Chapter 3: Foundations: Systemic Functional Multimodal Discourse Analysis (SF-MDA)

3.1 Introduction

Systemic Functional Multimodal Discourse Analysis (SF-MDA - Djonov, 2005; O’Halloran, 2007, 2008) is an approach to analysing discourse in the social semiotic tradition. Social semiotics is sometimes used in a broad sense to refer to the study of semiotics which is social (rather than, for example, structural) in orientation (Chandler, 2007; cf. Cranny-Francis et al., 1991). In this thesis, however, its meaning is more closely tied to the work of Halliday and those who have worked with his social-semiotic theory, a theory that is also known as systemic functional theory.

For Halliday, semiotics is not the study of signs, but “the study of sign systems - in other words, ... the study of meaning in its most general sense” (Halliday & Hasan, 1989, p. 4; bold in original). Halliday is a linguist, and the semiotic system with which he has most been concerned is obviously language, though he understands language as interacting with other semiotic systems, and communication as multimodal: “we all the time exchange meanings, and the exchange of meanings is a creative process in which language is one symbolic resource - perhaps the principal one we have, but still one among others” (Halliday, 1978, p. 4). In this light, Halliday’s definition of ‘social semiotic’ can be seen to apply also to semiotic systems other than language:

when I say ‘social-semiotic’, in the first instance, I am simply referring to the definition of a social system, or a culture, as a system of meanings. But I also intend a more specific interpretation of the word ‘social’, to indicate that we are concerned particularly...
with the relationships between language and social structure, considering the social structure as one aspect of the social system. (Halliday & Hasan, 1989, p. 4; cf. Eco, 1979, pp. 26-8)

So, in taking a social semiotic approach, the systematic relations between context and text (whatever semiotic systems are at play in the text) is fundamental.

Van Leeuwen (2005a) describes how he and others who study semiotic systems other than language in this tradition have built on the work of Halliday:

who argued that the grammar of a language is not code, not a set of rules for producing correct sentences, but ‘a resource for making meanings’ (1978: 192). In this book, I extend this idea to the ‘grammar’ of other semiotic modes, and define semiotic resources as the actions and artefacts we use to communicate, whether they are produced physiologically - with our vocal apparatus; with the muscles we use to create facial expressions and gestures, etc. - or by means of technologies - with pen, ink and paper; with computer hardware and software; with fabrics, scissors and sewing machines, etc. ... So in social semiotics resources are signifiers, observable actions and objects that have been drawn into the domain of social communication ... [their] uses take place in a social context, and this context may either have rules or best practices that regulate how specific semiotic resources can be used, or leave the users relatively free in their use of the resource. (van Leeuwen, 2005a, pp. 3-4)

In this chapter, systemic functional (SF) theory as applied to Multimodal Discourse Analysis (MDA) is described. To begin with, the development of SF-MDA as a field of study is discussed. Context-text relations in SF theory are then considered, followed by paradigmatic meaning and the system/structure axis. Other theoretical principles in SF-MDA are then discussed in turn: rank, metafunction, instantiation, and semogenesis. Finally, intersemiosis (relations between different semiotic systems in texts) is considered.
3.2 The development of SF-MDA

Systemic Functional Linguistics is a functional theory of language. Functional theories of language have been fundamentally challenged by the ‘rise of the visual’ (Chapter 1), and can no longer ignore other semiotic systems, nor the fact that humans draw on a range of semiotic resources when they communicate. In order to describe communication between humans, semiotic systems other than language must be accounted for, both in discourse analysis, and in theories informing such analysis.

Multimodal discourse has been studied from a range of perspectives, many grounded in other disciplines including semiotics (e.g. Barthes, 1977), graphic design (e.g. Barnard, 2005; Hollis, 2001), metaphor (e.g. Forceville, 1996; El Refaie, 2003), information design (e.g. Waller, 1982, 1985), cultural studies (e.g. Schirato & Webb, 2004), and communication studies (see Barnhurst, Vari & Rodriguez, 1994 for review). There is insufficient space to review work from these (and other) disciplines here, but the emergence of SF-MDA needs to be understood in this historical and intellectual context.

SF-MDA refers to research which uses the theoretical principles of SF theory (originally developed in SFL) to:

- model semiotic systems other than language
- analyse texts which instantiate semiotic systems other than language
- analyse texts which instantiate a number of semiotic systems
- theorise the interaction between different semiotic systems in texts.
The **systemic functional** (SF) aspect of SF-MDA is explained in subsequent sections.

**Multimodal discourse analysis** (MDA) conducted from a social-semiotic perspective obviously shares a great deal of the terminology and theory of SFL (see Iedema, 2003b, for historical overview). But, as a relatively new area of study, a number of the fundamental concepts of SF-MDA are still debated, including questions of whether (and if so to what extent) the broad social functions of language are the same as those of other semiotic systems, whether (and if so how) other semiotic systems are organised in similar ways to language, and how non-linguistic and multimodal texts can best be transcribed for analysis (Martinec, 2005).

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
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<tbody>
<tr>
<td>semiotic resource</td>
<td>resources of meaning such as language, visual images, mathematical symbolism, and architecture which are organised into sign systems</td>
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<tr>
<td>semiotic system</td>
<td></td>
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<tr>
<td>mode</td>
<td>the channel of communication: e.g. visual, aural, olfactory, tactile</td>
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<tr>
<td>modality</td>
<td></td>
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<tr>
<td>medium</td>
<td>“the material resources used in the production of semiotic products and events, including both the tools and the materials used (e.g. the musical instrument and air; the chisel and block of wood). They are usually specifically produced for this purpose, not only in culture (ink, paint, cameras, computers), but also in nature (our vocal apparatus).” (Kress &amp; van Leeuwen, 2001, p. 22)</td>
</tr>
<tr>
<td>multisemiotic</td>
<td>combining different semiotic resources such as language, image, and music in a communicative act; multisemiotic texts may or may not be multimodal</td>
</tr>
<tr>
<td>multimodal</td>
<td>combining different modes such as visual and aural in a communicative act</td>
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*Table 3.1: Key terms in SF-MDA (following O’Halloran, 2005, p. 20)*

Partly as a result of such questions, the terminology used in the SF-MDA literature is not always consistent. “For example, there is confusion over the use of the terms ‘mode’ versus ‘semiotic’ [as a noun], and, consequently, ‘multimodal’ versus
‘multisemiotic’" (O’Halloran, 2005, p. 20). Following O’Halloran, various key terms in the SF-MDA literature are given in Table 3.1, with their definitions for this thesis.

In the SF-MDA literature, the term *multimodal* (including its derivatives) is commonly used as a ‘cover-term’ to mean both *multimodal* and *multisemiotic* (see Table 3.1). Thus, the field of MDA includes research into both multimodal and multisemiotic meaning, and it is in this broader sense that the term *multimodal* and its derivatives are used in this thesis, unless specifically indicated otherwise.14

<table>
<thead>
<tr>
<th>Semiotic system</th>
<th>SF-informed studies</th>
</tr>
</thead>
<tbody>
<tr>
<td>film</td>
<td>Baldry (2004); Baldry &amp; Thibault (2006); O’Halloran (2004b); Pun (2008); Thibault (1990, 2000), Tseng (2008); van Leeuwen (1991)</td>
</tr>
<tr>
<td>music</td>
<td>Caldwell (2008, 2010); Callaghan &amp; McDonald (2002); van Leeuwen (1999)</td>
</tr>
<tr>
<td>mathematics</td>
<td>Lemke (2003b); O’Halloran (1999a, 1999b, 2005)</td>
</tr>
<tr>
<td>3-D objects</td>
<td>Kress &amp; van Leeuwen (1996); O’Toole (1994)</td>
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</tbody>
</table>

*Table 3.2: Some SF-informed studies of different semiotic systems*

SF theory has been applied to the study of a range of semiotic systems other than language. A number of these studies are listed in Table 3.2. The work listed in this table is theoretically relevant to the current study, but in this section and the sections that follow, the discussion is delimited to the development of SF theory for visual and graphic communication in two-dimensional, non-timed15 texts.

