f by senser in a mental process.

Furthermore, Hasan (1984: 218) proposes that examining chain interaction as such is useful for quantitatively analysing the cohesive qualities of texts. She introduces the notion of cohesive harmony as a way to judge the degree of text coherence. Hasan’s conception of cohesive harmony comprises the following claims:

1. The measure of cohesive harmony lies in the percentage of central tokens, that is, lexical tokens which enter in chain interaction, for example, (1) frog, (4) like and (6) felt in the above text; any text will be seen as coherent if it has more than fifty percent central tokens.
2. The degree of cohesive harmony should dovetail with the degree of texts on a cline of coherence as judged by informants.
3. If two texts have similar degrees of cohesive harmony, variation in coherence will correlate with the number of breaks in the chain of interaction.

**Figure 6.1  Chain interaction of the frog text**
Cohesive Harmony in Filmic Text

In sum, Hasan’s proposals point out that examining cohesive chains, chain interaction and cohesive harmony is a useful means for demonstrating how components in a language text are deployed to construct a coherent text. To date the application of Hasan’s approach to examining text coherence is restricted to language texts (cf. Parsons, 1991; Hedberg and Fink, 1996; Taboada, 2004). In the following sections, I will turn explicitly to the case of filmic discourse and explore if multimodal text coherence, particularly how components from different modes are brought to cohere, can also be construed on the basis of Hasan’s proposals.

Filmic cohesive chains and chain interaction

This section examines to what extent Hasan’s linguistic approach can be translated into filmic text. Before broaching the topic of filmic cohesive harmony, I give a synopsis of how the two types of filmic cohesive chains, that is, reference (identity) chains and similarity chains, are generated.

The construct of filmic reference chains is based on the framework of multimodal identification/phoricity, which has been developed in detail in my previous work (Tseng, 2008). Building on Martin’s (1992: 93–157) linguistic framework, filmic identification is developed according to the three central systems: [generic/specific], [presuming/presenting], [comparison/−]1. A distinctive feature of the multimodal framework, however, lies in the cross-modal realization of the participants. Whether generic or specific, a participant in a film has the potential to be presented or presumed simultaneously in different modes. For instance, a man can be simultaneously presented in a text as a visual figure a man with his name written on the screen and accompanied by his theme song in the soundtrack. The presuming of a participant’s identity can also be realized simultaneously in different modes. For example, after a man is presented as a visual figure in a filmic text, he can explicitly reappear throughout the filmic text as the same visual figure again or he can be mentioned in spoken texts, in written texts, and so on. Even if his visual reappearance is inexplicit (for instance, only some physical parts are revealed), as long as certain filmic resources, for example, the strategies of continuity editing, are mobilized to function as filmic deixics, the inexplicit reappearance can still cue the viewer to the identity of the participant. In other words, the multimodal cohesion framework as such consists of resources from a variety of semiotic modes that can be employed to construct cross-modal referencing throughout a film.

Filmic similarity chains, similarly to those in language, consist of actions and qualities (and quantity) of the participants. Whether visual or verbal, the qualities and actions of participants are categorized in each similarity chain according to the lexical cohesive ties defined by Hasan (1984; 1989). Filmic similarity chains are henceforth termed action/quality chains in this study.
Due to space constraints, I am not able to delineate the contribution of each delicate choice of the filmic identification/phoricity systems to the creation of cohesive chains; instead I will briefly demonstrate the construct of reference and action/quality chains by exemplifying the chains in a filmic text extracted from the documentary film *Comandante*, in which the film director Oliver Stone conducts interviews with Fidel Castro over 3 days on various issues.

The transcription of the filmic text is displayed in Figure 6.2. It is the beginning part of an interview where Castro narrates his memory of his contact with Nixon in 1959.

For the purpose of examining chain interaction, both types of cohesive chains as generated from the *Castro* text are displayed in Figure 6.3. Six reference chains (RCs) and seven quality/action chains (QACs) can be isolated.

The reference chains in this text show that there are at least six salient elements which have the status of being participants: *people, Nixon, Castro, time, problem, report*. The principle for chain formation here is taken over from Hasan’s approach. For example, a chain must contain at least two components to ‘have the status’ for participating in chain interaction. Thus, the reference chain of the participant *Oliver Stone* is excluded from the above formations because it comprises only one item ‘me’ in Image 1. For the same reason, the visual actions
found in the text such as [hand shaking] in Image 9, [walking] in Image 4, or other visual quality attributes such as very long shot in Image 3, very close shot in Image 2, etc. are not included in the chain formations.

Moreover, the reference chains in this text also show that some of the participants are presented or presumed cross-modally. For instance: Nixon in Image 1 is first presented in the spoken text ‘Tell me about Nixon’ and, in Image 3, he reappears as a visual figure in the image; and Castro is presented as a visual figure in Image 2 and is realized again in Image 3 in his spoken text as ‘I’. Thus, a filmic reference chain can be treated as a pointer to the nature of the cross-modal referencing because it uncovers how each participant is realized mono- or cross-modally throughout a text.

Action/quality chains in this text are comprised of three different types of actions (chains $a$–$c$) and four types of quality units (chains $d$–$g$). The AQCs $a$ and $b$ are also realized cross-modally. Chain $a$ consists of verbal components

![Figure 6.3](image-url) Reference chains and action/quality chains of the Castro text (Transcription conventions: “ = spoken text, [ ] = visual elements, MCS = medium close shot, MLS = medium long shot and B&W = black and white images).
such as ‘tell’, ‘talk’, ‘explain’, etc. and their visual synonymy, namely, the action of [talking] found in Images 7 and 8. In addition, chain \( b \), which denotes the non-action ‘being’ process type, also consists of the verbal token ‘was’ and the visual token [existing], with which Nixon and Castro in Images 5 and 6 are seen as simply ‘being there’, rather than performing any actions.

Furthermore, the components in the AQCs \( d-g \) depict the participants’ visual quality attributes which are produced from the different uses of camera or editing techniques. Some of these visual attributes result from the manipulation of the quality of the image in which participants appear. For instance, the different uses of lighting patterns can bring about change in a participant’s appearance; and the use of black-and-white or colour films can also lead to changes in the filmic participants’ physical colours. Chain \( e \) and chain \( f \) are such examples. The components in the two chains are concerned with different types of image colours: in Images 3, 4, 5 and 9, the participants are depicted in black and white due to filmmaking techniques in 1959; while in Images 1, 2, 6, 7 and 8, which are produced at the present time, the participants are visually realized in colour. Furthermore, some of the visual quality attributes can be manipulated by different uses of camera distances, which bring about a size change of participants in filmic image frames. For instance, the components in chain \( d \) and chain \( g \), namely, the uses of medium close shot and medium long shot, change the physical size of Nixon and Castro: in Images 5, 7, and 8, Nixon and Castro can be seen as being ‘larger’ than in Images 3, 4, or 6 because they are placed closer to the camera.

Following this construction of the RCs and AQCs in the Castro text, the interaction of the chains based on Hasan’s method is shown in Figure 6.4.
The chain interaction as such shows how filmic RCs and AQCs, whether mono-modal or cross-modal, are connected. Although filmic cohesive chains can be cross-modally generated, the actual interacting components are still only linked to each other by mono-modal ties; that is, each individual part of a chain contributes only to a multivariate structure established within one mode. For example, in Figure 6.4, we can see that the verbal elements ‘he’, ‘we’ in the cross-modal Nixon chain interact only with other verbal chains such as ‘draft’ and ‘wrote’ in chain e, or with verbal elements in other cross-modal chains such as ‘was’, ‘talk’ in chain a and chain b. Likewise, the elements which interact with visual [Nixon] are restricted to visual actions [existing] and visual quality [B&W].

In brief, Hasan’s method of chain interaction does not indicate cross-modal cohesive harmony, that is, to what degree the units in different modes in a multimodal text are brought together to cohere in a multimodal text. Chain interaction of this kind can be used to examine the cohesive quality in verbal text and in visual images separately, and based on this method, we can also calculate the ratio of central tokens to non-central tokens. But the percentage that results only indicates the sum of two separate phenomena – visual and verbal cohesive qualities.

In order to establish multimodal text coherence, it is necessary to take into account not only the semantic ties between RCs and AQCs in each mode, but also how units in different modes are connected to establish cross-modal synergistic ties. This aspect has been partly touched upon above when we discussed the creation of cross-modal cohesive chains, which indicate how resources of different modes can be employed to realize one identity, one action, one quality and so on. But now we will take one further step and specifically address the questions as to what other types of cross-modal cohesive ties can be constructed alongside those which realize the cross-modal RCs and AQCs and if there can be a direct approach to explicitly demonstrating how the cross-modal units co-operate to achieve a coherent whole.

The different types of cohesive ties possible are displayed diagrammatically in Figure 6.5. We began this section with the cross-modal realization of cohesive chains, namely, how ties B1 and B2 are established, and then went on to apply Hasan’s method to filmic text. The result is that Hasan’s approach only indicates semantic ties of type A1 and A2. Hence, if we aim to explicitly reveal the cross-modal realization of meaning, that is, the connections established by the synergy across different modes, not only should we take into account B1 and B2, that realize cross-modal cohesive chains, but the possible existence of the ties B3 and B4, which connect RCs of one mode to AQCs of another mode, should also be explored.

Following the elucidation of the kinds of ties to be considered in examining cross-modal coherence, the task remaining is to uncover principles for analysing configurations of such ties. One straightforward method is to probe to what
degree the chains in each mode are involved in the cross-modal synergy based on lexical cohesive relations defined by Halliday and Hasan (1976), for example, synonymy, antonymy, meronymy, hyponymy, collocation, etc.

Cross-modal lexical cohesive bonds of this kind have also been discussed by Royce (1998) when describing intersemiotic relations in page-based multimodal text. Royce draws on Halliday’s metafunctional model and formulates a framework of intersemiotic relations between the visual and verbal contributions. His work encompasses how the different semiotic modes in a printed multimodal text work together ideationally, interpersonally, and textually, and how the modes semantically complement each other to constitute a coherent whole. He coins the term *intersemiotic complementarity* to describe the synergy of the visual and verbal text. The approach to filmic cross-modal ties I am proposing here can be treated as an expansion from the ideational aspect of Royce’s page-based framework into a complex method for examining synergistic ties of cross-modal units in stretches of filmic text.

To demonstrate the approach, I will exemplify the cross-modal cohesive ties found in the *Castro* text. First, the cohesive chains displayed in Figure 6.3 are remodelled into two groups of chains: (1) RCs and AQC*s in the visual track and (2) RCs and AQC*s in the verbal text in Figure 6.6. The chains which are involved in lexical cohesive relations are connected with dotted lines in the diagram. For instance, the visual *Nixon* and *Castro* chains are linked to their verbal synonymy *Nixon* and *Castro* chains. Likewise, the ties which connect the verbal *was* and *tell* chains to the visual *existing* and *talking* chains, are also realized by synonymy. These semantic bonds, shown as B1 and B2 in Figure 6.5, are precisely the ties which realize the creation of the cross-modal cohesive chains elucidated earlier in the section.

![Figure 6.5 Establishing cross-modal interaction](image-url)
Furthermore, the chains of *colour* and *B&W* in the visualtrack are now seen interacting with the verbal *time* chain – whether a participant is a colour or black-and-white visual figure is mostly related to and cooccurs with the configurations of historical time (for example, 1959 or the present). Therefore, the cohesive ties which connect the *colour* and *B&W* chains to the *time* chain are established by the relation of collocation. The cohesive tie of collocation is precisely what Hasan excludes in the formation of cohesive chains and chain interaction (Hasan, 1984). However, such types of ties (shown as B3 and B4 in Figure 6.5) are in fact not uncommon in filmmaking and would be overlooked if we merely examine the formation of cohesive chains for the phenomenon of cross-modal coherence. Moreover, establishing such cohesive ties (connecting an AQC and a RC across different modes) is significant in construing symbolic meanings in certain types of film, for instance, films that employ the particular strategies of *montage* developed by the Soviet filmmakers of the 1920s such as Pudovkin and Eisenstein (cf. Eisenstein, 1969). I will exemplify this point by analysing the semantic ties of a sequence in Eisenstein’s film *Strike* on the basis of Vogel’s (1974) synopsis of how Eisenstein’s montage worked in practice:

The best example of Eisenstein’s montage methods occurs in the famous sequence in which the four capitalists dealing with the strike are seated in the plush comfort and isolation of their mansion, smoking and drinking. Through cross-cutting, we now see, in this order: workers at a clandestine strike meeting; the capitalist putting a lemon into a juice extractor; the workers discuss their demands; the handle of the juice extractor descends to crush the fruit; the workers are charged by mounted police; the boss says in an intertitle: ‘Crush hard and then squeeze!’; the workers are attacked; a piece of lemon

**Figure 6.6** Crossmodal interaction in the *Castro* text (the numbers in chains: indicating images where components are realized)
drops on the well polished shoe of the capitalist; disgusted, he uses the paper containing the workers’ demands to wipe it off. (36)

Some multivariate and covariate ties linking the message units in this sequence described by Vogel are shown in Figure 6.7. In the visual track, although the scenes of police attacking workers and capitalist squeezing lemon with juice extractor are presented as two discontinuous, unrelated events, the visual action chain of *squeeze/attack*, which conjoins the two events, explicitly lays bare their metaphorical association created by montage. Moreover, according to Vogel’s description, the verbal text in the intertitle is actually edited between the scenes of workers being charged by police and workers being attacked. That is to say, the intertitle is meant to refer to the command of the capitalist boss to ‘crush the workers harder’ because the viewer indeed sees the workers being ‘attacked harder’ right after the intertitle. Nevertheless, the cross-modal cohesive ties displayed in Figure 6.7, that is, the relation of collocation established between the verbal AQC the *crush/squeeze* chain and the visual RCs, the *juice extractor* and *lemon* chains, further highlight the metaphorical bonds of crushing lemon and attacking workers commanded by the capitalist.

Establishing filmic semantic bonds in this way gives a clear picture of how units of different modes are brought together to cohere; and it can also be considered as an important starting point, not only for developing a more complex

![Figure 6.7](image-url)  
**Figure 6.7** Semantic ties linking units within and across modes in *Strike*  
(arrows = mono-modal multivariate ties; dotted lines = crossmodal covariate ties).
approach to quantitatively analysing the ratio of filmic cohesive harmony of different filmic texts, but also for exploring the correlation between multimodal text coherence and filmic genre. In the next section, I will suggest some possible extensions of the approach proposed in this chapter for the further formulations of tools for investigating texts structure and filmic genre.

Cohesion, coherence and further developments of filmic analysis

As a working hypothesis, I propose that filmic cohesive chains and cohesive harmony can do at least two things with regard to the further development of filmic discourse analysis:

First, filmic cohesive chains can be used to reflect generic stages of filmic texts. So far this finding has been restricted to language genres (cf. Hasan, 1984; Ventola, 1987; Taboada, 2004). Nevertheless it is suggested that it can be expanded to filmic text along the same lines as the linguistic approach. Take the structural movement in the Castro text for example, The reference chains displayed in Figure 6.3 explicitly track the two ‘protagonist participants’ Nixon and Castro throughout the text. In addition, the participation of new chains or the removal of old chains also launches the start of another stage. For instance, the removal of the people and time chain symbolizes the ending of the ‘orientation stage’ which depicts the background information of the contact between Nixon and Castro, and the participation of problem and report chains opens up another unit in which more information regarding Nixon and Castro’s meeting is to be given.

Second, in filmic texts, the variation of cross-modal cohesive ties might also reflect certain aspect of filmic genre. Van Leeuwen’s (2005) analysis of news reading in part bears out this point. By demonstrating how rather dramatic news content on a strike at an airport is visually accompanied by a comparatively ‘quiet’ scene in the airport, his analysis points to the lower degree of cross-modal cohesive harmony commonly seen in the genre of news reports. In van Leeuwen’s words:

In television news items the image track often hangs together like loose sand and would not make much sense on its own. Here the key principle behind the editing is spatial co-presence: all the shots have been taken in or around the airport. There is only the occasional sense of ‘next event’ and ‘detail/overview’ linking. . . The images merely serve as a kind of setting, which gives a spurious sense of authenticity to the news item. Spurious, because, although this item is about a strike, we do not see the workers striking, in fact we see them loading suitcases into a plane. Not the events are illustrated here, but only actors . . . and location. . . This is by no means an exception. (237)
From van Leeuwen’s analysis, we can draw an assumption that cross-modal cohesive harmony is relatively low in the genre of news reports because they have lower degrees of cross-modal chain interaction – in most cases, only reference chains (settings, actors) are involved in the cohesive ties while action/quality chains in visual and verbal modes are unrelated.

While the correlation of text coherence and genre (see Hasan, 1989, for a detailed view of the relations between genre and texture in language) has been widely discussed in language texts (cf. Parsons, 1991; Hedberg and Fink, 1996; Taboada, 2004), in multimodal text, more methods for investigating cross-modal ties, for example, interpersonal synergistic relations, are still needed to provide a substantial insight into the correlation between filmic genre and the configuration of filmic texture.

Some brief conclusions

I began this chapter by advocating the need to develop more ‘bridging devices’ for the analysis of cross-modal meaning realization. As one step towards this goal, I went on to apply Hasan’s method concerning coherence and cohesive harmony to filmic texts. It was found that chain interaction according to Hasan’s principle does not indicate cross-modal interaction. I proposed a method for examining how units in each mode interact to establish a coherent whole. This approach takes into account not only the cohesive ties within cross-modal cohesive chains, but also the ties which move beyond the boundary of cohesive chains and link identity of one mode to action or quality of another mode. Further, I also suggested some possible implementations of filmic cohesive chains and the cross-modal approach proposed in this chapter with regard to the further development of tools for filmic discourse analysis.

More issues can be raised following the application of Hasan’s approach to film. We can ask questions such as can there be an approach for quantitatively analysing and comparing degrees of cohesive harmony in different filmic texts? Or in what way does filmic genre act upon the correlation between cross-modal and mono-modal cohesive harmony in a text? For instance, does a higher degree of cross-modal cohesive harmony with lower degree of mono-modal cohesive harmony, or high degree in both, also reflect a distinctive aspect of filmic genre?

Furthermore, by the start of the twenty-first century, in English speaking cultures at least, film had become an increasingly significant aspect of the school curriculum, although teachers are not always very skilled in teaching about it. Publications have begun to appear offering practical advice to teachers for media study generally, including film (for example, Callow, 1999; Unsworth, 2001); nevertheless, more work concerning filmic analysis as part of curriculum remains to be done in the future.

Finally, through the development of filmic cohesion and coherence, I hope to have widened the possibilities of the further formulation of an extensive
Cohesive Harmony in Filmic Text

Cohesive model which permits the investigation and comparison of filmic texts across types and genres; and this goal is precisely what film theorists over decades have been striving to achieve.

Notes

2 Each filmic image in Figure 6.2 is reproduced and redrawn from the film because of copyright issues; a short description is attached next to each image to compensate for the different image quality resulting from the redrawing process.
3 Hasan (1984) and Martin (1992) both points out that at present examining cohesive harmony and chain interaction is restricted to only the ideational meaning of a text. In this study it has not been possible to investigate how to examine the interpersonal aspect of cohesive analysis. But certainly in future analyses of filmic cohesion, the calibration of cohesive harmony with attitudinal/interpersonal analyses must also be conducted.
4 The research has been supported by a University of Sydney internal SESQUI grant and an ARC Discovery grant.

References


Chapter 7

Metafunctional Analyses of Sound in Film Communication

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Introduction

The aim of this chapter is to examine the roles of sound in film communication. With the introduction of sound on film in 1927 (Hayward, 2000), sound – together with visual images – become two key communicative elements in films. As communicative construct, films deploy various dynamic and/or static semiotic resources for meaning-making; for instance, verbal language, kinesic actions, music, sound effects, visual images, and so on. To examine how such diverse resources are used and coordinated in enabling films to fulfil its communicative potential, a number of studies have adopted a metafunctional and multimodal approach in their discussions. To name a few, these include O’Halloran’s (2004) exploration of the visual semiosis of film, Thibault’s (2000) discussion of visual transcription in film analysis, Iedema’s (2001) examination of the means which a documentary film uses to position audience in their reading of the film, and van Leeuwen’s (1991) investigation of how conjunctive relations are constructed through both the visual and aural medium in news reports, as well as the manner in which key participants in the reports are represented through such media. In drawing on the metafunctional and multimodal perspectives in their discussions, these investigations not only provide invaluable insights on how films construe and realize its communicative potentials, they also highlight sound as an important area of research within the field of multimodal studies.

In its discussion of sound, the present chapter also draws on the metafunctional and multimodal perspectives of communication as its underlying theoretical basis. That is, following the work of Michael Halliday in systemic functional linguistics (1973, 1978, 1994, 2004), this chapter stresses the fact that the communicative dimensions of sound in films can be explored from three simultaneous ‘macro-functions’, namely, the ideational, the interpersonal and
the textual metafunction. Also following on the idea of multimodality as discussed in various multimodal studies (e.g. Baldry, 2000; Iedema, 2003; Kress, et al., 2001; Kress and van Leeuwen, 2006; Thibault, 2000), the present chapter recognizes the fact that films use a multiplicity of semiotic resources for meaning-making purposes.

As one of the key semiotic resources in films, sound encompasses elements such as speech, music, sound effects and silence. These sound resources not only interact with one another but also with other co-present resources, for example, kinesthetic actions, camera movements, for communication purposes. To further illustrate the interactions among different sound resources and the co-integration of various meaning-making resources, this chapter also draws on van Leeuwen’s (1999) exploration of sound, particularly the ideas of sound perspective and sound interaction, and Ravelli’s (2000, 2006) understanding of intersemiosis in its investigation.

In exploring the roles of sound in film communication, excerpts from two of the works of Hong Kong contemporary film-maker Wong Kar-wai are selected for analysis. They are Happy Together (1997) and In the Mood for Love (2000). One of the motivations for selecting Wong’s films for analysis is that, as a film-maker whose works have come to be considered as innovative and distinctive in contemporary cinema in recent years, Wong Kar-wai’s films are a rich source of data for multimodal analysis. At the same time, this investigation is also motivated by the way sound is explored in Wong’s films in critical discussions. Generally speaking, music and voiceover narration are aspects that are examined most (e.g. Abbas, 1997; Chae, 1997; Martinez, 1997; Yeh, 1999). Yet, there is little attention paid to how different sound resources coordinate and co-pattern for communicative purposes, and how such co-integrations help underscore the roles of silence in film communication. In addition, sound tends to be investigated on its own rather than in relation to other co-present semiotic resources (for instance, colour change). As a result, how intersemiotic interactions of visual and sound resources enable sound to contribute in meaningful ways and additional dynamism to the films is not investigated. Therefore, in adopting a metafunctional and multimodal approach to its exploration of sound in film communication, this chapter aims to achieve two interrelated objectives.

First, it seeks to illuminate the interactions of various sound resources, as well as that of sound and visual resources; and in turn to demonstrate how such co-patterning of semiotic resources help foreground the metafunctional roles of particular semiotic resources as well as the significance that they contribute to films. Second, this chapter aims to provide a communicative and functional understanding of the semiotic capacities of sound in films, and to demonstrate the applicability of metafunctional approach as analytical framework for exploring dynamic texts (such as films). The discussion begins by illustrating three analytical concepts which this chapter adopts and extends to explore sound
in film communication. They are: intersemiosis, sound perspective, and sound interaction (and its relationship with silence).

### Intersemiosis

A fundamental conceptual premise which many systemic functional theory-inspired studies of multimodal texts (whether such texts are print-based, electronic, or 3D) is the observation that most communication combines and integrates different and diverse semiotic resources for semiotic purposes. In exploring how various meaning-making resources are used and co-patterned for communicative purposes, Ravelli (2000, 2006) proposes the idea of intersemiosis, which is drawn on and appropriated from Jakobson’s (1971) concept of intersemiotic translation or transmutation (i.e. the translations in meaning between linguistic and non-linguistic signs). As Ravelli (2000) suggests, intersemiosis is processes in which there are ‘a coordination of semiosis across different sign systems’ (508, emphasis added; see also Ravelli, 2006: 151). She further emphasizes that the realized meanings of such intersemiotic coordination in multimodal texts are ‘more than the sum of its parts: . . . various semiotics work together to produce something altogether above and beyond any one of its constitutive elements’ (Ravelli, 2000: 509; emphasis added). In short, meaning in multimodal texts is ‘multiplicative rather than additive’ (Thibault, 2000: 312; with reference to Bateson, 1987[1951]: 175; Lemke, 1998).

Ravelli’s understanding of intersemiosis provides a conceptual tool for the present chapter in examining semiotic interactions between sound resources and other co-present resources (e.g. kinesic actions, colour changes) in films. At the same time, it also highlights a specific concern which the present chapter aims to illuminate and demonstrate in its analysis. That is, sound resources do not merely interact among themselves; they also interact with other co-patterned resources. In the case of sound, such intersemiotic interactions among meaning-making resources can enable sound to draw attention to specific subtle aspects in films.

### Sound perspective, sound interaction and silence

Sound perspective and sound interaction are two analytical categories which the present chapter uses in analysing different sound elements, and they are appropriated from van Leeuwen’s (1999) work on sound. As an interpretive principle, sound perspective is concerned with the placing of simultaneous and different sounds, and the interpersonal relation between sounds and listeners that are created through such positioning of different sounds. According to van Leeuwen (1999), the level of intimacy between sounds and listeners can be
identified on a scale of foreground, mid-ground and background, which he terms figure, ground and field, respectively. When a sound is considered figure, it means the sound is seen as the most important sound to a listener’s social world, which a listener have to identify with or (re-)act upon. When it is viewed as ground, the sound is still considered relevant to the social world of the listeners, although in a less involved manner. When a sound is seen to be placed at the perspectival position of field, the sound is related to the physical, rather than social, world of the listener, and therefore, it has the least interpersonal involvement with listeners.

In relation to the question of how the perspectival position of sounds is realised, van Leeuwen (1999) offers two interesting comments. On the one hand, he suggests it is realized by the ‘relative loudness’ of sounds:

Perspective is realised by the relative loudness of the simultaneous sounds, regardless of whether this results from the levels of the sounds themselves, from the relative distance of the people or objects that produce them, or from the way a soundtrack is mixed. (23; original emphasis)

At the same time, van Leeuwen (1999) also notes that ‘what is Figure, Ground or Field, depends either on the listener’s relation to the represented world . . ., or on the way such a relation has been created for the listener in sound mixes, musical compositions and so on . . .’(17; original emphasis). While these two comments may appear contradictory, they in fact raise an important feature about sound perspective.

That is, sound perspective – as an interpretive principle – is relative and not absolute; and an individual’s perception of sound perspective is not only shaped by the context of the natural environment in which he/she is situated and by the technologies involved (e.g. in a sound recording), but is also influenced by the cultural values that particular sounds convey to individuals (Thibault, 2000).

To illustrate, consider the following two examples. If a person’s office is in a construction site, the loud noises from the machinery are likely to be perceived as field, whereas the ringing sound of a phone – although soft by comparison – may be regarded as figure. This is because the machinery noises constitute the context of the natural environment. Similarly, this researcher finds she will ‘tune in’ to words of her native tongue more easily in crowded places even when they are not spoken loudly. These ‘sounds’ constitute particular cultural values to this researcher, and are perceived as figure.

In the case of sound interaction, it is an analytical category that examines the selection, alternation and combination of different sound resources. Generally speaking, there are three interactive ‘participants’ in film sound tracks: speech, music, and sound effects. Using van Leeuwen’s (1999: 66–71) discussion of speech interaction as a reference, sound interaction can be realised sequentially (i.e. the sound elements interact in a linear way) and simultaneously (i.e. all sound
resources interact at the same time). In cases where a sequential sound interaction is realised, the first participant can be treated as an *initiator*, and the responding participant a *reactor* (van Leeuwen, 1999: 76). The significance of examining the interactions of different sound resources in film communication is twofold. First, sound interactions enable the involved sounds to ‘constitute a dialogic relationship with the listener’ (Thibault, 2000: 350), which is in turn also shaped by perspectival positioning of various sounds involved in the interaction. Second, such coordinations and combinations of sound resources not only reflect the relations among the different sound ‘participants’. For instance, the duration of a pause in a sequential sound interaction in, say, a conversation, reflects the (real or imaginary) distance between the participants. It also helps highlight the semiotic capacities and significance of silence in film communication.

Silence is a vital participant when considering sound interaction – even though it is not ‘sound’ per se; and there are two important features of silence that are worth noting. First, the significance of sound is essentially *on the basis of its relation to sound*. As Edgar (1997) explains, ‘silence is an element . . . that acquires meaning and gives meaning through its reciprocal relationship to the ambient (musical) sounds’ (313). In his multimodal investigation of a television advertisement, Thibault (2000) also recognizes the fact that a sound track ‘may be punctuated by pauses and silent junctures of varying duration and significance’ (357), and such elements constitute one of the variables in his transcription of the sound track of the television advertisement. The second key characteristic of silence is that it is relative rather than absolute. That is, silence does not necessarily entail complete absence of sounds. As pointed out by Cage (1961), ‘[t]here is no such thing as silence. Something is always happening that makes a sound’ (191; cited in Schafer, 1997: 256). In other words, silence is not necessarily about the total absence of all sounds; it also can be a moment of ‘breathing space’ created when a dominant and continuing sound resource pauses – even though there are other sound resources still continue playing on the sound track. This specific facet of silence – that it is relative and not absolute – thus underscores the way silence is understood in the present discussion. Essentially, rather than perceiving silence as ‘a neutral emptiness’ (Chion, 1994: 57), it is in effect a meaningful semiotic resource that points to what is missing and underscores what is present (Judkins, 1997).

