Chapter 5 - An Analytical Framework for the Analysis of Intersemiotic Complementarity in *The Economist* Magazine

5.0 Introduction

The reviews in Chapters Two, Three and Four in this study have revealed a number of salient issues. Firstly, the review of the literature on the analysis of economics discourse by economists and applied linguists showed that in spite of an increasing awareness of the nature of economics discourse by both applied linguists and economists, the published research has not attempted or been able to in any significant way describe, explain or account for the visual mode in economics discourse. Secondly, a brief examination of the research by semioticians and linguists working with other modes of communication, focussing on the visual mode, showed that there are basically three main schools of semiotic theory which have attempted to examine other modes of communication utilising linguistic insights originally derived from Saussure's treatise. Thirdly, the overview of the work of those who have attempted to investigate various kinds of visual modes from within the Hallidayan SFL theoretical framework demonstrated that while within this particular theoretical framework there is an expanding body of work examining different manifestations of the visual mode (general images and graphics, painting, sculpture and architecture), there is virtually no research into the nature of the intersemiotic semantic relationship between the visual and verbal modes in page-based multimodal text, and none at all in relation to economics discourse.

In this chapter, the analytical framework utilised for the analysis of intersemiotic complementarity in *The Economist* magazine will be explained and outlined. This will involve a brief explanation of the theoretical principles and assumptions underpinning this study, as well as a more focussed discussion of its various features. A detailed application and discussion of this analytical framework will be given in the ensuing chapters Six to Seven, where it will be applied in the analysis of a representative text extracted from *The Economist* magazine.

Extralinguistic levels

Context of culture

Context of situation

realised in

Linguistic levels

Semantics
(systems of meanings)

realised in

Lexicogrammar
(systems of wordings)

realised in
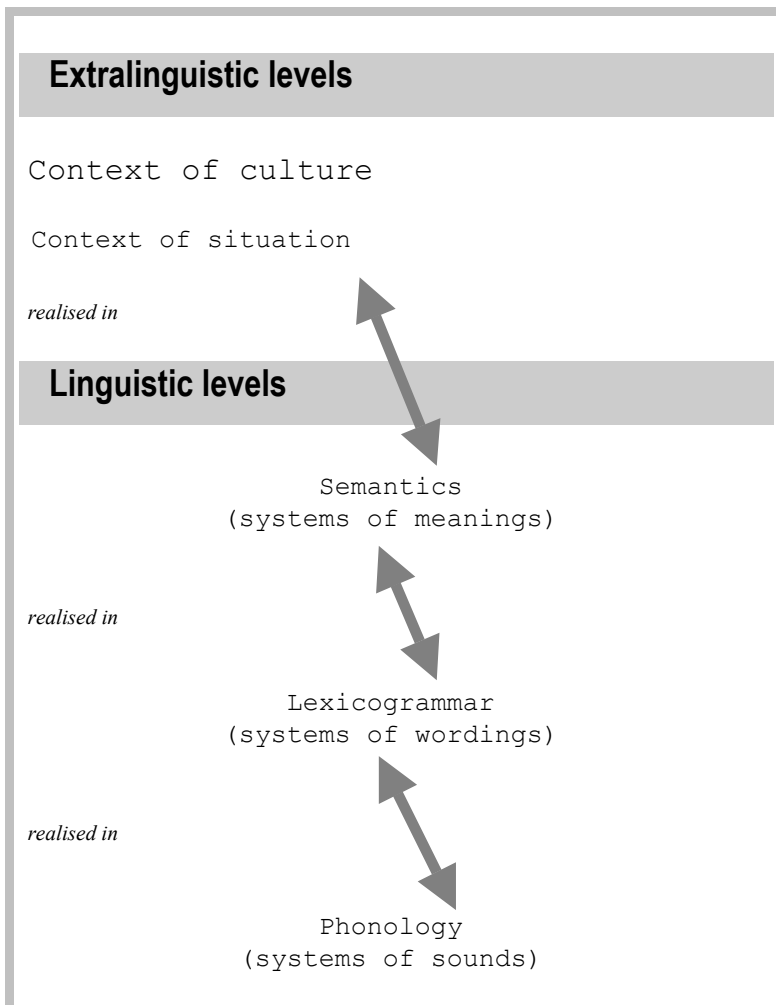
Phonology
(systems of sounds)

Figure 5.1 - Levels of language and realisation in the
SFL Model (adapted from Butt et al. 1995:11)

5.1 The Systemic Functional Linguistic (SFL) Model

As stated in Chapter One, the analysis of intersemiotic complementarity in this study will take as its theoretical foundation a Hallidayan view of communication, where language is seen as "social semiotic" (Halliday 1978). It will utilise and seek to extend the applicability of Halliday's systemic functional linguistics (SFL) model to page-based forms of multimodal communication. To Halliday, the term 'social' suggests two things simultaneously: firstly it refers to the social system, which is synonymous with culture as a system of social meanings, and secondly it refers to the dialectical relationship between communication (language) and social structure. The SFL perspective therefore involves an "attempt to relate language primarily to one particular aspect of human experience, namely that of social structure" (Halliday and Hasan 1985:4). This relationship between language and social situation implies that language is viewed as a system of choices or options made against a background of other potential options, and against other ways of communication which human beings have developed over time and in various cultural contexts. As Hasan points out,

> whereas Saussure thought of the various semiotic systems as simply copresent, systemic functional linguistics attempts to integrate language as a semiotic system with other semiotic systems in a community. It is clear that the claim of cogenesis itself rests on that of the semiotic relation of coding which integrates the context of culture and situation with language and communication (1993:94).

Halliday (1978:16,21,27-29,109) makes four central claims about language:

1. Language is *functional* in terms of what it can do or what can be done with it

2. Language is *semantic* in that it is used to make meanings.

3. Language is *semiotic* in that it is a process of making meanings by selecting "from the total set of options that constitute what can be meant" (op.cit:53).

4. The language meanings generated and exchanged are motivated by their social and cultural *contexts*.

The central claims about language are represented in Figure 5.1. Here, language is interpreted as a "complex semiotic system composed of multiple LEVELS or STRATA" in which "the central stratum, the inner core of language, is that of grammar" (Halliday 1994:15). This central stratum is referred to as the

LEXICOGRAMMAR, because it incorporates both grammar and vocabulary (loc.cit.). The key concept used to describe the ways that these strata are related in the overall model is the concept of *realisation*.

As Figure 5.1 shows, the linguistic levels are related to each other in that the level of phonology and graphology realises the level of the lexicogrammar, and this lexicogrammar itself realises the level of <u>semantics</u> or meanings, which also realises the extralinguistic features of the <u>context</u>. Looking at this from an opposite perspective, the extralinguistic features of the context are realised in the choices made in the semantic level, these meanings are realised in choices made in the lexicogrammar, and the lexicogrammar is realised by choices that are made in the soundings and graphology (loc.cit.).