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13 This is similar to the term *phonology* in linguistics, which is commonly used as a cover-term for both *phonology* and *phonetics*.  
14 The texts analysed for this thesis are multisemiotic, not multimodal in its delimited sense (i.e. they communicate visually, but not for example aurally).  
15 In timed texts, like films and pieces of music, the timing (in *addition* to the sequence) of the unfolding of the text is meaningful, and the text must be ‘read’ in the timing of the author; unlike books
<table>
<thead>
<tr>
<th>Text type</th>
<th>SF-MDA informed studies</th>
</tr>
</thead>
<tbody>
<tr>
<td>scientific diagrams</td>
<td>Derewianka &amp; Coffin (2008); Kress &amp; van Leeuwen (1996); Libo (2004); O’Halloran (2005, 2007); Unsworth (2001)</td>
</tr>
<tr>
<td>print advertisements</td>
<td>Cheong (2004); Kress &amp; van Leeuwen (1996); McAndrew (2001); O’Halloran (2008)</td>
</tr>
<tr>
<td>text books and instructional materials</td>
<td>Baldry &amp; Thibault (2006); Bateman (2008); Callow (1999); Derewianka &amp; Coffin (2008); Jones (2007); Martinec (2003); O’Halloran (1999a, 2005, 2007); Stenglin &amp; Iedema (2001); Unsworth (2001); Zammit (1999, 2007); Zammit &amp; Callow (1998)</td>
</tr>
</tbody>
</table>

Table 3.3: Some SF-informed MDA studies of a range of 2D text types

The seminal work in applying SF theory to the visual analysis of such texts was done by Kress & van Leeuwen (e.g. 1996), who describe visual communication in texts such as newspapers, magazines, text books, children’s drawings, and visual art; and also by O’Toole (1994), who describes visual communication in paintings. This work has been so influential in the SF community that Bateman refers to “a ‘post-Kress & van Leeuwen’ world of pervasive multimodality” (2008, p. xix). As a or images which can be ‘read’ according to the timing of the reader. Timed texts (e.g. video news stories and advertisements) play an increasingly important role in online newspapers, but do not figure prominently in the corpus for this study.

94
result of such work, it is now common for scholars working in this area to take the
view that:

you cannot make meaning that is construable through only one analytically distinguishable semiotic resource system. Even if for many purposes we analytically distinguish the linguistic semiotic system from that of depiction or visual-graphic presentations, and both from others such as the music-sound system or the behavioral-action system, the fact that all signifiers are material phenomena means that their signifying potential cannot be exhausted by any one system of contrasting features for making and analyzing meaning. (Lemke, 2002, p. 302)

This has led to the investigation and multimodal analysis of a wide range of 2-D texts (Table 3.3), the most immediately relevant of which have been discussed in Chapter 2.

Rather than reviewing the body of work in Table 3.3, the sub-sections that follow consider a number of the key theoretical principles of SF-MDA, and their relevance to the current study: context-text relations, paradigmatic meanings and the system/structure axis, rank, metafunction, instantiation, semogenesis, and intersemiosis. In each sub-section, Systemic Functional Linguistics is taken as a starting point, and the theoretical principles developed in the study of the semiotic system of language are then considered in relation to Multimodal Discourse Analysis.

### 3.3 Context-text relations

Systemic Functional Linguistics (SFL) is a social, descriptive theory of language. Its primary architect is Halliday (e.g. 1978, 1985a), though important contributions have been made by collaborators and co-travellers including contributions to grammatical theory (e.g. Henrici, 1981; Huddleston, 1981a, 1981b; Hudson, 1981; Matthiessen,
1995), and to description of textual cohesion and discourse (e.g. Halliday & Hasan, 1976, 1989; Martin, 1992; Martin & Rose, 2003, 2008; Martin & White, 2005). Its applications have included analysis of educational discourse (e.g. Christie, 2002; Christie & Martin, 1997; Halliday & Hasan, 1989; Halliday & Martin, 1993; Foley, 2004, McCabe, O’Donnell & Whittaker, 2007), casual conversation (Eggins & Slade, 1997), media discourse (e.g. Caple, 2008; Fowler, 1991; Iedema, Feez & White, 1994; White, 2003), service encounters (e.g. Ventola, 1987), institutional discourse (e.g. Iedema, 2003a, 2007), and clinical and medical discourses (e.g. Fine, 2006; Henderson-Brooks, 2008; Jordens, 2002; Mortensen, 2005), and it has contributed significantly to our understanding of the nature of social action and its mediation through language in each of these spheres.

As a theory, SFL has a number of fundamental principles which collectively distinguish it from other theories of language. The first is that it is a functional theory. That is, language is viewed not (primarily) as a formal system, but one which has evolved with human cultures and societies, playing a central role in the evolution and performance of social functions.

Using language is one of the forms of human life, and speech is immersed in the immediacy of social intercourse. The human body is that region of the world which is the primary field of human experience but it is continuous with the rest of the world. We are in the world and the world is in us. (Firth, 1968, p. 199)

For Firth (whose work Halliday built on), language cannot be viewed separately from its functions in context. Similarly, for SFL, the systematic relationship between context and text is a central part of the theory (see Halliday & Hasan, 1989).
Secondly, SFL is a systemic theory. That is, language is viewed as a system of choices - more accurately, a complex of systems of choices - operating at a number of levels. These systems of choices are fundamental to the theory, both in terms of its conceptualisation of what language is, and also in terms of its methods of describing and analysing language.

One of the things that distinguishes [SFL] is that it gives priority to paradigmatic relations; it interprets language not as a set of structures but as a network of systems, or interrelated sets of options for making meaning. Such options are not defined by reference to structure; they are purely abstract features, and structure comes in as the means whereby they are put into effect, or ‘realized’. (Halliday, 1994, pp. 15-16)

Viewing language as systems of choices means that SFL takes a paradigmatic perspective on language. The theoretical importance of this paradigmatic perspective is discussed in the sections below. In this section, a brief overview of the functional relation between context and text in the theory is given.

Language has evolved to perform particular social functions. Taking a social perspective on language, SFL sees the context-text relationship as theoretically fundamental, and Figure 3.1 is an attempt to represent the relations between context and language as conceived in SFL.16

In any given culture, members of the culture partake in familiar activities such as casual conversations, wedding ceremonies, service encounters, discussions, and story telling. Each of these can be identified by their structure, and by the patterns of language they employ (e.g. patterns of question and answer in interviews; patterns of initiation-response-feedback in lessons; set patterns of ritualised speech in

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16 Not all scholars working in SFL agree that context should be stratified in the way that it is in Figure 3.1.
ceremonies). Familiar, conventional patterns emerge in cultures by which such social activities are achieved, and these are modelled in SFL as genres, or “staged, purposeful, goal-oriented activity in which speakers engage as members of our culture” (Martin, 2001, p. 155).

In functional linguistics terms what this means is that genres are defined as a recurrent configuration of meanings and that these recurrent configurations of meanings enact the social practices of a given culture. This means we have to think about more than individual genres; we need to consider how they relate to each other. (Martin & Rose, 2008, p. 6)

By identifying and describing genres linguistically, and then mapping their relations, SFL models the context of culture as a system of meanings (see quote from Halliday & Hasan, 1989 in section 3.1 above) in a way that the relations between culture and text can be explained empirically and systematically. Because these relations are...
fundamental to the theory, the text (not the sentence) is the basic unit of analysis in SFL.

One level down from the context of culture is the context of situation. Humans performing the same genre in the same culture can and do vary how and what they communicate (i.e. genre in SFL is not a deterministic concept.) They do this by ‘bending’ conventional genres, but also by working within the conventions of established genres and making choices which realise the particular context of situation.

There are three key variables in the context of situation (see for e.g. Eggins, 1994; Halliday & Hasan, 1989; Martin & Rose, 2008). The first (known as field in SFL) is the topic and the given social activity: e.g. whether it is an action-structured activity (such as recounting a recent event, or repairing a car) or not (such as classifying, say, rocks in geology), and whether it relates to a particular thing (such as a person, or an event) or a general class of things (such as males of a species). The second contextual variable (known as tenor in SFL) is the relation between the interactants: e.g. power relations (relatively equal or unequal), social distance (intimate or distant), and emotional involvement (detached or emotionally involved). The third variable (known as mode in SFL) is the distance between interactants: distance in space (face-to-face or not, such as a lecture versus a telephone call), and distance in time (synchronous or asynchronous, such as a conversation or IRC chat versus a novel). The ways in which texts can vary according to field, or tenor, or mode are illustrated by the examples in Table 3.4.
### Chapter Three: SF-MDA

A baby who won’t stop crying can drive anyone to despair. You feed him, you change him, you nurse him, you settle him, but the minute you put him down, he starts to howl. A PC which won’t stop crashing can drive anyone to despair. You boot it, you format the disks, you create a file, you try to protect your edits, but the minute you try to save your file the PC crashes.

**Field**

<table>
<thead>
<tr>
<th>Tenor</th>
<th>Mode</th>
<th>Field</th>
</tr>
</thead>
<tbody>
<tr>
<td>For goodness sake, turn that music down! It’s giving me a damned headache.</td>
<td>A: I came back and I can’t get it to come on. B: Was it OK before you went? A: Yeah fine. B: OK well just move this. No? Well push any of these ... No, that didn’t work. You probably have to hit this one. A: Oh great it’s back on. What happened? B: It was asleep. If you’re away from it for a while, it goes to sleep and you need to press this one to get it started again.</td>
<td>A PC which won’t stop crashing can drive anyone to despair. You boot it, you format the disks, you create a file, you try to protect your edits, but the minute you try to save your file the PC crashes.</td>
</tr>
<tr>
<td>Excuse me, I wonder whether you would mind turning your radio down slightly. My daughter is studying for her exams and the music is disturbing her concentration. We’d really appreciate it if you could.</td>
<td>Sleep mode: Computers go into a power saving sleep mode when left idle. The screen goes blank and the hard disk stops, but everything comes back on within a few seconds after the keyboard is touched. Computers can also be put into the sleep mode manually. (adapted from Di Nucci et al 1994:85)</td>
<td></td>
</tr>
</tbody>
</table>

**Table 3.4: Text variation according to field, tenor, and mode**

Like differences in the social activity (or genre), which are meaningful to members of a culture, variations in the context of situation are also meaningful, and lead to systematic variation in texts. Languages have evolved to allow speakers to make linguistic choices that express what they want to mean in given cultural and situational contexts, according to their communicative purposes at a given time. These choices are complex and multi-layered, occurring ‘above the clause’ in the discourse semantics, in the lexicogrammar of clauses, and in the expression of language in
phonology, graphology or signing. In SFL, these different levels of language are systematically related, as language is systematically related to context. In this way, SFL is distinct from componential models of language (where, for example, syntax, semantics, phonology, and morphology are seen as separate components).