Methodology

Before presenting the analysis of texts, a brief explanation on the transcription of texts is needed. The present chapter adopts a shot-by-shot approach in its segmentation of film excerpts (an approach that has enjoyed a long tradition in cinema studies); and the written transcription of the excerpts is presented
Multimodal Semiotics

in a tabulated format. The transcriptions consist of two main sections: Image Track and Sound Track; and each section is further divided into sub-sections. For instance, there are four sub-sections under Sound Track: Speech, Music, Sound Effects and Additional Notes (which notates details, e.g. silence, that cannot be notated in the previous sub-sections). Table 7.1 is an example of written transcriptions of film clips which this discussion uses.

There are some limitations in segmenting film excerpts on a shot-by-shot basis and transcribing the clips in written transcriptions. For example, a shot-by-shot method of segmenting film clips fails to capture the changes and intricacies in semiotic choices in a holistic manner (Thibault, 2000); and the selection of categories for transcription can be seen as arbitrary. However, given films are richly complex multimodal texts, it is impossible to account for all possible semiotic resources in a transcription. At the same time, it is important to maintain a balance between the research objectives and the adopted methodology. Therefore, despite its failure to show the complexities of changes in semiotic choices across a whole text, a shot-by-shot approach of segmenting films allow specific details to be particularly identified (e.g. the coordination of multiple semiotic resources at a specific moment of the film). Similarly, rather than seeing a written transcription as a comprehensive account of all possible semiotic resources, its aim is to highlight and reflect the analytical goals and concerns that are relevant to a research.

Analyses of sound in film communication

Silence as semiotic resource in sound interaction

The examination of how silence is used in film communication is discussed in relation to an excerpt from Wong Kar-wai’s *In the Mood for Love* (2000). The film revolves around two neighbours, Mrs Chan and Mr Chow, whose respective spouses are having an extramarital affair, and they play-act to find out how the affair began. The excerpt is set in a restaurant, where the two lead characters are having a conversation. The conversation begins with Mr Chow asking about a handbag of Mrs Chan’s (which Mr Chow wants to give one to his wife as a birthday present); and is then followed by Mrs Chan’s inquiry of the tie Mr Chow is wearing (and where she can buy one for her husband). It is during the course of the conversation that both Mr Chow and Mrs Chan find out the other is aware that their respective spouses are having an affair.

When viewed at the ideational level of the text, and in terms of the sound resources that are deployed in the scene, speech and music can be considered the dominant sound resources on the basis of their continued presence. At the same time – and in terms of sound perspective, given speech and music are positioned as figure (i.e. a sound that is most relevant to the social world of a listener) and ground (i.e. a sound that is still construed as relevant to
### Table 7.1 An example of written transcription of film

<table>
<thead>
<tr>
<th>Time/Shot No./Circumstance</th>
<th>Image track</th>
<th>Sound track</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>Scene description/Represented participants (RP) and Process Types (PRO)</strong></td>
<td><strong>Speech</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Offer/Demand</strong></td>
<td><strong>Colour</strong></td>
</tr>
<tr>
<td>(02:00)</td>
<td>RP: Mr Chow; PRO: (transactional) verbal process;</td>
<td>Offer; Natural colour palette;</td>
</tr>
<tr>
<td>19/a restaurant</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(02:10)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>RP: Mrs Chan; PRO: (transactional) verbal process;</td>
<td>Offer; Natural colour palette;</td>
</tr>
<tr>
<td>20/a restaurant</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(02:20)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>21/a restaurant</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(02:30)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>22/a restaurant</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Silence*
The first instance of foregrounded silence:
- Silence is underscored by (i) the absence of speech and (ii) the presence of sound effects

The second instance of foregrounded silence:
- This silence is underscored by the absence of music

Key:
- The unfolding of *In the Mood for Love*
- Speech
- Music
- Sound effects

**Figure 7.1**  Silence and sound interaction
a listener’s social world although in a less involved manner) respectively, a close interpersonal relation is construed between the two sound resources and viewers. Such perspectival positioning of speech and music, together with the way they are co-patterned in the scene, play a key role in highlighting silence as a foregrounded resource in the scene. The following illustration, Figure 7.1, shows the patterning of speech and music and the way silence is foregrounded in the conversation scene.

As the illustration shows, speech is represented by a double-dashed line, whereas music is indicated by a single-dashed line. There are two points of silence which the coordination of speech and music helps foreground in the conversation scene. Using the two instances of foregrounded silence as anchor points, the illustration divides the conversation into three stages. The first foregrounded silence situates at the end of Mr Chow’s inquiry (i.e. Stage 1 of the conversation). This foregrounded silence is due to the absence of speech, with music continues to be playing during this absence of speech. The second foregrounded silence occurs at the end of Mrs Chan’s inquiry (i.e. Stage 2 of the conversation). Unlike the previous instance, this point of silence is underscored by the absence of music, while speech continues to be present in the sound track.

Two interesting points can be noted in relation to these two instances of silence. First, they are not a ‘complete’ silence but are co-patterned with other sound resources (with music and sound effect in the first instance of foregrounded silence and with music in the second instance). Second, this combination and coordination of sound resources not only helps underscore silence as an integrated resource in the conversation, it also facilitates a sound interaction among the co-present resources, which in turn helps construe the metafunctional roles of silence both within the conversation scene and within the narrative development of the film.

To explain, when the sound interaction of speech, music and the second point of silence is viewed from the perspective of interpersonal meaning potential, this silence draws attention to what is absent – that is, the absence of music (especially given the fact that music is continually present in the conversation scene up to that specific point). At the same time, it also simultaneously underlines what is present – that is, speech, in which Mrs Chan reveals to Mr Chow that her husband has a tie exactly like the one he is wearing, and further indicates her awareness of Mrs Chow having the exact same handbag which Mr Chow asked about earlier when he reveals that fact to her. More importantly – and at the ideational level of the film, this co-patterning of silence and speech enables silence to underscore the significance of that specific part of the conversation between the two lead characters. That is, although it is not directly referred to, the conversation confirms for both Mrs Chan and Mr Chow (and also for viewers) that the other knows about the fact that their respective spouses are having an affair.
Conversation: Stage 1
Mr Chow inquires of Mrs Chan about a handbag of hers, and whether he can buy one locally his wife’s birthday. Mrs Chan replies that it is a gift from her husband, which he bought from a business trip in Japan, and is not available locally.

Conversation: Stage 2
Mrs Chan inquires of Mr Chow about where he bought the tie that he is wearing. Mr Chow answers it was bought by his wife on a business trip, and is not available locally.

Conversation: Stage 3
Mrs Chan reveals that she thought she is the only one who knows about the affair between her husband and Mr Chow’s wife, and wonders how their affair begin.

Silence as indicator of transition
This is realised by the foregrounded silence; and it is also co-deployed with music and sound effects.

Silence as indicator of a turning point
This is realised by the foregrounded silence; and it is co-patterned with speech. Such co-patterning in turn underscores the significance of the deployed speech: that the respective spouses of Mrs Chan and Mr Chow are having an affair.

Key:
The unfolding of *In the Mood For Love*

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**Figure 7.2** Silence and textual indicators
When the two instances of foregrounded silence in this conversation scene are examined from the textual level, they can also be seen to be constructed as devices that indicate the narrative development of the conversation. This will be elaborated in relation to Figure 7.2. As shown, the first foregrounded silence is a transition point between Stages 1 and 2 of the conversation. This transition point further highlights a similarity between these two parts of the conversation. That is, although the lead characters are asking about different objects (a handbag and a tie), there is a similarity in their replies: that the inquired objects are gifts bought by their respective spouses while on overseas business trips and are not available locally. The second foregrounded silence, on the other hand, is construed as a textual device that signals a turning point within the conversation. That is, it is at this very moment that the ideational purpose of the conversation is conveyed as well as underscored (to find out if the other party knows about the affair between their respective spouses). This foregrounded silence in turn also functions as a textual indicator that signals a turning point in the narrative development within the film (what are the two lead characters going to do about the affair between their spouses). In short, silence is constructed as a meaningful resource for realising interpersonal and textual meaning potential in this conversation scene in *In the Mood for Love*, and thus in turn enabling silence to play a key semiotic role in bringing out a subtle ideational aspect of the scene. These metafunctional capacities of silence are enabled by its integrations with other co-present sound resources.

**Intersemiosis among speech, colour change and kinesic actions**

Having examined how silence is construed as a foregrounded resource, the following analysis explores processes of intersemiosis across different semiotic resources. The analysis is centred on a scene from Wong Kar-wai’s 1997 film, *Happy Together*. Unlike the previous analysis, which focuses on the interactions and co-patterning of sound resources, this investigation examines the intersemiosis of speech and changes in colour palettes, and how such intersemiotic interactions help draw attention to the subtle semiotic roles which kinesic actions play in the text. *Happy Together* is a film about the volatile relationship of two gay men (named Fai and Po-wing in the film). In terms of the narrative development of the film, the selected scene is situated at a point where the two gay lovers have got back together after a recent break-up; yet, cracks begin to appear in the relationship. The scene begins with Fai playing mahjong with his colleagues from the restaurant he works in. It then shows an earlier period in the relationship of Fai and Po-wing – a period where Po-wing, with his hands in bandages, is recovering from the injuries he suffered in a fight; and Fai becomes his care-provider. The scene ends with a short segment that shows both Fai and Po-wing in the room they share, and yet, there is no interaction between them. An interesting aspect


**<Part 1>**

- **Colour change:** from natural colour to black-and-white
- It shows Fai looking after Po-wing, whose hands are in bandages and is sleeping
- **Other co-present resources:**
  - voiceover narration; it coincides with the point of colour change
  - the voiceover relays Fai’s feelings towards his relationship with Po-wing within a specific period: “There are certain things that I have never told Po-wing. I didn’t want him to recover from his injuries too soon. The days that he was hurt were our happiest together.”

The **inter-semiotic interactions** of colour change and voiceover narration – especially the words ‘… The days he was hurt were our happiest together’ draw attention to the action types represented and the commonality among the depicted action types:

- a non-transactional action structure is constructed; i.e. there is no bi-directionality in the action types (even in cases where reactional and transactional action types are represented).

The **co-ordination of colour transition and represented action types and structure in Part 2** of the scene enables colour change to draw attention to the type of interaction of the gay lovers in terms of kinesic actions in Part 3 of the scene. The co-patterning of colour change and kinesic actions in Part 3 in turn can be construed as an interpersonal device that subtly reflects the relationship of the gay lovers in two different periods.

**<Part 2>**

- **Colour change:** from black-and-white to natural colour
- It shows the gay lovers in the same room: Fai is poking the wall with a pocket-knife while Po-wing looks on in an indifferent manner. Po-wing then turns off the light and goes to sleep, leaving Fai sitting at a corner in the room

**<Part 3>**

- Natural colour palette
- It shows Fai (one of the gay lovers) playing mahjong with his colleagues from the restaurant

**Figure 7.3** The co-patterning of colour change, speech and kinesic actions
of the above-described scene is that there is a change in colour palette – from colour to black-and-white, and then reverts to colour again. Figure 7.3 is an illustration of this colour change, as well as other co-present resources within the clip.

As the illustration shows, the segment where the colour change takes place is represented with a dashed line. For purpose of ease of discussion, the diagram divides the entire scene into three parts, with the segment where colour change is used is ‘Part 2’ in the illustration. In addition to colour change, speech – particularly Fai’s voiceover narration – is another key co-present semiotic resource in this middle segment. The voiceover is a comment of Fai about a time from the past, specifically Fai’s feelings about his relationship with Po-wing during the period when Po-wing was hurt. Given the particular nature of the voiceover, and the fact that it coincides with the point of colour change, such intersemiotic co-patterning of the two semiotic resources enables colour change to be seen as a device that is construed to indicate temporal shifts at the ideational level of the entire scene. The temporal dimension changes from the present (i.e. Part 1 of the diagram) to the past (i.e. Part 2 in the illustration), and then reverts to the present (i.e. Part 3 in the illustration). The metafunctional role of colour change in this scene is realized because of the connecting link which speech (i.e. voiceover narration) enables in its co-patterning with colour change, particularly as a link to the ideational context of the segment where colour change is used (i.e. Part 2 in the diagram, and a scene that has been shown earlier in the film).

At the same time, the use of black-and-white in the middle segment of the scene also serves as a cohesive link to the last part of the scene (i.e. Part 3 in the diagram). By virtue of the co-present voiceover, specifically the words ‘the days that he was hurt were our happiest together’, the colour change in the middle segment helps highlight the semiotic potentials of kinesic actions in both the middle and the last segments of the scene. With reference to Kress and van Leeuwen’s (2006) discussion of different process types in narrative representation in visual images – that is, images which involve ‘the presence of a vector’ (Kress and van Leeuwen, 2006: 59), or links, that connects depicted participants in images and represents ‘unfolding actions and events, processes of change, transitory spatial arrangements’ (Kress and van Leeuwen, 2006: 59), there are three action types that can be found to be constituted by the kinesic actions seen in the two segments. They are non-transactional (i.e. actions which only have one participant, Actor, and no Goal), reactional (i.e. actions where a participant, Reacter, gazes at another participant, Phenomenon), and transactional (i.e. a participant, Actor, performs an action at another participant, or Goal) action types. Table 7.2 is a summary of examples of kinesic actions that constitute these action types in the two segments.

As seen in the Table 7.2, only the middle segment of the scene (where colour change and voiceover narration co-pattern) consists of kinesic actions that
realise non-transactional, reactional and transactional action types. Also of interest among these depicted action types is a commonality found among them when compare across the entire scene. That is, a non-transactional action structure is constructed in the represented action types. Even in instances where reactional and transactional action types are represented (which are mostly found in the middle segment of the scene), given the fact that Po-wing, who is represented as the object or goal at which the actions are directed, is asleep during those action types, he is therefore not aware that he is the beneficiary of his lover’s (i.e. Fai) attention. As a consequence, there is no bi-directionality in the represented reactional and transactional action types. In other words, there is no actual interaction between the two gay lovers in the middle segment of the scene – a period in the relationship of the lovers that is already in the past within the temporal dimension of the scene and is described by one side of the party (i.e. Fai) as the happiest time in the relationship.

Seen from this perspective, the colour change that is illustrated in Figure 7.3 thus can also be construed as an interpersonal device in the entire scene. Through its intersemiotic interactions with speech (specifically Fai’s words ‘The days that he was hurt were our happiest together’) and the represented action types within the middle and last segments of the scene, colour change helps draw attention to the affective relations in the relationship of the gay lovers in two different periods (a period that is in the past and a period that is in the present). Essentially, the affective relations of the gay lovers are realised through processes of intersemiosis between kinesic actions and voiceover, especially the subtle contrast in meaning potential that two semiotic resources bring to the middle segment of the text. That is, despite Fai’s expressed sentiment in the voiceover (that the period when Po-wing was hurt was their happiest time together), this sentiment is somewhat undercut by the absence of interactivity in the represented kinesic actions in the segment. To put it simply, there is a sense of ‘proximity without reciprocity’ (Abbas, 1997) in the relationship of

<table>
<thead>
<tr>
<th>Action types</th>
<th>Examples of kinesic actions in Part 2 of Figure 7.3</th>
<th>Examples of kinesic actions in Part 3 of Figure 7.3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-transactional</td>
<td>• Fai leaning against a wall</td>
<td>• Fai poking a pocket-knife at a wall</td>
</tr>
<tr>
<td></td>
<td>• Fai pacing about in a room</td>
<td>• Po-wing lying in bed</td>
</tr>
<tr>
<td>Reactional</td>
<td>• Fai (the Reacter) looking at Po-wing (who is asleep) (the Phenomenon)</td>
<td></td>
</tr>
<tr>
<td>Transactional</td>
<td>• Fai (the Actor) is covering Po-wing (who is asleep) (the Goal) with a blanket</td>
<td></td>
</tr>
</tbody>
</table>

Table 7.2 Kinesic actions and action types
the gay lovers seen in the clip. This sense is realized through the intersemiotic interactions of kinesic actions and voiceover in the middle segment of the scene, and is further highlighted by the interpersonal role that colour change functions in its co-patterning with voiceover and kinesic actions, as well as its cohesive semiotic potential to the last segment of the clip (especially the action types that are represented in that segment).

Conclusion

This chapter has presented a metafunctional examination of how sounds are constructed as meaningful resources in film communication. A key objective of the discussion is to demonstrate the importance of taking a holistic view when exploring sound in films. That is, as an integrated semiotic resource in films, sound coordinates and interacts with other co-present resources for communicative purposes; and such semiotic interactions need to be taken into account when exploring the meaning potentials of sound in film communication. To illuminate this aspect, the work of van Leeuwen (1999) on sound – especially the ideas of sound perspective and sound interaction, as well as Ravelli’s (2000, 2006) understanding of intersemiosis provide important analytical tools for the examination. Furthermore, in taking its conceptual point of departure from the functional principles that are embodied in systemic functional linguistics and the notion of multimodality, the discussion also demonstrates how the semiotic capacities of sound in films can be understood and illustrated in terms of the representational, social and organisational dimensions of the texts. The investigation has particularly focused on how interactions of different sound resources enable the semiotic potentials of silence in film communication, as well as the capacities of sound to underscore other co-present resources and the significance that it contributes to films. While the discussion may be limited in scope, it demonstrates the opportunities and potential directions that a metafunctional and multimodal approach to discourse analysis can offer to investigations of other dynamic texts that also integrate sound for semiotic purposes (e.g. video games, websites).

References


**Films**


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Part Three

Semiotics in News and Public Media
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Chapter 8

Intermodal Relations in Image
Nuclear News Stories

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University of Sydney

Introduction

Resistance to photography as a legitimate vehicle for objective news gathering has long been at the centre of criticism regarding the use of photographs in newspapers (Bicket and Packer, 2004). Early photographic images in the illustrated tabloids of the 1920s, for example, were viewed merely as design elements aimed at attracting the reader, rather than as potentially powerful instruments of news reporting (Bicket and Packer, 2004). In broadsheet newspapers in Australia, news photographs did not feature regularly on the front page until well into the 1970s. Images were usually gathered together on one page as a ‘photo gallery’ illustrating a whole series of events across the region, probably as much as a result of technical limitations as for their value as legitimate modes of news reporting. The real job of news dissemination, it seems, was left to the words on the page.

In more recent times, however, news print appears to have gone through a transitional phase from prose to visual narrative. Kress and van Leeuwen (1996) point this out in their description of newspaper front pages, and this is also reflected in the Sydney Morning Herald, where the photograph is being empowered with the ability to tell the story itself. This newspaper regularly presents both disruptive and non-disruptive news stories as image nuclear news bites, with a dominant news photograph, a heading above the image and a short caption either below or to the side of the image. Such stories appear to be told in the first instance through the image and then the verbal text anchors (Barthes, 1977) the meaning in the image to a particular reading.

While research into the telling of the news has focused almost entirely on the verbiage, the rise in interest in visual communication in recent years and the expansion of linguistic models such as systemic functional linguistics to include analyses of modes other than language (e.g. O’Toole, 1994 and Kress and van Leeuwen, 1996 in relation to architecture, images and sculpture; van Leeuwen,
1999 in relation to sound and music) have resulted in a much broader body of research in this area. This chapter investigates the complementarity between the image along with its heading\textsuperscript{1} and the ensuing verbiage in image nuclear news stories in the \textit{Sydney Morning Herald}. It is my suggestion that the heading and image work together to provide the evaluative stance from which the story is to be read and it is through this interplay that the voice of the newspaper can be identified. I will begin this chapter by describing how I establish nuclearity in these news stories before moving on to explain how the interpersonal metafunction within the systemic functional framework can be put to work in the analysis of this intersemiotic complementarity between the image, heading and verbiage.

**Nuclearity in the news story**

By way of introduction to image nuclear news stories, I would like to explain how I arrived at this particular label for what I believe to be a new news story genre. The notion of nuclearity in the news story was developed by Rick Iedema and his colleagues, Susan Feez and Peter White (1994), at the DSP ‘Write in right’ project in Sydney in the early 1990s. They suggest that destabilizing news stories, which report on events or issues that put the established social order of a particular community at risk, are organized around a nucleus satellite structure (Iedema \textit{et al.}, 1994; Martin, 1996; Iedema, 1997). In this model the headline and the lead have a very close relationship with each other and together form the nucleus of the story. It is here that the newspaper can quite efficiently get across to the reader what it considers to be the angle, or the evaluative stance, from which a particular story ought to be read.

The nucleus is then followed by a series of satellites in the lead development, which have more to do with events established in the nucleus than they do with each other. They may take the form of elaboration, giving more details on the events in the story, extension, the addition of other related information, or they may enhance by attempting to get at the causes of an event or issue (Iedema \textit{et al.}, 1994; Iedema, 1997). Figure 8.1 illustrates the nucleus satellite structure.

Image nuclear news stories have a similar functional structure to verbiage nuclear news stories in that the heading and image work together to form a nucleus, from which the evaluative stance of the newspaper towards that particular story can be read. The caption then goes on to locate the image participants and their actions within a particular context, and may also expand upon the news event that justifies its inclusion in the newspaper. Figure 8.2 shows the structure of an image nuclear news story, and Figure 8.3 shows an example story on a page from the \textit{Sydney Morning Herald} from 14 September 2004. While the term ‘image nuclear’ may seem at odds with the multimodal nature of the nucleus, the salience of the image makes the name ‘image nuclear’ seem appropriate for now.
Figure 8.1  Nucleus satellite structure of the hard news story
(Source: Iedema et al., 1994).

Figure 8.2  Structure of an image nuclear news story
(Source: from Figure 8.3: Image nuclear news story: Sydney Morning Herald, 14/9/2004, p. 11).
Hong Kong poll unlikely to ease tensions with Beijing

N Korea was just moving a mountain

It’s spraytime on the waterfront

Aid workers flee riots after Afghan warlord sacked

Drugs haul worth a pair of boots

Heart attack brings Ebb lyrical flow to an end

Figure 8.3  Image nuclear news story

Source: Sydney Morning Herald, 14/9/2004, p. 11.
Some stories also include a ‘prosodic tail’ where the play established between the heading and image radiates into the beginning of the caption, usually in the form of a minor clause. The use of ellipsis is always present at the end of the tail, thus separating it from the remainder of the caption. In fact, the prosodic tail could even make an alternative heading. In the example in Figure 8.2, the minor clause ‘Wet and windy . . .’ is also entering into a playful relationship with the image, while the rest of the verbiage does not. At this stage, I have chosen to include this playful ‘tail’ in the nucleus. Other examples of prosodic tail are given in Table 8.1.

### Table 8.1  Examples of prosodic tail in image nuclear news stories

<table>
<thead>
<tr>
<th>Heading</th>
<th>Prosodic tail</th>
<th>Caption</th>
</tr>
</thead>
<tbody>
<tr>
<td>Waves on the line</td>
<td>Rough ride . .</td>
<td>Waves batter a train at Dawlish in Devon as southwestern England was hit by severe gales and unusually high tides on Wednesday. More than 150 passengers were stuck for three hours when two other trains broke down on the same line after being flooded by sea water.</td>
</tr>
<tr>
<td>Thinking outside the square</td>
<td>Paddle power . .</td>
<td>A Venetian uses a canoe to cross St Mark’s Square on Sunday after an exceptional 1.4-metre-high tide inundated 80 per cent of the city, disrupting public transport and flooding shops.</td>
</tr>
<tr>
<td>A drug-fuelled blowout</td>
<td>Up in smoke . .</td>
<td>Peruvian anti-narcotics officers incinerate a bag containing cocaine in Lima on Tuesday. Police said they burned six tonnes of drugs, including cocaine, marijuana, poppies and opium that had been seized in various raids.</td>
</tr>
<tr>
<td>Rising tide of despair</td>
<td>Wade home . .</td>
<td>Mumbai residents take refuge on the median strip of a road in the inundated city.</td>
</tr>
<tr>
<td>Hanging out for a record</td>
<td>Washed up . .</td>
<td>About 22,000 items of wet clothing dry on 3.8 kilometres of line in Jakarta, in an attempt to set a national record.</td>
</tr>
</tbody>
</table>

Establishing the element of play in image nuclear news stories

Since June 2004 I have been compiling a corpus of image nuclear news stories from the *Sydney Morning Herald*, which currently contains 960 items. Of these 95 per cent involve an element of play between the lexical choices made in the heading and the image. So I take this to mean that word-image play is an important factor in the writing of such stories. The form that such play takes is wide ranging and includes the manipulation of both linguistic and extra linguistic
Table 8.2 Types of play in the heading of image nuclear news stories

<table>
<thead>
<tr>
<th>Type of play*</th>
<th>Example</th>
<th>Original reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alliteration</td>
<td>Sapphire in her soul</td>
<td>Great wall of China</td>
</tr>
<tr>
<td>Lexical substitution</td>
<td>Great hall of China</td>
<td>use of idioms such as to bank on (rely on), to lift your spirits (energize, make feel better); also, for those who remember the Bank of New South Wales before it became Westpac, a slogan they commonly used in advertising was ‘You can bank on the Wales’</td>
</tr>
<tr>
<td>Idiomatic manipulation</td>
<td>You can bank on the whales to lift your spirits</td>
<td></td>
</tr>
<tr>
<td>Allusion to popular culture</td>
<td>Baby, it’s cold outside Gold ahead, make my day</td>
<td>Song lyric, Frank Loesser 1924 Quotation (movie) Clint Eastwood as Dirty Harry in ‘Sudden Impact’ 1983: Original quote reads: ‘Go ahead, make my day’</td>
</tr>
<tr>
<td></td>
<td>Call that a lighter . . this is a lighter</td>
<td>Quotation (movie) ‘Metacomedy’ A parody of the famous scene in ‘Crocodile Dundee’ in which Paul Hogan says: ‘You call that a knife. This is a knife.’</td>
</tr>
</tbody>
</table>

*Note: This is not an exhaustive list of the types of play.

information relevant to our understanding of the meaning and common usage of lexical items, including our ability to draw on a repertoire of intertexts, or aspects of our cultural knowledge, to decode such meanings. Initially, the play may engage the reader in literal play between lexical items in the heading and the image. For example, the heading ‘Seeing red’ in one story can be literally decoded as seeing the colour red in the image. In this story the more common metaphorical meaning of this phrase, being angry, is not taken up. Then the play may also extend to other forms of play like alliteration or allusions to popular fiction, movies, songs, or quotations that test our cultural knowledge. Examples of such play in the headings from my corpus are given in Table 8.2.

Paul Lennon (2004), in his book Allusions in the Press, has identified six classes of play in newspaper text according to the type of target alluded to. These include quotations, titles, proverbs, text-bound formulae, names and set phrases. He refers to allusions in the press as ‘characterised by an echo orchestrated by the writer so that understanding involves the setting of one unit of language in prae-sentia against another in absentia . . . achieved by verbatim reproduction or adaptation of the original language’ (p. 2). This results in a text-dependent or context-dependent meaning contrast. For example, the heading ‘Call that a lighter . . . this is a lighter’ from an image story in my corpus reminds us of
Intermodal Relations in Image Nuclear News Stories

a piece of language from another remembered text. In this case it is the famous scene from the Australian movie ‘Crocodile Dundee’ in which Paul Hogan is confronted by a would-be robber demanding valuables with a knife, to which he responds ‘You call that a knife. This is a knife’ while producing a rather large machete.

The headings in image nuclear news stories, however, do not necessarily make use of only one of these types of play at any one time, and more commonly we find that they combine several methods for playing with the verbiage in any single instance. For example the heading ‘Sapphire in her soul’ is from a story about the launch of the new season for the Sydney theatre company Belvoir’s Company B. The image depicts actress Deborah Mailman, sitting stage centre, reflecting on an image of herself projected onto the wall behind her in her role as one of a group of Aboriginal women who attract the attention of a talent scout with their Supremes cover band The Sapphires. The original Supremes included legendary soul musician Diana Ross. This heading not only makes use of alliteration of the letter ‘s’, but also, in combination with the image, alludes to the efforts actress Deborah Mailman is putting into her role in the new production, to the theme of the new show which centres on soul music in the guise of Diana Ross and The Supremes, and also to the quality of the production and the actor’s performance as being a ‘gem’.

Systemic Functional Linguistics and verbal–visual intersemiosis

According to Halliday and Hasan (1976) the multimodal text is one in which two or more different meaning-making systems combine to produce a text that is one complete semantic unit, not of form, but of meaning, and from the 1990s onwards there has been a remarkable increase in interest in the analysis of modes other than verbal language. The linguistic model that has lent itself most readily to such analysis has been the Hallidayan model of Systemic Functional Linguistics (hereafter SFL), and there are several reasons why SFL has proven itself useful as a theoretical framework for the analysis of intersemiotic relations in multimodal texts. SFL is centred on the notion of language as a meaning-making resource, and it is also a text-based theory in which text ‘may be either spoken or written, or indeed any other medium of expression that we may like to think of’ (Halliday, 1985, p. 10). SFL also approaches text analysis from a paradigmatic perspective, which is one that privileges the systemic approach over the structural, and where structural operations are explained as realizing systemic choices. So when we analyse text, we show the functional organization of its structure; and we show what meaningful choices have been made, each one is seen in the context of what might have been meant but was not (Halliday, 2004). Also, realization derives from the fact that a language is a stratified
system and being a text-based theory, SFL thus allows texts to be viewed from above, below and around in understanding what meaningful choices have been made in the production of the text. It is this approach to text that allows SFL to be so readily adapted to the analysis of modalities other than verbal language.

In particular, theorists working with modes other than language have adapted Halliday’s three metafunctional dimensions arguing that these are aspects of meaning-making that apply to all semiotic resources (Lemke, 1998). These are the ideational, the interpersonal and the textual metafunctions (Halliday, 2004). These functions have also been renamed in line with their functions within a particular modality. As far as visual–verbal relations in press photographs and news stories in newspapers are concerned, I have followed the labelling adapted from Kress and van Leeuwen (1996) and Lemke (1998) by Jim Martin (2001) in his analysis of visual images; these are representation, orientation and presentation. At any one time, we are representing some informational content about a particular state of affairs, which we can label ‘representation’ in the ideational metafunction. The image is also engaging either directly or indirectly with the viewer in terms of contact, affect, social distance and status, which in photography can be labelled ‘orientation’. And we also organize information in the image in line with compositional criteria, which can be labelled ‘presentation’, in the textual metafunction.