A more extensive explanation and application of the main tenets of the Systemic Functional Linguistic Model to typical examples of economics discourse is presented in Appendix 3, but according to the SFL view of language, a reader of any article in *The Economist* magazine would interpret it as a text realising a specific context of situation and simultaneously encoding all three of the metafunctions at the level of semantics. In other words, in ideational terms the reader would understand the article's processes, their participants, and the circumstances being represented. He or she would also have to understand the logical relationships between one process and another, or one participant and another which share the same position in the text. In interpersonal terms, the reader would recognise and respond to the encoded speech function, whether the article is making offers, providing statements, asking questions or issuing commands, as well as appreciate the attitudes and judgements embodied in the text. In textual terms, the reader would appreciate the news value and topicality of the message reported, or its relevance to the context in which it occurs, as well as the coherence between one part of the article and every other part. All these elements, in combination with the texture provided by the componential and organic cohesive devices, operate to convey to the reader that the article he or she is reading is coherent, relevant, and organised so that it effectively addresses the

reader in some recognisable, socially appropriate way (Halliday and Hasan 1985:45).

The following sections will examine the application of these SFL principles to visual semiosis. The remaining sections will then introduce and outline the assumptions underlying the analytical framework proposed in this study, and will present it in the final section. This framework will then be used in the analysis of the multimodal text extracted from *The Economist* magazine, which has previously been referred to as the *Mountains* text.

5.2 The SFL Model and Visual Semiosis - An Analytical Framework

To be able to say anything meaningful about the interaction between the visual and verbal modes in a multimodal text, there is a need for consistency in describing how both verbal and visual meanings are communicated. SFL theory is an *exotropic* theoretical paradigm which inherently allows, through its usage, the ability to explain a range of communicative phenomena, and an ability to communicate and work with other theoretical paradigms (Hasan in press). A strength of the SFL model is that the concept of a text in terms of metafunctional meaning also permits an analysis of semiosis from three different metafunctional perspectives, the ideational, interpersonal and textual, with the assumption that an analytical focus on any one necessarily implies that the other two are and should be considered as operating simultaneously. Further, the view that communication involves "systems of meanings" and the act of communication involves making simultaneous selections from those systems in terms of what is going on (the field of discourse), who is taking part (the tenor of discourse), and the role assigned to language (the mode of discourse). This suggests that it is a paradigm which can perhaps be usefully applied to other systems of meaning besides language. This has been demonstrated clearly by the work of O'Toole (1994, 1995) and Kress and van Leeuwen (1990, 1996). In their applications to other visual modes, they show that the Hallidayan SFL model can be utilised not only for the sociolinguistic analysis of natural language, but can also "offer a powerful and flexible model for the study of other semiotic codes" (O'Toole 1995:159). However, as stated in Chapter One, the

Extravisual levels

Context of culture

Context of situation

realised in

Visual levels

Semantics
(systems of visual meanings)

realised in

Visual grammar
(systems of visual design)

realised in

Representational Symbology
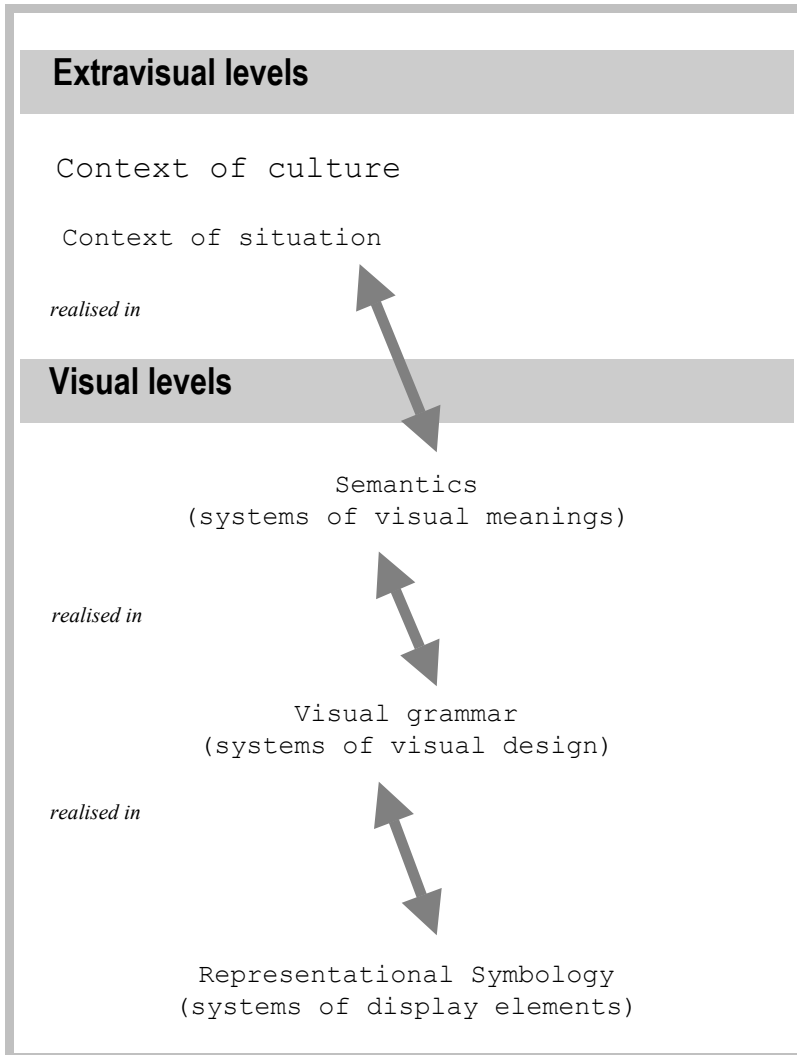(systems of display elements)

Figure 5.2 Levels of visual expression and realisation in the SFL Model

question that this study will ask is can SFL theory also accommodate the synergism of the intersemiotic complementarity between language and those other semiotic systems. That is, along with providing the means whereby visual meaning can be described, can it be used to show how meanings interact *between* modes *within* the boundaries of a single page-based text (Halliday and Hasan 1985:26).

Before looking specifically at the framework for intersemiotic complementarity, a discussion of the visual semiotic framework is presented below, and an adaptation and application of the SFL model to the visual semiotic is presented in Figure 5.2. At the lowest level of this model of visual expression and realisation (which in the SFL or linguistic model is the level of phonology), the term Representational Symbology is used. The assumption here is that each visual instance consists of choices that have been made from the systems of fundamental display elements which are available to the producers of a visual. The term 'Representational' is derived from a common classification used in communication and media studies research. Generally, this research identifies a communication *medium* as the "physical or technical means of converting a MESSAGE into a signal capable of being transmitted along a given CHANNEL" (Watson and Hill 1997:139). It also typically identifies a communication *medium* as being either *Presentational*, *Representational,* or *Mechanical*. Presentational media refers to linguistic features (the voice or the spoken word) and gestural features (the face and body) which are involved in *acts* of communication, with the person doing the communicating viewed as the medium. Representational media however is concerned with *works* of communication*,* where the medium is a book, painting, photograph or drawing which creates some kind of 'text' that is independent of its author or designer, and it is in this sense that it is directly relevant to an examination of page-based communication. Mechanical media approximates a physical channel and refers simply to the radio, television, film, telephone, and computer media which act as transmitters for the presentational and representational media (Fiske 1982:18).