Turning from language and SFL to other semiotic systems, genre in SF-MDA is essentially the same as genre in SFL: a “staged, purposeful, goal-oriented activity in which speakers engage as members of our culture”, modelled at the stratum of context of culture (Martin, 2001, p. 155; cf. van Leeuwen, 2005a, p. 127). From an SF-MDA perspective, genres are “configurations of meaning ... typically realised through more than one modality of communication (i.e. some combination of language, image, sound, action, spatial design, etc.)” (Martin & Rose, 2008, pp. 44-5). Another way of thinking of genres in SF-MDA is as “multimodal communicative acts” which can be grouped according to whether or not they have the “typical characteristics” of a given genre (van Leeuwen, 2005a).

Martin (1994) extends the notion of genre to macro-genres, in which elemental genres17 (basic social/textual patterns recognised as genres) are combined in principled ways to form larger texts such as school curricula (e.g. Christie, 1997), text books, and extended academic texts (Martin & Rose, 2008). Because they are combinations of texts which instantiate other genres (e.g. news stories, advertisements), both home pages and online newspapers are macro-genres.

Genres regulate and mediate the ways we interact with each other in society, and websites and web pages are no exception. The website as a whole has generic features at the same time that it comprises many more specific genres. For example, the home page is a functional component within the larger-scale structure of the

17 Baldry uses the term mini-genres in a similar way - see Chapter 5.
website as a whole. The home pages also has the characteristics of a superordinate genre in its own right at the same time that many of its component parts are themselves distinctive mini-genres - linguistic, visual, musical and so on. (Baldry & Thibault, 2006, p. 113)

This macro-generic view of websites and home pages is explored further in Chapters 5, 6 and 7.

In keeping with his focus on multimodal documents, Bateman (2008) extends the view of genre outlined thus far to include aspects of the processes of production. Any document is constrained by its ‘canvas’ (e.g. papyrus scroll, versus A4 paper, versus computer screen), by production processes (e.g. hand-writing, versus printing press, versus computer software), by consumption/use of documents (e.g. to be read aloud, versus to be read on a train, versus to be mass-distributed online), and by the textual conventions associated with these constraints in a particular social context (e.g. patterns of language, layout, colour). These constraints are related to social practices and the environment at each level, as illustrated in Bateman’s visualisation of this model reproduced in Figure 3.2.

![Figure 3.2: The GeM model (source: Bateman, 2008, p. 16)](image)
Bateman’s model is not directly employed in the description of online newspaper genres in this thesis, but the constraints of production and reception as set out in his model are considered as part of the analyses in later chapters.

3.4 Paradigmatic meaning, system, and structure

Saussure’s conception of the sign can be seen as opening the possibility of viewing language, and other semiotic systems, paradigmatically (Culler, 1976, p. 34, though cf. Halliday & Hasan, 1989, pp. 3-4), and doing so in a systematic way. For Saussure, the sign (viewed synchronically) is an inseparable bonding of two arbitrarily associated elements. The signified (or signifié) is “an idea signified”, and the signifier (or signifiant) is “a form which signifies” (Culler, 1976, p. 20). So the stream of sound /ˌtriː/, or the graphic representation tree, is used in English to signify a plant which conforms to a range of features (it falls within certain parameters of height, shape, and so on).

Saussure's well-known ‘arbitrariness of the sign’ is widely associated with the signifier. That is, we could in principle replace the sound /ˌtriː/ with any other sound, as long as speaker and hearer agree (by convention) to associate that sound (signifier) with that social concept (signified).

However, Saussure also conceives of the signified as arbitrary, in the sense that there is no pre-existing reality which language ‘names’ as it were. His point is that language is used to order the world, and the choices made as to what social
concepts will be construed as a **signified** in languages is social, not material. “Without language, thought is a vague, uncharted nebula. There are no pre-existing ideas, and nothing is distinct before the appearance of language” (Saussure, 1959, p. 112).

This can also be seen with /trɪː/. When does a plant stop being a bush and begin being a tree? The distinction is not biological or botanical; it is social and in an important sense arbitrary. The signs *bush* and *tree* do not index an objective, external reality, but signify **valeurs (associative meanings)** in Saussure’s terms, or **paradigmatic meanings** which are defined by their opposition to each other. Thus, a tree is a tree because it is not a bush, or a shrub, or a pot plant. A bush is a bush because it is not a tree, a pot plant, or a shrub.

The arbitrary nature of the sign explains in turn why the social fact alone can create a linguistic system. The community is necessary if values that owe their existence solely to usage and general acceptance are to be set up; by himself the individual is incapable of fixing a single value. (de Saussure, 1959, p. 113)

So Saussure’s signified is, like the signifier, arbitrary in the sense that the world may be divided by language in different ways. In fact, while signified and signifier are talked of separately, neither exists without the other, as they are mutually defining.

While signs are in an important sense arbitrary, at the same time, the ways that different languages construe human experience are socially motivated (see Halliday 2002/[1979], pp. 200-202; Volosinov, 1973, p. 22). For example, in English, the word *river* does not make a distinction on the conceptual plane which does occur between the French *fleuve* (which flows into the sea) and *riviere* (which does not - Culler, 1976, p. 24). The English *river* is a result of the evolution of a paradigmatic sign system in which the distinction between (for example) *stream* and *river* has been
signified as socially and culturally meaningful on the basis of human experience of one social group (a distinction which has been carried into the language currently known as English). In contrast, the distinction between fleuve and riviere has been signified as socially and culturally meaningful on the basis of the human experience of another social group (a distinction which has been carried into the language currently known as French). Thus, we can say that meanings are paradigmatic (deriving from meaningful oppositions) and social (deriving from shared human experience of the world).

Such distinctions are not only between words, but occur between phonemic, grammatical, discourse-semantic, and contextual units. For example, on the phonemic level, English makes no systemic distinction between the unaspirated phone /p/ and the aspirated /ph/ - they are allophones of the same phoneme and therefore have the same phonemic meaning in English. In contrast, in Thai (for example), they are separate phonemes and have different phonemic meaning.

This conception of paradigmatic meanings is also central to the understanding of context in SFL, and the relation between context and text. Drawing on Malinowski’s context of situation, Firth conceives of language as a set of realisations emerging from lived human experience (Halliday & Hasan, 1989, pp. 5-9). Languages have evolved to function in relation to particular contexts of use, and the meaningful oppositions in the environment and human interaction with it give rise to the meaningful oppositions in language (compare the discussion of genre, and of field, tenor, and mode in section 3.3 above). In this way, accounting for context is central in SFL. The theory has been built on the basis of systematic descriptions of the
relationship between the contexts of experience and language use on one hand, and layered linguistic systems of meaning on the other (e.g. Halliday, 1978; Martin, 1992).

The abstraction here called context of situation does not deal with mere ‘sense’ or with thoughts. It is not a description of the environment. It is a set of categories in ordered relations abstracted from the life of man [sic] in the flux of events, from personality in society. (Firth, 1968, p. 200)

To return to Saussure then, Saussure’s signified is a socially determined meaning deriving from human experience in interaction with the environment, which has been brought into a paradigmatic semiotic order by its association with a signifier. If we extend this position to its logical conclusion, it is possible to posit language as signifier, and the context of situation as signified. Once this step is taken, and Saussure’s concept of the sign is moved beyond a union of sound and concept to include higher order signs (where signifiers are also linguistic units such as intonation patterns, clause structures, and even patterns of text organisation), the relationship between the signified and signifier is not arbitrary but social, and a two-tiered conceptualisation of meaning becomes insufficient.

To summarise, a paradigmatic perspective on language is one which sees meaning (at whatever level of language) as a set of oppositional choices, or valeurs. Building on Saussure and the anthropology of Malinowski, Firth theorises the paradigmatic as multi-layered and socially motivated, a tenet upon which systemic functional theory is developed.