Furthermore, in establishing a theoretical framework, it is important to point out that the visual and verbal semiotics in multimodal texts do not simply co-occur on the page. Rather, they are combined in what Royce (1999) names a ‘synergistic’ (p. 10) relationship. Royce describes this as ‘the ability of elements, in the act of combining, to produce a total effect that is greater than the sum of the individual elements or contributions’ (p. 10). This is what he labels intersemiotic complementarity. He further states that ‘while a multimodal text with one of the modes removed would still produce a coherent visual or verbal text, it would be one which would somehow be diminished in its communicative power’ (p. 11). In pursuing the communicative power of the multimodal texts in my corpus, I am particularly interested in the relationship between intersemiotic complementarity and the construal of evaluation.

Intersemiotic complementarity and evaluative stance

In order to get at the evaluative stance being construed in image nuclear news stories it is necessary to investigate how interpersonal meaning is negotiated in multimodal text. Martin (2001) raises the question of whether images can function in a similar way to imagery by establishing an evaluative orientation to the text it accompanies. He argues that while in SFL both interactive and evaluative meanings in the interpersonal metafunction are realized through grammar and lexis, multimodal theorists such as Kress and van Leeuwen (1996) have
tended to background the evaluative meanings and take interactive meanings, that is, mood and modality, as their point of departure. Martin (2001), however, sees evaluation, in particular attitude in the Appraisal network, as the more promising point of departure. He does this by treating Halliday’s Theme Rheme and (Given) New structures as ‘fractal patterns which can be mapped onto larger units, including paragraphs and whole texts’ (p. 315) as the basic texturing strategy. This gives rise to his notions of macro-Theme and hyper-Theme, which are predictive in nature, and hyper-New and macro-New, which have a consolidating function. In a paragraph, for example, hyper-Theme would be like a Topic Sentence, pointing forwards, indicating the method of development of the rest of the paragraph (Martin, 1993).

Thus, Martin argues for a correlation between higher-order Theme and New and evaluation and what is placed in the position of hyper-Theme establishes the method of development of the rest of the text, hence the label higher-order interpersonal Theme. He justifies this view of hyper-Theme as interpersonal Theme over textual Given by making an analogy to clause grammar, where comment Adjuncts in the place of interpersonal Theme encode the text producer’s disposition towards the message, rather than being Given information. Thus, when image is placed in Theme position, its function may be viewed as interpersonal, where the textual affords the evaluation of the ensuing verbiage. One strategy for prosodic realization, as outlined in Martin and White (2005), is domination, where the prosody associates itself with meanings that have other meanings under their scope.

This is of relevance to my work in establishing the evaluative stance of image nuclear news stories. I am suggesting that the image and heading work together as interpersonal Theme to establish the evaluative orientation to the remainder of the text. Thus, as texture, the image and heading function as an evaluative Theme, naturalizing the stance from which the ensuing verbiage can be read. This proposition is probably best clarified in a sample analysis.

Analysis of an image nuclear news story

By taking the story ‘It’s spraytime on the waterfront’ in Figure 8.3 as an example, I would like to illustrate how evaluative stance is established in the nucleus, and how that stands in stark contrast to the news event that is ultimately presented in this story. If we look at what is represented in the image first we see a clear left–right division in the image with the whole of the left-hand side of the image taken up by the spray from waves hitting the harbour wall. On the right we have three boys who are playing on the harbour wall, trying to get as close as possible to the spray but then dodging away from it at the last minute so as not to get wet. Then the distinctive waterfront skyline of Havana stands in the background slightly out of focus, but still recognizable. As far as vectors are concerned, this
image can be analysed using Arnheim’s hold/release vectors (1982), in which vectors emanating from the lower left corner of the image in the direction of the upper right corner are said to be release vectors, and those from the lower right to upper left are hold vectors. In this image, the release vectors are the spray from the approaching wave, moving from left to right, and the hold vectors are the boys, challenging or almost duelling with the spray in their game.

As far as orientation is concerned, the photographed boys are laughing and appear to be enjoying themselves in this game, eliciting a positive affectual response in the viewer of the image. Being a long, horizontal shot and taken from an oblique angle to the boys, we are merely observers of this play and are not expected to become highly involved. While the spray is huge and impressive, it may be no more than what is expected during high tide on a particularly windy day. Thus, given the boys’ actions and their expressions there seems to be little to concern us in this image at this stage of our reading.

Looking at the presentation of the image, while there is a clear left/right dichotomy to this image according to Kress and van Leeuwen’s (1996) information value system network, it appears at this stage in our reading of the text as being unmotivated for Given/New analysis. The spray from the waves and the three boys are foregrounded and appear to be the most salient participants in the image.

If we combine this image with the heading ‘It’s spraytime on the waterfront’ the playful nature of the story so far is reinforced. The reader needs to be able to access the play on words in the substitution of play for spray in playtime/spraytime, which is easily decoded by seeing the boys laughing and playing on the seawall with the sea spray potentially about to engulf them. Geographical knowledge is also called for in identifying which ‘waterfront’ the boys are playing on given the distinctive style of architecture in the background. References to Elia Kazan’s 1954 film ‘On the Waterfront’ may also be evoked in some readers, who having recognized Havana in the image may begin to draw parallels between Cuba’s political regime and the movie’s major themes of corruption and heroism, although the headline writer in this instance may have only intended interpretations of the phrase to remain on the literal, locative level. Added to this is the prosodic tail ‘Wet and windy...’, identified by the use of ellipsis, separating it from the remainder of the caption, and which continues the theme of the story thus far established, that of windy weather creating the large spray and the boys trying not to get wet in that spray.

As interpersonal Theme, the intersemiotic complementarity of the image and heading as nucleus in this story provides the reader with a powerful and convincing evaluative stance from which this story ought to be read. Together they afford positive appreciation of this event, the fun the boys are experiencing, the word play between the heading and the image reinforcing the evaluative stance.
If we then go on to look at the remainder of the caption, we witness quite a shift in register from the innocent and playful to the serious and very destabilizing nature of the news event in the story. The rest of the caption reads:

... a group of young Cubans have fun among the spray from huge waves whipped up by Hurricane Ivan as they batter Havana’s waterfront while the full fury of the storm gathered off the island on Sunday after battering the Cayman Islands cutting a devastating path through the Caribbean that left 44 deaths in its wake.

Initially, the play from the photograph and heading is confirmed in the declarative behavioural clause ‘a group of young Cubans have fun among the spray from huge waves’. The process ‘have (fun)’ anchors our visual reading of the actions of the boys and the nominal group ‘a group of young Cubans’ identifies them more precisely. But then the focus shifts immediately to the cause of these huge waves, Hurricane Ivan, and the deaths and devastation that it has already wreaked across the Caribbean and to the threat it now poses to Cuba. Intensified lexical items and phrases such as full fury, devastating path, along with the intensified material process batter/battering describe the destructive nature of the hurricane and more importantly point towards the potential material damage that could be meted out to the island of Cuba in the near future.

Having thus engaged with the verbal text, we may now find that this affects our re-reading of the image. The evaluative meaning of the spray, for example, changes quite dramatically from representing an innocuous, playful ‘threat’ that the boys might get wet, to being a metonym for the ‘huge waves’ which are in turn a metonym for the ‘full fury of the storm’. Now we imagine that the boys, or at least a number of Cubans, might die. In ideological terms, this is a significant shift in register and raises the question of whether we would play similar word games with the lives of those we saw as ‘us’, or only with those we think of as ‘other’.

Following the more traditional news values determining what passes for news in our society, such as action, temporality and newsworthiness (Hall, 1981: 235), the caption accompanying this image falls into the realm of the disruptive hard news event, described by Iedema et al. (1994) as a destabilizing hard news story – event. The image/heading nucleus, however, presents this news event in a soft, non-disruptive interpretation of the event, and it is here, I believe, the ideology of the newspaper is most visibly coded. As a further example, Figure 8.4 also demonstrates how what is initially read quite lightly and on a literal level in ‘Watching their backs’ takes on quite a different meaning once the whole text has been read and the metaphorical meaning of the heading is then brought to the fore. The caption reads ‘An officer corrects new recruits during marching drill in Beijing. The Chinese parliament has just approved a 12.6 per cent increase in the military budget.’
Rice offers India nuclear help, but objects to gas line


Figure 8.4  Re-appraisal of evaluative theme in image nuclear news stories.
Conclusion

The examples analysed illustrate a major shift in recent times in how newspapers like the *Sydney Morning Herald* choose to inform readers of the major happenings in the world. It could be seen as trivializing the news by some, or as distancing us from the destabilizing events happening in other parts of the world. Such stories have become commonplace in the *Sydney Morning Herald*. During 2004/2005 they appeared almost daily in the newspaper and there were up to five or six appearing in the weekend edition of the paper. However, they now appear to have stabilized somewhat in their distribution across the newspaper, usually one to two every day, most often appearing in the world news section, which may also be significant in that it is often easier to make light of the actions of ‘others’, rather than ourselves.

I believe that the photograph in this new genre of news story forms a nucleus with the heading and the prosodic tail, if one is present, and usually engages in some form of intermodal play. The caption then works initially to situate the event in an immediate context that clarifies and sharpens our understanding of the image, before moving on to provide the wider context, that of the more serious news value and justification for the story.

Overall, the image nuclear news story may be viewed as contributing to a more leisurely, or recreational reading of the newspaper. It guides readers on a more palatable journey through the news pages, ultimately leading them to the editorial pages towards the back of the paper where the newspaper’s own ideology is revealed most explicitly to its readers. The *Sydney Morning Herald*’s ideal reader is from the AB market (tertiary educated middle class), thus the humour and word games will challenge such readers and stimulate them to reach that ‘higher-level’ comedy which might be associated with British humour. This is the type of reader the newspaper is most eager to retain; one that is able to peel back the layers of meanings built up through the image and verbiage that not only test their linguistic skills, but also call on a vast range of intertexts from their life experiences. That the newspaper chooses to play with news events that are ultimately destabilizing in nature, however, raises ideological questions that may prove difficult to answer.

Note

1 I use the term ‘heading’ rather than ‘headline’ to distinguish between the more traditional use of headlines in verbiage nuclear news stories and the ‘headings’ in image nuclear news stories.
References


Chapter 9

Online Newspapers and TESOL Classrooms: A Multimodal Perspective

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Introduction

The first generation of English learners born after the world wide web are nearing adulthood. For those who have cultural capital which gives them regular access to the internet, reading online texts on-screen is a social practice as ‘natural’ as reading print on paper. The demands made of language education as a result of this new semiotic environment are considerable, and place the onus on researchers to provide theoretically grounded descriptions which are accessible and applicable to teachers and learners in classrooms.

This situation has led to developments in semiotic theory (e.g. Baldry and Thibault, 2006; Kress and van Leeuwen, 1996; Lemke, 2002; Martinec, 2005; O’Halloran, 1999, 2004; O’Toole, 1994), and in understandings of what it means to be literate in post-industrial societies (e.g. Alverman and Reinking, 2003; Cope and Kalantzis, 2000; Jewitt and Kress, 2003; New London Group, 1997; Snyder, 1997, 2002; Snyder and Beavis, 2004; Unsworth, 2001, 2006a). Work in these fields has provided an empirical and theoretical basis on which to develop existing approaches to language pedagogy in ways that can incorporate an enhanced understanding of what it means to use language to communicate.

In order to become effective participants in emerging multiliteracies [i.e. multidimensional, multiple literacies], students need to understand how the resources of language, image and digital rhetorics can be deployed independently and interactively to construct different kinds of meanings. This means developing knowledge about linguistic, visual and digital meaning-making systems. (Unsworth, 2001: 8)

This chapter is intended as a contribution to bringing the discourses of second-language (L2) teaching and learning, multimodal discourse analysis
Multimodal perspectives on language and language education have only recently appeared in the literature on L2 teaching and learning. A brief consideration of the classroom practices of teachers and students shows very quickly, though, that multimodality is something that language teachers have understood intuitively for a long time. Reading skills such as skimming and scanning – mainstays of L2 reading pedagogy and textbook activities for decades now – require learners to pay explicit attention to the visual features of texts such as font size (in identifying headings and sub-headings, or interesting headlines in newspapers), font formatting (such as colour, bold, italics, and underlining in identifying entries in lists, key words in longer stretches of text, or hypertext), paragraphing (in order to locate topic sentences, or hyper Themes – see Martin and Rose, 2003), and figures and tables. In order to apply these reading skills, texts need to be understood as making meaning visually as well as linguistically.

Any language teacher who has taught a unit on job applications has spent time talking about appearance, dress, eye contact, posture, even walking into a room and shaking hands at the interview. These are not ‘add-ons’ to a successful interview performance – they are fundamental to the communicative impact of what is said, and are commonly taught along with the language of polite greetings, talking about qualifications, and asking questions about the position. Similarly, the layout and appearance of the resume is as important to the success of the document as the linguistic content and its grammatical accuracy. In interviews, resumes, and even letters of application, meaning is made not only linguistically but multimodally, and language teachers have historically incorporated this reality into their pedagogical practices. Classroom presentations, language for guiding tourists, creative writing and the imagic use of words in poetry, the use of headings and figures in academic writing – all involve language interacting with other modalities (e.g. posture, gesture, eye contact,
image, layout), something recognized and taught in many language classrooms for many years.

This is due, in part, to the rise and rise of communicative language teaching. While there is debate on what communicative language teaching actually means pedagogically and whose interests it serves (e.g. Holliday, 1994; Howatt, 1988; Li, 2001), it is axiomatic to the field that the basic aim of L2 teaching and learning is to enable learners to communicate effectively in the target language. As teachers of communicative ability, language teachers have, in many ways, incorporated the multimodal reality of authentic communication into their explanations of language use, into classroom activities and tasks, and even into assessment practices.

In this environment, newspapers have long been seen as a useful source of authentic and relevant texts to use in the classroom, giving learners access to mainstream media and public discourses which are commonly drawn on in a wide variety of social interaction (see Grundy, 1993; Olivares, 1993; Seedhouse, 1994; Larimer and Schleicher, 1999; Sanderson, 1999; Krajka, 2000). Target-language newspapers have not always been accessible in foreign-language classrooms, but the advent of the internet and the spread of online newspapers in the 1990s now means that these texts are much more available to students of a foreign language than was the case in the past. This increased accessibility has made online newspapers a particularly useful source for learners and teachers. Learners of English, for example, can read newspapers from all over the world, drawing on a variety of national and political perspectives and accessing a range of Englishes beyond the traditional ‘inner-circle’ varieties (see Kachru and Nelson, 2001; Warschauer, 2002).

Online newspapers, however, are not simply an electronic reproduction of their hardcopy counterparts. Even in those cases where online newspapers consist of ‘shovelware’ (where the verbal text is lexically and grammatically identical to the hardcopy – Boczkowski, 2004), there are important differences in the organization of the newspaper and in page design which mean that discursively, online and hardcopy newspapers are different texts (Bateman et al., 2006; Knox, 2007a). This does not only apply to the newspaper as a whole. Viewed discursively, stories in online newspapers differ both syntagmatically and paradigmatically from stories in the hardcopy edition, even when they have identical wording.

Syntagmatically, the online news story must be accessed minimally by way of the home page of the newspaper (usually via a shorter version of the ‘same’ story on that page – see Barthelson, 2002: 22–25), and possibly also from other pages which may carry hyperlinks to it. It is not possible for the online reader to reach the story in the same discursive sequence as that by which the hardcopy reader reaches it (and ipso facto vice versa). Therefore, for the reader, the online text necessarily enters into syntagmatic intertextual relations which are different from the syntagmatic relations for the reader of the hardcopy edition,
and which therefore position the reader differently in relation to the text (see the following sections for an illustration of this).

Paradigmatically, the online news story is set in a network of visual, verbal and visual–verbal relations which give each text a valeur. Because these paradigmatic relations are different in online and hardcopy newspapers, the valeur which the ‘same’ story can have in each edition is necessarily different (as illustrated below). Thus, while the same verbiage may exist in an online-newspaper story and a hardcopy-newspaper story, the text is not the same: it is not produced in the same way, it is not received in the same way. The same verbiage in different semiotic environments is not the same text.

In many cases, shorter versions of the ‘same’ story will be written for home pages and other section pages (e.g. the ‘National’ page, or the ‘Sport’ page) which carry a large number of stories. These short texts often differ significantly (both visually and verbally) from the ‘original’ story, and in fact represent new genres which have evolved with online newspapers. These genres include newsbites – the one-paragraph headline-plus-lead-plus-hyperlink stories which appear on online newspaper home pages and section pages; and newsbits – the headline-only hyperlinks which also appear on online newspaper home pages and section pages, typically in lists (see Knox 2007a, 2007b for further discussion). Eyetracking research indicates that these new genres are central to the reading practices of online newspaper readers (Holmqvist et al., 2003; Lewenstein et al., 2000).

In fact, online newspapers themselves represent a new macro-genre (a genre which combines texts of other genres into a coherent whole, such as a newspaper, or an edited academic volume like the one in which this chapter is found – see Martin, 1994). This is hardly surprising, as macro-genres evolve with the demands of the communicative environments in which they function. The readership of the Sydney Morning Herald online is younger than that of hardcopy edition (Hartcher, 2006), and this is likely to be true of online newspapers in general for reasons discussed at the outset of this chapter. Online newspapers are read on-screen, and are likely to be part of an ensemble of communicative activities a reader is involved in at a given time (see Scollon, 1998). This is in contrast to the ways in which hard copy newspapers have been traditionally read – often on a train or over breakfast, or on a ‘peaceful’ weekend morning (Holmqvist et al., 2003).

Newsbites and newsbits are short texts, and have evolved with the new medium of the internet and the practices of news production from the nineteenth to the twenty-first century (see Knox, 2007a for discussion). Part of what has driven this evolution of shorter texts is the conditions of reception of such texts. That is, reading online newspapers is a different social practice to reading hardcopy newspapers, and the consumers of such texts have different places for reading, different activities and times during which they read, and different purposes for reading. These differences are reflected in the different texts which constitute
online newspapers, and the design of online newspapers as texts in their own right.

In summary, language learners who deal with online newspapers in L2 classrooms are increasingly part of a generation which has grown up with online newspapers, and with the social practices of screen reading and technology-mediated discourse (including computer-mediated communication and text-messaging). The texts found in online newspapers are not read in the same manner as hardcopy newspapers, nor are they composed in the same manner. It follows then, that if online newspapers are to be used as a resource in L2 classrooms, and if students are to learn to read, analyse, critique and create these and similar texts in an informed and effective manner, descriptions of these multimodal texts must account for the ways in which they make meaning, in relation to their contexts of production and reception.

A crisis

The work on multiliteracies which has evolved with the educational demands of new media (including so-called ‘cyberliteracies’, Unsworth, 2001; and ‘silicon literacies’, Snyder, 2002) builds on work in the 1980s and 1990s, which saw literacy as socially situated (e.g. Freebody and Luke, 1990; Gee, 1990; Wells, 1987). One theoretical contribution to this movement was the work on genre theory that emerged from the so-called ‘Sydney school’ also in the 1980s and 1990s, and the genre-based pedagogy developed from it (e.g. Callaghan and Rothery, 1988; Christie, 1999; Derewianka, 1990; de Silva Joyce and Burns, 1999; Feez, 1998; Halliday and Martin, 1993; Joyce, 1992). This work described the linguistic features of texts, from rhetorical structure, through cohesion, to clause grammar and lexis, and described how texts function linguistically to achieve particular social goals. This section and the one following draw theoretically on the work done in these fields, and also the synergetic work in MDA by scholars such as Baldry (e.g. 2000), Kress and van Leeuwen (e.g. 1996), Lemke (e.g. 2002), O’Halloran (e.g. 2004), and Martin (e.g. 2002).

The text shown in Figure 9.1 is from the home page of the Sydney Morning Herald online, of 15 September 2005.

This newsbite is multimodal. We can reproduce the verbal text, even with the same layout, but without the picture it is not the same — it does not have the same meaning. Figure 9.2 illustrates.

Thus, to describe a text such as this communicatively, and to use it as a resource in L2 classrooms, it is necessary to describe the image, and the text–image relations, in addition to describing the linguistic features of the text.

The text in Figure 9.1 is in many ways typical of newsbites on online English newspaper home pages. Linguistically, it consists of headline plus lead, and it also has an overt verbal hyperlink — more — to a longer version of the ‘same’ story.
on another page of the same newspaper. Like many newsbites, it has an image. However, the visual structure of this particular newsbite sets it apart from many other newsbites in a number of ways. It is framed with a grey border, and polarized top–bottom. The image is merged with the headline, and the composite image–headline dominates the newsbite visually (see Knox, 2007b for further discussion). The text is very short, and this is one of the features of texts of this genre which makes them useful for the L2 classroom. Newsbites are short, usually grammatically straightforward, and report (and/or comment on) current events, which make them accessible and relevant to language learners.

A number of features of this particular newsbite make it an interesting text to examine in relation to language teaching and learning. The first is the relation between the verbiage of the headline and the story. The nominal group which forms the headline – OBESITY CRISIS – is highly charged interpersonally (a common feature of headlines), but relatively open in terms of experiential meaning. In other words, the lexical item crisis demands attention of the reader, yet the headline in its brevity tells us only that the crisis is related to obesity, and nothing more about its nature (e.g. has it to do with children? with men? with a strain on health infrastructure? with an increase in related diseases? with an increase in numbers of obese people? with the degree of obesity in those already obese?).

The story (consisting of lead only), in contrast, is less interpersonally charged (the lexical item weight is less interpersonally loaded than obesity, the lexical item ballooning in itself does not inscribe the same degree of negativity as the
item crisis does). At the same time, as would be expected, the lead specifies the crisis in the headline: it further commits the experiential meaning of the text. Figure 9.3 illustrates this perspective on the instantiation of experiential and interpersonal meanings in the verbiage of the Obesity Crisis newsbite.

The second interesting feature of this text is the relations between the verbiage and the image. The image shows the bottoms of two obese people, and so there is also a relation between the lexical item obesity and the two obese people in the image, or what Royce (2002) calls intersemiotic repetition. Further, the image is set against a sky-blue background, and is shot from a low angle placing the viewer of the text slightly beneath the participants in the image. This gives the impression of the two bottoms being set against the sky, and combined with the visual and cultural stereotypical association between ‘roundness’ and obesity, creates a relation between the lexical item ballooning and the participants in the image, or what Royce (2002) calls intersemiotic collocation. Figure 9.4 illustrates these relations visually.

The relationship between the image and the headline is obvious. There is a correspondence between a physical/social attribute of the participants in the image and the verbiage in the headline (the lexical item obesity). Thus, the image provides a specific instance of the verbal abstraction in the headline – experiential co-articulation.
The relation between the image and the lead-only story adds a literal interpretation to the metaphor in the verbiage: direct semiotic association is made between the lexical metaphor ballooning (which instantiates the notion of increasing rapidly) and the two participants in the image (and obese people more generally). Verbally, we might say ‘like balloons’, but the point is that we cannot make the same meaning verbally – it is a pun that is not made verbally, nor visually, but visual–verbally (i.e. multimodally). This co-articulation of verbiage and image makes meaning in a way that neither verbiage nor image can do individually (cf. Caple, this volume, on whose work this explanation is based).

In terms of the interpersonal semantic system of appraisal (Martin and White, 2005; White, 2001), the subsystem of appreciation – where objects are evaluated in terms of their aesthetic value – is implicated, and a negative appreciation is made (technically, of composition). At the same time, the subsystem of judgement – where people are evaluated in terms of their character – is implicated, and a negative judgement is made (technically, of social esteem: normality – cf. Martin and Rose, 2003: 35–37).

For language education, the implications are that there is more to reading this text than learning the meaning of lexical items and the rules of grammar by which they are combined. The text needs to be read as a piece of discourse, where meaning is made at a number of interacting levels – graphological, lexical, grammatical, rhetorical and contextual – simultaneously (Gee, 1990; Halliday and Hasan, 1989; Martin and Rose, 2003; McCarthy, 1991; McCarthy and Carter, 1994). Further, meaning is made multimodally, by linguistic and non-linguistic elements (including image, layout and colour), and their interaction. Thus, to learn how to read this text is to learn how to negotiate meaning using the resources of language in context, as they interact with other semiotic modes (see Kern and Schultz, 2005; Kress, 2000; Petrie, 2003; Royce, 2002; Stein, 2000, 2004; Stenglin and Iedema, 2001, Unsworth, 2006b).

It is important that learners are overtly aware that the wording of a news story, the image used, its composition, and the relationship between language and image are choices available to the institutional author of every online newspaper story, and aware that the combination of choices reflects institutional values of the newspaper. The particular combination of choices in this story subtly positions the reader to evaluate obesity and obese people negatively. This does not mean that readers are ‘duped’, nor that all will ‘buy into’ the implied evaluation of obesity. The point is that readers who are aware of how such meanings can be analysed and explicitly identified, and that they are a typical feature of texts, are likely to be more effective communicators (both receptively and productively), and better understand the language they are learning than if they had no such explicit knowledge.

Interpersonal meanings such as those described above are not immediately apparent, and are not the traditional concern of much L2 education where
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(like in much L1 literacy education) representational meanings have tended to dominate (cf. Lemke, 2002: 305–6).

The significance of understanding the role of interpersonal meaning constructed verbally and/or visually is an important dimension of reading image/language interaction. If ESL learners are also to become critical responders to texts, they need to learn how the visual and verbal construction of texts is positioning them at the same time as they are learning to access the meanings via language in English. (Unsworth, 2006b: 156)

Critical approaches to L2 teaching and learning are well represented in the literature (e.g. Canagarajah, 2001; Kubota, 1998; Philipson, 1992; Pennycook, 1994, 1999; Burns and Hood, 1998; Shohamy, 2001; Tollefson, 1995). The incorporation of multimodal understandings of language and communication into these discourses is less established.

Thus far, we have examined one newbite, which represents one possible way in which the obesity story could have been construed. In the following section, the same story will be considered in terms of its function on the home page of the newspaper.

Front page home page

As argued above, the Obesity Crisis newbite represents a set of choices on the part of the institution of the newspaper as to how this particular story could be presented to the reading public. An alternate way of presenting the ‘same’ story can be seen in Figure 9.5.

Even seen in isolation from the rest of the front page, it is immediately apparent that this version of the story comes from a traditional, rather than an online newspaper – headline and story font and layout are clear visual indicators of the medium of the hardcopy newspaper. A number of other visual and verbal differences between the newbite and hardcopy story are also readily apparent. The image used in the home-page newbite is completely different from that used in the front-page story. Also, quite clearly, the front-page story is verbally much longer than the newbite (599 words and 14 words, respectively). Importantly, the verbal text in the two stories is completely different (and the word ballooning appears nowhere in the front-page story).

Newspaper stories (hardcopy or online) do not exist in isolation – they coexist with other texts on pages – pages which themselves are ‘(complex) signs, which invite and require an initial reading as one sign’ (Kress and van Leeuwen, 1998: 187). Thus, we can view newspaper pages as complex visual–verbal signs, or as macro-genres which ‘position genres such as opinion, report and advertisement
Obesity: the new crisis for women

Spleen Inc … Latham’s back in business

Source: © Fairfax, 2005. Used with permission.
Figure 9.6  Front page of *Sydney Morning Herald* online, 15 September 2005
in relation to each other, and provide them with different degrees of salience and framing, and thereby endow them with particular valuations’ (Kress and van Leeuwen, 1998: 216; see also Baldry, 2000; Knox, 2007b; Martin, 1994).

On the front page of the hardcopy *Sydney Morning Herald* (see Figure 9.5), the obesity story is prominently paced in the top half of the page, and is visually salient on the page due to the large space it occupies, and also to the font size of the headline, by far the largest on the page (with the exception of the masthead). This places it in a paradigmatic relationship with other news stories on the page (and indeed, with other stories in the entire newspaper) whereby it is valued as both important and serious (interpersonally salient, and compositionally Given and Ideal in Kress and van Leeuwen’s 1996, 1998 terms).

Returning to the home page of the online edition of the newspaper of the same day, there are two versions of the obesity story. The newsbite discussed in the previous section appears in the middle column of content. In the ‘main’ column of content, the obesity story appears as a headline-only hyperlink, or newsbit, with identical wording to the hardcopy headline: *Obesity: the new crisis for women*. Both the newsbite and newsbit are circled and indicated by arrows in Figure 9.6.

This occurrence of the ‘same’ story appearing twice on the same page is rare in the corpus of online newspaper home pages I have collected over 4 years, and affords an opportunity to examine the ‘same’ story construed differently, and how the different multimodal realizations of this story, and the page-level relations each version enters into, result in different meanings. In the discussion that follows, I draw on the description of the multimodal ‘grammar’ of online newspaper home pages described in Knox (2007a).

Both obesity stories on the home page under discussion (i.e. the newsbite and the newsbit) have a hyperlink to the same page elsewhere in the online newspaper. (That page is dominated by one news story – in this case, the ‘original’ obesity story, which has the same verbiage as the front-page story in Figure 9.5. As argued earlier, this does not mean that the hardcopy and online versions of this story are the same text.)

Focussing on the home page, the newsbit and newsbite differ verbally in a number of ways (see Table 9.1). Grammatically, the headline-only newsbit is a single clause (the verb *to be* in this clause is realized by a colon) with *obesity* as Token, and *crisis* as Head of the nominal group functioning as Value. Thus the newsbit construes the story linguistically as a relationship where the social value of obesity (i.e. *the new crisis for women*) is assigned. In contrast, the newsbite construes the story as a saying (*a survey says*) projecting an event (*is ballooning*) in which *the average weight of young women* functions as Actor. In addition to these lexical and grammatical differences, these two texts also differ significantly in the multimodal meanings they make as a function of their relations with other elements on the page.