The visual expression level of Representational Symbology in Figure 5.2 specifically refers to the various display elements of which a work of visual

communication, at its most basic level, is constructed. These are the visual elements which in a sense are "the compositional source for all kinds of visual materials and messages and objects and experiences" (Dondis 1973:15). Representational Symbology is therefore concerned with the ways that visual signs and symbols (or *works)* are produced through the use of various primary display elements, which Dondis (op.cit:15-16) summarises as:

- the **dot**; which is the minimal visual unit, pointer or marker of space on the page.
- the **line**; this can be a fluid "restless articulator of form" in sketches, or a rigid line which is used to tightly control visual space (as in a technical drawing).
- **shape**; this includes the basic geometrical shapes of the circle, square, triangle and their various combinations and dimensional versions.
- **direction**; this is the "thrust of movement" (vectors) which arise from the nature of the various circular, diagonal and perpendicular shapes.
- **tone**; the presence or absence of light.
- **colour**; allied with tone, this element is important for its chromaticity (purity and intensity of hue).
- **texture**; the surface characteristics, which can be optical or tactile.
- **scale** or **proportion**; is concerned with salience, or relative size and measurement.
- **dimension** and **motion**; the use of perspective to give a sense of depth, and the use of depth of field in still and moving film.

The artist, craftsperson or graphic designer is thus the *visualiser* who, through the choices he or she makes, manipulates these basic visual elements to create an intended effect or to project any number of specific messages. In both the visual and linguistic systems, there is plenty of opportunity for creating meaning, for reiterating existing meanings, for generating original meanings; the meaning potential is thus limitless. Like the linguistic system, the visual system relies on a set of intersubjective conventions constrained by a specific relevant context. Like language, any number of existing or new visual messages can be created, and in the same ways that each spoken or written text is an instance of the language system, so too is each visual an instance of the visual system. To paraphrase Halliday (1991:7), the context for this meaning potential - for visual language as a system - is the context of culture, and the context for the particular instances - for visual language as processes of text - is a context of use. Just as a sketch or a diagram is an instance of visual language, so is a situation of visual representation an instance of culture. Thus, the context for an instance of visual language is an

instantiation of choices made constrained by a specific situation, and the context for the system that lies behind each visual is the system which lies behind each situation - namely, the culture.

The level of visual grammar, which is characterised as the systems of visual design in Figure 5.2, relates to the ways that the various systems of display elements in Representational Symbology are combined to realise visual message 'syntagms', or the ways in which visual elements are organised into recognisable structures (Dondis 1973:20-38). In the same ways that a linguistic grammar combines sounds into words which then combines these into clauses, sentences and whole texts, a visual-grammar looks at the ways that people, creatures, mythological beings, inanimate objects, and spatial representations (places, scenes, landscapes) have been created by the basic visual elements combining in meaningful ways to produce coherent visual phenomena of varying degrees of complexity. Both language and visual phenomena rely on a specific intersubjective sign system (their respective semiotic systems), and the choices available in this system are organised in specific ways that make sense to members of a culture.

The use of the term 'meaningful' above is important in that it is the primary focus of this study's approach to visual interpretation. The aim here is to view visual communication, in line with the SFL view of language, as instances of meaning which are structured according to function, not, as analysts in various structuralist schools of semiotics have generally done, to examine visuals in terms of their isolated elements. Their approach was has been to focus on

> what linguists would call 'lexis' rather than 'grammar', on the 'vocabulary' — for instance, on the 'denotative' and the 'connotative', the 'iconographical' and the 'iconological' significance of the individual people, places and things (including the abstract 'things') depicted in images (Kress and van Leeuwen 1996:1).

As stated in Chapter One, this study recognises that verbal and visual modes utilise the meaning-making features peculiar to their respective semiotic systems, in the sense that there are some individual meanings which can be expressed only

visually, and some which can be expressed only through language. It also recognises that there are areas where they both share meanings. Like the lexicogrammar however, visual-grammar operates as "a means of representing patterns of experience" which "enables human beings to build a mental picture of reality, to make sense of their experience of what goes on around them and inside them" (Halliday 1994:106). Visual-grammar also works as a means of projecting and exchanging messages, to generate forms of address to potential viewers, and to 'colour' those forms of address in modal and attitudinal terms. Additionally, visual-grammar works as a means to project a unified, coherent visual message, to organise the elements of its composition in such a way that the viewers will be able to see how one part of the visual 'fits' with every other part, leading to a sense of visual coherence. In the lexicogrammar of the SFL model, the clause plays a central role in embodying experience, organising the nature of the exchange, and in organising the message. In the visual-grammar, visuals organise their meanings in similar ways, in what could be viewed as visual 'syntagms' which are realised by various arrangements of the core visual display elements outlined above. Thus, in visual-grammar, as there is in lexicogrammar, there are various visual ways of relating the participants portrayed (through visual Transitivity systems), of relating the viewer and the viewed (through visual Mood and Modality systems), and of relating the elements on a page to each other (through visual composition systems).

As already indicated in Chapter Four, the analytical framework developed here will draw on aspects of Kress and van Leeuwen's (1990, 1996) and O'Toole's (1994, 1995) work. Kress and van Leeuwen's approach is especially important in that they have attempted, using the terminology of research in graphic design, media studies, and visual semiotics, to develop a grammar of images which describes a variety of different kinds of meanings and the ways that visuals can realise them. Their wide range of specialist terms is very useful for describing the various ways that visuals can project their meanings; however these terms are mode-specific, and as such make the task of describing intersemiotic relations between the verbal and visual modes an exceedingly complex undertaking. Therefore, the study reported here presents a more consistent use of theoretical

concepts and terminology from SFL in order to facilitate the description, in socio-semantic terms, of how both modes organise and express their meanings. Hence, this study uses the existing terminology of SFL theory along with selected ideas derived from the reinterpretation of the metafunctions by Kress and van Leeuwen and O'Toole to explain intersemiotic semantic relations in page-based multimodal text.

At the level of the semantics in Figure 5.2, the metafunctions will be interpreted in similar ways to those used by Kress and van Leeuwen, and O'Toole. The ideational metafunction is seen as the function of language to represent the 'goings on' in the world. In analysing visuals the starting point is to identify the *represented participants*, or all the elements or entities that are actually present in the visual (animate or inanimate), as well as the processes in which they are engaged and the circumstances in which they are found. The interpersonal metafunction is the function of language to represent the roles and statuses that participants hold in any form of interaction, and here the *interactive participants* are the foci — this includes the participants who are interacting with each other in the act of reading a visual, one being the graphic designer or drawer, and the other the viewer, and the social relations between the viewer and the visual. The textual metafunction is that function of language through which a text can be recognised as having coherence and as making sense. The focal point in a consideration of page-based multimodal text is the coherent structural elements or *composition*. This relates to aspects of layout and design which combine and integrate the elements on the page in a way in which the graphic designers or drawers wish to present at a particular point in time (Kress and van Leeuwen 1996:183).

Reading (or viewing) a visual therefore involves the simultaneous interplay of three elements which correlate with Halliday's (1985) three metafunctions: the ideational, the interpersonal and the textual. For the visual mode these relate to the *represented participants*, the *interactive participants*, and the visual's *coherent structural elements* (Kress and van Leeuwen 1990:16-21).