SFL theory is paradigmatic in its origins. According to Firth (1968, p. 200): “The first principle of analysis is to distinguish between structure and system.”
follows this analytic principle, and posits a principled relationship between the two: socially-motivated paradigmatic choices are realised in linguistic structures. Because the theory is descriptive, the systemic functional linguist begins with texts. Paradigmatic choices are posited, argued, and justified (or not) through observed structures. That is, in theory building, paradigmatic meanings must be structurally justified (or structurally motivated). Thus, linguistic structures serve to identify the possible social meanings at the disposal of the speakers of a language.

Halliday applies Firth’s system/structure axis to grammar. Taking the clause as the fundamental unit of grammar, different structural (syntagmatic) configurations in clauses realise different paradigmatic choices. This is illustrated by Caffarel, Martin & Matthiessen (2004, pp. 24-25; see also Henrici, 1981; Huddleston, 1981). Clauses (those grammatical units which have at least a Predicator) can be divided into those which also have the structural elements Subject and Finite, and those which do not. This division is illustrated in Figure 3.3.

Figure 3.3 is a basic system, “a finite set of things ... of which just one must be selected” (Henrici, 1981, p. 75). It gives structural realisations for each of the paradigmatic options. Reading left to right, a clause (the entry condition to this particular system) is realised by the presence of the structural element of a Predicator (indicated by the diagonal arrow which means is realised by). Continuing from left to right, clauses are one of either two types: imperative (which are ‘Predicator only’ as no further structural realisations are specified) or indicative (which have Predicator and Subject and Finite).
The system in Figure 3.3 is, in fact, an incomplete system, as indicative clauses can be further subdivided into **declaratives** (where the Subject is followed by the Finite, denoted \( \text{Subject}^{\text{Finite}} \) where ^ means followed by), and **interrogatives** (where the Finite is followed by the Subject, denoted \( \text{Finite}^{\text{Subject}} \)) as shown in Figure 3.4.

This introduces the notion of delicacy, where certain paradigmatic options are dependent upon prior choices in the system. Selecting for an indicative clause means a speaker can and must select also either declarative or interrogative, but selecting imperative means a speaker does not have this choice. Similarly, a speaker selecting interrogative has a more delicate choice of polar interrogative, or wh-interrogative.

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18 This thesis follows the convention of SF theory whereby class elements (such as clause) are written in lower case, and functional elements (such as Subject) are capitalised.
(Figure 3.5), realised by a ‘WH’ question word (+Wh), where the ‘WH’ question word is in initial position (#Wh) and is followed by a Finite (^Finite). “More delicate features (to the right) inherit realizations from less delicate ones (to the left); this helps to clarify the nexus between system and its structural output in the model” (Caffarel, Martin & Matthiessen, 2004, p. 24).

Figure 3.5: Increasing delicacy (following Caffarel, Martin & Matthiessen, 2004, p. 25)

At the same time as selecting for imperative or indicative, a speaker has the choice of selecting positive or negative. Because this choice can co-occur with any of the choices given in the system above (i.e. imperative clauses, declarative clauses, polar interrogatives, and wh-interrogatives can all be either positive or negative), the two systems (imperative or indicative; and positive or negative) are simultaneous, and are therefore joined by a brace which indicates they are to be selected simultaneously, as illustrated in Figure 3.6. When simultaneous systems are joined in this way, we have a network of systems, or a system network.
This network has a point of origin (viz. clause) which is not a feature. The point of origin is in general a class of linguistic items; it defines the population which may possess the features in the network. Here it shows that all the features in the network are strictly clausal features and not features of some smaller linguistic unit within the clause, such as features of the nominal group acting as Subject of the clause. (Henrici, 1981, p. 76)

The technical term, then, for paradigmatic options within system networks is **feature** (also commonly called **valeurs**). Recalling the earlier quote from Halliday (1994) that features in system networks are “purely abstract”, it is necessary to empirically validate features with reference to a corpus of text. Put another way, “one is asking how the presence of features in a network ... can be justified” (Martin, 1987, p. 16).

To summarise, SFL prioritises the paradigmatic. Paradigmatic choices (features) are formalised in systems, which combine in system networks. Formal
features must be justified (or motivated) by structural distinctions. In principle, the system network is a rigorous account of the corpus with which the linguist works, and should be able to generate and distinguish between all linguistic structures which appear in the corpus.

Turning now from language to SF-MDA, Kress & van Leeuwen’s (1996) study of visual communication shows that, as with language, paradigmatic oppositions can also be identified in images. Their work details a large number of systemic oppositions and the structures which realise them. For instance, after discussing images with transactional structures (where one participant does something to another - later termed by them ‘narrative processes’), they continue:

The [narrative process] structure is not the only kind of structure which images can realize. ... In [another image], ... the structure is ‘analytical’. Here the participants have the roles not of ‘Actor’ and ‘Goal’ but of ‘Carrier’ and ‘Attribute’. This picture is not about something which participants are doing to other participants, but about the way participants fit together to make up a larger whole. (Kress & van Leeuwen, 1996, pp. 48-9; italics in original)

Kress & van Leeuwen contrast narrative processes in images realised by ‘vectorial patterns’ which connect participants, with conceptual processes in images where participants’ class, structure or meaning are used to portray them (ibid., p. 56). In so doing, they use the system/structure axis to inform their description and their ‘visual grammar’. Their basic system for this aspect of meaning in images is reproduced in Figure 3.7.

Throughout their extensive, book-length visual grammar, Kress & van Leeuwen include system networks mapping the systemic oppositions they identify, and tables which detail the structural realisations of these paradigmatic meanings. In
this way, the system/structure axis explicitly underpins their work, and provides a
crystal tool for analysts using their work, and those critiquing it, to employ in
examining and describing visual communication in texts (see Forceville, 1999).

![Figure 3.7: Main types of visual representational structure: Basic system (source:
Kress & van Leeuwen, 1996, p. 56)](image)

O’Toole’s (1994) description of paintings is also underpinned by the
system/structure axis. He identifies a range of systems in painting. For example:

> Perspective is primarily a system of the Modal function, since it
serves to guide the eye of the viewer. It is systemic in that it offers a
choice between linear, reverse and multiple perspective - and,
indeed, no perspective, since a negative option ... is itself a choice
within the system. (O’Toole, 1994, p. 9; underlining in original)

In general, O’Toole identifies a large number of systems, but does not extend his
descriptions to system networks. Even so, it is sometimes possible for the reader to
discern the system/structure relations from O’Toole’s discussion.

> Narrative themes simply means the whole story, or complex of
stories, if ... the painting is designed to tell a story. Scenes ... are
those paintings which only set out to depict something without any
action being involved, as with a landscape painting or still-life. Portrayals ... are those scenes which represent a person or a group of
people. (O’Toole, 1994, p. 19; underlining in original)

From the above passage, it is possible for the reader to identify the paradigmatic or
systemic oppositions (narrative themes, scenes, portrayals) and to some extent the
structures which realise them. These can be represented visually as shown in Figure 3.8, where the entry condition is ‘work’, or “the picture as a whole” (ibid.).

![Figure 3.8: Representational system of ‘work’ (following O'Toole, 1994, p. 19)](image)

As discussed above, the system/structure axis is fundamental to SF theory. In semiosis, texts mean in large part by their valeurs - the paradigmatic meanings they make. By mapping the valeurs in images on the basis of structural oppositions identified in texts, Kress & van Leeuwen (1996) (and to a lesser extent, O’Toole, 1994) have developed frameworks which move us towards the possibility of mapping the meaning potential of semiotic systems other than language which are expressed visually.

As with SFL, the system/structure axis generates other aspects of theory in SF-MDA, and is therefore important to the entire study reported to this research, and in particular to the interpretation of structure as the realisation of paradigmatic meanings in Chapters 5, 6 and 7.
3.5 Rank

In SFL, three strata of language are identified; expression (phonology, graphology, signing), lexicogrammar, and discourse-semantics. These are conceived as existing in a realisational relationship, so that meanings made in the discourse semantics are realised by choices in the lexicogrammar, are realised by phonology. All strata are meaningful, but each stratum represents a different level of abstraction.

Each stratum can be further subdivided into ranks, not on the basis of abstraction, but according to the structural principle of constituency. Constituency is “an extremely simple but powerful device, whereby parts are built up into wholes, and these again as parts into larger wholes, but with different organic configurations at each step” (Halliday, 1994, p. 16). Each of these steps is a rank, and collectively the ranks a rank scale.

A rank scale is a tool which has been applied to describing a number of semiotic systems (see Halliday, 1985a; O'Toole, 1994; O'Halloran, 2004a; Sinclair & Coulthard, 1975). At face value, ranks appear to be structural values, foregrounding as they do part-whole relationships which hold between constituents and the ‘whole’ of which they are a part. However, system and structure are a complementarity in SFL theory, not an opposition. Thus, rank “is informed by both systemic and structural perspectives” (Caffarel, Martin & Matthiessen, 2004, p. 32).

Structurally, the ranks in a rank scale are derived from the methods of description of scale and category grammar (see Hudson, 1981; Martin, 1992). For
example, a clause (a class item) is identified by its structural (functional) constituents, which are in turn identified in terms of their own class. Each class of item can in turn be identified in terms of its own functional constituent(s), each of which can again be identified in terms of their class, and so on down to the lowest rank. Each class-function cycle represents one rank, as illustrated in Figure 3.9.