Each story is positioned in a different column. The columns on the home page are a visual classification device (Knox, 2007a; Kress and van Leeuwen, 1996).
The wider, ‘main’ column of content (next to the left-hand navigational column – see Figure 9.6) carries so-called ‘hard’ news – the main concern of traditional newspapers. This column is separated from the other content columns by white spacing, and is also visually distinguished by the horizontal lines which, together with verbal section headings, sub-classify hard news into WORLD, NATIONAL, BUSINESS, TECHNOLOGY, ENTERTAINMENT and SPORT (in addition to the unnamed ‘top’ news at the top of the page – see Figure 9.6).

The middle content column includes features and commentary, traditionally termed ‘soft’ news. Each newsbite in this column is individually framed with a grey border (or with a grey background in the case of the initial, image-dominant newsbite – see Figure 9.6).

The newsbites in the right column carry stories which are primarily ‘tabloid’ in nature, and are termed here ‘light’ news (see Knox 2007b for further discussion). These three columns (and headings) represent a visual–verbal taxonomy of news content as illustrated in Figure 9.7 (compare with Figure 9.6 above).

The headline-only Obesity newsbit is classified as ‘hard’ news, and sub-classified as ‘National’, while the Obesity Crisis newsbite (as discussed in the previous section) is classified as ‘soft’ news (see Figure 9.6). Normally, a story appears in only one place on a home page, and the authors of a home page have a clear choice to make. On the home page of this newspaper at this time, the choices are for a given story to be classified, as:

- hard news (and valued as serious)
- soft news (and valued as less immediately important)
- light news (and valued as falling towards the ‘gossip’ end of the news-entertainment spectrum).

<table>
<thead>
<tr>
<th>Table 9.1</th>
<th>Obesity: newsbit and newsbite</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Verbiage</strong></td>
<td>Newsbit (main content column)</td>
</tr>
<tr>
<td></td>
<td>Obesity: the new crisis for women</td>
</tr>
<tr>
<td>Word count</td>
<td>6</td>
</tr>
</tbody>
</table>

**Figure 9.7** Taxonomy of news, *Sydney Morning Herald* online home page, 15 September 2005
The classificatory choice of positioning on the page has ramifications for the layout of the story, the use (or not) of an image, the choice (and cropping) of the image where used, and the wording of the story, as the two obesity stories in Figure 9.6 show.

The use of visual and verbal devices to classify content is commonplace on online newspaper home pages (see Knox, 2007a), and explicit knowledge of this can benefit language learners in their reading of home pages. Understanding such multimodal classification is important in understanding the intertextual relations between the different news stories home pages carry, and in understanding the semiotic and ideological framework the newspaper constructs in order to represent the events and social actors it chooses to portray.

By paying explicit attention to the devices of categorization (such as horizontal bars and lines, colour, verbal headings, frames around individual news stories and sections of content, white spacing, the presence/absence of images, and column width), learners can consider the ways in which taxonomies of content are construed, and the extent to which they are:

- made overt (through naming, such as NATIONAL)
- left covert (or un-named, as in the hard/soft/light categorization)
- made explicit (e.g. by the use of borders around sections of content on some newspaper home pages – see an earlier design of the Bangkok Post online in Knox, 2007a)
- left implicit with fuzzy semiotic boundaries (e.g. by the use of white space and column width in some newspapers – see an earlier design of the Sydney Morning Herald online in Knox, 2007a).

Social and institutional reasons for such choices – such as the blurring of ‘news’ and ‘entertainment’, and the division of labour in newsrooms including business and sports desks and the like – and their relationship with the way language is used in stories can then be considered in an informed and systematic manner.

Because home pages are read on-screen, readers never see the entire page. From this perspective, taxonomies of news content are always covert to some extent, whether or not they involve the naming of categories, as the reader never sees the entire page and the entire visual classification. The taxonomy underlies the reader’s experience of the page. Therefore, drawing taxonomies is a simple but powerful classroom activity which can raise awareness of the page behind the screen. It can enable learners to identify categorization and the verbal and visual means by which it is realized, to question it, to consider how else content could be categorized (and by what other visual and verbal devices), and to apply this knowledge to reading the news online, and to writing their own web pages.

The two obesity stories on the home page are not only valued according to their positioning in the page-level taxonomy – factors such as column width
and the use of verbiage and image also play important roles. The column of hard news is the widest column on the page, and is dominated by verbiage. Each of the named sub-sections of content (WORLD, NATIONAL, BUSINESS . . . ) has one or two newsbites, followed by a list of headline-only newsbits. This way of presenting news content provides the reader an opportunity to see an overview of the news valued as important by the newspaper, and to follow hyperlinks to stories about which they wish to read more. Clearly, the stories reported as newsbites in this column have more verbal information and greater visual salience than those reported as newsbits, and consequently are bestowed greater value by the institutional author of the home page. It is not only the number of words in a story though – the fact that verbiage dominates in this column signifies that these stories are valued highly by the newspaper, which as an institution has a long history of valuing the written word. The reading behaviour of readers of online newspapers as measured in eyetracking studies indicates that they may also place a higher value on verbiage than image (Barthelson, 2002; Lewenstein et al., 2000).

The soft-news column, narrower than the hard-news column, has less visual ‘weight’ (Kress and van Leeuwen, 1996); this also signifies visually that soft news carries less importance in the value system of the newspaper than hard news. The visual salience of soft news stories lies primarily in the use of image (particularly in those stories close to the top of the page), and the fact that image dominates text in these stories again signifies visually that these stories are ‘less serious’ than those which are dominated by written text which, as stated above, has been the mainstay of serious print journalism for centuries.

The fact that the degree of seriousness of a story is signified in part by the visual dominance of text or image is reflected in the ‘playful’ nature of the verbiage in the Obesity Crisis newsbite discussed in the previous section, and can be contrasted with the Obesity newsbit which uses identical wording to the ‘serious’ headline of the front-page story in the hardcopy edition of the newspaper.

In summary, there are verbal and visual differences in these two short texts – one newsbite and one newsbit – which report on the ‘same’ story. These differences in the wording, layout, and positioning of these texts are consistent with the visual organization of content on the entire page, and demonstrate that the relations between texts on homepages are realized at different levels simultaneously (see Baldry and Thibault, 2006: 144), and that language use is systematically related to other modalities. That is, communication is multimodal, and learning to use language communicatively is, in part, learning how language makes meaning in interaction with other semiotic systems. In fact, as news stories become shorter, readers must look increasingly to the multimodal meanings made in individual texts and on the pages which carry them. Likewise, language teachers and learners need to attend to the multimodal aspects of communication in online newspapers and other contemporary texts, written and spoken.
Conclusion

The multimodal design of online newspapers impacts not only on the meanings which are made in the news, but on the ways in which meaning can be made. This has implications for how people learn to read the news, and for how such reading can be taught in L2 classrooms. Home pages (like online newspapers more broadly) are non-linear texts (Knox, 2007a), and the news texts which appear on them are extremely brief, and communicate in novel ways. Thus, in addition to the reading skills needed for more traditional news texts, language learners need to develop multiliteracies in their second language if they are to become effective communicators in these and similar genres.

By approaching language as discourse, and meaning-making as multimodal, the communicative practices employed in online news stories and on online news pages can be explained overtly and systematically, and language learners can be given explicit multimodal and linguistic knowledge which enables them to read, view, and listen to news genres effectively and critically. In addition, they can use this knowledge and these communicative skills in the production of their own multimodal texts in a range of genres in the communicative environments in which they use their second language (cf. Chandler-Olcott and Mahar, 2003; Kimber and Wyatt-Smith, 2006; Lam, 2000; Wyatt-Smith and Kimber, 2005; Zammit and Downes, 2002).

Communicative approaches to language teaching and learning, and the essential contextual nature of language, are already axiomatic to second language teaching and learning. The adoption and adaptation of multimodal approaches to communication and pedagogy does not require a revolution in classroom practices, but rather an evolution in keeping with the evolving communicative practices in which language learners are already participating.

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Chapter 10

Symbolic Constructions in Global Public Visuals: A Pedagogic Framework for Critical Visual Literacy

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Introduction

We live in a society that increasingly requires us to be visually literate. We are bombarded by a cacophony of images that call for our interpretation and understanding. In this digital dawn the range and the medium for visual imagery appear limitless. In addition to images in books, magazines and newspapers, we are presented, some would say intrusively confronted, with advertising imagery on websites, in our mailboxes and on the billboards we pass. In highly industrialized cities buildings are adorned with laser-beamed imagery, on strategically placed monitors on bus and train platforms these visuals demand our attention as we wait. In fact in every imaginable public space, images are increasingly being presented for our consumption.

What impact does such imagery have on our lives? Is it innocuous or insidious? The enormous investment made by businesses leads to the conclusion that visual image advertising in public spaces does social semiotic ‘work’ of major social significance. It is argued that visual images articulate meanings and offer ways to read our world. They define our social and cultural communication. They project values and beliefs and influence subconsciously the choices we make about lifestyle, politics and social and moral behaviour.

Rose (2001: 16) suggests in Visual Methodologies that ways of seeing are historically, geographically, culturally and socially specific, and are not natural, universal or innocent. She calls on us to reflect on how we as critics of visual images are ‘seeing’ and interpreting the visual. Haraway (1991: 190) proposes that ‘we might be answerable for what [and how] we learn how to see’. We need to consider what we don’t see – that is, how we read or how we are being led to read.

To illustrate this point we can reflect on a visual media representation of an event in Iraq in recent times (retrievable at http://www.wiretapmag.org/
Multimodal Semiotics

The image presents the record of the large Statue of Saddam Hussein being pulled down in a central Baghdad plaza at the commencement of the Iraq War. The image represents what was seen on almost all television news broadcasts of the event at the time. It appeared from the images presented that many Iraqi people were viewing the destruction of the large city statue. However, a wider-lens image of the same scene taken by a Japanese team of reporters presents a different story. Accompanied by a media report entitled *Media Lies in the Iraq War* (retrievable at http://www.kirkbytimes.co.uk/anti-waritems/statue_lies.html) this second image shows that there were no more than 150 people in the Plaza, and that this group was comprised of US Marines, the Press and a small number of Iraqis. On the perimeter were strategically placed US tanks. A small area to the left of the statue (and not in the viewing area of the first image) was specialized equipment brought in to pull down the statue. The wider-lens view also showed that the plaza was virtually empty (except for a few specially located personnel) and sealed off by the Marines.

At the time of the first image broadcast on most major television networks, the toppling of the statue was promoted as evidence of a ‘massive’ uprising. However, the wider-lens view of the event contradicts this claim. This is an example of how one image was constructed although it is probably one of thousands. It serves to substantiate the proposition that visual texts are socially generated; they can be used to do political ‘work’ directing how we ‘see’ and how we make meaning from what we see.

Social semiotics

Van Leeuwen (2005) categorizes social semiotics as a process of meaning-making enquiry and explains that it ‘explores two closely related issues: the material resources of communication and their socially generated use to produce meanings’ (93). Visual imagery is one mode of communication that offers representations of reality, and positions the reader/viewer in ways that aim to achieve a purpose.

visual images, things that (to the novice) are apparently automatic, transparent, and natural, are actually symbolic constructions, like a language to be learned, a system of codes that interposes an ideological veil between us and the real world. There is a power element to visual images – there are both political and ethical dimensions to consider. (Mitchell, 1998: 91)

Arriving at an understanding of how we see is not a simple technical question determined through a single method of analysis. Rose (2001) suggests there are numerous important analytical debates and theoretical arguments surrounding visuality methods. These debates are inclusive of content analysis,
compositional interpretations, semiology, psychoanalysis and discourse analysis. There are also considerations in relation to determining the site of meaning on which any deconstruction will focus: it could be at the site of production, image or audience. Another level to consider is the modality that will be employed – either a technological, compositional or social modality.

The objective of the present discussion is to present for consideration a method of reading visual texts through a pedagogical lens to facilitate students’ ability to unpack and problematize the messages being conveyed in the visual landscapes they encounter. Kress and van Leeuwen (1996) and Van Leeuwen (2005), propose that linguistic and cultural contextual knowledge is imperative in the performance of any reading of a text. By employing a set of analytical tools at the audience site of meaning and at a level of social modality, the method used here combines semiology and critical discourse analysis.

A pedagogy for critical visual literacy

A particular set of tools for analysing texts can help develop in students understanding about the constructed nature of texts. Public space texts such as billboards and advertisements, will be analysed for they are texts that use images, symbols, signs and caption language to convey meaning. The analysis is drawn from the approach known as critical discourse analysis (Fairclough 1995, Van Dijk 2001), commonly used to investigate language and social semiotic discourses that emerge from language and subsequently form social practices.

The common use of the term ‘discourse’ denotes an extended stretch of connected speech or writing. Here however, discourse is drawn from a theory of discourse as illustrated by Foucault (1974), where it is understood as language that gathers itself together according to socially constructed rules and regularities that allow certain statements to be made and not others – in other words, socially constructed knowledges of some aspect of reality. Van Leeuwen (2005: 98) gives the example of discourses of the heart. There is a gathering together of language that speaks of two discourses surrounding the heart: one is concerned with medical issues – the heart as risk factor and uses language such as ‘heart disease’, ‘heart attack’ and ‘heart by-pass’, and another – the heart as lover’s discourses where phrases such as ‘sweet heart’, ‘broken heart’ and ‘stolen heart’ commonly abound. Foucault’s concept of discourses implies that discourses have a history and conform to certain rules of social distribution, they can even activate schemas – ‘hearing the phase “risk of heart failure”, can immediately bring other elements of the discourse to mind, for example smoking, obesity, lack of exercise, etc.’ (Van Leeuwen, 2005: 97). This theory of discourse also embraces the notion that discourses can never be purely linguistic, but encompass the visual as well. Discourses organize ways of thinking into ways of acting (creating a subject or identity) in the world. Foucault proposed that
the construction of the acting-out-of-discourse subject comes about through broad relationships of power, of both the domination and subordination type, and that these relationships are present everywhere, in all societies (St Pierre, 2000: 485).

the articulation of these discourses provides analysts with the ability to locate such discursive practices within broader social structures, and it is also indicative of the struggle concerning the individual’s negotiation of self and sense of identity. (Alderton, 2005: 9)

A pedagogical approach offered in English curriculum documents for Queensland senior students by Miller and Colwill (2003) employed critical discourse analysis and appropriated the concepts of representation, intertextuality and discourses. It suggested that these tools provide a means to critically ‘get at’ the possible meanings conveyed in images/signs/symbols and caption language.

The tool representations re-presents versions of people, places, things, objects and concepts. When visual texts are produced, images and words in combination are used to represent ideas, to make meanings and to re-present versions of the world. These constructs are not a reflection of the real world; they are always influenced or mediated by ways of thinking about the world – therefore they are not fixed (Miller and Colwill, 2003).

The tool intertextuality is represented inside visual texts through the projection of elements that infer similarities, connections, references and relationships to other texts (those outside the text and often from historically different times). This makes the tool of intertextuality strongly dependent on prior cultural knowledge, thus forming interrelationships with other texts, sometimes through the use of discourses and representations. Knowing about intertextuality and being able to read intertextual connections can contribute to a sense of fun and enjoyment (many intertextual examples are embedded in children’s films such as Shrek in order to generate comic connections through irony and metaphor that are often only recognised by adults). Using intertextuality as a means of text analysis enables a discerning and critical reading of visuals.

Using the tool of discourses, as understood through Focauldian lens as explained earlier, provides the reader with tools to see how visual texts can shape attitudes, beliefs and values and influence how they understand and act in the world. Reading the discourses in visual texts uncovers among other things forms of persuasion that encourage certain ways of being (subjectivities) or ways of thinking and acting. When individuals and groups identify with these or are identified as belonging to certain groups it can act as a powerful form of hegemony.

In order to illustrate how all three tools – representation, intertextuality and discourses can be identified in visual imagery inside public space advertising, the following discussion will focus on each tool individually as part of the discussion of a number of selected visuals.
Representations

Kress and van Leeuwen (1996) explain:

representation is a process in which the makers of signs seek to make a representation of some object or entity, whether physical or semiotic, and in which their interest in the object, at the point of making the representation, is a complex one, arising out of the cultural, social and psychological history of the sign-maker, and focused by the specific context in which the sign is produced. (6–7)

An ability to ‘read’ the visual is dependent on the ability to ‘see’. While almost everyone is able to receive light into their cornea and thus allowing their brain to ‘see’ or distinguish an image being projected (denotation), the ability to make meaning/sense of an image (connotation) is largely a process we learn from our cultural environment.

The notion of connotation is well illustrated in a recent article in an Australian national newspaper where it was reported that discussions had again been raised about the removal of a particular design in the original tiles in the entrance foyer of the historic Customs House at Circular Quay in Sydney. The building was built in 1845 on the site of the landing of the First Fleet. The symbol embedded in the tile inlay denotes a series of lines resembling the convergence of four innocently intersecting letter ‘L’s, but its interpretation – or at least one connotation – is contentious. The symbol that the intersecting ‘L’s creates is a universal one found during excavations in ancient Rome, on Buddhist artefacts and on Chinese coins. Before the 1930s, it was commonly found on postcards and other items as a symbol of love and good luck. Since World War II and Germany’s Third Reich appropriation of the symbol, the four Ls inverted rotated at a 45 per cent angle from its original, has gained cultural and historical connotations of fear engendered by the actions of Nazi fascism. Because the four Ls of the Customs House tile inlays have cultural and historic connotations connected to the period of 1940s there have been reoccurring debates about their removal.

Another example of preferred or dominant constructed meanings in visuals drawn from cultural understandings can be seen in Figure 10.1 (a personal photo taken in Belfast July, 2004) of the exterior wall of a city dwelling in a predominantly Catholic district.

The appropriation of the symbol (denotation) in Figure 10.1 (carrying a universally meaning of ‘do not’ do something) is overlayed on a visual of a figure dressed in a suit and wearing an orange sash. It infers that the person/s depicted should stop and go no further. In order to ‘read’ the connotation imbued with historical references, readers would need to know that the depiction of a man with an orange sash represents an ‘Orangeman’, representing the Protestant
ruling class and that mobilises an association of oppression of the Catholic minority in Northern Ireland. Readers of this visual text would also need to understand the significance of the sign being sighted in the month of July – the Marching season in Northern Ireland in which Protestant/Orange militants insist on marching through Catholic areas to commemorate historical Protestant victories over Catholic forces – and what that implies, and then the further significance of ‘the Troubles’ – the sectarian violence in Northern Ireland and the relevance all of these issues on the meaning to be taken from the visual text. The text therefore offers a number of examples of representation and also of intertextuality.

**Intertextuality**

An example of intertextuality is evident in the visual below, taken from an Australian daily newspaper; the *Daily Telegraph*, 28 May, 2003.

In Figure 10.2 there is a heroic depiction of a rugby league player from the Newcastle Knights football team. There is representation here and also discourses of aggression and bravery. These are denoted through intertextual links to historic iconic symbols. The style of the armoured helmet drawn on the
player’s shield is linked to times of old, and is reminiscent of the bravery and fighting prowess of medieval knights that symbolise the name of the team – Newcastle Knights. The symbolic costume of the Knights football player who has the face of a modern-day recognisable football player, Andrew Johns (aka Joey Johns), is that of a Roman gladiator, yet the two very different intertextual links are combined in this one visual. Even though the discourse is the same, the historical era is very different.

The ‘work’ that intertextuality does in this constructed visual (this is not a photo) is to offer a particular meaning for readers. However, only those with relevant cultural and contextual background, shared with the author, will ‘read’ the visual as it is intended. When the constructed meaning is added to the words employed in the heading (references to Russell Crowe the actor in the movie *Gladiator*, and the words ‘baying’ and ‘blood’), the message is made even more powerful. There can be other readings producing different meanings, especially if the values and beliefs of the reader are not sympathetic to the promotion of violence in football, hence rendering it as a reading against the text. Readers can read the meaning by employing the tool of intextuality, as the text can be fully understood only if they are familiar with the links to other texts, worlds and cultures of the same kind.
Discourses

The employment of discourse/s in visuals is a way of signifying experience from a particular perspective. To ‘read’ a discourse requires the recognition of patterns and interconnections between vocabulary, phases, practices and cultural trends. It also requires the understanding that the meanings constructed through discourses are powerful forces that draw them in, that is, they can ‘get used’ by discourse. Creators of visual texts for advertisements, make assumptions that readers will recognise the discourses that operate within them.

In many advertising billboards depicting food a particular discourse is being mobilized that is pervasive across contemporary society relating to that of identity – who we want to be. In Brisbane, Australia in 2003 two large billboards strategically placed on major road thoroughfares depicted bottles of ‘Pura Milk’. One had the caption Thin(k) again and the other Waist not, both alluding to the discourse of being thin and beautiful – in the first by switching from other milk products to ‘Pura Milk’ and in the second that as a consequence of drinking this milk product you would not have a large waist. In a similar vein in Dublin, Ireland in 2004 ‘Gold Margarine’ was advertised on large billboards with the phrase Must Behave meaning that in original circumstances this shouldn’t be eaten if you want to stay thin. But as the product labeling indicates Low, low fat the caption is corrected through an overstrike and a second contradictory reading is made available – rendering the reading as Must Have this low fat margarine in order to behave. This discourse mobilises the trend of food consciousness, of staying slim and being ‘good’. The ‘Pura Milk’ advertisers cleverly use a visual play on language itself. In the first billboard, ‘think’ has ‘thin’ embedded in its orthography (‘think’ infers a change of choice, ‘thin’ brings about a change of body shape). In the second the pun (or homonym) in the use of ‘waist’ and ‘waste’ conveys not only the literal meaning of one’s waist, but also to ‘waste away’ to become thin through the use of this product – no-fat milk. There are, of course, negative connotations of ‘waste’ as in ‘waste away’ – anorexia, bulimia etc – to ‘read’ the text in this way is to read against the text.

How an analysis of visuals contributes to different reading

A pedagogy to enact different readings employing the critical discourse analysis tools provided above, draws together two aspects of social semiotics. The first is the ‘how’ – an identification of the use of the tool in visuals (how meaning is constructed) and the second is the ‘what’ – a reading of the visuals (what meanings are socially generated). Any attempt to ‘read’ representation, intertextuality and discourses in visual texts requires a consciousness of how to:

read with the text – in which the preferred/implied/invited reading is one that aligns with the author’s meaning
**read across the text** – in which the reader constructs an alternative/other readings

**read against the text** – in which the reader resists/interrogates/troubles readings (to question and to contest a text) (Miller and Colwill, 2003: 67).

In the first instance, visuals can be ‘read’ through the use of representation, intertextuality and discourse tools, in a way that aligns the reader with the constructed meaning desired by the author – this entails a reading as an implied reader, a **reading with the text**. In the second instance, an analysis of the visual through representations, discourses and intertextuality can construct an alternative reading. If the reader does not share the same cultural or historical perspective as the author then a **reading across the text** is enacted. A reading **across** a text is one in which some elements of the invited reading are accepted, yet others are misaligned and thus produce alternative or partial alignments (Miller and Colwill, 2003: 66). An example of this is evident in the ‘Newcastle Knights’ visual (Figure 10.2). A reader who holds the concept of knights as purely chivalrous would fail to read the connection with aggression and winning at all costs, which is implied by the ‘Gladiator’ intertextual reference. Finally, an analysis employing all three tools can render the **reading as one that goes against the text**, in which the reader resists/interrogates/troubles readings (questions and contests a text).

Representations, intertextuality and discourses are all frequently found in visuals, as can be seen in Figure 10.3, a political cartoon taken from *The Press*, a newspaper in Christchurch New Zealand, in February 2003. The image presented caricatures of the leaders (at the time) of Australia, United Kingdom and the United States of America as a protest against the pending War on Iraq. Re-presented are the Prime Minister of Australia, John Howard, the Prime Minister of the United Kingdom, Tony Blair and the American President George W. Bush. A **reading with the text** generates a meaning that implies all three leaders are a team of clowns – lead by Bush, with Blair and Howard as followers.

Representational meanings in public media are drawn from the constructor’s ‘eye’. His/her attitudes, beliefs and values are re-presented as ‘versions of reality’. There is evidence here of a ‘play’ on language at a number of levels (in the caption’s text alteration); at one level there is an allusion to a popular song entitled ‘Bring on the Clowns’, another to the common metaphor of clouds gathering (meaning a heralding of danger). The choice of hats for Blair and Howard is representative of each of their countries, yet the hat for Bush is that of a clown.

Intertextuality is illustrated by the costumes of the characters. The most authentically dressed clown is the leader (George W. Bush) clothed in his country’s flag, whereas the smallest and perhaps insignificant character (John Howard) is not
adorned in his country’s costume but in a similar costume to the leader’s – the America flag – signalling his allegiance to that country. Here the illustrator taps into the prevalent discourse of the time that Howard was Bush’s deputy therefore subordinate to his directives.

Discourses are evident through the size and type of musical instruments indicating each character’s level of importance and power, reinforcing the subordinate inferences surrounding Blair and Howard. Through the visual of John Howard’s different and smaller instrument compared to Bush and Blair, the discourse of a less important follower is conveyed – Howard is not to be trusted with a drum, he has the cymbals the intertextual meaning being that he must follow the beat of the drums. The discourse of who has power is conveyed visually by the positioning of each character in the parade (who is in the lead, who comes second and who is last). This visual employs all three tools to explicitly mobilise social meanings – meanings the artist/visual text author aims to convey.
Critical reading of two visual texts

The following probes add to the pedagogical framework of the three tools outlined above in that they facilitate critical readings of the two texts depicted in Figures 10.2 and 10.3. They can also begin the work of analysing codes and conventions and enable readers to recognise ideologies and discourses that convey gender bias, stereotyping, racism and other manipulative or selective messages – ‘the codes that interpose an ideological veil between us and the real world’ (Mitchell, 1998: 91).

1. Have you seen before or recognise any allusions or references to other texts, events, situations or ideas reflected in these texts? [employ each of the tools of representations, intertextuality and discourses to answer this]

2. How are the texts similar/different or an extension of the previous familiar texts, events, situation or ideas? [intertextuality]

3. Can you ‘read’ any cultural meanings? Are they explicit or implicit? Do they exert power? [intertextuality]

4. How do the texts’ representations, intertextual references and discourses reinforce particular attitudes, beliefs, values and ‘construct’ specific identities/subjectivities? [representations, intertextuality, discourses]

5. How are you as a reader positioned?

Are you aligned to reading with the text – accepting the meanings conveyed either through the representations, intertextuality or discourses or through combinations thereof?

or

Are you aligned to reading across the text i.e. seeing that stereotypes, bias, marginalisation or cultural and social exclusion may apply to other readers, but these are not operative in your experience of the text?

or

Are you reading against the text i.e. do you contest the attitudes, values and beliefs depicted in the representations (negatives or positives), intertextuality or discourses and combinations thereof and reject how the text positions you?

Conclusion

It is timely to consider that the daily worlds through which we move are increasingly being filled with visual images. Visual images/visual cultures are becoming increasing pivotal to the ways in which we are being represented and how we choose to represent ourselves – in other words they are being used (and we are
using them) to construct who we are (our identities). We could extend this to a notion that visual images – as demonstrated through the medium of the media and large public space billboards advertisements – can be viewed as a barometer of a particular society’s discourses. If these are dominating discourses that exert a power to construct us, how then can we keep such influences ‘in check’? If they are ‘toxic’, how can we work against them?

One strategy suggested here and demonstrated through the use of a selected corpus of visuals, is to utilise a pedagogy that draws on a specific set of analytic tools. Through the employment of these tools young people can be prepared to more critically negotiate their visual worlds – to understand not only how it is possible to read with texts, but more importantly to read across and against texts and thus reflect on the diverse readings being projected.

References


Part Four

Semiotics in School Curricula
Chapter 11

Literacy Across the School Subjects: A Multimodal Approach

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Introduction

In Australian school education, interest in literacy and its role in learning across the curriculum has been growing (e.g. Hammond and Macken-Horarik, 2001), with recent policy development (e.g. Wyatt-Smith 2000), and research activity (e.g. Unsworth, 2000) increasingly concerned with specific literacies which operate within and across the various subjects of the school curriculum. Yet there have been challenges in providing teachers with sufficient opportunities for professional development in this area (Cumming and Wyatt-Smith, 2001).

These challenges are compounded by the fact that traditional notions of literacy as simply ‘reading’, ‘writing’, ‘speaking’ and ‘listening’ are inadequate in the new communicational landscape of the twenty-first century. The ‘new literacies’ (Cope and Kalantzis, 2000) take a view of texts as ‘genres’, staged to achieve purposeful social interaction (Derewianka, 1990, 1998; Martin, 1992). These texts are inherently multimodal (Kress, 2003; Unsworth, 2001), making their meanings through a range of visual and aural, as well as verbal means. The complex synthesis of meaning-making systems presents additional challenges for school students in the subject areas, who may require support in identifying the separate meanings and purposes of charts, images, animations, hyperlink trails, verbal and audio text of a web site for example, but also how these separate purposes combine to make the meanings students are required to comprehend and use. For students to succeed in accessing and using the meanings embedded in these multimodal texts, teachers need to know how to identify their purposes, structures and language features. For students to succeed in writing or constructing such texts to effectively achieve their intended purposes, their subject teachers also need a ‘metalanguage’ to talk with their students as they critically deconstruct sample texts and explicitly model the structures of the required texts (Gibbons, 2002; Hammond, 2001).
Working with notions of new literacies as purposeful socio-cultural practice, teacher education programs in Australia are increasingly seeking to give novice teachers experience in working with school texts whose forms and functions vary with increasingly more diverse purposes and technologies. In my own teacher-training context at the University of Melbourne, while we are accounting for the burgeoning variety of text forms associated with information and multimedia technologies, we are also supporting student-teachers into recognizing the discipline-specific forms of text reception and production required across the K-12 curriculum. In a subject entitled ‘Language in Education’ I work with Maths, Science, History, Geography, Commerce, Music and Art novice teachers, examining the role of language and literacy in the learning of their content areas. This focus on new and multimodal literacies is as important in the teacher professional development area as it is at the pre-service level, with recent reports (e.g. Czilowski-McKenna et al., 2006) pointing to a need for all teachers to recognize the impact of important new modes of literacy on their students’ learning.