The social semiotic view of communication embodied in the SFL model and adopted for this study of intersemiotic complementarity implies that whether a text contains only verbal, or both verbal and visual modes, it is viewed as embodying the pattern of purposeful choices made by its constructors in order to make meanings for others to receive and respond to in some way. This process of making selections against a background of other possible choices also applies to principles of graphic design, as alluded to by Tufte (1983:191):

> Design is choice. The theory of the visual display of quantitative information consists of principles that generate design options and that guide choices among options. The principles should not be applied rigidly or in a peevish spirit; they are not logically or mathematically certain; and it is better to violate any principle than to place graceless and inelegant marks on paper.

A socio-intersemiotic view of multimodal text makes a number of important assumptions that are derived directly from the SFL model. Firstly it assumes that a multimodal text is constructed with a view to projecting or sending meanings within a social context to some other person, whether that person be a listener, a reader, or a viewer. The channel used for the transmission of these meanings can be visual, verbal, or some combination, and each channel will communicate the socially-based meanings in a form that is appropriate to the medium.

Secondly, it assumes that these social meaning selections, verbal or visual, are *activated* by the cultural context in which they are situated. The resultant multimodal text is an *instantiation* of these choices, and can as a result be viewed as a *realisation* of the contexts of situation and culture-bound choices made by its constructors. At the same time, in line with the dialectical relationship between text and culture in the SFL model, a multimodal text also *construes* the context of situation and culture in which it occurs. Thus, one can say that visual and verbal language is in culture, and culture is in visual and verbal language (Hasan 1981, 1995, 1996).

Thirdly, it assumes that the ways that people communicate in various visual and verbal modes are the result of the choices they have made or the options they have taken up from each particular semiotic system. If the orthographic mode of writing

is chosen, then the person making the choice will have made a range of choices from a variety of meaningful options available in that orthographic system. In the same way, someone who designs, draws or develops a visual has made a range of choices from a visual social semiotic system, choices which, like those from the written mode, are situated in the social, cultural and ideological contexts in which they have been made and which they share with others. They are intersubjective sign systems, by virtue of the fact that in "a community [they] serve to define the nature of the 'world' for its members" and have "a role in the mediation of meanings" between the members (Hasan 1981:107). It is argued therefore that when someone makes these choices from more than one semiotic code, and then chooses to include these choices in the instantiation of one text, then there should be intersemiotic evidence of these choices, evidence which illustrates how the different modes *complement* each other to produce a coherent configuration of meanings in the form of a multimodal text.

The metafunctional terminology that will be adopted and used in this study, along with a comparative listing of previous applications to visual phenomena of the SFL metafunctional concept are outlined in Table 5.1.

SFL	PREVIOUS INTERPRETATIONS		THIS STUDY
HALLIDAY (Systemic Functional Linguistics)	**KRESS/VAN LEEUWEN** (Reading Images/Grammar of Visual Design)	**O'TOOLE** (Language of Displayed Art)	**ROYCE** (Intersemiotic Complementarity)
IDEATIONAL	REPRESENTATIONAL	REPRESENTATIONAL	IDEATIONAL
INTERPERSONAL	INTERACTIONAL	MODAL	INTERPERSONAL
TEXTUAL	COMPOSITIONAL	COMPOSITIONAL	COMPOSITIONAL

Table 5.1 Metafunctional views of visual communication

As stated earlier, the metafunctional terminology of the SFL model will be maintained as much as possible to avoid terminological redundancy. The term *Compositional* however, has been used instead of Halliday's textual metafunction because it seems to capture more fully the sense of two modes interacting with each other to project meaning coherently on the page. This is in general agreement

with Kress and van Leeuwen's usage, but is at slight variance with O'Toole's (1994:278) use of composition, where he uses it in the more traditional sense of

EXTRALINGUISTIC AND EXTRAVISUAL LEVELS

Context of culture

Context of situation

realised in

LINGUISTIC SEMIOTIC

Semantics
(systems of meanings)

realised in

Lexicogrammar
(systems of wordings)

realised in

Phonology
(systems of sounds)

Intersemiotic Complementarity

ideational
interpersonal
compositional

VISUAL SEMIOTIC

Semantics
(systems of meanings)

realised in

Visual grammar
(systems of visual design)

realised in

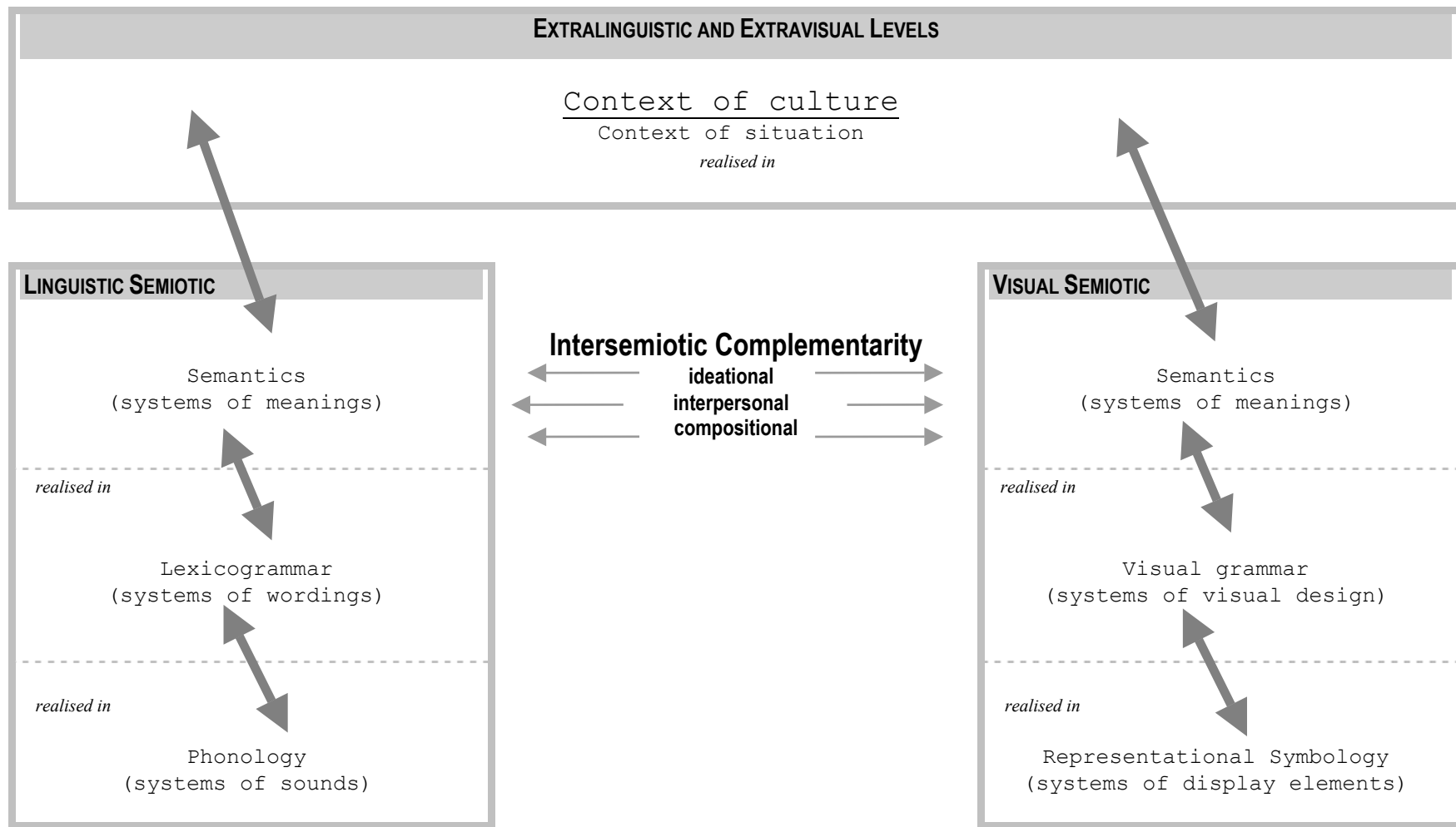Representational Symbology
(systems of display elements)