But like strata, ranks are derived systemically. To illustrate, the structure of the clause in Figure 3.9 - *Ford parked the ship* - is a realisation of the features **declarative** and **positive** from the system network in Figure 3.6 above (reproduced as Figure 3.10 for convenience). Thus, realisation statements of formal features in a system network (in this case *+Predicator; Subject^Finite*) consist of functional constituents of the class item which acts as the entry condition for the system (see clause rank in Figure 3.9).

![Figure 3.9: Clause structure and rank (adapted from Martin, 1992, p. 6)]
This principle applies at each rank. System networks at group rank have as the realisation of their formal features the functional constituents of the group (e.g. +Event for verbal group; +Thing for nominal group - see group rank in Figure 3.9).

So structurally, ranks are wholes made up of parts, in turn made up of sub-parts, and so on. Systemically, the whole can be analysed in terms of its paradigmatic opposition with other units of the same class at the same rank (oppositions which are motivated structurally), as can the parts which constitute it, as can the sub-parts which constitute the parts, and so on. That is, at each rank, paradigmatic choices are available to the speaker.

Units at different ranks, then, have different valeurs. Separating them into different networks allows the analyst to account theoretically for the phenomenon of rankshift.
Rankshift is ... a strategy for compiling higher-ranking meanings from the vantage-point of a lower rank. Since this is typically the nominal group, rankshift is to a large extent a nominalising compilation of grammatical resources. (Matthiessen 1995, p. 101)

To explain, a given clause may function as a constituent at the rank of group (i.e. below the rank of clause). In the following example, the rankshifted clause (functioning as a Qualifier of truck within a nominal group) is in bold.

A Democrat MP and three other people were seriously injured Sunday when a pick-up truck they were travelling in skidded off the Tak-Mae Sot road and plunged down a steep mountain. (Bangkok Post online, February 26, 2002)

In this way, meaning can be packaged in a variety of ways. Valeurs from higher ranks can be brought into service at lower ranks. But rather than being required to explain this only in structural terms, system networks allow us to account for rankshifted structures paradigmatically.

Rank keeps the overall systemic potential manageable by “parcelling” it out into a number of system networks and it increases the systemic power by opening up the systemic potential repeatedly within a linguistic unit. (Caffarel, Martin & Matthiessen, 2004, p. 32)

This theoretical approach allows us to describe this aspect of the flexibility and creativity of human language (and of other semiotic systems - see Chapter 5).

By representing structure through a rank scale, one perspective on structure - and therefore one set of meanings - is privileged over others. Particulate meanings (as created in part-part and part-whole structures) are effectively described by rank scales, but prosodic meanings (in structures which map across segments) and periodic meanings (in wave-like structures which create peaks of prominence) are not necessarily effectively described in this way (Martin, 1996). A richer description
requires that “constituency ... slips into the background, and explanations come more and more to involve other, more abstract kinds of relationship” (Halliday, 1994, p. 16).

Turning from SFL to SF-MDA, O’Toole (1994) draws heavily on the analytical tool of rank in developing his framework for the analysis of images. Using a semiotic analysis of the *Primavera* by Botticelli, he argues for four ranks in paintings: **work**, **episode**, **figure**, and **member**, and identifies systems at play at each rank, for each of the three metafunctions of SF theory (see below). O’Toole points out that not every system will be ‘in play’ in every painting.

There are many paintings where not all the systems I have discussed will be relevant. On the other hand, there are a great many paintings where it does help to distinguish between the various ranks of unit, if only because we know our eyes tend to scan the surface of the canvas and “home in” on configurations that we recognize as a member, a figure, or a discrete episode, so that a kind of “shuttling” process begins to take place between our images of each unit and of the picture as a whole. (O’Toole, 1994, p. 12)

O’Toole’s work has been influential in the application of rank to the analysis of images (Libo, 2004; cf. Martinec 2005; Martinec & Salway, 2005) and other multimodal texts (O’Halloran, 1999a, 1999b, 2004a). Though informed by a systemic perspective, the role of paradigmatic meanings in O’Toole’s rank scale for paintings is largely implicit, no doubt motivated in part by the audience for whom he is writing. This makes the rank scale a useful heuristic, but raises questions about the development of rank scales for 2-D, multisemiotic, visual texts; their class-function cycles; the systemic oppositions at each rank; and their structural realisations (Zhao, forthcoming).
Despite these questions, O’Halloran (e.g. 2005, 2008) shows the value of a rank approach for identifying elements at different levels in different systems, so that the multisemiotic relations between units of different semiotic resources may be identified and examined. Nonetheless, questions such as those raised above need to be addressed in order to determine the theoretical (i.e. systemic) justification for rank scales. In this thesis, the extent to which rank is a useful tool for the analysis of online newspapers and their home pages is explored in Chapter 5.

3.6 Metafunction

The metafunctions of SFL are one of the most often cited aspects of the theory in the literature on linguistics and applied linguistics. The theory of metafunctions developed over decades of work on describing language and child language development. In approaching language from a social and functional perspective, Halliday (e.g. 1973; 1978) came to argue that there are three broad, overarching functions (i.e. metafunctions) that language performs (see also Halliday & Hasan, 1989; Halliday & Matthiessen, 2004; Martin, 1992).

The first is the ideational metafunction, or the way in which language is used to construe human experience. The second is the interpersonal metafunction, or the way in which language is used to create, maintain, and develop relations among people. The third is the textual metafunction (an ‘enabling’ metafunction), or the way in which language creates coherent wholes (or texts) which function meaningfully in their semiotic environment. Each metafunction is associated with a different kind of structure in SFL: particulate structure for ideational meaning, prosodic structure for
interpersonal meaning, and periodic structure for textual meaning (Halliday, 2002/[1979]; Martin, 1992).

![Diagram of metafunctional relations between text and context in SFL](image)

*Figure 3.11: Metafunctional relations between text and context in SFL*

These three metafunctions map onto the three variables in the context of situation (field, tenor, mode), so that the field of discourse in the context of situation is expressed by the ideational metafunction in language; the tenor of discourse in the context of situation is expressed by the interpersonal metafunction in language; and the mode of discourse in the context of situation is expressed by the textual metafunction in language (Figure 3.11).

Language has evolved in such a way that these three metafunctions are expressed simultaneously. That is, the different structures realising metafunctional
meaning map onto one another, both in clause structure (e.g. Halliday & Matthiessen, 2004) and discourse structure (e.g. Martin, 1992).

<table>
<thead>
<tr>
<th></th>
<th>Ideational</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Ethnic minority groups along the border</strong></td>
<td><strong>are broadcasting</strong></td>
</tr>
<tr>
<td><strong>Behaving</strong></td>
<td><strong>Process:</strong> behavioural</td>
</tr>
<tr>
<td><strong>Subject</strong></td>
<td><strong>Finite</strong></td>
</tr>
<tr>
<td><strong>Interpersonal</strong></td>
<td><strong>Mood</strong></td>
</tr>
<tr>
<td><strong>Textual</strong></td>
<td><strong>Theme</strong></td>
</tr>
</tbody>
</table>

*Figure 3.12: Metafunctional lexicogrammatical meaning in an English clause*

To illustrate, the ideational grammar of the English clause construes events and relations as **Participants, Processes, and Circumstances**. At the same time, interpersonal meanings are construed by the **Mood block** of the clause (i.e. the relation between the **Subject** and the **Finite**), and also by the use of **Mood Adjuncts**. Textual meaning is construed in the English clause by the positioning of elements: the point of departure or **Theme** of a clause is positioned at the beginning of the clause.

The simultaneous nature of clause structure is illustrated with a clause taken from the *Bangkok Post* of March 23, 2002, as shown in Figure 3.12. The Participants are **Ethnic minority groups ... and malicious messages ...**, and this ideational configuration is one of a number of ways this event could have been construed linguistically. Compare:

a. *Criticism of the government has been heard along the border.*  
b. *Anti-government forces have stepped up their campaign.*

---

19 Following Martin, Matthiessen & Painter (1997, pp. 125-6), this non-projecting clause is analysed as behavioural rather than verbal.
c. **Broadcasts from ethnic minorities along the border are awash with malicious messages about the government.**

These plausible alternate wordings illustrate that the lexical and grammatical choices made by the author construe this event (an element of human experience) in a particular way, and the ideational grammar of the clause in English provides speakers with systemic choices in how events can be construed. For example, the clause in Figure 3.12 could be construed as:

- an event of ‘saying’ (as in the original);
- an event of ‘hearing’ (as in a above);
- an event of ‘doing’ (as in b above);
- a relation where messages are an attribute of broadcasts (as in c above).