In this environment, the DVD, ‘Literacy Across the School Subjects’ (LASS) has been designed to help literacy and content area teachers alike understand that, through a little knowledge of how language is structured to achieve different social purposes in various contexts and modes, they can support their students into developing the literacy and multiliteracy skills needed in their specialization. In the remainder of this chapter, I outline two issues related to the development of LASS, as considerations for others who may be developing similar resources. The first concerns how multimedia developers can exploit the affordances of the electronic media in principled ways as they are designing effective learning resources for teachers of literacy. The second consideration is how to incorporate current and relevant content about the multimodal nature of literacy into a resource for teachers who are not themselves literacy experts.

Design principles underpinning the development of LASS

The designers of LASS had previously designed, piloted and redesigned a CD ROM entitled ‘Building Understandings in Literacy’ (Love et al., 2002, 2005), developed for K-12 teachers and focusing less on the specific demands of the specialized curriculum than on the general literacy demands of schooling (see Love, 2003; Love and Shrimpton, 2002 for further details). In designing this earlier product, we had the opportunity to identify a number of principles fundamental to effective learning and teaching through multimedia. We were able to build on these principles in the development of LASS, and I outline them below in the hope that they may provide some guide for others interested in designing learning resources for subject teachers and teachers of literacy. First though, a brief overview of the content of LASS is provided.
LASS was designed as an 8-Unit DVD. Unit 1, ‘An Introduction to Language and Literacy’, examines the range of first and second language learners in Australian schools and the range of language and literacy practices and modes. Unit 2, ‘Scaffolding Literacy’, introduces the notion of scaffolding (after Gibbons 2002; Hammond, 2001), as a highly planned and explicitly structured support for learning through and about literacy in the middle to upper years of schooling. Unit 3, ‘Oral Language’ examines the structures of the oral language that can be used for effective learning in various classroom contexts in its various forms, from exploratory to more formal purposes. Unit 4, ‘Standard Written Genres’, introduces the structures and linguistic features of six of the key genres that students are required to read and write across the subject disciplines, while Unit 5, ‘Multigenre texts’, examines the more varied structures that underpin the print and multimodal texts that students are required to comprehend and produce. In Unit 6, ‘Supporting Reading’, the reading demands of the more complex texts that students need to understand to be successful in the various subject areas are made explicit and the means whereby teachers can support their students are outlined. Likewise in Unit 7, ‘Supporting Writing’, the writing demands of the more complex texts that students need to produce to be successful in the various subject disciplines are made explicit and the means whereby teachers can support their students outlined. Finally in Unit 8, ‘Planning for Literacy Learning’, a framework is suggested for teachers who are working across the discipline areas to support students in the complex literacy demands of the tasks they set and to assess their progress.

The design of LASS is underpinned by a number of social constructivist principles about the nature and process of effective learning – principles which have underpinned the design and evaluation of much recent multimedia. Foremost amongst these are the key constructs of: ‘situated cognition’ and ‘cognitive apprenticeship’ (Brown et al., 1989; Lave and Wengler, 1991); ‘scaffolding’ (Herrington and Oliver, 1997; McLoughlin et al., 2000; Winnips et al., 2000); ‘authentic learning and assessment contexts’ (Lebow and Wager, 1994); and learner reflection and responsibility for learning (Herrington and Standen, 2000). In particular, Herrington and Oliver’s (1995) list of criteria fundamental to the design and development of multimedia within a constructivist model (extrapolated from a review of literature on situated learning), informed the design of LASS. Five of these criteria are briefly discussed below, where each of the five key terms are italicized.

First, LASS was designed to provide an authentic context that reflects the way language is used in real classrooms. Central to this process is the extensive use of QuickTime Videos (QTVs) of classroom teaching and learning episodes, representing interactions across the subject areas and years of secondary school. These interactions are unscripted and represent authentic aspects of the physical, pedagogical and interpersonal contexts into which subject area teachers are working or novice teachers will be apprenticed. The QTVs of classroom
interactions are accompanied by QTVs of teacher interviews which provide clear insights into teachers’ planning, teaching and assessment decisions and how these influence their students’ language and literacy development. Through these QTVs, teacher learners are actively encouraged to bring to consciousness knowledge about language and literacy, and to reflect on the role of language and literacy in their own learning and teaching. QTVs of student learners, commenting on their own processes of learning discipline content through language and how they are coming to terms with discipline-specific literacies, provide teacher learners with important information from a student’s perspective. Thus, users are provided with extensive opportunities to experience virtual classroom contexts similar to those in which they make their own pedagogical choices. Visual presentations of authentic student and teacher texts present vehicles for guided analysis and interactive exercises, allowing the teaching and learning to be more practically oriented. Through such a deeply situated approach (Brown, Collins and Duguid, 1989; Lave and Wengler, 1991), users of the DVD are provided with rich opportunities to systematically examine the language used in a range of classrooms as specific discourse communities.

A second design principle underpinning LASS focuses on the development of **authentic activities** which encourage deep learning within a constructivist paradigm (Herrington and Oliver, 1995: 4). The genre based model of language and literacy which underpins LASS is itself functionally oriented and concerned with how meanings are made in real social and cultural contexts where language serves a variety of purposes (Halliday, 1994; Derewianka, 1990, 1998). Within and across each of the eight units, interactive tasks scaffold users as ‘linguistic novices’ into progressively more sophisticated understandings of the structures and functions of the multimodal texts which are typically used across the school subjects. Activities based on animations, drag-and-drop and roll-over facilities provide opportunities for teachers to rehearse emerging knowledge about language in its various modes as this is used in a range of classroom contexts and learn how to apply this linguistic knowledge for effective student learning. Tools such as a Glossary button allow users to check their understanding of linguistic terminology at point of need and a Bibliography function allows them to access a list of references. Users can also draw on hyperlinked tutorials to deepen their understanding of certain features of language or text structuring, at ‘point of need’. There will be considerable variation in users’ metalinguistic knowledge, given the wide range of their disciplinary backgrounds, so tutorials can be accessed as needed, while the more technical linguistic terminology is explained within the unit content. All learning activities in LASS are based exclusively on the authentic written and spoken texts of real classrooms, involving users in ‘legitimate peripheral participation’ (Lave and Wengler, 1991). Users are scaffolded through these activities into convergent understandings of language consistent with a functional model of literacy and learning.
A third principle underpinning the design of LASS was that it should provide access to *expert performance and the modelling of processes* (Herrington and Oliver, 1995). In LASS, the effective use of oral and written language for learning is modelled in the QTV clips of ‘expert’ teachers in everyday classroom interactions. Reflective tasks and guided analysis of these QTV clips provide novice teachers with opportunities to ‘freeze’ these complex and often ‘messy’ interactions and reflect on them systematically in ways not available in the pressures of their own teaching experiences. Analysis of these ‘expert performances’ is further assisted through the provision of transcripts of the classroom interactions in the video clips, some transcripts also having been coded in ways that highlight key features of oral interaction, thus providing the teacher-learner with a specialized reflective metalanguage. Student products (often in multimodal form) are available for close examination through enlarged ‘thumbnails’, and the interactive processes which led to their production are modelled. LASS thus provides the ‘window into model practice’ advocated by Herrington and Oliver (1995: 5).

A fourth principle underpinning the design of LASS is the centrality of *reflection* as a key to making sense of any situated learning experience. Reflection operates at two levels in LASS. It is the concluding stage of the 5-stage learning/teaching cycle that accompanies its model of language, literacy and learning (see below). At this level of content knowledge development, teacher learners are guided, through using the various multimedia resources of the DVD, to understand the significance to the learning process in classrooms of a stage where teacher and learner are able to review understandings, evaluate the tasks accomplished and plan future directions. Reflection also operates in LASS at a metacognitive level, where the architectural design of the DVD encourages users to evaluate the effectiveness of the teaching they are experiencing through the multimedia resource, the relevance of their own learning, the problems or challenges they are facing and their own teaching goals. Regular small reflective tasks are built into each topic, with larger reflective tasks at the end of each Unit inviting teachers to consider the implications for their own planning.

The final and most important principle guiding the development of LASS, central both to its instructional content and its instructional design, is that of *scaffolding*. The concept of scaffolding was originally used by Wood, Bruner and Ross (1976) to portray the temporary, but essential nature of parental support in the language development of young children. This concept has proved to be attractive in socio-cultural models of learning in general and of language learning in particular (Halliday, 1994). This socio-cultural model posits that cognitive development is not simply influenced by social processes, but is profoundly grounded in social and cultural processes. It is this theoretical model of learning which underpins the instructional content of LASS. Given the ‘intersubjective’ foundations of learning (Bruner, 1986), teachers at all levels have a profound responsibility for organizing the social processes of their
classrooms to maximize learning. Wood, Bruner and Ross’s (1976) concept of scaffolding has since been used extensively in the educational literature and in a variety of institutional contexts, though it is often used very loosely to refer to any sort of teaching or helping of learners. Three key factors have emerged as distinguishing scaffolding from other forms of teaching (Hammond, 2002):

1. The task, skill, or understanding being scaffolded is a specific learning activity with finite goals.
2. The ‘instructor’ or ‘expert’ determines what skill or understandings learners currently have in order to help them build on those skills and understandings in positive and constructive ways. Scaffolding thus requires the identification of the learner’s Zone of Proximal Development (ZPD) (Vygotsky, 1978: 86) or the ‘gap’ in students’ understandings and the construction of ways of helping learners bridge that gap and move into a new ZPD.
3. Learners are brought closer to a state of competence which will enable them eventually to complete the task on their own. The teacher structures the learning activity such that her/his own expertise can be gradually withdrawn till the learner or ‘apprentice’ can complete the task independently.

These central features of scaffolding are explicitly outlined in the instructional content of LASS (particularly in Units 2 and 3) to help teachers identify how structural support through language occurs in the exemplary practice represented in the QTV clips and in the other authentic resources presented. These features of scaffolding also inform the five-stage ‘learning/teaching cycle’ built into the instructional design of LASS that allows novice teachers to systematically examine the skilled language and literacy practices of experienced teachers as modelled in the video clips. This five-stage cycle comprises Engagement, Building knowledge, Transformation, Presentation and Reflection. As well as underpinning the instructional content, the metaphor of scaffolding also underpins the instructional design of LASS, such that users are themselves moved recursively through these five stages of each learning/teaching cycle, as they are: engaged in issues of language, literacy and learning; helped to build knowledge in this new area; guided into transforming that new knowledge into understanding; provided with various means of presenting that new understanding; and provided with the means of reflecting on that new understanding. Thus, while they are learning about the principles of scaffolding children into learning through language and literacy, teacher learners are themselves scaffolded into new professional understandings as they experience the sequences of learning/teaching cycles that underpin the design of the DVD.

In summary, the principles of constructivist pedagogy underpinning the design of LASS outlined above will hopefully scaffold teachers substantially in their learning about the central role of language and literacy in teaching across the school subjects, by providing authentic contexts, authentic activities,
models of expert performance and opportunities for articulation of and reflection on knowledge. Deliberately designed in keeping with these constructivist principles, LASS will hopefully be a valuable multimedia resource for beginning and experienced teachers alike, permitting a balance between expert guidance and learner autonomy. We will now consider how LASS was designed to incorporate current and relevant content concerning the multimodal nature of literacy, in a way that supports teachers who are not themselves literacy experts.

Developing content about the multimodal nature of literacy

In this section, I will offer a brief description of that content of LASS dealing with the print and multimodal texts that students are required to comprehend and produce across the various school subjects. I will focus on aspects of Units 1, 3, 5 and 8, where the principles of scaffolding that underpinned the instructional design of the DVD are foregrounded in descriptions of the subject teacher’s role in explicitly supporting the multiliteracy, as well as content, demands of various school subjects.

In the Introductory Unit (Unit 1), teachers are encouraged to problematize the simplistic notion of literacy as ‘reading’ and ‘writing’ in the verbal mode. By working interactively and deductively with a range of multimodal texts, whose comprehension and production is essential to success in community and educational contexts, teachers can bring to consciousness their implicit knowledge of the relationship between the various visual and verbal modes in meaning-making. Insights gained from these ‘Engagement’ activities are built on through the input of renowned experts in this area, for example, Professors Frances Christie and Joe Lo Bianco, whose current writings or video interviews are made available interactively (see Figure 11.1).

Also problematized in Unit 1 is the notion that it is the English or English as a Second Language (ESL) teacher who is solely responsible for the language and literacy learning of students across the school subjects. Here, users have the opportunity to hear how ‘model’ teachers in the upper primary and secondary subjects work with a range of students, including long-term ESL students, international students and refugees. These teachers articulate the value of an explicit model of literacy and the role of multiliteracies in the development of disciplinary knowledge.

In Unit 3, the spoken mode is seen as central to the development of appropriate subject-specific literacies. Again, working interactively and deductively from QTVs and accompanying transcripts, users can identify how expert teachers select carefully designed forms of talk to scaffold students into the more literate forms of reasoning required in a range of school subjects. Scaffolded themselves into a preliminary metalanguage, through a variety of interactive means
Users are then encouraged to build their own knowledge about the key grammatical differences between spoken and written language. Such knowledge becomes fundamental in the later units where teachers are supported in preparing for literacy teaching as they plan lessons and units of work.

The notion of genre as purposefully structured text is a powerful one for teachers concerned to support their students into the (often invisible) literacy demands of their subject areas, whether this be History, Science, Art or any other discipline. In addition, teacher knowledge of how language operates within functionally distinct phases of these genres (as offered in the tutorials in LASS) provides an important further scaffold for students struggling to comprehend and produce the range of texts required of them in any one school day. In Unit 4, the social purposes of six key written genres used across the school subjects (Narratives, Recounts, Information Reports, Arguments, Explanations and Procedures), and the typical language features that help them achieve these purposes, are made explicit. With knowledge of these ‘standard’ written genres, again developed interactively and through use of authentic school texts, users are introduced in Unit 5 to more complex texts in which genres are blended. Here, the value of making explicit the generic phases and the modal combinations in which these occur, becomes evident. For example,
a single page of a History text book [such as page 44 of SOSE Alive 2 (Easton et al., 2003)] can be shown to contain a written Information Report phase concerning the hierarchical social structures in Feudal England, accompanied by a diagrammatic representation of these structures, alongside a written Explanation phase outlining how a Knight was prepared for battle, accompanied by a drawing of a Knight and his squire. A single page such as this thus requires students to synthesize meanings that are encoded in different ways in different genres and different modes. Such multimodal, multigenre texts are common in education and a knowledge of how their separate components are ‘blended’ is central to supporting students who are required to comprehend and produce them. Through a series of animated tasks, users in Unit 5 get the chance to identify the varied generic purposes of visual and verbal materials in a range of everyday and school based texts. With this knowledge, teachers can make explicit to their students how to read such texts for the relevant information and the kind of written or multimodal production required of them.

Associated with the need to make explicit the generic and multimodal structures of the texts that students are required to comprehend and produce across different subjects of schooling, is the need for students to be supported in working with increasingly specialized demands of various subjects as they move up the years of schooling. Rather than presuming that students will ‘pick up’ the more sophisticated language of the senior subjects by osmosis, LASS emphasizes the continuing importance of scaffolding and of the teachers’ role in making explicit the language demands of the more complex texts of senior schooling. By way of illustrating these increasing demands, Unit 5 provides a brief overview of the generic demands made of students as they move up the years of schooling, based on the work of Veel (1997) and Coffin (1997). In Science, in the early years of schooling for example, students are largely concerned with ‘Doing Science’, where the preferred genres are Procedures (where instructions are given for tasks) and Procedural Recounts (where a record of completed tasks is chronologically structured). As they progress further into the middle years of schooling, students are required to also learn to ‘Organise Scientifically’, learning to control Information Reports and Taxonomies (where information is described and classified) and to ‘Explain Science’, drawing on Explanation texts (where sequential, causal or theoretical relationships between phenomenon are clarified). In the later years of schooling, in addition to these processes, students are also required to ‘Challenge Science’, using Argumentative genres to put one or more appropriately supported points of view. These increasing generic demands of school science, summarized in Table 11.1, are further discussed in Halliday and Martin (1993).

Similarly, the demands of comprehending and producing the genres of History increase through the years of schooling in ways that teachers are not generally aware of. Unit 5 of LASS offers teachers a means of identifying how the purposes and associated genres of History can be clarified. The model
Multimodal Semiotics

offered here builds on the work of Caroline Coffin (1997) who sees the increased sophistication of thinking and writing about history as a movement from History as Narrative, through a process where time is ‘dismantled’, to a concern with Explaining and Arguing history. This movement can be illustrated in Figure 11.2.

The shift in thinking, reading and writing about history as a story, to a set of issues to be explained and argued about is generally not made explicit in secondary schools. This can cause students a great deal of confusion, which could be avoided if the purposes of various History texts are clarified using a framework such as that outlined in Table 11.2.

As with the page from the History text mentioned earlier, the texts of senior school history combine these generic purposes in component visual and verbal phases, requiring students to synthesize meanings across modes. The complexity of this task is often vastly underestimated and LASS offers senior high school subject teachers opportunities to reflect on how they can build supports for students in this task as they plan their lesson content.

This leads to Unit 8 as the final unit of LASS, which deals with the subject teacher’s role in explicitly planning for the multiliteracy, as well as content, demands in their lesson and unit preparation. A series of ten guiding questions frame this unit, and support subject teachers in planning for the literacy, as well as content outcomes they seek, across the five-stage learning teaching cycle.

Table 11.1  Generic requirements of school science

<table>
<thead>
<tr>
<th>Doing science</th>
<th>Organizing scientifically</th>
<th>Explaining science</th>
<th>Challenging science</th>
</tr>
</thead>
<tbody>
<tr>
<td>Procedure</td>
<td>Descriptive report</td>
<td>Sequential explanation</td>
<td>Argument</td>
</tr>
<tr>
<td>Procedural recount</td>
<td>Taxonomic report</td>
<td>Causal explanation</td>
<td>Discussion</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Theoretical explanation</td>
<td></td>
</tr>
</tbody>
</table>

Source: Adapted from Veel, 1997.

HISTORY AS NARRATIVE

ARGUING and EXPLAINING

Autobiographical recount
Biographical recount
Historical recount
Historical account

Dismantling of time

Explanations
Expositions
Discussions

Figure 11.2  ‘Dismantling’ time in school history

Source: Adapted from Coffin (1997).
Drawing on QTV interviews with teachers about their planning around literacy and samples of student outcomes, users are well positioned to develop lesson and unit plans that incorporate modes of language and literacy as resources for learning. Here, users are invited to explicitly consider factors such as: the language and cultural backgrounds of their students and how diverse needs could be met; which multimedia and ‘hands-on’ resources could be used as a means of engaging students; the organization of the classroom for purposeful talk; how to support students in ‘reading’ multimodal resources for research purposes; how to support students in identifying the generic purposes and phases of these resources; and how to construct their own presentations such that information in the various modes coheres. The teacher’s scaffolding role in this last area is an increasingly important, though not often recognized one, in an educational climate where student understanding is more and more assessed through multimodal productions. For example, the appropriate positioning of a map or diagram in an Information Report (such as that about Croatia, in Figure 11.3) signals a great deal about the writer’s understanding of the semiotic relationship between segments of information provided in 2 different modes. In explicitly demonstrating how to blend the genres and modes coherently, teachers are not just helping students with assessable productions, but providing a strong base for comprehension of other multimodal material.

Table 11.2  Generic requirements of school history

<table>
<thead>
<tr>
<th>Text type</th>
<th>Social purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chronicling history</td>
<td></td>
</tr>
<tr>
<td>Autobiographical recount</td>
<td>To retell the events of your own life</td>
</tr>
<tr>
<td>Biographical recount</td>
<td>To retell the events of a person’s life</td>
</tr>
<tr>
<td>Historical recount</td>
<td>To retell events in the past, not necessarily of a person</td>
</tr>
<tr>
<td>Reporting history</td>
<td></td>
</tr>
<tr>
<td>Descriptive report</td>
<td>To give information about the way things are or were</td>
</tr>
<tr>
<td>Taxonomic report</td>
<td>To organize knowledge into taxonomy</td>
</tr>
<tr>
<td>Historical account</td>
<td>To account for why events happened in a particular sequence</td>
</tr>
<tr>
<td>Explaining history</td>
<td></td>
</tr>
<tr>
<td>Factorial explanation</td>
<td>To explain the reasons or factors that contribute to a particular outcome</td>
</tr>
<tr>
<td>Consequential explanation</td>
<td>To explain the effects or consequences of a situation</td>
</tr>
<tr>
<td>Arguing history</td>
<td></td>
</tr>
<tr>
<td>Analytical exposition</td>
<td>To put forward a point of view</td>
</tr>
<tr>
<td>Analytical discussion</td>
<td>To argue the case from two or more points of view</td>
</tr>
<tr>
<td>Challenge</td>
<td>To argue against a view</td>
</tr>
</tbody>
</table>

Source: Adapted from the work of Unsworth (2000).
Conclusion

The two issues I have dealt with in this chapter have considerable relevance for others who may be developing resources for teachers (both literacy and subject area teachers), in the new communicational world. In this world, teacher professional learning itself is taking place as much in the electronic mode as in the face-to-face mode. Multimedia developers thus have a duty of care to exploit the affordances of the electronic media in principled ways that take into consideration the learning needs of adult professionals. The constructivist learning principles that underpin LASS (and its predecessor, BUILT) have provided a valuable set of guidelines in the production of these multimedia resources. These teacher learners are, in addition, not themselves literacy experts and have little prior knowledge about language in its various modes. In supporting the building of this knowledge, LASS has again adopted a principled view of language in its various modes, drawing on a simplified version of Systemic Functional Linguistics (Halliday, 1994) and genre theory (Martin, 1992), to offer manageable approaches for teachers to support their students in a new communicational world where ‘there are now choices about how and what is to be represented: in what mode, in what genre, in what ensembles of modes and genres and on what occasions’ (Kress, 2003: 117).
References


Chapter 12

Time Visuals in History Textbooks: Some Pedagogic Issues

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University of Wollongong
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Introduction

All pages are by definition multimodal but, as Baldry and Thibault (2006) point out, some are more obviously multimodal than others, ‘combining traditional semiotic resources such as language and layout with more ‘modern’ resources such as colour and photographs’ (58). Within history textbooks we can identify a wide range of ‘modern’ resources which are deployed across any one page. Aside from the use of colour and typography, resources include the reproduction of historical cartoons, posters, advertisements, leaflets, handbills and photos of historical events, people and places. It is, however, the visual timeline (such as that shown in Figure 12.1) and other types of time visuals which can perhaps be regarded as indexical of the register of textbook history (following White’s (1998) notion that certain salient semantic preferences may act as indices of a given register). Given time’s central place in history, the frequency of time visuals is not surprising: ‘the practice of history is inextricably linked to ideas of time, to calendrical systems, and above all to the metaphors through which we think about periods’ (Jordanova, 2000: 115). However, although claims have been made that the use of historical images and timelines can develop students’ sense of time (e.g. Hoodless, 1996; Stow and Haydn, 2000), our research suggests that their use in textbooks and other teaching materials is not always effective in facilitating students’ understanding of the multidimensional meaning of time.

In general, research in education and educational psychology shows that even adolescents experience difficulties in handling chronological order and in understanding and representing the duration of historical periods (Carretero et al., 1991: 35; Stow and Haydn, 2000; Wood, 1995). Research also suggests that
pupils’ chronological understanding can be accelerated through clearly targeted teaching and learning strategies. According to Thornton and Vukelich (1988), the more explicitly and systematically teachers address time concepts the more likely are students to develop an understanding of its complexity. Dawson summarizes current thinking: ‘the broad conclusion is that . . . teaching is a more significant influence on the development of chronological understanding than simple maturation or the level of abstraction of an idea’ (2004: 15). Questions concerning the deployment of visual representations in history textbooks, their pedagogic function and their effectiveness are therefore of fundamental importance. To what extent and in what ways do time visuals help (teachers) develop students’ chronological understanding?

This chapter explores in detail the pedagogic role of time visuals in history textbooks (see also Coffin and Derewianka, 2008). It first offers a set of categories to capture how time is construed in different ways in school-based historical discourse, including through visual resources in contemporary textbooks. It then discusses how current use of visual resources may (or may not) facilitate students’ understanding of time and, more generally, their historical knowledge and understanding.

The focus on textbooks and the strategies they deploy to teach students about chronology is timely. Recently, across various continents there has been controversy in the national press, on television and among governments that contemporary approaches to history fail to give students an understanding of chronology and a knowledge of key dates in their nation’s history. A recent ICM survey (http://www.icmresearch.co.uk/about-icm-icm-people.html) conducted in the UK, for example, sparked concern when it emerged that only 2 per cent of students knew the date of the Roman invasion of Britain. Similarly, at the recent Australian History Summit in Australia (2006), ministers argued that students were not being given ‘a good grounding in key dates’. We would not argue that history should be seen simply as a collection of dates. But neither would we argue that knowing ‘what happened when’ is unimportant. As Wood (1995) observes, dates can serve as ‘markers’ to help students calibrate the vastness of the past. More significantly, an understanding of the chronologies of history makes it possible to track patterns of change and continuity across long stretches of time and to make comparisons between past and present. Shemilt (2000) makes the following important point:

unless and until people are able to locate present knowledge, questions and concerns within narrative frameworks that link past with past and past with present in ways that are valid and meaningful, coherent and flexible, the uses that are made of history will range from the impoverished to the pernicious . . . History cannot be disaggregated and plundered for bits and pieces that can validly inform the present. Its value is as a big picture . . . that . . . gives perspective to the present. (Shemilt, 2000: 99–100)
Pinning time down: temporal categories in school textbook visuals

In this section we explain in turn the following set of categories which were developed in previous research as a means of capturing how time functions in school-based historical discourse (Coffin, 2006a, 2006b).

- Sequencing
- Segmenting time
- Setting in time
- Duration
- Phasing

While our primary interest is the extent to which the above categories are realized in visual form in textbooks, we will first set out their typical linguistic realization in order to explain the particular aspect of temporal meaning being construed. Based on a wide survey of contemporary history textbooks and drawing on Kress and van Leeuwen’s framework for visual analysis (2006), we then discuss the main visual resources used in their construal. At the end of the section, based on an analysis of two representative history textbooks – one from England, the other from Australia – we provide a quantitative account of the relative proportions of the different conceptions of time construed through visual resources.

**Sequencing**

This category references the linear unfolding of events in which temporal logic binds together previous and subsequent events. Sequencing, therefore, construes movement through time or temporal ‘flow’; for example,

After Hitler assumed power in early 1933, the Nazis began the systematic elimination of all political opponents.

Sequencing includes simultaneous and successive relations. In simultaneous relations the two events overlap to some extent:

During the 1930s, while the rest of the world was suffering a harsh economic depression, (Event 1) Adolph Hitler was rebuilding the German war machine. (Event 2)

In successive relations, the first event does not continue beyond the beginning of the second event:

Following the death of Hindenburg in 1934, (Event 1) Hitler declared himself Führer (Event 2).
While temporal conjunctions and dependent clauses are the most ‘natural’ or congruent way of realizing the semantic of sequencing, other resources may also be drawn on, as shown in Table 12.1.

Temporal sequencing is indicated in graphic representations when more than one event is indicated in the representation, typically in different forms of timelines. While some timelines in history textbooks run from left to right along a horizontal line, they can also run vertically from the bottom to the top of the page or from the top to bottom. Less frequently they may be represented as a spiral, a winding path or a route across a map (such as the progress of explorers or troops). Such lines can indicate whether one event overlaps with another, whether the events occur simultaneously and which event began or ended first. Although timelines draw on visual representations to construe the notion of sequence, verbal text, including the use of dates and numbers, also plays an important role (as is the case in most visual representations of historical time). Indeed the term ‘visual–verbal’ is a more accurate description of the phenomenon. Other graphic devices may also combine with lines to contribute to the notion of sequence and movement through time. These include the use of shades of one colour or related colours and arrows to reinforce direction of events. Column layout with dates (often in bold) arranged from top to bottom (least to most recent) and different types of bar and line graphs may also be

<table>
<thead>
<tr>
<th>Key linguistic resources</th>
<th>Examples</th>
<th>Key visual resources</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temporal conjunction and dependent clause</td>
<td><strong>When</strong> the Empire is at war, Australia is at war</td>
<td>Timelines: horizontal, vertical, winding, spirals</td>
</tr>
<tr>
<td>(simultaneous)</td>
<td><strong>After coming to power in 1959</strong>, Castro used terror extensively . . .</td>
<td>Marks/dates on line to indicate relation of one event to another</td>
</tr>
<tr>
<td>Temporal conjunction and dependent clause</td>
<td>The Great Depression in 1929 then precipitated both policies of aggression and appeasement.</td>
<td>Marks/icons to signal start and end point</td>
</tr>
<tr>
<td>(successive)</td>
<td></td>
<td>Colour and arrows to construe direction of events</td>
</tr>
<tr>
<td>External conjunctive adjunct</td>
<td></td>
<td>Overlay of time lines to show overlapping events</td>
</tr>
<tr>
<td>Process</td>
<td>A bottomless deflationary whirlpool <strong>ensued</strong>.</td>
<td>Timelines superimposed on maps</td>
</tr>
<tr>
<td>Ordinative</td>
<td><strong>Last</strong> year was a highlight in my life . . .</td>
<td>Figures representing key events, progress along timeline</td>
</tr>
</tbody>
</table>
used to represent sequence in time. The order of events may also be represented in cartoon fashion such as hurdles on a race track representing key events in the women’s suffrage movement.