Fig. 5.3 A framework for visual-verbal intersemiotic complementarity in page-based multimodal text (adapted from Butt et al. 1995:11)

composition within the art piece, and the artistic interpretation of how the elements of a work of art cohere to produce a sense of visual unity or wholeness within the work.

The framework for the analysis and interpretation of co-occurring visual and verbal modes in multimodal text is presented in Figure 5.3.

In line with Kress and van Leeuwen's (1990:4) comments, this framework suggests that both visual and verbal forms of communication can realise the same systems of meaning in various cultures, and that each mode will do this independently and via its own specific forms. It suggests further that much of what can be said about the linguistic semiotic code can also be said about the visual semiotic code (op.cit:19), and that when they co-occur within the boundaries of page-based text, they project a coherent multimodal text through semantic devices which realise intersemiotic complementarity. Figure 5.3 also presents the main parts of the analytical framework that will be used in this study, and the following sections will examine the approaches to be taken with each of these. Sections 5.3 and 5.4 will discuss the importance of the contexts of culture and situation and intertextuality for the interpretation of multimodal text, while Sections 5.5, 5.6, and 5.7 will expand and examine the procedures that will be followed in the metafunctional analysis of the *Mountains* text. Each of these sections corresponds to a specific intersemiotic metafunction and outlines the main areas where intersemiotic complementarity may potentially be realised. Section 5.7 will then summarise the procedures into a full framework of analytical procedures.

5.3 The Context of Situation and Context of Culture

In the SFL model, the semantics forms the interface between any instance of the linguistic system and the context in which it occurs, the nature of the relationship between them being one of realisation, where "context is stratified above language and is thus realised by language" (Matthiessen 1995:33). It was suggested in Section 5.2 however, that the semantics can also be viewed as forming the interface between any instance of the visual system and the context in which it occurs, and that this can apply to a multimodal text in a context where both the

linguistic and visual systems co-occur. This section will now set up the ways that the notions of Context of Situation and Context of Culture can be interpreted and applied to the analysis of page-based text in which visual and verbal semiotic systems co-occur.

The three functionally defined domains of Field, Tenor, and Mode are the contextual variables whose particular configurations and dialectical relationship to the semantics make up the "semiotics of context of situation" for a multimodal text (Matthiessen 1995:33; Ventola 1995:6). Halliday defines the semiotic structure of the situation as that which "relates the situation simultaneously to the text, to the linguistic system, and to the social system" (1978:142), and it has already been proposed that this definition is relevant to the relationship between context and other semiotic systems, such as the visual. The situation is therefore interpreted as a semiotic structure, where it is an instance of the meanings that comprise the social system, and is characterised as consisting of *the social action*, or that 'which is going on', [FIELD], *the role structure*, or the cluster of socially meaningful participant relationships [TENOR], and *the symbolic organisation*, or the particular status that is assigned to the text within the situation, its function in relation to the social action and the role structure, the channel or medium, and the rhetorical mode [MODE] (1978:142-143).

In this study, the relationship between context and multimodal text is viewed as a dialectic or "dialogic exchange" (Matthiessen 1995:33). Here, the intersemiotic ideational metafunction realises the Field component of the context, the intersemiotic interpersonal metafunction realises the Tenor of the relationships between the interactants, and the intersemiotic compositional metafunction realises the Mode. Thus, a multimodal text is "the product of its environment, and it functions in that environment" to be both activated by the context in which it occurs, and at the same time to construe it (Halliday 1978:136).

Halliday (op.cit:110) has also suggested that there are two orders of contextual categories, referred to as *first* and *second-order context*. First-order context is oriented towards and based on the social system and not towards categories that

	FIELD	TENOR	MODE
Second-order	domains of social experience brought into existence by language and/or visual expression in the course of social processes e.g. financial, economic, journalistic, culinary, meteorological, nurture, common-sense, etc.	social roles enacted through language and/or visual expression, as in the general speech roles: questioner - answerer, stater - acknowledger, offerer - acceptor, commander - complier.	The role played by language and/or visual expression in First-order context, in relation to the channel, medium, and rhetorical mode.
First-order	social processes in the social system, e.g. productive, educational, informational, recreational, etc.	social roles and relations in the social system, relating to e.g. family & kinship, class & caste, occupational role, etc.	

Table 5.2 First-order and Second-order context in multimodal text (from Matthiessen 1995:35)

are specifically linguistic or some other semiotic system (such as the visual). Thus the first-order contextual variable field is concerned with the social processes in the social system, while the first-order contextual variable tenor is concerned with the social roles and relations in the social system. Second-order context however can only occur through the agency of language or some other semiotic system (such as the visual). Second-order field consists of the social experience construed by the semantic system (to what is often referred to as the subject matter), while second-order tenor relates to the social roles enacted by the semantics (such as the speech roles). Mode is viewed as being inherently second-order in that it is oriented towards the role of language or visual expression in context (Matthiessen 1995:34).

A description of the first and second-order contextual categories in relation to multimodal meaning is given in Table 5.2. For the description of the broader contextual features of multimodal texts like those which occur in *The Economist* magazine (which are constitutive of the social process, as opposed to being ancillary), Hasan's (1996) work on context in language is informative. Discussing what it means to say that the context of situation is illuminated in the text, and following on from Halliday's conception of the context of situation (as outlined above), Hasan makes a distinction between "at least three orders of context" for those kinds of texts where the role of language is constitutive (op.cit:52). In order to account for this she refers to these three orders as (i) the context of creation, (ii) the context of the audience's contact with the text, and (iii) the reconstituted context that is specific to that one text (loc.cit.).

The context of creation pertains firstly to the ways that "artistic conventions of the author's community are reflected - indirectly or directly - in the created text" (loc.cit.). For this study, the writing and graphic design policies of *The Economist* magazine's staff in terms of its conceptions of the medium of its message, the relative primacy of the visual and verbal modes, the subject-matter, the typographic conventions, the writing/stylistic conventions, and its visual typology are important. Secondly, the context of creation pertains to the "author's conception of the audience" (loc.cit.) which relates to his or her perception and

attitudes towards the readership and how they are built into the text. Each text produced at *The Economist* magazine is a collaborative effort, so the 'author' here is the staff involved in that creation and editorial process (discussed in Chapter Six). Thirdly, the context of creation concerns how "the author's own individual preoccupations are built into the text" (loc.cit.); again this is concerned with how *The Economist* magazine team of writers and editors interpret their roles as a publisher dealing with economic, financial and eco-political issues. Each of these three features will be examined in some depth in this study.