In the Mood block of the original clause shown in Figure 3.12, the Finite follows the Subject. In terms of interpersonal meaning, this structure means the MOOD of the clause is declarative, and the writer of the text is giving information. The systemic choice (i.e. **declarative**) realised by this clause structure construes a particular relationship between the writer and reader (a relationship which would be different if, for example, Finite preceded Subject and the clause read: *Are ethnic minority groups along the border broadcasting malicious messages about the government?*). The inclusion of Mood Adjuncts (e.g. certainly, surprisingly) is another interpersonal lexicogrammatical resource, though the choice in this particular clause is to not use one.

Textually, the Theme, or point of departure of the clause is **ethnic minority groups along the border**. The writer has the choice of, for example, using active or passive voice to place whichever Participant they choose as Theme in the clause.
In each clause, a speaker of a language makes meaning in these three ways simultaneously. Clause grammar in other languages sometimes construes aspects of metafunctional meaning in other ways, such as the use of particles to express interpersonal meaning in Thai (e.g. *khrap, kha, na* - Patpong, 2006), and textual meaning in Japanese (e.g. *wa*) and Tagalog (e.g. *ang* - Martin, 2004), but SFL descriptions of a range of languages (see Caffarel, Martin & Matthiessen, 2004) have led to the argument that the grammars of all human languages have evolved to express these three metafunctions. Additionally, there are ideational, interpersonal, and textual systems operating at the stratum of discourse-semantics (see Martin, 1992; Martin & Rose, 2007) as well as at the stratum of lexicogrammar.

As with rank, the theoretical justification for metafunctions is systemic. Halliday identifies a range of structural oppositions in the grammar of the English clause. For example, material-Process clauses have a structure which includes an Actor (which does something) and a Goal (to which something is done). Mental-Process clauses have a Senser and optionally a Phenomenon, or a projected clause. Attributive relational-process clauses have a Carrier and an Attribute, while identifying relational-process clauses have a Token and Value. These different clause types are realised by their different structures, and the different Process types of major clauses in English can be represented in a system network as shown in Figure 3.13.
Chapter Three: SF-MDA

Figure 3.13: System of ideational clause grammar in English (slightly adapted from: Halliday & Matthiessen, 2004, p. 173)

Figure 3.14: System network of interpersonal clause grammar in English (reproducing Figure 3.10)
The systemic oppositions in Figure 3.13, realised in ideational grammar, exist alongside the systemic oppositions realised in interpersonal grammar. To explain, major English clauses (those with a Process) can be indicative (i.e. having a Mood - both Subject and Finite) or imperative (with no Mood). Imperative clauses can be declarative (Subject precedes Finite), or interrogative (Finite precedes Subject). This is shown as a system network in Figure 3.10 above, and reproduced in Figure 3.14 for convenience.

Looking at Figures 3.13 and 3.14 in conjunction, a clause may select any of the choices from Figure 3.13, and at the same time any of the choices from Figure 3.14. So the clause in Figure 3.12 - Ethnic minority groups along the border are broadcasting malicious messages about the government - selects behavioural from the experiential choices (see Figure 3.13), and declarative from the interpersonal choices (see Figure 3.14) simultaneously. A clause can also be:

- behavioural and interrogative
  - e.g. Are ethnic minority groups along the border broadcasting malicious messages about the government?
- behavioural and imperative
  - e.g. Broadcast malicious messages about the government!

The same combinations can be made with all other Process types. For example:

- **material-Process clauses**
  - declarative:
    - Foreign Ministry Commissioner extends Spring Festival Greetings to Macao People.
  - interrogative:
    - Does Foreign Ministry Commissioner extend Spring Festival Greetings to Macao People?
  - imperative:
    - Extend Spring Festival Greetings to Macao People!

---

20 source: People’s Daily, February 14, 2002
- **relational-Process clauses**
  - declarative:
    - *The water is still.*
  - interrogative:
    - *Is the water still?*
  - imperative:
    - *Be still!*

Similarly, choices from the textual system of Theme combine freely with the above choices (Caffarel, Martin & Matthiessen, 2004, p. 29; Halliday & Matthiessen, 2004, pp. 79-87). Systemically then, the ideational, interpersonal, and textual systems discussed briefly here are **simultaneous systems**, and the choices can be made from them independently.

This is the theoretical justification for the three metafunctions in SFL: “the categories of ideational, interpersonal and textual appear clearly in the semantic system itself, as system networks each having a high degree of internal dependence but a very low degree of external dependence” (Halliday, 2002/[1979], pp. 200-201).

This aspect of SFL becomes important in the analysis of other semiotic systems, as Kress & van Leeuwen (1996) and O’Toole (1994), for example, have argued that essentially the same metafunctions can be identified in visual texts (see Martinec, 2005). Terminology used to identify the metafunctions varies between studies, and some of the common terms are summarised in Table 3.5, slightly adapted from Martin (2002). In this thesis, the metafunctional terms from Systemic Functional Linguistics (i.e. **ideational**, **interpersonal**, and **textual**) are employed.

As discussed above, Kress & van Leeuwen (1996) identify systems for ideational meaning in images (representations in their terms - see Figure 3.7 above).
They also identify interpersonal systems (interaction and modality in their terms), such as the choice between **subjective images** (where the viewer position is ‘designed into’ the image) and **objective images** (where the design of the image ‘neutralises’ any perspective). More delicate systemic choices are also available to the author of a subjective image, including the **involvement** of the viewer (realised structurally by a frontal angle on the horizontal axis) or **detachment** (a valeur realised structurally by an oblique angle on the horizontal axis). These choices (a small illustration of the many mapped by them) are represented in Figure 3.15.

<table>
<thead>
<tr>
<th>metafunction</th>
<th>naturalising reality</th>
<th>enacting social relations</th>
<th>organising text</th>
<th>resource</th>
</tr>
</thead>
<tbody>
<tr>
<td>language</td>
<td>ideational</td>
<td>interpersonal</td>
<td>textual</td>
<td>Halliday (1994)</td>
</tr>
<tr>
<td>image</td>
<td>representation</td>
<td>interaction/modal</td>
<td>composition</td>
<td>Kress &amp; van Leeuwen (1996)</td>
</tr>
<tr>
<td></td>
<td>representational</td>
<td>modal</td>
<td>compositional</td>
<td>O’Toole (1994)</td>
</tr>
<tr>
<td></td>
<td>presentational</td>
<td>orientational</td>
<td>organisational</td>
<td>Lemke (1998)</td>
</tr>
</tbody>
</table>

*Table 3.5: Metafunctional labels in foundational work in SF-MDA (following Martin, 2002, p. 311)*

*Figure 3.15: Partial system of ATTITUDE (adapted from Kress & van Leeuwen, 1996, p. 154)*
In addition to ideational and interpersonal systems, textual choices (composition in Kress & van Leeuwen’s terms) include **connection** and **disconnection** between elements in an image (realised by framing devices such as borders and space) and maximum or minimum **salience** of objects in an image (realised by position, size, colour, contrast, and other features). These choices (again, a small number of those identified by Kress & van Leeuwen) are represented in Figure 3.16.

![Diagram](image)

*Figure 3.16: Partial system of COMPOSITION (adapted from Kress & van Leeuwen, 1996, p. 223)*

The systems (and the structures realising them) developed by Kress & van Leeuwen are far more extensive and detailed than the brief, illustrative sketch provided here (cf. Chapter 6). The main point at this juncture is that the ideational choices (representation) they identify can co-occur freely with the interpersonal choices (interaction/modality), can co-occur freely with the textual choices (composition). Thus, the theoretical principles underlying the identification of metafunctions in Kress & van Leeuwen’s (1996) SF-MDA are consistent with those
underlying the identification of metafunctions in SFL. Aspects of this systemic functional ‘grammar’ of visual communication are applied and developed in the analysis of online newspaper home pages in Chapter 6.

3.7 Instantiation

The systems in SFL represent the possible choices in language - what a speaker can mean. In SFL, this is known as the meaning potential:

in order to make sense of the text, what the speaker actually says, we have to interpret it against the background of what he ‘can say’. In other words, we see the text as actualized potential; it is the actual seen against the background of the potential. (Halliday, 1978, p. 40)

Of course, speakers are free to make choices that have not yet been made by other speakers, and therefore add (a) feature(s) to the system of language, and speakers do this all the time, hence the meaning potential of a language (modelled in system networks in SFL, which are static and 2-dimensional due to the limitations of the technology we use to do the modelling) is always changing.

The systems that represent the meaning potential of the language are related to actual texts in SFL by the cline of instantiation. The most common way of explaining this is using the metaphor of weather and climate. Any given text is like an instance of the weather. The weather on a given day tells us something about climate, but it is only by observing the weather over a long period of time that we can make accurate and full descriptions of the climate.

Weather patterns and climate are not different phenomena from the weather; they differ only in generality. A weather pattern is nothing more than an accumulation of a number of instances of the weather;
and the climate is nothing more than an accumulation of a number of weather patterns. By the same token, the weather here in Sydney is nothing more than an instance of Sydney’s climate. (Caffarel, Martin & Matthiessen, 2004, p. 19)

As weather is to climate, so is text to meaning potential, or instance to system.