Figure 12.1 illustrates a number of the devices discussed above. A winding path represents the sequence of events leading up to the outbreak of World War I while the movement of the path from the top left-hand corner to the
bottom right-hand corner provides a vector to map the direction and progression of events. Although not obvious in the black and white reproduction, the movement from pale yellow to orange through to a deep red reinforces the direction of events. Finally a bomb icon marks the starting and finishing points.

**Segmenting**

This category is concerned with the division of time whereby subjective ‘lived’ time loses its seamlessness and natural fluidity. Carved into segments, or ‘divided into periods’ it becomes a central organizing principle for historical meaning-making. Once named using specialized lexis, segments can gather up large, historically significant stretches of time which span years, decades or centuries (e.g. *the Middle Ages, the Classical period*). Rather than construing sequence and flow, such devices arrest and freeze the dynamic unfolding of events. Temporal ‘vertical’ sequential flows are thus transformed into ‘horizontal’ bounded blocks. Segmenting links to the notion of colligation, a concept that is used in both the philosophy of history literature and educational literature and which refers to the use of specialized abstract terms as a means of grouping different events together under appropriate conceptions (Walsh, 1974: 133). The category therefore captures how time may be realized as an abstract Thing, a feature of time that might help to explain the difficulty experienced by students in handling the representation of historical periods.

Visually, segmented time is often realized as a chunk of physical space within a timeline as in Figure 12.2, which is adapted from a ‘period timeline’ (including a ‘blow-up’ of Medieval and Tudor times) found on the inside cover of a secondary history textbook (Reynoldson, 2002).

Significantly however, although such a ‘chunk’ can exist independently in linguistic terms (e.g. ‘the Great Depression’) it does not appear to translate easily into visual form. We found, for example, very few blocks of time on a timeline being highlighted as a focusing device, whereas they were commonly found in verbal form in the Contents pages and as section sub-headings within chapters.

<table>
<thead>
<tr>
<th>Key linguistic resources</th>
<th>Examples</th>
<th>Key visual resources</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nominal group, nominalization, specialized (i.e. historically meaningful) lexis</td>
<td>The Gold Rushes, Word War II, the Cultural Revolution, the Locarno era, the Great Depression</td>
<td>Block of space (typically integrated into timeline or placed beside another block)</td>
</tr>
</tbody>
</table>
Setting

Setting refers to the location of events, set of conditions, or geographical space at a particular point in time (e.g. *in 1928*). In contrast to sequencing, settings in time (like segments of time) do not need to be interpreted as part of a sequential flow with reference to previous and subsequent events. Instead, events are located within the framework of calendar conventions (i.e. dates, years and centuries) or through the use of segmenting resources (e.g. *in the Locarno era, at the end of the Middle Ages*).

Further angles on settings in time are construed through the use of definite or indefinite terms. That is, time is measurable in standard units (e.g. on 26 July) but may also be expressed in less precise terms (e.g. a few days ago) (see Halliday, 2004: 265).

From a visual perspective, the most frequent realisation of temporal setting is the use of a photo, drawing, map, cartoon or reproduction of a painting depicting a historical event or geographical space accompanied with a date in the caption. Figure 12.3 provides an example of the use of a photograph. It depicts a particular event (the Japanese attack) in a specific geographical space (Pearl Harbor) at a point in time (July 1941). Timelines may integrate settings through captions. Figure 12.1, for example, shows a series of events all located in precise time references (28 June – 4 August 1914). Sometimes settings are embedded in timelines through the use of photos and pictures linked to particular dates/periods.
Duration references how long an event lasts. Temporal extent may be measured in standard units, for example, \textit{for 40,000 years} or in less definite terms, for example, \textit{for a long time}. Just as in language, it is sometimes difficult to disentangle temporal sequencing, segmenting and duration in visual representations. Duration is expressed in Figure 12.2 by the boundaries of each line and by the relationship of one line to another. Thus, looking at these lines we can say that 25 million were suffering malnutrition \textit{in 1931.} Soon after World War I people around the world realized just how much a disaster the war had really been.

Table 12.3  Key setting resources

<table>
<thead>
<tr>
<th>Key linguistic resources</th>
<th>Examples</th>
<th>Key visual resources</th>
</tr>
</thead>
<tbody>
<tr>
<td>Circumstance of time: location</td>
<td>25 million were suffering malnutrition \textit{in 1931.} Soon after World War I people around the world realized just how much a disaster the war had really been.</td>
<td>Photo, drawing, cartoon or reproduction of a painting Caption with date</td>
</tr>
</tbody>
</table>

**Figure 12.3** Setting: historical photograph. Japanese attack on Pearl Harbor, Hawaii (July 1941)
the Medieval and Tudor period lasted from around 500 AD to around 1600 AD. The extent of time is thus conveyed by the amount of physical space that a segment occupies on a timeline. These may or may not be drawn to scale. In Figure 12.2, for example, the duration of the Bronze Age is drawn to a different scale from the other periods, as indicated by the dashed lines. Precise calculations are often printed in the captions running alongside the timeline.

**Phasing**

Phasing is used as a general semantic term to capture the temporal resources which construe the beginning, continuation and end phases of an event or activity. These stages of becoming, that is, *inception, duration and conclusion* are often realized through taxis relations between verbs, for example, *began to fight, continued fighting, finished fighting* (cf. Halliday and Matthiessen, 2004: 499–501). They may be used to phase segments of time (e.g. *the onset of the Wall Street Crash*) as well as stage and shape events as a self contained cycle (i.e. with a beginning and end). Such construals of time have the potential to evoke recurrent, repeated patterns of activity that appear to remain constant over time, for example, cycles of war, economic booms followed by depression, the rise and fall of particular empires and so on. They can therefore contribute to the notion of continuity. At the same time, cyclical episodes of conflict and war are frequently integrated into forward-moving linear narratives in which large stretches of history are patterned with cycles of repeated human activity.

The most common way in which graphic devices are used to convey beginning, continuation and end phases is to mark points or dates on a timeline. For example, Figure 12.1 uses a bomb icon. Graphics can also be used to construe circular, repeated activity. Thus Figure 12.4 visualises conflict between aborigines and settlers as a self contained loop of repeated events. The main resources used to communicate this are layout (a sequence of comic book ‘squares’) and the use of red arrows directing the order in which to read the squares. The order also replicates the circular movement of a ticking clock. Although it is
not made explicit, the reader is likely to see the initiating phase as the first square in the top left-hand corner (following accepted Western reading conventions of reading left to right and top to bottom). However, the concluding phase is left deliberately ambiguous in order to represent the self perpetuating nature of the conflict. Surprisingly this type of representation is rare in history textbooks.

In this section we have shown that a wide variety of devices are used to visualise time and that they have the potential to not only visualize chronological sequencing of events and the division of the past into periods but also segmenting,
duration and phasing. Table 12.6, however, which shows the relative proportions of verbal–visuals used in our two sample textbooks, suggests that this potential is not necessarily taken up by all designers: while setting is frequently represented, segmenting, duration and phasing are not. Even sequencing is relatively rare.

In the following section, we will consider the implications of our findings as well as discuss how the different conceptions of time represented through visual–verbal resources contribute to historical knowledge and understanding, including notions of causation, continuity and change, and historical significance.

### Discussion

In the introduction to this chapter we discussed how students can find time problematic, particularly the notion of duration with Wood (1995) arguing that duration is both more difficult and more important for pupils to grasp. We also noted that instruction may play an important role in developing students’ abilities in the area of time. However, in the previous section we saw that whereas some temporal categories are frequently represented through visual–verbal resources others, including duration, are not. Clearly, if visual resources are to be pedagogically helpful, this bias needs to be addressed.

There are several other aspects of time visuals which we suggest also need consideration. One is the fact that many timelines are restricted to representing fragments of time and rarely provide the big picture, the ‘narrative frameworks which link past with past and past with present’ as advocated by Shemilt (2000: 99–100) quoted earlier. Few timelines represent diverse, overlapping chronologies which, in our view, is a lost pedagogic opportunity. At the same time, some
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timelines are complex with unhelpful captions and it is not clear that all students would recognize the full array of meanings being communicated, including phasing or duration where represented. In Figure 12.1, for example, there are a number of devices which inject a causal dimension into the narrative timeline of events leading up to World War I, transforming a simple historical recount into a causal account (see Coffin [2006a] for further discussion of the historical recount and account). Perhaps the most important device is the caption which provides an interpretive framing for reading the image: A timeline showing how the assassination of the Archduke Franz Ferdinand led to (our our emphasis) the outbreak of a European War (Anderson, Low and Conroy 2005: 39).

Other devices include the intensification of colour and the accumulation of (black) soldier icons as the eye moves along the path from start to finish. These provide a sense of momentum as the sequence of events builds towards the end event – Britain’s declaration of war. Similarly, there is an increase in the size of the explosions at the start and finish of the path suggesting a minor cause (spark) and more significant cause (main trigger). The causal dimension is, however, not made explicit (aside from in the caption itself which not all readers pay attention to) and would rely on a student’s ability to impute a cause–effect relationship. Similarly, the fact that the time intervals are not drawn to scale means that students would need to be careful in calculating the pace of events. Figure 12.4 similarly implies a causal force linking events in the causal sequence/loop. As Baldry and Thibault explain (2006), transition from one action or event to another cued by visuals in a cartoon sequence ‘entails change or transformation in some aspect of the participants’ (14–15). It also provokes readers to seek reasons for the changes during the unfolding event sequence which in turn construe causal relations.

While in Figure 12.1 the caption might provide a useful guide for students’ reading of the image, we observed that many timelines and other time visuals lacked effective captions or did not contain diagram keys which adequately explained the use of visual devices. We would therefore suggest that teachers need to become more aware of the (potential) difficulties posed by visual literacy and explicitly teach students how to unpack images and figures (Unsworth, 2001). This is particularly important given that many of the time visuals we analysed not only construe notions of time but, as in Figure 12.1, incorporate other meanings such as historical significance, causation, and change and continuity. That is, as emerged in previous research into linguistic construals of time (Coffin, 2006a), visual representations of sequencing, segmenting, setting, duration and phasing are ways of packaging time which then allow other meanings to be made. Timelines and graphs showing events or situations at different points in time, for example, enable students to establish periods where change is slow and periods when it is rapid and thus to make broader observations about change and continuity.
To conclude, it is clear that visual–verbal time representation may construe complex meanings which integrate notions of causation and evaluation. We would therefore suggest that if students are guided to understand their multi-layered meanings such representations might facilitate not only understanding of time but broader understanding of history.

References


Chapter 13

Multimodal Representation of Educational Meanings in Montessori Pedagogy

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Introduction

In Montessori multi-age classrooms, specifically those prepared for children from 3 to 6 years and for children from 6 to 9 years, extended verbal interaction in which teachers and students construct and negotiate educational meanings is not the central feature of the pedagogy. Instead, Montessori pedagogy, since its inception a century ago, has revolved around the precise use of distinctive concrete objects.

The Montessori objects represent, and re-represent, educational meanings in concrete and manipulable form, using multiple modes of representation. They are described as ‘material of development’ by their designer, Maria Montessori (1965a [1918: 67]), who also advises teachers that the objects are ‘necessary only as a starting point’ in any developmental cycle. This chapter will draw on the socio-cultural view of development, first proposed by Vygotsky (e.g. 1978, 1986), and a social semiotic analysis of meaning, drawing on systemic functional linguistics (e.g. Halliday, 2004), to review the Montessori objects and their function in Montessori pedagogy from two perspectives. The first of these examines the enhanced pedagogical opportunities which emerge when educational knowledge is represented, and re-represented, in multiple modes, as exemplified by the Montessori objects and their use. The second perspective examines design constraints which distinguish the Montessori objects from other multimodal teaching aids, and which, it can be argued, enhance the pedagogic force of the objects in significant ways.

It is important to note that the Montessori objects, and their use, comprise a highly elaborated and systematized exemplar of what teachers have been doing for a long time; that is, representing educational meanings in as many different ways as possible to bring them within the reach of learners. The Montessori
objects, however, are not considered to be an aid to the learning process, but rather its origin. Furthermore, uniquely, the design and use of the Montessori objects have a provenance which stretches back over several centuries and extends into the present in Montessori classrooms across widely diverse socio-cultural contexts. This singular resistance to obsolescence presents an unusual opportunity in the field of pedagogy to explore in depth the developmental potential of multimodal representation.

The pedagogic use of Montessori objects

In Montessori pedagogy the use of the objects is demonstrated to children in short presentations, involving a very economical use of language. Children are shown, with great precision, how to manipulate the objects, and at the same time, they are given a precise language for naming the objects. A presentation is recognized as successful when children begin to imitate both the movements and the language modelled by the teacher, and in this way, begin to engage in extended, interactive, and largely independent, activity with the objects, and thus, with the meanings the objects encode. The first picture in Figure 13.1 shows a child engaged in a dynamic activity sequence using a box of calibrated wooden geometry 'sticks', which vary systematically in colour and length.

The child, in imitation of the teacher’s presentation, is using the sticks to make different types of triangles categorized according to the relations between sides and between angles. Imitation, following Vygotsky (2004: 372), ‘assumes a certain understanding of the significance of the action of another’, indicating the presence of the type of developmental opportunity Vygotsky describes as a zone of proximal development. Imitation, from this point of view, can be compared with dialogue because it is an interactive activity in which meaning is shared and constructed collaboratively.

The goal of the activity in which the child is engaged with the sticks is to construct, and arrange systematically, all ‘seven triangles of reality’. At the end of

Figure 13.1 Constructing triangles with the Montessori geometry sticks, and the final array of objects, labels and definition booklets
the dynamic activity sequence, the wooden constructions are organized into a three-dimensional synoptic array within which each object has a *valeur*, in the Saussurian sense (Culler, 1985), in a system of contrasting meaning-relations, as shown in the second picture in Figure 13.1. As seen in the picture, the array of systemic relations is re-represented in two-dimensional diagrams accompanied by written labels and definitions. The diagrammatic and written re-representations of the educational meanings represented by the array of objects are given to children in two forms, a set of loose manipulable pictures, labels and definitions which are used in matching and sequencing activities, and booklets which can be used as a control, or model. In this way, the system of educational meanings, in this case all the possible categories of triangles, is heavily overcoded, the objects in particular, certainly from the adult’s perspective, being redundant when used alongside the illustrated booklets. The redundant representation of quanta of educational knowledge in concrete mode, diagrammatic mode and in spoken and written modes is the central feature of Montessori pedagogy.

By representing the meanings which constitute educational knowledge in a concrete and manipulable form, Montessori pedagogy engages children’s attention, while, at the same time, handing them external control over educational meanings. The objects ‘remember’ the meanings for children, capturing them in a material form that children can, literally, grasp. Manipulation of the objects also transforms into external activity the processes of learning about and controlling these meanings. While learners are grasping and controlling the objects with their hands, their grasp and control of the represented meanings is less likely to slip from their minds, and, moreover, they are externalizing their future ‘mental’ grasp and control of the meanings, a future modelled by the diagrammatic and linguistic coding.

Montessori pedagogy allows children as much opportunity as they need to interact with the concrete objects. The culmination of a cycle of developmental activity, and the verification that children have internalized the meanings encoded in the objects, occurs when children, in Montessori terms, ‘let the material go’, or, in other words, when they demonstrate independent use of the cultural meanings using only abstract symbols, for example, language or mathematical symbols, without any longer needing the concrete material as a reminder. Thus, as children internalize the abstract meanings, they abandon the redundant excess concrete coding.

The design and use of the Montessori objects bring to mind the proposal by Vygotsky (1978: 51) that:

> The very essence of human memory consists in the fact that human beings actively remember with the help of signs.

Vygotsky gives two examples of signs, in the form of concrete ‘external’ objects, used by humans to help them remember, a knot tied in a handkerchief by an individual and a monument built by a civilization. These examples illustrate two
extremes in the range of external objects humans deploy as signs for the purpose of recalling significant meanings, whether for limited social reasons or expansive cultural ones. The objects in a Montessori classroom are specialized examples of this distinctively human sign-making activity.

The deliberate use of external objects as signs, in order to capture meanings and hold them still for reflection and recall, has further significance in Vygotsky’s model of development. In this model human development is understood in terms of two interwoven trajectories, a biological, or natural, trajectory tracing the development of elementary mental functions, and a social line of development which transforms elementary mental functions into higher mental functions of a different order. Recall in its elementary form, as Hasan (2005: 132) explains, is ‘triggered by a chance encounter’, but when an external object is deliberately chosen to stimulate recall ‘the nature of the mental function changes’. Hasan continues her explanation in the following way:

Reminding oneself purposefully and consciously by the mediation of some instrument that is within one’s control is a higher and different order of mental function. (2005: 132)

In other words, the mental function of remembering is now ‘socially mediated’.

Instruments of mediation, or signs, are described by Vygotsky (1978: 52–53) as analogous to, but not the same as, a tool used to transform the nature of physical work. The difference is described by Vygotsky (1978: 55; emphasis in original) in the following way:

[The tool] is externally oriented; it must lead to changes in objects. It is a means by which human external activity is aimed at mastering . . . nature. The sign, on the other hand, . . . is a means of internal activity aimed at mastering oneself; the sign is internally oriented.

The analogy between tools and signs is foregrounded in the Vygotskian literature when signs are referred to as ‘psychological tools’.

Characteristics of both physical tools and psychological tools, or signs, are conflated in the Montessori objects, a feature highlighted when Montessori (1982 [1949]: 162) describes the objects as ‘materialized abstractions’. In other words, the objects represent abstract cultural meanings, and therefore, are internally oriented signs, yet they are concrete objects which function as elements in children’s external activity. Furthermore, the Montessori objects are always used in combination with movement, usually of the hand, an external action, and in combination with language (spoken and/or written), an internally oriented sign system.

Thus, in the design of the objects and activities which comprise her pedagogy, Montessori has constructed complex configurations of meaning-making
resources which combine elements oriented, through multiple modalities, both externally and internally. Each configuration can be thought of, following Butt (2004: 227–28; emphasis added), as ‘an ensemble . . . of semiotic resources’ woven together to help students make the move from ‘local action towards human culture in general’. Typically, as exemplified by the wooden geometry sticks, a Montessori ensemble of semiotic resources is initiated when a child imitates the teacher’s presentation of a dynamic activity sequence in which objects, movement and language are combined, culminating in a final synoptic array of objects representing a system of related, but contrasting, educational meanings.

The three-period lesson

While the language component of a Montessori ensemble is very economical, even parsimonious, it is, nonetheless, of crucial importance. It takes the form of a highly structured naming lesson, known by Montessori teachers as the three-period lesson. This naming lesson uses indication, through gesture and language, in ways which echo the claim by Vygotsky and Luria (1994 [1930]) that indication is the origin of a developmental trajectory which transforms the function of indication, or signalling, into the function of signification, or symbolizing. The lesson, as its name suggests, consists of three periods, or stages.

In the first period of the naming lesson, having demonstrated the objects and movements needed to make, for example, a triangle using the Montessori geometry sticks, the teacher says: ‘This is an equilateral triangle’. The teacher then writes the words ‘equilateral triangle’ on a paper label and places the label beside the triangle. The teacher continues making different types of triangles, for example, an isosceles triangle and a scalene triangle, gradually handing over the work of construction to the children. As each new type of triangle is placed in the array, it is labelled in spoken and written language. The pivotal meaning in this labelling process is relational meaning, realized in the teacher’s language by the verb is. Examining relational meaning as it is deployed in the Montessori naming lesson reveals more about the developmental potential of multimodal representation in Montessori pedagogy. Specifically, the naming lesson interweaves two types of relations between the objects and the names.

The type of language used in the naming lesson as it applies to triangles constructed with the Montessori geometry sticks is summarized in Table 13.1.

As the table shows, during the first period of the lesson, the teacher names each materialized shape. The terms scalene triangle, isosceles triangle and equilateral triangle are common names for concrete objects with different, but related, attributes. The use of common names to represent concrete objects is a grammatical feature of children’s everyday language (Halliday, 1993; Painter, 1999). These same terms, however, also represent abstract categories of educational knowledge. Constructing and arranging the wooden triangles gives the children
sensory access to these abstractions. When the teacher indicates physically present objects, by means of gesture and exophoric reference (this), and names them, children are given entry-level linguistic access to the abstractions the objects represent. In this way, the meanings within the children’s physical and semantic grasp, the objects and the common names, have the potential to function as contours onto which the future abstract meanings can be overlaid. In Vygotsky’s terms, the child’s meanings at this point are pseudoconcepts, or shadows, of abstract, true, concepts, enabling the adult and the child to talk about shared experience with mutual understanding (Vygotsky, 1986).

The way the Montessori representation of educational meanings in concrete form allows children to retrieve adult symbolic meaning as a ‘signal’ for something that is ‘physically present to the senses’ (Hasan, 2005 [1992: 81]) can be explored in more detail by means of the ‘grammar of semiosis’ (Matthiessen, 1991), that is, Halliday’s modelling of relational grammar (See, e.g. Halliday, 2004). In the first period of the lesson, the demonstrative pronoun this sets up a two-way exophoric reference relation between language and a physically present object, for example, a wooden triangle. From this starting point, the object is linked with its common name (for example, equilateral triangle) by the verb is in an attributive relation. The same language locates each triangle in a class or category on the basis of an indexical concrete attribute (e.g. relative length of sides). This multimodal, two-way (sensory and linguistic) representation of attributive relational meaning is summarized in Table 13.2.

In the first period of the Montessori naming lesson, indication, in both gesture and language, is the work of the teacher alone. In contrast, the second period is a period of reflection in which the teacher and child collaborate in the work of indication. This collaboration is possible because there is an overlap between the symbolic abstract meaning used by the adult and the ‘contour’

<table>
<thead>
<tr>
<th>Table 13.1 Example of teacher language in a Montessori three-period lesson</th>
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<tr>
<td>First period</td>
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<tr>
<td>Third period</td>
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of the meaning used by the child, with the teacher and children using the same words to refer to the same physically present objects. This is the most extended period of the three-period lesson, and the one in which, in the Montessori tradition, learning is said to take place. The second period deploys as much variation as possible, in both language and movement, with the teacher using language such as Show me the equilateral triangle; Give me the isosceles triangle; Where is the scalene triangle? The increase in variation can be interpreted as a further opening of the gateway towards control of the meaning-potential carried by the system materialized in the objects. This is achieved because the teacher’s language hands over the work of indication, using gesture and movement, to children.

Each indicating movement or gesture by a child, elicited by the teacher’s questions in the second period of the lesson, represents an identifying relational meaning, equivalent to, for example, This one is the equilateral triangle. The identifying relation, represented by the verb is, again has a two-way meaning-potential. First, the name equilateral triangle can be a signal indicating a particular object, as verified by the child’s non-verbal response, that is, pointing at or moving the object. At the same time, the name identifies a shape as representative of a particular symbolic value in an abstract system of geometric shapes, a system materialized for the child by the array of wooden triangles. This multimodal, redundant representation of identifying relational meaning is summarized in Table 13.3.

Thus, in the first two periods of the three-period lesson, the child experiences the name of each shape variously as a common name and a signal for a physically present object. This experience is the origin of a developmental pathway towards the later use of the sign, as a category for classifying shapes and an abstract value in a system of mathematical meanings, a pathway from pseudo-concept to scientific concept in Vygotsky’s terms. The multimodal representation of the educational meanings as concrete signs, diagrammatic signs and spoken and written linguistic signs enables the child’s first experience of the meanings to be simultaneously sensory and semiotic, laying the foundation for later wholly

<table>
<thead>
<tr>
<th>Sensory representation</th>
<th>‘concrete object’</th>
<th>‘indicating gesture’</th>
<th>‘relative length of sides’</th>
</tr>
</thead>
<tbody>
<tr>
<td>Linguistic representation</td>
<td>This</td>
<td>is</td>
<td>an equilateral triangle.</td>
</tr>
<tr>
<td>Meaning-relation</td>
<td>Carrier</td>
<td>Relational process:</td>
<td>Attribute</td>
</tr>
<tr>
<td></td>
<td>[reference item]</td>
<td>attributive</td>
<td>[concrete shape/abstract category]</td>
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</table>
semiotic use. In this way, the context-dependent signalling relation becomes a gateway for the child into a context-independent, culturally salient symbol system of triangle types, a shift towards an internal orientation.

The first and second periods of the three-period lesson are repeated until the child can successfully achieve the third. In the third period of the Montessori naming lesson, the teacher invites the child to take over completely the work of indication, using both gesture and language. The teacher’s language in this period of the lesson is based on the straightforward question *What’s this?* This question, however, is often projected using mental processes, the processes of inner consciousness (*Do you remember what this is?*), and verbal processes, the processes of symbolic exchange (*Can you tell me what this is*?). Projecting clauses of this type are all examples of prefaced interrogatives. This feature has been identified by Hasan (2004: 174) as a key characteristic of the discourse of English-speaking mothers who mediate knowledge explicitly for their children in everyday contexts. Mothers who use this feature, Hasan argues, tend to provide their children with ‘sustained explicit information in emotionally supportive environments’, developing in the process ‘an orientation to decontextualized knowledge’, the knowledge most valued in educational contexts. Thus, the language of the third period recasts critical aspects of the informal, everyday language of mothers whose language seems to facilitate children’s early pedagogic success in school.

In summary, the Montessori three-period naming lesson formalizes linguistic features found in the everyday language which surrounds children, including the use of names as signals for physically present objects (*the equilateral triangle*), common names (*an equilateral triangle*) and projected questions (*Can you tell me what this is*?). The lesson ties these features to manipulable objects that materialize entry-level knowledge systems in a form which captures children’s attention. Such representations of educational knowledge are described by Butt (2004: 231) as *critical abstractions*, which can be ‘recontextualized in a number of intellectual contexts and still retain its degree of fit’. In Butt’s account, a critical abstraction represented verbally is typically a definition, but, when more than one mode is used, as, for example, in the Montessori objects and the language

<table>
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<tr>
<th>Sensory representation</th>
<th>‘physically present object’</th>
<th>‘indicating gesture’</th>
<th>‘relative length of sides’</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Linguistic representation</strong></td>
<td><strong>Which one is the equilateral triangle?</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Meaning-relation</td>
<td><strong>Token</strong> [reference item]</td>
<td><strong>Relational process:</strong> identifying [1. signalling/ 2. symbolizing]</td>
<td><strong>Value</strong> [1. signal/ 2. symbol]</td>
</tr>
</tbody>
</table>
which accompanies their use, the representation gains depth and power. The naming lesson which accompanies the use of the Montessori objects is a gateway onto a developmental pathway which originates in the use of names as signals for physically present objects and which is oriented towards the use of the same names as transportable abstract symbols representing educational knowledge, for example, the use of the term *equilateral triangle* in the study of mathematics. This pathway resonates with the description by Butt (2004: 236) of the teacher’s threefold task, namely, displacing ‘local representations’, disturbing what is perceived to be self-evident and commonsense, and trying ‘to reconcile . . . abstraction with common, recognizable, experience’, a task which results in the ‘semantic complexity’ of pedagogic discourse.

**The design of Montessori objects**

An exploration of the Montessori three-period lesson reveals how representations of educational meanings in multiple modes enable a rich interplay of relational meanings with the potential to place children on a pathway from indication through gesture and naming to symbolic abstract meaning-making. Montessori pedagogy is not the only teaching approach which draws on multiple modes of representation. Educational catalogues promote a huge diversity of multimodal teaching aids. These designs often interweave elements of educational knowledge with fantasy, popular culture and child-oriented imagery. In comparison, the Montessori objects can appear old-fashioned, austere and unimaginative with limited potential for creative play.

Unlike most contemporary teaching aids, which tend to foreground novelty and imaginative possibilities, the specifications of the Montessori objects remain constant from decade to decade. Furthermore, the objects are displayed in the classroom and presented to the children in prescribed ways for specified purposes. In the Montessori tradition it is the constrained variation of design and use which underwrites the developmental qualities of the material. Any variation, a change of colour, size, shape, movement or language, encodes a meaning-relation which construes the field of the educational knowledge being learned. Further, to draw children’s attention away from the concepts being learned to concepts from different fields and different orders of abstraction is considered in the Montessori tradition to be distracting and confusing.

**Grammar in Montessori pedagogy**

Constrained variation is particularly evident in the component of the Montessori reading pedagogy which materializes knowledge about grammar in order to lead emergent readers to reading fluency. This area of Montessori pedagogy comprises an extended series of games which lead children into reading, where
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reading is viewed as a meaning-making activity of a higher order than mere decoding. A feature of these games is the concrete representation of grammatical categories as a means for turning children’s attention, in a structured way, to the meanings of instances of language use written on slips of paper. Children read the words, act out the meanings, symbolize each word with a grammar symbol, tear the words apart, re-arrange them, act them out again and re-symbolize them. In summary, these games give children the opportunity to play with written language and its functionality, just as they play with language when they are learning spoken language (See, e.g. Williams 1999, 2004).

Traditional grammar pedagogy as taught in the early twentieth century was described by Montessori (1965b [1916/1918]: 7) as ‘the cruel assassin that tears the sentence to pieces so that nothing can be understood’. In contrast, she aimed to design activities in which grammar would become ‘an amiable and indispensable help to “the construction of connected discourse”!’ (Montessori 1965b [1916/1918]: 7). Montessori pedagogy represents grammatical categories multimodally, as manipulable three-dimensional objects, two-dimensional shapes, spoken and written metalanguage and instances of written language. These representations are configured into dynamic activity sequences incorporating movement and reading in ways which present reading as active, functional and fun.