More problematic, however, is obtaining information on the context of the <u>audience's contact with the text</u>. This may be possible in situations where the audience is on hand to be observed (as in a lecture), but it is much more difficult in relation to the audience (readership) of *The Economist* magazine spread throughout the world. A major survey of its subscribers would be required, and is not the focus or within the scope of this study.

The third order of context, the <u>reconstituted context that is specific to that one text</u>, is explained by Hasan as being

> what it [the text] is about, in what relations the characters and events are placed *vis a vis* each other, how do the theses hang together and what are the strategies through which the text achieves a generally recognisable generic shape (loc.cit.).

To sum up, a multimodal text is therefore a particular contextual configuration or instance which derives its meaning from the broader UK and world economic, financial and eco-political culture, as well as *The Economist* magazine as a journalistic publishing institution which is comprised of a range of attitudes towards and perceptions of its readership. This incorporates its various views of its role as a publisher of reportage dealing with economic, financial and eco-political issues. This context of culture would also include how *The Economist* magazine views the medium of its message, in other words, how it views both its verbal and visual output relative to priorities, typographic conventions, writing/stylistic conventions and so on.

5.4 The Influence of Other Texts: Intertextuality History

An interpretation of any multimodal text in *The Economist* magazine as a particular contextual configuration does however need to be supported by an appreciation of various relevant aspects of the text's background history, the importance of which can be discussed in terms of the concept of *intertextuality*. Derived originally from Bakhtin's attempts to account for the ways that texts are formed by the previous texts to which they are in a sense responding, and by the future texts which they are in a sense anticipating, intertextuality is concerned with the ways that in language

> any concrete utterance is a link in the chain of speech communication of a particular sphere ….. Each utterance is filled with echoes and reverberations of other utterances to which it is related by the communality of the sphere of speech communication. Every utterance must be regarded primarily as a response to preceding utterances of the given sphere …… Each utterance refutes, affirms, supplements, and relies on the others, presupposes them to be known, and somehow takes them into account (Bakhtin 1986:91).

Other researchers who have drawn on and refined this concept in their own work include Lemke (1995), Halliday (1985) and notably Fairclough (1989, 1992). Lemke (1995:85) refers to a principle of *general intertextuality* in his discussions of intertextuality and text semantics in a social semiotic framework, where the "meaning of a text depends directly on the kinds of connections made in a particular community between it and other texts". For Halliday, the concept of intertextuality means that a text is not just simply an isolate resulting from a particular contextual configuration, but it is also the result of the influence of other texts, especially previous texts which are taken for granted by those who share in its production and reception. Every text therefore has a 'history', and having that history means that the previous interactions between other texts and their contexts in a sense "leave their mark". This would include not only ideational and interpersonal features of previous texts being carried over, but also perhaps some 'coded' expressions or formulaic sequences which could signal what is happening, or act to possibly predict what will occur next (Halliday and Hasan 1985:47). Here Halliday is touching on what Fairclough (1992:101-136) later refers to when he distinguishes between two types of intertextual relations, those of *manifest* intertextuality and *interdiscursivity* (or *constitutive* intertextuality). According to

Fairclough, manifest intertextuality refers to "the case where specific other texts are overtly drawn upon within a text" (op.cit:117). This can be where "other texts are explicitly present in the text under analysis: they are 'manifestly' marked or cued by features on the surface of the text, such as quotation marks", or it can refer to cases where "a text may 'incorporate' another text without the latter being explicitly cued: one can respond to another text in the way one words one's own text" (op.cit:104). Interdiscursivity (constitutive intertextuality) however is "a matter of how a discourse type is constituted through a combination of elements of orders of discourse" (op.cit:118), wherein the intertextual aspects of a text can be viewed as "incorporating the potentially complex relationships it has with the conventions (genres, discourses, styles, activity types) which are structured together to constitute an order of discourse" (op.cit:103).

In this study the historical or manifest aspects of intertextuality are most relevant because many articles published in *The Economist* deal with issues (i.e. Field) that have developed over time, deal with them in similar ways (i.e. Tenor, Mode), and therefore may carry explicit or less explicitly apparent features which could inform an intersemiotic interpretation. Each text in *The Economist* magazine deals with a financial issue that may or may not have received lengthy ongoing press coverage since it first came into prominence. The degree and intensity of coverage will vary from text to text and from issue to issue, but to provide some coherence to a discussion of the *Mountains* text's intertextual history, and of the important contextual variables which may have an impact on the relationship between its verbal and visual messages, three specific contextual areas will be examined. These are:

- The Subject Matter and the Issue (second-order field related)
- The Attitudes (second-order tenor-related)
- Visual Typology (second-order mode-related)

Each of these areas has been chosen for specific reasons. The subject matter is concerned with general aspects of the topic area, such as its historical development, or its conceptual and/or informational structure. This relates most closely to a general background knowledge of the subject area, or those details which allow or mean that the producers and receivers of the text can be considered

as members of a particular discourse community. In the case of *The Economist* magazine, this would mean that those who have written, or those who have produced a particular text would be able to understand and appreciate the information contained within, and concomitantly, the breadth of that information. The nature of the subject matter is important because it impinges directly on the character and source of the issue being addressed. Information on the issue being addressed is of course the *raison d'ê-tre* for the text, and deals with the nature of the issue (or problem) at the time of its production.

The <u>attitudes</u> expressed over time can provide valuable insights into how *The Economist* magazine writers attempt to attract and orient potential readers, and how they structure their analysis of the issue and its future development and resolution. The attitudes of the writers can be examined from three perspectives: the first is how they attempt to grab the potential reader's interest and orient them to the topic through the use of devices such as article headlines or sketch caricatures, the second is via the topic focus of the visuals used, and the third is through an examination of the attitudes expressed in the verbal description and analysis of the issues, and how that is reinforced by the attitudes expressed in the visuals used.

A <u>visual typology</u> for *The Economist* magazine can reveal the ways that this institution characteristically presents its visual information, and thus says something about the conventions it uses in graphic design, the ways that it views its subject matter, and the assumptions that it makes about its readership. Kress and van Leeuwen have adapted and utilised the term 'coding orientation' to explain a range of different categories of visuals, categories which they define as "sets of abstract principles which inform the way in which texts are coded by specific social groups, or within specific, institutional contexts" (1990:53). Accordingly, it is proposed that for this study there are basically three categories of visual communication. They are termed:

- *Naturalistic* visuals - this describes attempts to portray by some method what may be considered 'natural' images, or images which the members of a particular cultural setting would consider to be a recognisable form of a representation of reality as viewed by the human eye.

- *Mathematical* visuals - this describes the various forms of visuals which are derived from the scientific/technological coding orientation, and are used to show structure, demonstrate numerical relationships, illustrate dynamic relations, clarify processes, and explicate procedures.

- *Spatial* visuals - this describes the various forms of map visuals. They are termed spatial because they display their meanings on a flat surface for locative purposes

The full derivation and explanation of this visual typology for *The Economist* magazine will be outlined and explained in Chapter Six.