Different studies of semiotic phenomena can be positioned at different places along the cline of instantiation: studies of a single text at the ‘instance’ pole, studies of an entire semiotic system at the ‘system’ pole, and most studies somewhere in between, depending on the size and representativeness of the corpus of texts, and whether the study is intended to be descriptive or theory-building.

At different points on the cline of instantiation, patterns of choices from the system can be analysed quantitatively, and the probability that different systemic features will be present in texts and text types can be calculated (Caffarel, Martin & Mattheissen, 2004, p. 20; Halliday & Matthiessen, 2004, p. 26), which allows detailed discourse analyses of single texts and/or relatively small numbers of texts (typically represented as ‘qualitative research’) to contribute to statistical analysis involving much larger samples (or ‘quantitative research’ - see Martin & Rose, 2003, pp. 269-73).

Like the system/structure axis, the cline of instantiation (the climate/weather-like relation between system and text) is conceptually the same for all semiotic systems. Some foundational work in SF-MDA such as Kress & van Leeuwen (1996) and O’Toole (1994) is located near the ‘system’ end of the cline, and attempts to map the meaning potential of semiotic resources such as images. This work, while extensive in scope, is exploratory in nature and can be compared to early maps of the
world which sketched the rough location of continents and islands as they were encountered, to be filled in, changed, and added to as more (and more detailed) exploration followed.

Many of the studies listed in Tables 3.2 and 3.3 are located much closer to the ‘instance’ end of the cline, applying the frameworks developed by Kress & van Leeuwen or O’Toole. Studies all along the cline of instantiation ultimately contribute to our knowledge of the entire system (at one end), and of the specific texts which instantiate it (at the other):

we collect a sample of texts or text extracts that is extensive enough to be representative of some higher point along the cline of instantiation - some text type or a family of text types, or of the overall system. How far we move along the cline of instantiation towards the system pole is of course a matter of choice. ... [T]he extent to which it is possible to move towards that pole while still developing reliable descriptions depends on how much text can be observed. (Caffarel, Martin & Matthiessen, 2004, p. 20)

Thus, in this relatively early stage of SF-MDA, studies describing different texts, text types, and families of text types are all needed to contribute to the ‘maps’ already put in place, and to find out in what locations and along what dimensions they are insufficient. This point is taken up in Chapter 9.

3.8 Semogenesis

The final theoretical principle in SFL to be considered here is semogenesis, the timescales of semiotic change. As discussed above, culture is modelled as a system of meanings in SFL. Cultures are dynamic and change over time. In SFL terms, this
means that the meaning potential of the culture changes, and this long-term process is called **phylogenesis** in SFL.

Language does not only develop as a cultural system; individuals’ control of language over time also develops, and this development of language in the individual on the time scale of a human lifetime is known as **ontogenesis** in SFL.

Finally, the development of meaning in a single text as systemic choices unfold in relation to one another on a much shorter timescale is known as **logogenesis** in SFL (Halliday & Matthiessen, 1999; cf. Lemke, 2003a).

As Martin & Rose explain:

> where a culture has arrived in its evolution provides the social context for the linguistic development of the individual, and the point an individual is at in their development provides resources for the instantiating of unfolding texts ... . Conversely, logogenesis provides the material (i.e. semiotic goods) for ontogenesis, which in turn provides the material for phylogensis; in other words, texts provide the means through which individuals interact to learn the system. And it is through the heteroglossic aggregation of individual systems (that are always already social systems), though the changing voices of us all, that the semiotic trajectory of a culture evolves. (Martin & Rose, 2003, pp. 266-7)

This perspective becomes significant for this thesis as it is, in part, an examination of the development of genres over time, and the expansion of one part of the global media culture (phylogenesis). This is taken up in Chapters 7 and 9.

Reliable descriptions of semiotic systems do not only depend on the quantity of texts we can observe (see quote from Caffarel, Martin & Matthiessen, 2004 in section 3.7 above). They also depend on the rate at which the system pole of the cline
of instantiation changes, or the speed of phylogenesis (the development of culture). If the meaning potential of the culture evolves more rapidly than we are able to describe it, then the reliability of our descriptions of semiotic systems will obviously be thrown into question. This is an important issue for semiotic theory, as language and other semiotic resources are used in new communicative contexts (on the world wide web, for example) in ways previously not possible, expanding the meaning potential of our culture in a way probably not seen since the development of the printing press.

Semogenesis - the timescales of meaning and its development - is an important aspect of SF-MDA. Lemke (e.g. 2002, 2003) examines different timescales on which individuals and groups interact with texts, and the changing nature of texts and social control:

not only social organization in the large, but also social control at the scale of individuals and their activities, is mediated in part by semiotic-material texts and artifacts which circulate in communities and link large-scale, long-term processes, institutions and social formations with smaller-scale, shorter-term actions and activities. (Lemke, 2003, p. 139)

For Lemke, the evolution of multimodality and hypermodality\(^{21}\) means that new forms of text are evolving, and with them new forms of communication and social organisation. Authors and readers are in new kinds of relation with one another, interacting over different timescales and different text scales (Lemke, 2002). Logogenesis (the unfolding of meaning in texts) takes place on different timescales, and this is related to individuals and to phylogenesis.

\(^{21}\) Lemke defines hypermodality as “the new interactions of word-, image- and sound-based meanings in hypermedia, i.e. in semiotic artifacts in which signifiers on different scales of syntagmatic organization are linked in complex networks or webs” (2002, p. 300).
Another multimodal perspective on logogenesis is given by Iedema (2003b, pp. 42-3), who describes the way verbal texts are “resemiotized” into written texts, then into plans, and finally into a building in a cultural process unfolding on a longer timescale than individual texts. The genesis of meaning is dependent not only on the semiotic system(s) (e.g. language, image, architecture) instantiated by each text, but also on the sequence in which they occur (and therefore re-contextualise each other) and on the materials and resources involved in the production of each text.

Also relevant to the current study is Djonov’s (2005) discussion of the unfolding of meaning over time on websites, where logogenesis is used “to refer to the history of a website from the perspectives of designers as well as users ... to reflect the fluidity of websites as hypermedia texts” (Djonov, 2005, p. 72, note 14). A similar perspective is taken up in the final chapter of this thesis, where, like Lemke, Iedema, and Djonov, I argue that online newspapers transcend the traditional boundaries of texts as construed in the discourse of Linguistics, challenge existing notions of the unfolding of meaning, and require a consideration of meaning on different timescales.

In summary, semogenesis is relevant to Chapter 5 (the evolution of hypertext and its impact on the ability of rank to account for structure in online newspapers), Chapter 6 (the development of online newspaper home page design over time), and Chapter 8 (the cultural evolution of the conventions of news images in newspapers) of this thesis, but is particularly relevant to the development of the meaning potential of culture as realised in online newspapers as discussed in Chapters 7 and 9.
3.9 Intersemiosis

The focus of Kress & van Leeuwen (1996) and O’Toole (1994) is to describe various semiotic systems, and in doing so they have opened a space for a systematic analysis of multimodal texts. There is now a growing body of work directed at addressing the interaction between different semiotic systems as they are instantiated in texts (sometimes termed intersemiosis, or intermodal relations).

Lemke (2002) describes the interaction between different semiotic systems in texts as creating “multiplicative” meanings:

the meaning potential, the meaning-resource capacity, of multimodal constructs is the logical product, in a multiplicative sense, of the capacities of the constituent semiotic resource systems. When we combine text and images, each specific imagetext (Mitchell, 1994) is now one possible selection from the universe of all possible imagetexts, and that universe is the multiplicative product of the set of all possible linguistic texts and the set of all possible images. Accordingly, the specificity and precision which is possible with an imagetext is vastly greater than what is possible with text alone or with image alone. (Lemke, 2002, p. 303)

He goes on to argue that the ‘common denominators’ that allow multiplicative meanings across semiotic resources are the three metafunctions of SF theory, and that “text and image mutually recontextualize one another, influencing our interpretations of each and both together” (2002, p. 322, italics in original).

O’Halloran builds on the SFL notion of grammatical metaphor and introduces the notion of semiotic metaphor, where “a shift in the function of elements occurs and new entities are introduced ... as a result of movements between semiotic codes” (1999a, p. 321). In addition, she draws on the linguistic work of Halliday (e.g. 1994) and Martin (e.g. 1992), O’Toole’s (1994) description of images, and work on
intersemiosis by Thibault (2000), Royce (e.g. 1999) and others\textsuperscript{22} to develop a framework for analysing intersemiosis in mathematical discourse.

The functions of language, the [mathematical] symbolism and the visual image [in mathematical discourse] may be summarized as follows. Patterns of relations are encoded and rearranged symbolically for the solution to the problem. The symbolism has limited functionality, however, so that language functions as the meta-discourse to contextualize the problem, to explain the activity sequence which is undertaken for the solution to the mathematics problem, and to discuss the implications of the results which are established. Visual images in the form of abstract and statistical graphs, geometrical diagrams, and other types of diagrams and forms of visual display ... show the relations in a spatio-temporal format which involves multi-dimensional time frames. (O’Halloran, 2005, p. 158)

Mathematical discourse is in many ways a ‘special case’: it “involves language, mathematical symbolism and visual images ... [and] mathematical printed texts are typically organized in very specific ways which simultaneously permit segregation and integration of the three semiotic resources” (O’Halloran, 2005, p. 11).