There is a long-held tradition that grammar is a domain of knowledge which needs to be made palatable for children (for further critique, see Williams 1999: 90). It is not uncommon, for example, for grammatical categories to be represented, in images and language, in the form of fantasy characters. Grammar, however, is an abstract means for representing, and bringing to consciousness, knowledge about language. Just as geometry is an abstraction of mathematics, itself an abstraction, grammar is an abstraction of an abstraction, in this case, an abstraction of language. Because the relation between geometry and mathematics is analogous to the relation between grammar and language, the Montessori grammar symbols materialize knowledge about grammar in the form of manipulable geometric shapes varying in size and colour. The grammar symbols exemplify the premise on which the design of all Montessori objects is based. Specifically, design variables are selected on the basis of their capacity to represent relations analogous to the relations underlying the meaning-potential of the field of knowledge being represented.

The design of the Montessori grammar symbols combines three variables, geometric shape, colour and size. The central contrastive relation represented by these variables is the contrast between nouns and verbs, a fundamental grammatical contrast, as Montessori describes in the following way:

In the whole of language there are these two family founders – the noun and the verb. They are the centre around which all the words for the expression of feeling and thoughts organise themselves. Each one is like a sovereign with
In contrast to traditional pedagogical grammars, the focus on grammar ‘families’ in Montessori’s grammar-based reading pedagogy shifts children’s attention to units of grammar above the rank of word. In the case of the noun family, the child attends to the rank of group, and in the case of the verb family, the child attends to the rank of clause. Attending to grammatical structures along the rank scale makes the functionality of wording within and above the clause much more readily accessible to the beginning reader.

The contrast between the prototypical functions of nouns and verbs is materialized in the Montessori grammar symbols. The three-dimensional noun symbol is a black square-based pyramid (stable and substantive) and the three-dimensional verb symbol is a red sphere (an unstable energy source). The incrementally more abstract two-dimensional shapes are a black equilateral triangle and a red circle, which are duplicated and cut out of coloured paper, so they can be manipulated and placed above the wordings of instances of language use written on slips of paper. The tangible contrasts in shape (triangle–circle) and colour (black–red) are analogues for the non-tangible grammatical contrast between noun and verb. The size of the symbols, however is comparable, the height of the pyramid, and the triangle, being equal to the diameter of the sphere, and the circle, representing the complementarity between the noun and verb as heads of the two grammar families.

The members of the noun’s ‘family’, the article and the adjective, are represented in the same way as the noun, three-dimensionally, as square-based pyramids, and two-dimensionally, as equilateral triangles. Their size, however, is reduced to reflect the dependent, modifying relations between articles, adjectives and nouns within nominal groups. The adjective pyramid is smaller than the noun and the article pyramid is smaller than the adjective. This reduction is echoed in the progressive reduction of the colour black (noun) to blue (adjective) and light blue (article). Similarly, the modifying relation between verb and adverb is represented in the repetition of the circle shape in the smaller size and reduced colour (orange) of the adverb symbol.

A configuration of Montessori multimodal resources for mediating knowledge about, for example, the noun family for young children is displayed in Figure 13.2.

The figure reveals how the redundant layers of representation structure children’s attention, shunting it between the wording of instances of language use and the meaning-potential of the language. The child reads a label and matches it to an object, in this example, a silver key. The written language on the label is an instance of the noun family pattern. The child then matches the grammar symbols to materialize the abstract transferable potential of the pattern.
**Figure 13.2** Redundant multimodal resources for attending to the *noun family*
shunting attention between instance and potential

**Figure 13.3** The Montessori grammar symbols in use
The grammar symbols are, thus, an external means for mediating internally oriented knowledge, the meaning-potential of the noun family, from which the instance is derived.

As the Montessori grammar games unfold, children progressively learn to identify more word classes and they gradually read longer and longer combinations of written words, as shown in Figure 13.3.

The Montessori grammar symbols can be thought of as a type of memory aid, enabling beginning readers to order meaning, and to talk about it, in ways which correspond with the meaning-patterns of written language. Unaided, children are much less likely to succeed at this work. Just as knowledge about geometry shapes learned through use of the geometry sticks can be transported to the context of abstract mathematics, so too the meaning-patterns represented by the Montessori grammar symbols can be transported from reading pedagogy, to expanding the meaning-potential of children’s written language in general, and finally to the study of grammar as a field of educational knowledge in its own right.

Conclusion: the distinctive multimodality of Montessori pedagogy

The multimodal, redundant representation, and re-representation, of the transportable meaning-relations of educational knowledge in the form of objects, diagrams, and spoken and written language is the distinguishing characteristic of the ensembles of semiotic resources which constitute Montessori pedagogy. Multimodal interaction with these meaning-relations, through imitation, indication and independent use, has the potential to lead children along developmental pathways from local sensory experience to independent control of abstract educational meanings. The constrained variation in the design of the Montessori objects and their highly structured precise use contrast strongly with the comparatively unrestrained variation, and pursuit of novelty and fantasy, associated with teaching resources more typical of early childhood education. While the common underlying understanding is that young children learn through play-like activity with concrete objects, the design and use of Montessori objects draws attention to the possibility that directing attention to the meaning-relations of educational knowledge, transparently and accurately represented in multimodal form, has the potential to leave children with an impression, or outline, of the semantic domains in which the abstract meanings of educational knowledge are located, and thus, to open up a pathway leading children towards successful engagement with the same knowledge in future educational contexts.
Note


References


Chapter 14

Children’s Website Structure and Navigation

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Introduction: website structure and user orientation

Understanding user orientation is an important challenge for hypermedia design, use, discourse analysis and literacy education. The need to address this challenge increases with the steady expansion of today’s most popular and complex hypermedia environment, the World Wide Web (WWW). Websites, the hypermedia texts that comprise it, are more than mere webs of nodes (or webpages) and hyperlinks. While hyperlinks enable multiple traversals within and between websites, the interplay of various semiotic resources (visual, verbal, kinetic and audio) guides users’ interpretation of the relationships between webpages or groups of webpages, which may or may not be hyperlinked with each other and may or may not be visited in a user’s website exploration. Success in studying any aspect of the relationship between website design and use, including user orientation, therefore, depends on understanding the multipli- cative meaning-making potential of the interaction between hypertextuality and multimodality, which Lemke (2002b) terms ‘hypermodality’.

In both the professional hypermedia design literature (cf. Badre, 2002; Coorough, 2001; Fleming, 1998; Krug, 2000; Pearrow, 2000; Veen, 2000) and educational research on hypermedia (Downes and Fatouros, 1995; Rouet and Lenoven, 1996), users’ ability to develop a conceptual model of the organization of information in hypermedia texts is seen as essential for successful orientation. This view is supported by early empirical studies of hypertext use (Edwards and Hardman, 1989; Elm and Woods, 1985; Otter and Johnson, 2000; Simpson and McKnight, 1990; Thüring et al., 1991). Understanding how a hypertext is organized enables users to establish their current position within it and predict the direction in which selecting an anchor (a clickable element that activates a hyperlink) will take them. A model for analysing the structure of hypermedia texts and the role of hypermodality in orienting users within them, therefore, would be of value for hypermedia design, evaluation and literacy education.
This chapter presents two tools, developed in Djonov (2005), for exploring the conceptual structure of websites and the role of hypermodality in revealing this structure: a systemic functional reconceptualization of ‘website hierarchy’ and a system for analysing the potential of hyperlink traversals to transcend, reveal or obscure a website’s hierarchical structure, the system of HYPERTEXTUAL DISTANCE RELATIONS. The main purpose of this chapter is to demonstrate how applying the system to the analysis of a website and its navigation and interpreting the results in light of the opinions of website users and designers can help evaluate the website’s design and its users’ hypermedia literacy.

The tracking trains project

To introduce the systemic functional reconceptualization of website hierarchy and the system of HYPERTEXTUAL DISTANCE RELATIONS and to illustrate their value for evaluating a website and its use, this chapter employs Tracking Trains, an Australian website for children (State Rail Authority of New South Wales, 2000–2002), and the navigation paths of 14 upper-primary school students through it. The students were from a composite Year 5/6 Science and Technology class in Eastern Sydney, New South Wales (NSW), Australia. Each path was recorded as a log file showing the sequence of webpages (URLs) visited by a student and the duration of each webpage visit. The paths were recorded as part of a school-based research project concurrent with the unit of study ‘On the Move: Moving roads, locally, nationally and internationally’ (New South Wales Board of Studies, 1993: 114–15), within which the participating class focused on local transport. The overarching theme of Tracking Trains – rail transport in NSW – suited this focus.

As a website for children, Tracking Trains also offered a productive ground for exploring meaning-making in hypermedia texts with hybrid purpose and double audience. Most children’s websites can be described as ‘edutainment’ or ‘infotainment’ texts as they aim to both educate or inform and entertain their overt audience – children. As well, like other products for children, they have a covert audience of adult-censors (parents, caregivers and educators).

The interpretation of the analyses of Tracking Trains and its navigation takes into consideration other studies in website design and use as well as views about the website expressed by the students (in two semi-structured group interviews) and by the NSW Department of Education and Training (DET) officer participating in its re-design. As this chapter focuses exclusively on the website’s original version, the name Tracking Trains will refer to that version only.
Multimodal Semiotics

Systemic Functional Theory as the basis for transdisciplinary hypermedia discourse analysis

The tools introduced in this chapter, together with Djonov's (2005) framework for describing logico-semantic relations in hypermedia, constitute a step towards developing a transdisciplinary model for analysing hypermedia texts. Based on Systemic Functional Theory (SFT), this model is informed by diverse fields: computer and information science; information architecture for the Web; website usability; user interface design; research on hypertext and hypermedia use; discourse, literary and cultural studies of hypertext; and hypermedia literacy education. While each of these fields provides valuable insights into various aspects of website design and use, none offers a coherent framework for understanding how these aspects interact. By contrast, SFT's focus on meaning, concept of text, and perspective on the relationship between text and context make it a promising basis for developing a metalanguage that all these fields can share in collaborative explorations of hypermodality and its role in the interaction between hypermedia design and use.

Initially developed as a social-semiotic theory of language by Halliday (1973; 1978; 1994) and Halliday and Hasan (1976; 1985) and later extended by Martin (1992); Martin and Rose (2003), Matthiessen (1995), and Halliday and Matthiessen (1999; 2004), SFT offers a rich framework for studying meaning-making as a dynamic social process. According to SFT, every act of communication is multimodal, constitutive of and construed by the socio-cultural context in which it occurs, and characterized by the simultaneous realization of three types of meaning: ideational (representations of our experience of the world around and inside us that include the logical relations between such patterns of experience), interpersonal (construals of social relationships, attitudes and feelings) and textual (the organization of ideational and interpersonal meanings into units with socially ascribed unity, i.e. texts).

SFT's focus on meaning has enabled its principles to be extended beyond language, to the study of images (Kress and van Leeuwen, 2006 [1996]; O'Toole, 1994), sound (Van Leeuwen, 1999), action (Martinec, 1998; 2000; 2001), 3D space (Stenglin, 2002; 2004; Chapter 4), and multimodal discourse (Baldry and Thibault, 2006; Kress and van Leeuwen, 2001; Lemke, 1998b; Martinec, 2005; O'Halloran, 2004; Van Leeuwen, 2005; Ventola et al., 2004). Another advantage of social-semiotic theory is its concept of text as ‘a structure of message or message traces which has a socially ascribed unity’ (Hodge and Kress, 1988: 6). As this concept implies neither linearity nor finiteness, it has motivated researchers to develop SF principles for analysing generically complex (Martin, 1994; 1995; 2002b) and hypermedia texts (Baldry and Thibault, 2006; Clarke, 2001; Djonov, 2005; Harrison, 2002; Kok, 2004; Lemke, 1998a; 2002b; Ravelli, 2001; Unsworth, 1999; 2004; 2006; Van Leeuwen, 2005; Zammit and Callow, 1999).
SFT also offers a model of the dynamic relationship between texts and the contexts of their production and reception. This model and the features introduced above render the theory a powerful platform for developing an overt multiliteracies pedagogy that meets the challenges of today’s ‘semiotic landscape’ (Kress and van Leeuwen, 2006 [1996]), such as increased awareness of the multimodality of all communication and of the abundance of texts with hybrid goals, and thereby paves the way towards equity in education (cf. Callow and Unsworth, 1997; Jewitt, 2006; Kress, 2003; Kress et al., 2001, 2005; Lemke, 2000; 2002a; New London Group, 1996; Unsworth, 2001; Zammit and Downes, 2002). This chapter contributes to the development of SF hypermedia discourse analysis and literacy studies by exploring textual meaning in both website design and use. This approach is inspired by Lemke’s (2002a: 41) argument that:

any enumeration of the contexts of use of these multimedia texts must include not just those of production and circulation, but also those of the local end-users. A complete social semiotic analysis would therefore add . . . interview reports and on-site field notes and recordings of how people actually make use of and interpret [hypermedia texts].

Website hierarchy: a systemic functional reconceptualization

Although regarded as a key website design principle, ‘website hierarchy’ does not have a unanimously accepted definition. Existing understandings of the term in the professional field of website design and evaluation foreground either the role of hyperlinks in connecting separate webpages or that of webpage design in grouping webpages into website sections and subsections. Some focus on the number of hyperlinks users need to traverse to find information or complete a task and the extent to which user success depends on traversing a pre-defined sequence of steps (or involves temporal subordination), while others present the subdivision of larger into smaller parts and subparts (or containment) as the main principle for organizing information in websites. Moreover, conceptualizations of the term reflect neither the organization of every website into two core strands of website sections (content and functional), nor the role multimodality and hypertextuality play in differentiating the two. Whereas content sections present information and activities related to the website’s theme/s, functional ones offer information about the website. Tracking Trains, for example, has four content sections (‘Track Central’, ‘Track Stop’, ‘Creating Tracks’ and ‘Making Tracks’) and one functional section (‘Teachers’). The contrast between these two types of website section is clearly signalled on the homepage (see Figure 14.1) through the use of framing as a multimodal design principle for creating connection or disconnection between
To report incidents that occur on State Rail trains, send an email message to security hotline or phone 1800 657 926.

All reports are strictly confidential.

Please send comments and suggestions to the Tracking Trains

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Website Design by Intime Online

**Figure 14.1** Tracking Trains: homepage

different elements within a text (Kress and van Leeuwen, 2001). To elaborate, each content section anchor features a section’s icon and title containing the word ‘track/s’, whereas the anchor to the functional section is represented only by its title, ‘Teachers’. Additionally, the content section anchors are aligned with each other and identical in size, whereas the functional section anchor is both smaller and separated from them.

To combine the strengths and overcome the weaknesses of existing conceptualizations of website hierarchy, Djonov (2005; 2007) proposes a reconceptualization of this principle by adapting the SF tool of ‘hierarchy of Themes’ to the analysis of textual meaning in websites. Originally envisaged by Halliday as a dimension of ‘hierarchy of periodicity’ (in Thibault, 1987: 612) and developed for the analysis of textual meaning in verbal discourse by Martin (1992), the tool has been successfully adapted to multimodal texts...
(Martin, 2002a; Thibault, 2001) and verbal relations between anchors and their destination nodes in hypermedia (Clarke, 2001). The Theme, which in English extends to include the first experiential element of the clause, ‘serves as the point of departure for the message; it is that with which the clause is concerned’ (Halliday, 1994: 37). By analogy, Martin (1992) applies the term ‘hyper-Theme’ to ‘an introductory sentence or group of sentences in a paragraph which is established to predict a particular pattern of interaction among [lexical/taxonomic] strings, [cohesive] chains and Theme selection in following sentences’ (437). Extending the analogy further, Martin argues that certain elements in a text (e.g. introductory paragraphs, titles, subtitles) may act as macro-Themes, signalling what a whole section or the whole text is about by predicting its hyper-Themes.

A hypermodally realized hierarchy of Themes can also be seen to operate within a website. As Figure 14.2 suggests, the homepage can be interpreted as a website’s highest-level \([n]\) macro-Theme because its function, following website usability research (cf. Krug, 2000; Nielsen and Tahir, 2002; Pearrow, 2000), is to offer users access to the website’s main sections and orient them to the website by allowing them to predict how the website is organized and what information and activities it has to offer. At the next level down \([n–1]\), a website section’s main page, similarly, serves as the section’s highest-level macro-Theme. The main page of a section’s subsection functions as a macro-Theme for that subsection, situated a level below the section’s main page \([n–2]\), and so on.

![Figure 14.2 A hierarchy of Themes within a website](image-url)
Each section in a website starts a new hierarchy of Themes, a new branch away from the homepage, the website’s highest-level macro-Theme, because each section’s main page can only function as the highest-level Theme for that section. To illustrate, on the main page of ‘Making Tracks’, presented in Figure 14.3, the subsection titles and descriptions occupying the main viewing area (i.e. the webpage area that excludes the homepage anchor and all navigation bars) and the vertical navigation bar situated below the anchor to the homepage (the anchor is represented as a train in the upper left-hand corner) reveal only the organization and contents of the section ‘Making Tracks’. By analogy, each new subsection within a section starts a new hierarchy of

**Figure 14.3** Tracking Trains: the main page of the section ‘Making Tracks’
Children’s Website Structure and Navigation

Themes subordinate to the main page of the section, the section’s highest-level macro-Theme.

This adaptation of the tool of hierarchy of Themes to website analysis underlies the following four-step definition of website hierarchy:

1. Website hierarchy is a semantic structure of hierarchies of Themes. These can be represented through webpage design and are unified by the homepage as the website’s highest-level macro-Theme.
2. Each hierarchy of Themes belongs to a given website section strand (e.g. content or functional) and is based on a scale of containment, within which temporal subordination may also operate.
3. The structure has two dimensions: vertical, defined by the number of levels below the homepage in each hierarchy, and horizontal, defined by the number of independent sections in a website or subsections in a section and so on.
4. Hyperlinks can connect webpages belonging to the same or different hierarchies of Themes and thus enable the traversal of both the vertical and the horizontal dimensions of a website, thereby either revealing or obscuring the position of hyperlinked webpages in the website hierarchy.

This definition brings out the complexity of websites as hypermedia texts: their multilinear nature; the possibility that some website components, such as educational games, may be organized as a sequence of steps, that is based on temporal subordination, rather than divided into subcomponents that can be independently explored; the existence of different strands of website sections; the role of webpage design (or multimodality) in representing the hierarchical structure of a website and the user’s position within it; and the potential of hyperlink traversals to reveal or obscure as well as transcend this structure.

Hypertextual distance relations

The system of hypertextual distance relations, presented in Figure 14.4, is designed for describing the potential of hypertextual relations originating from a website to transcend, reveal or obscure the website’s hierarchical structure. A hypertextual relation is one between nodes hyperlinked with each other. The central distinction in the system is between those relations that transcend the structure, called non-hierarchical, and those within the structure, called hierarchical.

Non-hierarchical relations

Non-hierarchical relations may transcend a website’s structure by taking users to another website (inter-website relations) or to an application other than the
Web browser (inter-application relations) such as an application from which users can send an email or with which they can open a particular type of print, sound, or video file. By transcending the structure of a website, non-hierarchical relations grant users freedom of navigation and could increase user satisfaction on the WWW. At the same time, they increase the fluidity of a website’s boundaries and may therefore cause disorientation especially for users with limited hypermedia literacy skills, who may be unable to find their way back to the website after actualizing these relations.

Hierarchical relations

Hierarchical relations can be classified as either vertical or horizontal, depending on whether they reveal the vertical or horizontal dimension of a website’s hierarchical organization. Each of these subtypes can be more delicately defined through two parallel subsystems: the first (at the top) defines the type of the relationship, the second (below the first) its direction (see Figure 14.4).

Hierarchical: vertical relations

Vertical relations obtain between webpages related by subordination. Two webpages are so related if they represent different levels within the same hierarchy of Themes, as do for instance the main page of a section and the main page of one of its subsections (subordination by containment), or if they are consecutive webpages in a linear sequence (temporal subordination). The direction
of a vertical relation is top-oriented if it leads towards the homepage (e.g. from the main page of a section to the homepage or from a webpage presenting the third step in a task sequence back to that presenting the second) and bottom-oriented if it leads away from the homepage (e.g. from the main page of a section to the main page of one of its subsections or from a webpage presenting the first to the webpage presenting the second step in a task sequence).

In terms of type, if one of the hyperlinked webpages is immediately subordinate to the other, their relation can be described as vertical: direct. If they are not, their relationship is remote. For example, a vertical: direct relation connects the homepage of Tracking Trains with the main page of any of its sections, or the main page of a section with the main page of any of its subsections. The relationship actualized by clicking on the homepage anchor on a subsection’s main page in Tracking Trains is vertical: remote. Because this act allows users to reach the homepage without visiting the main page of the section to which the subsection belongs, the relationship can be described as vertical: remote: immediate. Remote: immediate relations contrast with remote: mediated relations as the latter involve following two hyperlinks rather than one. An example is the relation actualized through the anchor ‘Have you seen the new Fast Tracks game?’ on the homepage of Tracking Trains, which does not take one directly to the game but to the main page of the subsection ‘Safe Tracks’ from which they can access the game by following a second hyperlink. This relation is remote as it allows users to skip the main page of the section ‘Making Tracks’ to which ‘Safe Tracks’ belongs. It is mediated because the main page of ‘Safe Tracks’ mediates the relationship between the homepage and the game. In actualizing both types of vertical: remote relations users skip levels in the vertical dimension of the website as they move up or down its hierarchical structure. While increasing the speed and freedom of navigation, the hypertextual ellipsis involved in these relations may decrease user orientation as it obscures the vertical dimension of a website’s hierarchical structure. To avoid this problem, the design of the webpages connected through vertical: remote relations, therefore, must clearly signal their position within the website’s structure. The vertical relations introduced above are illustrated in Figure 14.5, in which unbroken-line arrows represent hyperlink traversals and a broken-line arrow represents the vertical: remote: mediated relation between the homepage of Tracking Trains and the ‘Fast Tracks’ game.

Hierarchical: horizontal relations

Hierarchical: horizontal relations reveal the width of a website by connecting website strands, sections, subsections, and so on. Horizontal: between-strands relations connect sections belonging to different strands. Such relations are those between any of the content sections of Tracking Trains and its functional
section, ‘Teachers’. *Horizontal: within-strand* relations connect webpages belonging to the same strand, and may obtain either between sections or within a section. Following a hyperlink from one to another content section actualizes a *horizontal: within-strand: between-sections* relation. In *Tracking Trains*, this type of relation can be actualized from anywhere in a content section by selecting

**Figure 14.5** Examples of vertical relations in *Tracking Trains*
another content section’s icon or title from the horizontal navigation bar at the top or bottom of the webpage respectively (see Figure 14.3). A *horizontal: within-strand: between-sections* relation is actualized also by shifting from a subsection belonging to one section to a subsection belonging to another. In *Tracking Trains* this type of traversal is enabled through anchors occupying the main viewing area of some webpages. The anchor ‘Safeguard our environment’ on the main page of the subsection ‘Designing Tracks’ belonging to the section ‘Making Tracks’, for instance, leads to the subsection ‘Enviro Tracks’ belonging to the section ‘Track Stop’, and thus enables a move from one website section to another.

The subcategory *horizontal: within-strand: within-section* describes relations between same-section webpages not subordinate to each other (e.g. it excludes the *vertical* relations between a section’s main page and the main page of the section’s subsection or subsubsection). If a section’s webpages are organized into subsections, *within-section* relations can be further defined as either *between-subsections* (those between the webpages of different subsections in the same section) or *within-subsection* (between same-subsection webpages not related through subordination). To illustrate, within the section ‘Making Tracks’, the subsection anchors in the vertical navigation bar on the left-hand side of every webpage (Figure 14.3) allow users to shift from one subsection to another. Increasing the system’s delicacy, if a subsection is organized into subsubsections, *within-subsection* relations can be described as either *within-subsubsection* or *between-subsubsections*. Clearly, descriptions can be extended further to accommodate all the levels of subdivision within a website section.

The categories of *horizontal* relations introduced above do not reveal the hierarchical status of the related webpages. This can be achieved by defining the direction of these relations as either *parallel* or *diagonal*. A *horizontal* relation has a *parallel* direction if it connects the main pages of two sections, of subsections belonging to the same section, or of subsubsections belonging to the same subsection. In other words, a *parallel* relation links webpages that are directly subordinate to the same superordinate webpage. All other *horizontal* relations are *diagonal* and obtain between webpages that differ in hierarchical status. The distinction can be exemplified through relations originating from the main page of ‘Safe Tracks’, a subsection of ‘Making Tracks’. Selecting another subsection’s title from the vertical navigation bar on the left-hand side of that page shifts users to the main page of another subsection of ‘Making Tracks’, thus actualizing a *parallel* relation. By contrast, clicking on the icon or title of another section from the horizontal navigation bar at the top or the bottom of the main page of ‘Safe Tracks’ transports them from a subsection belonging to one section directly to the main page of another section, bypassing the main page of the first section. This relation then illustrates that *diagonal horizontal* relations, like *vertical: remote* ones, enable hypertextual ellipsis and thereby grant ease and freedom of navigation. To avoid the risk of disorienting users that
hypertextual ellipsis entails, while retaining the advantages of diagonal relations, the position of the related webpages in the website’s hierarchical structure must be clearly signalled through webpage design. This risk is even higher for diagonal relations from a subsection in one section to a subsection in another since these allow shifts from one section to another without visiting either section’s main page.

**Hypertextual distance relations in *Tracking Trains* and its use**

Because the system of hypertextual distance relations, like the SF definition of website hierarchy it derives from, reflects the relation between website structure, webpage design and navigation, it can be employed to evaluate the interdependence between website design and use. Using as a case study the *Tracking Trains* project, this section will exemplify how applying the system to the analysis of a website and its exploration can help evaluate the freedom of navigation that the website grants its users and the extent to which they use this freedom.

Part of the *Tracking Trains* project consisted in analysing the hypertextual distance relations in the website and its navigation. Although limited to relations originating from the homepage, the main pages of content sections, and the main pages of their subsections, this analysis indicated discrepancies between the ratios of different types of distance relations available within the website and the ratios of relations actualized in its navigation, as shown in Figure 14.6.

![Figure 14.6](image-url)
Correlated with observations of the participants’ use of Tracking Trains, their opinions about it, the results of other studies of website use, and the views of the team involved in the website’s redesign, these differences contribute to identifying areas that need improvement in both the website and the participants’ hypermedia literacy.

The discrepancy between the proportions of non-hierarchical relations in the website and navigation analyses, although insignificant at first sight, is worth noting because most of the inter-website and inter-application relations in Tracking Trains are found in educational games. Most of these games are quizzes with multiple-choice answers, in which the final score is not affected by the number of wrong guesses preceding a correct answer. Consequently, users are insufficiently stimulated to reach the correct answer by using information from train timetables and other documents on the CityRail or Countrylink websites or from files that must be opened with applications other than a Web browser. In this way, the website’s design fails to help children develop the important hypermedia literacy skill of being able to find one’s way back to a particular website after visiting another or leaving the Web browser in order to open a file with another application (i.e. after actualizing an inter-website or inter-application relation). To succeed in this, in addition to making non-hierarchical relations available, a website must be designed so that their actualization is essential for success in such educational activities.

Turning to hierarchical relations, the analysis suggests that Tracking Trains is designed to give users considerable freedom to explore the website by moving along its horizontal dimension, or freely shifting from anywhere within one section or subsection to another, since 55 per cent of the analysed relations are horizontal. Their dominance in the website, however, is not evident from the navigation analysis, where vertical (64%) considerably outnumber horizontal (34%) relations.

Several reasons account for this discrepancy. The first is a product of the distribution of information within the website, the fact that each navigation path started from the homepage, and the near absence of bottom-oriented vertical: remote relations in the website. To elaborate, because information and activities related to the website’s main theme, rail transport, are situated within its subsections, reaching such information and activities from the homepage requires three clicks and the actualization of at least three vertical: direct relations. The only exception is the ‘Fast Tracks’ game, which – due to the vertical: remote: mediated relation described above – is only two clicks away from the homepage.

The second reason becomes apparent in close observation of several individual navigation paths where students, rather than moving directly from one content section to another, returned to the homepage each time they wanted to visit a new section. This ‘backtracking forward’ pattern leads to two or more vertical relations being actualized instead of a single horizontal one. It results
from problems students experienced in predicting what a given content section offers from its icon or title and in matching each section’s icon with its title or vice versa. Although returning to the homepage may not help with the first problem, it allows students to overcome the second because unlike all other webpages in Tracking Trains where content section icons and titles are presented separately (in two horizontal navigation bars at the top and the bottom of the page), on the homepage each content section’s title and icon appear side by side.

A third, closely related to the second, reason for the prevalence of vertical relations in the navigation analysis surfaced when some students shared that, being unable to find the homepage anchor, they kept clicking the Web browser’s ‘Back’ button whenever they wanted to reach the homepage. In some cases trying to reach the homepage from the main page of a subsection in this way would result in actualizing at least two vertical: direct relations, while clicking on the homepage anchor would actualize a single top-oriented vertical: remote: direct relation. Whatever the case, backtracking always slows down user’s exploration of the website. This is why empirical studies of Web browsing regard frequent use of the ‘Back’ button as a symptom of user disorientation (Cockburn and Jones, 1996; Cockburn and McKenzie, 2001; Cockburn et al., 2002), just as website usability experts sometimes interpret returning to the homepage to regain orientation within a website as a sign of Web design inadequacies (cf. Nielsen, 2000; Nielsen and Tahir, 2002; Pearrow, 2000; Sano, 1996). In Tracking Trains, the inability of some users to identify the homepage anchor may on the one hand result from unfamiliarity with website design conventions since the anchor occupies the left-hand corner of webpages, which is a prototypical homepage anchor position, and moving the cursor over it brings up an image tag reading ‘Home’. On the other hand, this inability may be due to the unconventional visual representation of the anchor as a train, rather than a house. Furthermore, some participants may have avoided using the homepage anchor for fear it may lead them outside Tracking Trains as does clicking on the image of the same train on the homepage (see Figure 14.1), which takes users to the NSW State Rail website.