The view of this study therefore is that a multimodal text is not the isolated result of a specific contextual configuration, but arises due to the influence of other texts, especially previous texts. It is proposed that an analysis of the intertextual history of the *Mountains* text can usefully inform an interpretation of the intersemiotic, semantic interaction between its visual and verbal messages. As suggested earlier by Halliday (1985:47), previous interactions between other texts and their contexts have left not only the ideational and interpersonal features of previous texts, but also perhaps some 'coded' expressions or formulaic sequences which could signal what is happening, or act to possibly predict what will occur next. Accordingly, the *Mountains* text will be examined in terms of the three aspects of intertextual history already discussed above, the subject matter and the issue, the attitudes, and visual typology. The sections which follow will now set out the analytical procedures for the intersemiotic metafunctional analysis of the *Mountains* text itself.

5.5 The Analysis of Intersemiotic Ideational Features

Before beginning an explanation of the various aspects of intersemiotic complementarity which will be investigated, a decision needs to be made about where to actually start with the analysis of the multimodal *Mountains* text. In this study, in each instance of textual analysis, the analysis will commence with an examination of the visual component, and then the verbal component. The reason for this is mainly for ease of analysis; this is because the visual mode in an *Economist* magazine text is less complex than the verbal component in terms of

the degree and number of meanings that are being projected. Related to this is the fact that the verbal component is viewed as the primary vehicle for communicating by the text-constructors at *The Economist's* graphic design department (discussed more fully in the next Chapter), a situation that is complemented by the traditional primacy of the verbal over the visual in modern educational systems and modern modes of communication (Barthes 1977, Kress and van Leeuwen 1996:18-21). Given the greater complexity of the verbal mode in most page-based multimodal texts it is more than likely that it would carry a far greater number of meanings, meanings which the visual mode does not or cannot address. These meanings would in a sense be 'superfluous' to the analysis, and would then need to be ignored because they do not relate semantically to the visual mode in any clear or specific way. It would thus seem to be more efficient to start with the mode that is usually packed with less meaning, and then to see where and how these meanings relate semantically to the verbal aspect of the text. Related to this are questions of why some meanings are presented visually and not others, and what is special about the meanings projected visually. It is hoped that the answers may be found not only in the contextual analysis of the sample text, but also as a result of the intersemiotic metafunctional analysis.

5.5.1 The Interpretation of Visual Ideational Features

In interpreting visual communication in terms of the ideational metafunction, one is looking at the representation of experience, the conveyance of meaning in terms of content, or a presentation of information about something, or someone. As already discussed, in the lexicogrammatical system, the ideational metafunction is realised by the clause as representation, and the range of choices that can be made in the system of Transitivity. This system basically deals with types of *process*, and these are semantically represented in the clause in terms of the process itself, the participants in the process and their attributes, and the circumstances of the process (Halliday 1978:101). It has also been argued that these semantic categories are similarly useful for explaining how the constructors of a visual have represented the ideational meanings they wish to convey. Like linguistic structures, visual structures and the visual processes embodied within them are built into the semantics of the various visual communication modes, and they are

systematically associated with different kinds of participant roles. Visuals are representations of reality, or representations of experience and information, and in that sense they can realise the ideational metafunction, through which patterns of experience are able to be represented.

To be able to examine the ideational *intersemiotic* features of an *Economist* text, or how the visual and verbal modes interact semantically, the first step is to examine a visual in relation to its represented participants, the represented processes, and what those actions represent circumstantially according to the represented context of situation (Kress and van Leeuwen 1990, 1996, Halliday 1985, 1994). As already alluded to in the previous section, in *The Economist* magazine there are basically three categories of visual communication termed Naturalistic, Mathematical, and Spatial visuals respectively. Each of these visual presentational modes potentially express their visual semantics singly, or in some relational combination, and do so in accordance with the inherent nature of the medium. These visual meanings can be determined by asking various questions of the visual text which focus on the ways they represent ideational meanings:

For Naturalistic Visuals:

- who are their represented participants, their *Identification*, or who or what is in the visual frame (animate or inanimate),

- what is the *Activity*, or what action is taking place between the actor(s) and the recipient(s) or object(s) of that action,

- what are the *Circumstances*, or the elements which are locative (concerned with the setting), of accompaniment (participants not involved with the action), and of means (participants used by the actors), and

- what are the *Attributes,* or the qualities and characteristics of the participants.

For Mathematical Visuals:
- what are their represented participants — the *Identification* of the represented participants, which can be dependent or independent variables, physical objects, forms, formats, symmetrical arrangements.

- what is the *Relational Activity* between the participants. A mathematical relation, occurring singly, or in some combination, which can be a derivative (rate of change), comparative, or proportional relation.

- what are the *Circumstances* in terms of where, what with, and by what means the relations are realised, which can be in terms of setting, means, and accompaniment.

- what are the *Attributes* — what are the qualities and characteristics of the relationships between the variables represented - a category which is difficult to apply to mathematical visuals. It is more readily and appropriately applied to naturalistic representations.

These aspects in a visual, Identification, Activity, Circumstances and Attributes, correlate with some of the Transitivity features of the clause as identified in the SFL model. When individually determined, these features will be referred to in this study as *Visual Message Elements* (hereafter VME or VMEs), and will form the reference point for the examination of the verbal aspect of the multimodal text.

VMEs carry semantic properties which are realised by a range of visual techniques at the disposal of the writers (i.e. drawers, graphic designers etc.), and are influenced by various contextual features. The previous discussion on the context of situation, context of culture, and intertextual history in multimodal text illustrates clearly that a visual's ideational or representational features do not occur in isolation — the messages the visuals propose to impart to the viewer are influenced and constrained by what has been written and/or drawn before by *The Economist* magazine writers and the ways it has been typically presented. Each visual is very much time and context-bound, and the nature and characteristics of its VMEs largely depends on the myriad other sources of reportage and analysis which the reader/viewers may have experienced in the days and months prior to the publication of an article.

5.5.2 The Interpretation of Verbal Ideational Features

As already mentioned, in interpreting verbal communication in terms of the ideational metafunction, one is also looking at the representation of experience. The analysis of clauses in a text in terms of their Transitivity features is usually done clause by clause, and depending on the length of the text, is quite a complex and revealing process. However, given the decision to start the analysis with the visual component as suggested above, and since the concern here is to identify only those features of the verbal component which are related semantically in

some way to the identified VMEs, a full Transitivity analysis of the types typically carried out in an SFL analysis will not be required. Instead, each sentence will be examined in terms of the particular Transitivity features which in some way are related semantically to the already-identified VMEs i.e. the participants, processes, circumstances and attributes. These lexical elements which relate to the visual meanings also arise according to their Identification (the participants, or who or what is involved in any activity) and their Attributes (in terms of their qualities and characteristics), the Activity (the processes, or what action is taking place, what events, states, or types of behaviour), and the Circumstances (in terms of where, who with, and by what means are the activities being carried out).