Nonetheless, the specific ‘mechanisms’ of intersemiosis identified by O’Halloran can be applied to other texts where semiotic systems are combined in similar ways (such as print advertisements - see O’Halloran, 2008). In addition to semiotic metaphor, these mechanisms include:

1. **Semiotic Cohesion**: System choices function to make the text cohere across different semiotic resources.
2. **Semiotic Mixing**: Items [i.e. discernable textual units using one or more semiotic resources] consist of system choices from different semiotic resources.
3. **Semiotic Adoption**: System choices from one semiotic resource are incorporated as a system choice in another semiotic system.
4. **Juxtaposition**: Items and components within those Items are compositionally arranged to facilitate intersemiosis.
5. **Semiotic Transition**: System choices result in discourse moves in the form of macro-transitions which shift the discourse to another Item consisting primarily of another semiotic resource, or alternatively macro-transitions within Items occur.


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\textsuperscript{22} Including a number of her students, in O’Halloran (2004a).
Other work in SF-MDA looks also to theorise factors in the creation and reception of texts, ‘beyond the text’ as it were, in order to account for multimodal meaning. Building on their existing frameworks for analysis, Kress & van Leeuwen (2001) describe four “domains of practice”: discourse, design, production, and distribution. In each of these domains, different semiotic resources can be brought together in different ways, and these domains may be closely integrated or separate, depending on the nature of the semiotic action taking place.

At the level of social organisation of semiotic production, different configurations of discourse, design, production and distribution may occur. Three of these may be merged, for instance, in everyday conversational speech, where any speaker or listener incorporates discourse, design and production skills and probably experiences them subjectively as one and the same. ... At the other end of the scale from everyday conversation we might have the speech, say, of professional voice-over specialists. Here the division of labour is maximised. Each [domain] involves different people and different skills. Expert sources provide the discourse, scriptwriters the design, voice specialists the voices, recording engineers the recordings, and so on. (Kress & van Leeuwen, 2001, p. 9; cf. Bell’s 1991 news production roles in Table 2.2 above)

Of particular relevance to this thesis is Kress & van Leeuwen’s notion of design, which they relate to the general model of stratified meaning in SF theory (cf. Figure 3.1).

Design stands midway between content and expression. It is the conceptual side of expression, and the expression side of conception. Designs are (uses of) semiotic resources, in all semiotic modes and combinations of semiotic modes. Designs are means to realise discourses in the context of a given communication situation. But designs also add something new: they realise the communication situation which changes socially constructed knowledge into social (inter-) action. (Kress & van Leeuwen, 2001, p. 5)

23 These are also labelled as strata by Kress & van Leeuwen, but are theoretically distinct from the strata of SF theory (cf. Caffarel, Martin & Matthiessen, 2004; Kress & van Leeuwen, 2001, p. 4).
Online newspaper home pages are ‘templated’, and their design remains constant day by day. The design of news, and the ramifications of the way in which the medium of the world wide web requires online newspapers to work in a consistent design is considered in Chapters 6 and 7, and the ramifications of this are considered in Chapter 9.

Another process-oriented perspective on intersemiosis is provided by Bateman (2008), whose ‘Genre and Multimodality’ (GeM) model assumes that documents are multimodal, and provides a framework for describing and explaining the meaningful choices while taking account of the constraints in their production. Bateman’s approach involves close textual analysis to identify the meaningful elements in documents, and then looks at how “spatially arranged configurations of document elements” are meaningful (p. 21; italics in original). A number of ‘layers’ of analysis are applied, as shown in Table 3.6.

<table>
<thead>
<tr>
<th>Descriptive Layer</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Content structure</td>
<td>the content-related structure of the information to be communicated—including propositional content</td>
</tr>
<tr>
<td>Genre structure</td>
<td>the individual stages or phases defined for a given genre: i.e., how the delivery of the content proceeds through particular stages of activity</td>
</tr>
<tr>
<td>Rhetorical structure</td>
<td>the rhetorical relationships between content elements: i.e., how the content is ‘argued’, divided into main material and supporting material, and structured rhetorically</td>
</tr>
<tr>
<td>Linguistic structure</td>
<td>the linguistic details of any verbal elements that are used to realize the layout elements of the page/document</td>
</tr>
<tr>
<td>Layout structure</td>
<td>the nature, appearance and position of communicative elements on the page, and their hierarchical interrelationships</td>
</tr>
<tr>
<td>Navigation structure</td>
<td>the ways in which the intended mode(s) of consumption of the document is/are supported: this includes all elements on a page that serve to direct or assist the reader’s consumption of the document</td>
</tr>
</tbody>
</table>

Table 3.6: The primary layers of the Genre and Multimodality framework (source: Bateman, 2008, p. 19)
In addition to this aspect of the framework, Bateman’s (2008) genre-based approach to MDA incorporates a process perspective on genre which takes account of the conditions of production and reception of texts (see section 3.3 above).

3.10 SF-MDA: Conclusion

Systemic Functional Linguistics is a contextual and social theory of language. It views language from a functional perspective, and equally important is its systemic perspective.

Systemic theory takes the system, not the structure, as the basis of the description of a language, and so is able to show how types of structure function as alternative modes of the realization of systemic options. (Halliday, 2002/[1979], p. 217)

Aspects of the theory such as rank and metafunction are derived from the systemic description of language, in which structure realises the systemic oppositions.

As a theoretical approach to analysing texts, social semiotics has been developed most fully in relation to language in SFL, but more recently has been applied to other semiotic systems. As a result, this theoretical approach has also come to be known as Systemic Functional Semiotics (SFS), in order to indicate that the theoretical principles apply also to semiotic systems other than language, and to explaining human communication in multimodal texts.

Multimodal discourse analysis (MDA) as practiced by scholars working in the social-semiotic tradition employs the theoretical principles and tools of systemic
functional (SF) theory. While these are for the most part consistent with the principles of systemic functional linguistics (SFL), the expansion of the object of study to meaning ‘beyond language’ has ramifications for traditional theoretical boundaries.

In this chapter, the organisation of SF-MDA studies into Tables 3.2 (Some SF-informed studies of different semiotic systems) and 3.3 (Some SF-informed MDA studies of a range of 2D text types) above suggests that it is possible to maintain a clear distinction between text types and semiotic systems. However, one of the ramifications of the development of SF-MDA is that such a neat separation is no longer possible. “Instead we move towards a view of multimodality in which common semiotic principles operate in and across different [semiotic systems], and which it is therefore quite possible [for example] for music to encode action, or images to encode emotion” (Kress & van Leeuwen, 2001, p. 2). This is taken up further by Kress & van Leeuwen, who question the identification of separate, fixed semiotic systems such as language or image:

it depends on the domain of practice, that is, on the precise cultural, social, economic location, and on the occasions in which it is used. Here, in this instance, it may be [a semiotic system]; in other domains in need not be. Is photography (rather than visual image as such) a [semiotic system]? If you are a photographer, no doubt our tests would be answered positively; if you are the man or woman in the street, there may, in your practice, not be a [systemic]/grammatical distinction between images in printing, etching, drawing, photography, etc. ...

‘Our’, the ‘Western’, recent history has left ‘us’, in the West, with views in which the representational resource ... either is or is not grammatical, subject to the rigidities, certainties and conventions which are caught up in the term ‘grammar’. We think that it is no longer a tenable approach: in some domains a resource is treated as though it were subject to grammar; in others it is not. These boundaries shift over time, and they vary between social-cultural groups. (Kress & van Leeuwen, 2001, p. 60)

This perspective on multimodality and semiosis is central to the analytical approach taken in this thesis (Chapter 4), which approaches online newspapers as a
semiotic resource, and uses the tools of systemic theory (primarily the system/structure axis) to model ranks, and systemic ‘grammars’ at different ranks at a point on the cline of instantiation close to the ‘instance’ or ‘text’ pole. As the data for this study were collected over time, the chapters that follow give us a perspective on logogenesis and phylogenesis in new media, and on the role of the genres of online newspapers and their design in new forms of social control (Lemke, 2003).

In closing, SFL’s paradigmatic perspective on language has provided a theoretical basis from which to explore semiotic systems other than language systemically and systematically. Kress & van Leeuwen’s seminal work has drawn on a number of features of SFL, and their work (and that of contemporaries such as O’Toole) has been influential to the point where it is now appropriate to refer to social semiotics as SF theory or systemic functional semiotics (SFS). In turn, SFS has specific branches of study: systemic functional linguistics (SFL) and systemic functional multimodal discourse analysis (SF-MDA).

The study of online newspapers in this thesis employs SF-MDA to analyse the ways in which home pages and the texts appearing on them mediate communication between the authors and readers of newspapers, ideationally, interpersonally, and textually, and this is detailed in the following chapter.