Finally, the project participants reported being unable to predict the content of subsections from their titles. To solve this problem, instead of moving directly from anywhere within one subsection to the main page of another subsection belonging to the same section by selecting the latter’s title from the vertical navigation bar on the left-hand side of the current webpage, some would revisit the section’s main page, where in the main viewing area each subsection title is accompanied by a brief description of the corresponding subsection. This act of revisiting the main page of a section and the subsequent traversal to one of its subsections actualizes at least two vertical relations, whereas a direct shift between subsections requires a single horizontal one.
In summary, the brief discussion of hypertextual distance relations in the analyses of *Tracking Trains* and its navigation presented in this section suggests that discrepancies between available and actualized relations, especially when interpreted in relation to close observations of website use and the opinions of website users, designers and usability experts, can help identify problems in both a website’s design and its users’ hypermedia literacy.

**Conclusion**

This chapter introduced two tools for the analysis of textual meaning in websites and their use: a systemic functional definition of website hierarchy and a system of hypertextual distance relations, which is based on that definition and serves to describe the potential of hyperlink traversals to transcend, reveal or obscure the dimensions of a website’s structure. To illustrate the value of the transdisciplinary approach underlying the design of these tools – a social-semiotic approach drawing on insights from Web design and usability, website users’ opinions and close observations of website use – this approach was adopted in comparing the analyses of selected hypertextual relations in the children’s website *Tracking Trains* and its navigation. The comparison suggested that discrepancies between the proportions of relations available within a website and those actualized in its navigation may be indicative of problems in a website’s design, users’ hypermedia literacy, or both. Investigating these problems by examining individual navigation patterns and correlating such examinations with the views of website users and findings of previous studies of hypermedia use is a promising method for building a model for successful hypermedia design and literacy education. The *Tracking Trains* investigation, for example, highlighted that to avoid causing user disorientation, options granting users freedom of navigation on the Web must be supported by website design that reveals the function and hierarchical status of webpages within a website. It also illustrated that familiarity with hypermedia design conventions and the ability to find one’s way back to a website after leaving it are important components of hypermedia literacy and their improvement can be hindered or fostered by educational website activities.

The tools presented in this chapter will also be of value for comparing the interaction between design and use across websites. Such comparative studies can enhance the process of formulating meaning-based, content-sensitive criteria for evaluating websites and their use, which will be indispensable in designing explicit hypermedia literacy education programs. To power these studies, the tools presented in this chapter must be complemented by methods for analysing ideational and interpersonal meaning in hypermedia. While recent studies have already proposed tools for exploring various types of
hypermedia texts and aspects of hypermodality (cf. Baldry and Thibault, 2006; Djonov, 2005; Jewitt, 2006; Lemke, 1998a; 2002b; Unsworth, 2006), developing a comprehensive model for systemic functional hypermedia discourse analysis and literacy education remains an outstanding research goal.

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Chapter 15

Picturing the Landscape of the Knowledge Society: A Semiotic Point of View on Adolescents’ Pictorial Metaphors

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Landscape of the knowledge society

The surrounding area, which is understood as a landscape, has in principle been defined from the angle of many fields, such as geography, aesthetics, architecture, agriculture and forestry. In this presentation I will approach landscape mainly from the viewpoints of pictorial communication, semiotics and particularly social semiotics. A curious feature of the research topic is, of course, the fact that by ‘landscape’ in the title I mean the pictorial representations of the imagery shape of the so-called knowledge society in 2015, which is the way (16- to 17-year-old) Finnish upper-secondary-school students have come to understand the present megatrend, that is to say, the learning society and an economy based on knowledge. The decisive impetus for the launching of this society as well as for the extensive administrative investments and measures in Finland was provided by the Information Society Programme for Education in 1995. The plan has now been carried out for more than 10 years, and those students who have produced the pictures in my research project have spent most of their lives on the ‘crest of the wave’ and in the atmosphere of this societal transition, the meaning of which is still mostly unknown.

To begin with, a few words about how the landscape itself has been approached in semiotics: Greimas (1967, cited in Tarasti, 1990: 154), for instance, the founder of the Paris School, viewed it as a phenomenon that seems to surround its centre, the observing subject. The relation of the (physical) world and the viewer could then appear as a kind of communication process, where the surrounding nature is understood as the ‘sender’ of the message, the landscape as the ‘message’ itself, and the observing subject as the ‘receiver’ of the message and the signs within the landscape. In such a communication with nature, the human party
would then have an aesthetic experience, by which the landscape, as it were, 'speaks' to the human being (Tarasti, 1990: 154–56).

However, the semiotics of the landscape cannot, and especially not the semiotics of the ‘landscape of the knowledge society’, be based solely on the dialogue between man and nature, as there are numerous other relevant factors between these elements that have an influence on the process. These include for example, all the circumstances, which are related to the action of the observing and experiencing subject in his or her community, in connection with extensive cultural, social and contextual factors. One could imagine that the idea of a landscape (of the knowledge society) is a result of the subject’s action within his or her ‘umwelt’, in the community and in the culture. So the portrayal of a landscape is never, not even in a realistic one, a mere mimetic description of its object, but on the contrary it always expresses the author's socially constructed attitudes towards the phenomena, the ‘spirits’, ideas and ideologies of the age. Tarasti (1990: 156) has suggested that we should view the landscape as a kind of border zone, as a part of nature and culture, at which the culture 'looks' from its own viewpoint, and on to which it projects its own structures and attitudes. Thus the concept of landscape is based on the ‘dialectics’ between culture and nature, where it can be seen as the ‘humanization of nature’ and thus, above all, as converting nature into culture. That is to say, the cultures do not only define the landscapes, but they also express their points of views concerning which kinds of landscapes are beautiful and favourable, or ugly and unfavourable. An example of this is romantic landscape painting, where nature often appears as untouched, sublime, or even threatening, while in the realist period the landscapes were rendered tame, turned into a part of nature in man’s possession (e.g. Tarasti, 1990: 156–59). Even the landscape of the knowledge society shares in this kind of dynamics. The way the ‘Copernican revolution’ and baroque gardens in their worship of solar centres reflected organizations and hierarchies of an autocratic time, one could expect that the students’ drawings of ‘the landscape of the knowledge society’ also contain signs of the idea of the knowledge society as they see it and have constructed it from their own starting points (cf. Mumford, 1970: 28–39). I could also mention as a matter of curiosity that, in Finland, the meaning of the genre of landscape painting has traditionally been emphasized particularly in the times of great changes, because the landscape has always been part of the culturally constructed national identity of the country, a creative and maintaining power of it, that is to say, even its symbol (Savelainen, 1998: 13).

As stated earlier, the ‘landscape of the knowledge society’ is in this case to be perceived as an imagery space, a ‘locus’ (or in Peirce’s [1931–1932] terms an immediate object), as a ‘landscape of the mind’ charged with meanings, which lacks an explicit physical object, (the peircean dynamic object), but which people continue to construct on the basis of the knowledge they have and experiences they derive from their umwelt. The latter also includes all the multimodal ideas
and associations about the concept, which in the absence of mimetic counterparts may in this connection be represented as pictorial metaphors, metonymys, synecdoches or take the form of other tropes. This kind of ‘mindscape’, a state of mind, which we view ‘as if’ from the inside, may appear as a physical location as in Lakoff and Johnson’s (1980–2003) and Turner’s (1996: 45) conceptual metaphors, where ‘States Are Locations’. A mindscape is also capable of describing the object by bringing out new aspects and visions of its future. In my study, the reference to the near future, or to the year 2015 in my title, is also basically connected to the object of the assignment: to the possibility of looking at the imaginative future instead of the present, which is more difficult to shape. For Kellner (2000), for whom the debates about the future as stories and visions, where utopias may turn into dystopias, may also serve in understanding the present and even in outlining new theories of the society.

Social semiotics: multimodal research and methodology

On the background of social semiotics

Before looking at the examples of the ‘landscapes of the knowledge society’ I will first consider the methodological background through which I am going to approach the discourse of the pictures. The analysis of these texts have, during the past decade, been particularly emphasized by social semioticians (Kress and Van Leeuwen, 2001), within which the discourse analysis of multimodal texts has also been developed. In the future analysis of my own empirical material I will also use the views and concepts of C. S. Peirce (1931–1932), the founder of pragmatist semiotics, as well as other picture analysis methods (like Panofsky’s [1967] iconography). However, in this presentation I will consider the concepts of discourse analysis presented by Kress and Van Leeuwen (1996; 2001) in particular, and reflect on the pictures of my own empirical material in the light of their methodology.

The roots of social semiotics themselves originate from the tradition of the Russian formalists and the Prague School as well as from the views of the semioticians of the Paris School, to which the social semioticians have adapted some concepts from Peirce (1931–1932), as well. Social semiotics itself has been particularly developed on the basis of the ideas of the British linguist Halliday (1978; 1985) by the researchers of the visual (and multimodal) communication, Kress and Van Leeuwen (1996) and the rest of the group in Australia (The Newtown Semiotics Circle in Sydney 1985). After the 1990s social semiotics has been developed particularly within the field of critical discourse analysis, for example, in the communication, film and television, the new media, as well as in culture studies. Lately there has also been much talk about critical media
literacy (or media proficiency as we call it, including the production of media texts, too), which is also a fundamental concept in my study.

Even though social semiotics has made good use of the tradition of structural semiotics (e.g. Saussure, 1974), its concepts and methods differ explicitly from them. Van Leeuwen (2005: 1) emphasizes that social semiotics does not aim to obtain a position of a self-contained ‘pure’ theory, but rather that of an interdisciplinary field. At the same time he stresses its nature as a pragmatic form of enquiry, which does not offer ready-made answers to questions.

The concept of sign

At first a few words about the concept of sign: a fundamental difference between structuralism and social semiotics is related to the sign, instead of which the group prefers to talk about semiotic resources and how these resources are used in specific contexts (Van Leeuwen, 2005: 3), in other words: how artefacts are produced and interpreted in communication. This is related to the need to emphasize that signs are never ‘pre-given’, or ‘stand for’ anything, but they appear as ‘meaning potential’, a kind of latent affordance, from where they are available for people’s potential use in particular situations. The signs should be examined particularly in their social contexts, or in Voloshinov’s own words: ‘Signs may not be divorced from the concrete forms of social intercourse . . . and cannot exist, as such, without it’ (Voloshinov, 1973: 21, cited in Hodge and Kress, 1988: 18; Van Leeuwen, 2005: 3–4). The semiotic resources may imply all kinds of objects and actions (speech, writing, pictures, gestures etc.), which have a theoretical or actual semiotic potential to articulate as social semiotic meanings depending on the prior experience or the relevance of the use (expression or interpretation) of these resources. Accordingly, unlike Saussure (1974), who considers the relation of signifier and signified as arbitrary, the social semiotics view the production of meanings (or semiotic resources) in use, as kind of motivated conjunctions of meaning (signified) and form (signifier), where they are always motivated by the interest or the qualities of the object (Van Leeuwen 2005: 4, 49). In this connection Van Leeuwen (2005: 49) raises the question of the consistency of social semiotics with Peirce’s (1931–1932) thinking, referring, for example, to the concepts of icon and index, which in consequence of the resemblance (icon) and causal relation (index) is also viewed as being motivated signs.

On the whole, one could characterize the most fundamental difference of social semiotics with the traditional structuralism as follows: where the structuralists underline the structures and systems, the social semioticians – and Peirce (1931–1932) – emphasize the use and action of the signs, or semiotic resources.
Experiential metaphors

There is still another important feature in the use of signs and action, which deviates from structuralism, and that is the fact that social semiotics, like Peirce (1931–1932), emphasize the *processual* character of the production of signs (Kress and van Leeuwen 1996: 6–7). In this connection the group also brings up the concept of *experiential metaphors*, which in social semiotics is constitutive of the reason that these metaphors have an important role in the sign processes themselves, where they function as ‘tools’ for *semiotic innovation*, that is, through direct, concrete experiences, where new concepts can be founded, new practices created, and new ideas learned (Van Leeuwen 2005: 29–34). Kress and Van Leeuwen (1996: 6–7) give an example of a 3-year-old boy’s drawing, which he named ‘a car’. In the picture the vehicle was defined by the characteristic criterion of ‘having wheels’ or the circular forms, upon which his picture focused. What the boy’s picture in fact represented was ‘wheelness’, which functionally depicted his own *interest* and *motive* for the toy car and/or the real ones.

Referring to Arnheim’s (1969) ideas, as well as to Lakoff and Johnson’s (1980/2003) theory of conceptual metaphors, social semiotics in this connection also comprehend the close relation of metaphors to *abstract thinking*. This also implies the acknowledging of the bodily nature of experiences as central to understanding the concepts (Kress and van Leeuwen, 2001: 74; Lakoff and Johnson, 1980/2003: 272–73). However, Lakoff and Johnson (1980/2003: 83–86) make a clear-cut distinction between the metaphorical structuring and the concept of the so-called ‘*subcategorization*’. It seems that the latter criteria, which consists of concepts of the same kind of activity or structural features, is on the other hand, also linked with the *root metaphor*, which is a kind of dominant metaphor, a fundamental and unspoken presumption, which has an influence on the background of concepts. These metaphors have been studied particularly by Ricoeur⁶ (2000) and Pepper⁷ (1942), whose ideas are interesting especially because of their connections to the ‘*experiential meaning potential*’, by which Kress and Van Leeuwen (2001: 77) describe the broad value systems of a culture, which are expressed through material artefacts (like clothes, architecture) and the ways in which people behave. It is particularly challenging, from the point of view of my own study, to examine the existence and appearance of the experiential metaphors (the ‘wheelness’, ‘box-likeness’ etc.), as well as their relation to the conceptual and the root metaphors in students’ pictures about the ‘Landscape of the knowledge society’.

In all, the social semioticians (e.g. Van Leeuwen 2005: 30–33) emphasize that the experiential metaphors are *multimodal* concepts, which are based on concrete experiences. While tied to their cultural and social context, they are also part of the endless chain of production, filtration and recycling of the signs. The idea seems familiar and inevitably brings to mind the pragmatist
semiotics of Peirce, in which for example, through the concept of *semiosis*, the action of signs, appears to be in harmony with the dynamic idea of the signs in social semiotics.

**Some case study examples**

In the following I will present some examples of my empirical case study, done in spring 2005 at an upper secondary school specializing in communication studies and Information and Communication Technologies (ICTs) within the metropolitan area of Helsinki in Finland. The subject was ‘The landscape of the knowledge society in 2015’, in which the concept of knowledge society itself is the subject of investigation. The pictures were produced by drawing with pencils or crayons in the Art education classes. According to Turner (1996: 4–5) narrative imagining (story) is the fundamental instrument of thought and our chief means of looking into the future, of predicting, and of explaining. The assignment was begun by briefly discussing the subject in small groups and gathering the ideas to be shared by all participants. After completing the drawings the students were asked to write down a few words explaining their pictures, on the basis of which they were also interviewed later. My aim is to find out, through a discourse analysis of these pictures, how the knowledge society appears to the adolescents of today, the types of pictorial discourses and metaphors and other tropes they imply, and what kind of cultural meanings they have. I have adopted a cognitive–semiotic approach to metaphor, which implies the idea of signs as fundamental elements and mediators between perception and cognition, and which views semiotics as an integrating basis for conceptual metaphor theory, and, ultimately, for the interpretation of the pictorial metaphors. In this chapter I will approach the drawings mainly through the discourse analysis methodology of social semiotics according to Kress and Van Leeuwen (Kress and van Leeuwen, 1996; Van Leeuwen, 2005), while adapting concepts and terminology related to visual art education and art research, as well.

‘The boxes’

As stated before, the social semioticians view signs in their social and cultural contexts, always *motivated* by the producer’s ‘interest’ and by the characteristics of the object (e.g. Van Leeuwen, 2005: 49). This interest, as expressed by Kress and van Leeuwen (1996: 11), means, with regard to traditional structuralism, spontaneously bringing about a new kind of *subjectivity* of the producer.

The picture (Figure 15.1) could at first be approached by trying to identify oneself with the imaginary *gaze* or point of view of the producer, which looks at the ‘landscape’ diagonally from above, so that the horizon is left high above
the frame of view. Louis Marin (1993) speaks of landscapes seen from high
skyscrapers and of the ‘ubiquitous gaze’ through which the onlooker identifies
him/herself with the building and thus experiences feelings of visual posses-
sion and control. Especially the horizon seems to metaphorically produce such
sublime ideas as infinity, freedom, utopia, transcendence etc. In the context of
the United States they bring to Marin’s mind the perspectives of economic
growth and geographical expansion. It seems that particularly the Western tra-
dition has attributed such meanings to the landscapes as seen from above,
producing visions of a victorious future (like the news footage of aerial bom-
bardments in Kuwait and Iraq) (Lukkarinen, 2004: 40; Marin 1993, Kress and
van Leeuwen, 1996: 146–48). In this picture, the horizon referring to the future
is not displayed, and the scenery is rather gloomy. The implied producer (and
the viewer) has imaginary power, but over what? The ‘vectors’ of the box rows
in the centre perspective seem to point to the darkening vanishing point: to the

**Figure 15.1** The boxes

[Image of a box structure pointing upwards]
destruction, or even solipicism. The picture totally lacks social interaction, as people are no longer interested, according to the author, in the world outside.

I earlier referred to the ‘wheelness’ of the child’s drawing of a car. What draws one’s attention in this picture is the ‘angularity’ or the ‘box-likeness’ (the student named the picture ‘the boxes’). Also Kress and van Leeuwen (1996) talk about the basic visual forms (quadrangles, triangles and circles), whose meanings they track, firstly, in the characteristics and values, which they have acquired in social and cultural contexts; secondly, in the meanings which people are used to linking with these objects (e.g. sun and moon to the circle, engines to quadrangles etc.); and, thirdly, in the tradition of abstract art. Out of these the quadrangle – the ‘box’ – has often been viewed as an element of the mechanical and technological system, which as a positive connotation may represent, for example power and progress (Kress and van Leeuwen, 1996: 51–55). However, in this context it appears to acquire tones of lifelessness, coldness and machine-likeness, as well as of urbanization, pollution and conformity (cf. Ricoeur’s (2000: 108) root metaphors; Lakoff and Johnson’s 1980/2003 ‘subcategorization’). It seems that the picture also clearly refers to the previously mentioned mechanistic root metaphor,9 which is one of Pepper’s (1942) four basic cognitions or presumptions of the nature of the world.

‘At the mercy of another’

As I stated earlier, the social semioticians suppose that the meaning is produced in use, (interpretation/expression) and for this reason they take an interest in the representation process of the sign. In my empirical corpus it is also possible to trace the motives of the students by examining the construction or production process of the pictures through the different versions, as well as on the basis of their own verbal descriptions and interviews.

Knowledge and technology were often valued also from the point of view of power, the theme of which – to my astonishment – became rather popular in this group. Here Knowledge or Technology Is Power10 (or Surveillance), a view expressed by Francis Bacon already in the seventeenth century (Mumford, 1970: 118). This is the first version of the multiphased picture, which in the end was named ‘At the mercy of another’. (Figure 15.2) The starting point was the student’s mental image of a big frightening city, a girl and a teddy bear. The whole thing started out of a smoking city, which was turned upside down, which in turn resulted in a city of flooding exhaust fumes or ‘tsunami’, a conceptual metaphor of information flood (Information Is a Flood). In the circular ‘whirlpool’ there is a falling girl, the theme of which the author adopted from a science fiction movie ‘I, Robot’ (Proyas, 2004), where humans and robots clash in 2035. The girl has become an object of a ruling robot, who is like an ‘eye’ of a camera watching over her (‘the eye of power’, seeing is metaphorically knowing and surveillance even in pictures, the mind’s eye metaphor was already
known in Aristotle’s time). When the development of this version reached a dead end, the author started a new version of it on the other side of the paper.

The author wanted to continue the theme of surveillance, and the combining link was the computer, which now became the representative of power (Figure 15.3). This ‘machine’, which was the first thing to be sketched in the upper right corner, thereafter gained (again) the eyes, and the wires to control the marionette or the clown (‘The machines direct our lives. We are no longer able to do what we would like to.’). Metonymically, the apparatus may be combined with the main title of the assignment, that of the knowledge society and its ‘machinery’, and the eyes of the machine with the beast/devil, to whom the power of the robot seems to be passed. Both versions focus on the human being in the middle, whose role as a ‘victim’ is strengthened not only by binding him/her with wires, but also by placing her into the ‘wheels of power’, where the legs are bitten off. The main role: the destructive power is given to the wheels and wires, which again represent the mechanical root metaphor, and which shifts the time and location of the setting to the machine age (cf. Chaplin’s [1936] film ‘Modern Times’). Kress and van Leeuwen (1996) also emphasize the meanings of the social interaction, which in the picture may be expressed as the direction of the gaze. In this version the gaze of the ‘victim’ addresses the viewer directly which, according to Kress and van Leeuwen (1996), produces a meaning of

**Figure 15.2** At the mercy of another
‘demand’ or an ‘appeal’, while a gaze addressing the audience indirectly is more like an ‘offer’. The basis for these kinds of ‘image acts’ comes both from Halliday’s (1985) speech act theory, as well as from the tradition of art research (e.g. Panofsky, 1967; Kress and van Leeuwen, 1996: 121–30).

‘Information flood’

This picture (Figure 15.4), as the author characterized it, represents an enormous ‘information flood’, which in fact proved to be a useful metaphor, especially because of the ‘tsunami’ flood, the (time) context of which was closely related to the catastrophe in Thailand (the pictures were made only 4 months after the tragedy). The ‘tsunami’, which also resembles flames is, moreover, a natural force, and also a metaphorical tap that can be manipulated. The author writes:
The flood runs towards the end of a ‘table’, where it starts to drip down. There are bars at the bottom . . . [which] mean an eternal separation from the real world, behind which people ultimately land because of a great (amount of) and perhaps incorrect knowledge and technique. A human being is described as an isolated individual as if inside a bubble. So she is in connection to the surrounding world only through the mediation of that knowledge or technique. The human being probably also wants to influence her destiny, but is not able to get out of the bubble. All the things that are based, e.g. on belief, are buried in the foams of the flood because, in the future, knowledge will steamroller everything.

As to the composition, Kress and Van Leeuwen (1996) refer to the functional semiotic theory of Halliday (1978; 1985), on the basis of which they understand the narrative processes, tensions and dynamic forces, including the abstract visual dynamics, even in the pictures, as ‘transactions’. In these processes, the participating elements, like the mediators between actors and goals, are combined by a kind of ‘vector’, which may appear for example as a line, deictic cone, gesture or as the direction of a gaze. Therefore these vectors, which are the basic elements of visual dynamics, are also, according Kress and van Leeuwen, the narrative visual ‘propositions’, the hallmarks of a narrative structure of the pictures (Kress and van Leeuwen, 1996: 57).
In the picture one could also shape this kind of dynamics or transaction in the flood heading down from the tap diagonally to the left. The ‘goal’ is ‘the eternal isolation’ behind the ‘bars’, and the main ‘actor’ is the hidden user of the mysterious tap. Kress and van Leeuwen (1996: 186–202) view the picture plane also as a semiotic space, the parts of which produce (or ‘motivate’) different kinds of meanings. That is to say, if this composition is viewed from the perspective of Western culture, where the direction of writing is from left to right, and from the top downwards, the emerging meanings of the left and right horizontal halves may be described with the concepts of ‘before’/‘after’ (or ‘the given’/’the new information’) (Kress and Van Leeuwen 1996: 186–202). Correspondingly, for the same cultural reasons, the ‘up’ and ‘down’ concepts may be understood as ‘the ideal’/‘the real’ or ‘how things could be’/‘how they really are’ (or in advertising; ‘the promise’/‘the product’), the idea of which is largely parallel to Lakoff and Johnson’s (1980/2003) conceptual metaphor (More Is Up, Less Is Down). In this kind of reading of the (example) picture, there seems to emerge an impression of a dramatic diagonal vector running down to the left against the direction of writing, creating an impression of narrational dynamics, which results in destruction (cf. also Lakoff and Johnson’s (1980/2003) conduit and journey metaphors). However, because of the compositional reasons (motivated by culture), the right top corner, ‘the tap’, seems to be particularly foregrounded and receives the ‘key role’ in the interpretation. On the other hand, the picture is also dominated by the mysterious force of destruction, the ‘tsunami’, which offers itself as the powerful metaphorical explanation for the scene in the picture. The interpretation of the knowledge society as the deterministic process of the natural forces, the destruction of which cannot be prevented (not even by the human being in the bubble), is also supported by the previous research concerning the verbal discourses of the knowledge society (see Aro, 1997). To the question in the interview ‘Who uses the tap?’, the cryptic answer was: ‘A power higher than man’ (to which the author also refers by the Christian symbol behind the tap).

**Conclusions**

As stated earlier, in the present study the concept of the knowledge society is itself the subject of investigation. I have further adopted a cognitive–semiotic approach to metaphor, which implies the idea of signs as fundamental elements and mediators between perception and cognition, and which views semiotics as an integrating basis for the interpretation of the pictorial metaphors. Due to the mediational sign-in-action process, the signs always appear in action, in their specific temporal and spatial situations, which enables the interpreter to consider the contextual factors in the cultural frames of everyday experience.
To illustrate the empirical corpus I have presented some examples of the drawings entitled, ‘The Landscape of the Knowledge Society in 2015’ and some initial approaches to their analysis. In the overall outline, the following questions appeared to be emphasized in the students’ pictorial metaphors: First, it seems that, for the students, the concept of the knowledge society is rather obscure and is viewed as if it were in the remote future. On the other hand, the manner in which this ‘obscurity’ is described is a particular challenge for a visual semiotic interpretation. Second, the knowledge society is, to a great extent, viewed as a deterministic phenomenon, like the forces of nature, whose power cannot be controlled. In many cases it appears as a threat to human beings, who are but victims, and thus at its mercy. Third, this image of the future very often also incorporates sombre grey urbanization and people drifting apart from each other and from nature. As to the overall rhetoric of the pictures, their narrative repertoire is quite extensive, containing many kinds of pictorial poetic metaphors and other figurative expressions such as metonyms and synecdoches. In the semiotic analysis as well as in the close reading of the pictorial examples I have, in addition to art education, particularly benefited from the views and concepts developed in social semiotics (Hodge and Kress, 1988; Kress and van Leeuwen, 1996; 2001; Van Leeuwen, 2005).

Notes

1 The information/knowledge society is commonly understood as a new form of society, into which the society will be transformed, boosted by the development of information and communication technologies. Particularly from the technological point of view, the concept implies strong optimism and reliance on the capacity of information and communication technologies to resolve societal problems (cf. Bell, Masuda, Naisbitt, Toffler). According to Castells the change is also due to the emergence of an informational and global economy, networked organizations and the rise of cultural and social movements.

2 Von Uexküll’s ‘umwelt’ is the subjective phenomenal world, which is part of the objective environment, where he or she acts, and which he or she experiences (cf. Habermas ‘habitat’ and Husserl’s ‘lebenswelt’).

3 ‘By “mindscape” I mean to designate the mental landscape conjured up by looking over it as an area: ways of organizing the perception of a territory, its characteristic features and landmarks. This entails much more than a “neutral” description, since it signifies an approach, the posture of advancing the landscape (far beyond the merely descriptive, the mindscape is a prescription as well, a vision of the future and what will be expected of the territory’ Liulevicius (2000: 151).

4 In Kellner’s view, for example, Baudrillard should be read as a dystopic scifi. Even cyberpunk (as well as Gibson’s Neuromancer) could be read as a new theory of society, which in the techno-capitalist era maps the effects of the new information and communication society (Kellner, 2000: 17).

5 In social semiotics resources are signifiers, observable actions and objects that have been drawn into the domain of social communication and that have a
theoretical semiotic potential constituted by all their past uses and all their potential uses and actual semiotic potential constituted by those that are known to and considered relevant by the users of the resource, and by such potential uses as might be uncovered by the users on the basis of the of their specific needs and interests (Van Leeuwen, 2005: 4).

By root metaphor Ricoeur means a fundamental presumption or dominating myth relative to the nature of the target. According to him ‘(o)ne metaphor resembles another and each maintains its existence by its capacity to arouse the whole network of metaphors’, (e.g. God is a king, father, lord, shepherd etc.). A network gives rise to what we could call a root metaphor. Root metaphors are the dominant metaphors, capable of both giving rise to and organizing the network, which forms the unit between a developing symbolic phase and a passing metaphorical phase (Ricoeur, 2000: 108).

Pepper (1942) in his World Hypotheses found 4 fundamental ‘world hypotheses’: formism, mechanism, contextualism and organism.

In the assignment of ‘Landscape of the Knowledge society’, the mind operates at high levels of abstraction, and the arising mental images are hard to describe and easily disturbed. Therefore, as in Arnheim’s thinking, drawings that can be related to such images are most helpful. This is why drawings have been frequently used in memory experiments, too. They may not be faithful replicas of mental images but are likely to share some of their properties (Arnheim, 1969: 116).

Pepper’s (1942) four world hypotheses/root metaphors:

a. Mechanistic root metaphor (e.g. engine metaphor) refers to emphasizing time, place, cause/effect, amount and effectiveness.

b. Organistic root metaphor refers to integration, connections and holism (e.g. art interpretation, the self-regulating Net).

c. Formist root metaphor is related to static categorizing, sorting, customs and rituals.

d. Contextualist root metaphor concentrates in direct experience and context (‘here and now experience’).

I follow Lakoff and Johnson’s (1980/2003) new way of representing conceptual metaphors.

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**Films**


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