The next stage therefore is to check through the verbal aspect of the text for semantically-related lexical items using these Transitivity categories. Decisions about which lexical items to include or exclude in relation to each Visual Message Element are based on the notion that the lexical items should be the closest semantically to each visual element, or be reasonably expected to co-occur or collocate in a text drawn from that particular context of situation. All uses of language have an immediate environment in which they operate, and any multimodal text is an instance of communication "structured as a *field* of significant social action" (Halliday 1978:43).

5.5.3   The Analysis of Ideational Intersemiotic Complementarity
Once the relevant features of the contexts of situation and culture along with aspects of a text's intertextual history have been described, and the VMEs in the visuals identified, it is then possible to examine these features in relation to how they complement the verbal aspect of a text in lexico-semantic, intersemiotic terms. The aim here is to identify how intersemiotic complementarity is realised, and to try to explain why the writers of this text at *The Economist* magazine, in an attempt to produce a coherent article, have chosen to include both verbal and visual modes.

Starting with the VMEs, and checking through the verbal aspect of the text for semantically-related lexical items produces a series of lexical inventories. This is

an adaptation of the analysis of cohesion chains (also referred to as lexical strings) which express the semantic relations between lexical items in a text (Halliday and Hasan 1985:82-94). In this study these lexical inventories express the various kinds of semantic relations existing between the VMEs and the lexical items found in the verbal aspect of the text, and as such constitute what may be referred to as an inventory or list of intersemiotic semantic relations.

Approaches to examining cohesive relations in linguistic text include the Stratificational Model by Gutwinski (1976), who used the categories of repetition of item, the occurrence of a synonym or item formed on the same root, and the occurrence of an item from the same lexical set (co-occurrence group); the Systemic Model by Halliday and Hasan (1976), which used the categories of same item, a synonym or near synonym (including hyponymy), superordinate, the "General" item, and collocation (including antonymy and meronymy); the later Halliday and Hasan (1985) general lexical cohesion categories (or sense relations) of repetition, synonymy, antonymy, hyponymy, and meronymy, which represent an attempt to clarify their previous (1976) classifications; and the approach advanced by Halliday (1985:310-313, 1994:330-334) which includes repetition, synonymy (subsuming: Synonymy, Antonymy, Hyponymy, Meronymy), and collocation.

In this study, this concept of sense relations in lexical cohesion will be extended and adapted to account for the claim that cohesion occurs across visual and verbal modes. To elucidate, in a particular multimodal text there may be the co-occurrence of an image of some person and his or her name in the verbal aspect. This would appear to be a reiteration of the experiential (nominal) meaning across modes, and the sense that is created is one of the representation of the 'same' experiential meaning in each mode. In this case it would seem that the sense relation of repetition, as defined by Halliday and Hasan (1985) in their cohesion model, would be an appropriate way of describing these kinds of explicit instances of intersemiotic repetition. It would also seem that this kind of adaptation and usage can be appropriately utilised with the other sense relations of synonymy, meronymy hyponymy, antonymy and collocation for the analysis of multimodal

text, and this will be demonstrated below. The focus here therefore is on the interpretation of the meaning (sense) relations which arise as a result of the intersemiotic visual-verbal links in a multimodal text. It is also on experiential meaning, which is realised through, amongst other devices, explicit lexical cohesion. Other cohesive devices such as the referential pronominals 'he' or 'she', which in a linguistic (verbal) analysis carry out a 'co-referential' function between the instantial verbal elements may also occur. In the example given above, an analysis of the ways these implicit co-referential features relate intersemiotically to VMEs would perhaps be an interesting area for further analysis, but it is not the specific focus in this particular enquiry.

The main categorisation of cohesive relations to be utilised here therefore will be a combination of the sense relations of Repetition, Synonymy, Antonymy, Hyponymy, and Meronymy as advanced by Halliday and Hasan (1985), and the general category of Collocation (Halliday 1985). These are briefly explained in the following section with some examples drawn from economics text to illustrate their various meanings, and will hereafter be interpreted as *intersemiotic* sense relations.

One aim of this study is to account for an object or person represented visually (through visual representational techniques) and verbally (through explicit, identifying lexical items) in the same multimodal text. Intersemiotic Repetition involves the repetition of a lexical item which express the same meaning represented in the VME derived from the visual aspect, and therefore the encoded experiential meaning. It also includes items that are morphologically distinct due to inflexion or derivation (op.cit:310). Examples of inflexion may be seen in the sequence *'supply', 'supplies',* and *'supplied',* and of derivation in *'supply'* and *'supplier'.* This sense relation is represented in Figure 5.4 below.

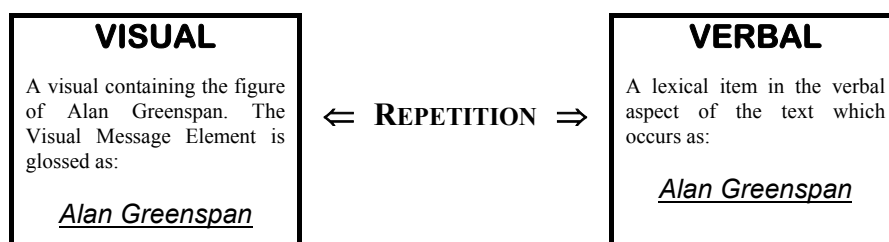| VISUAL		VERBAL
A visual containing the figure of Alan Greenspan. The Visual Message Element is glossed as: *Alan Greenspan*	⇐ **REPETITION** ⇒	A lexical item in the verbal aspect of the text which occurs as: *Alan Greenspan*

Figure 5.4 Intersemiotic sense relation of repetition

In Intersemiotic Synonymy the experiential meaning of the two lexical items is the same or almost the same, and may often be used interchangeably. This can be seen in the synonymous relations between '*trade cycle*' and '*business cycle*', between '*stocks*', '*equities*' and '*shares*', and between market structure definitions such as '*perfect competition*' and '*pure competition*'. This intersemiotic sense relation is represented in Figure 5.5 below.

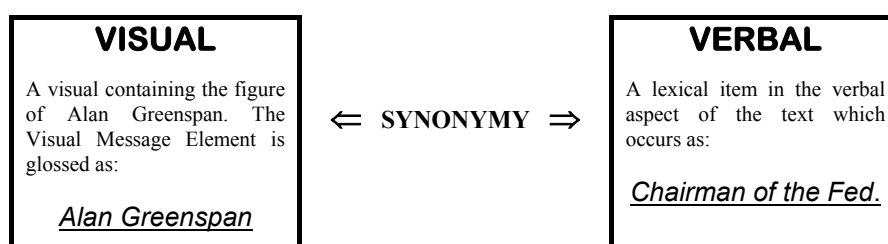| **VISUAL**		**VERBAL**
A visual containing the figure of Alan Greenspan. The Visual Message Element is glossed as: _Alan Greenspan_	⇐ **SYNONYMY** ⇒	A lexical item in the verbal aspect of the text which occurs as: _Chairman of the Fed._

Figure 5.5 Intersemiotic sense relation of synonymy

In Intersemiotic Antonymy the experiential meaning of the two lexical items is essentially one of opposition, as in '*long run*' and '*short run*', '*increasing returns to scale*' and '*decreasing returns to scale*', and the opposition of '*buyer*' with '*seller*'. This intersemiotic sense relation is represented in Figure 5.6 below.

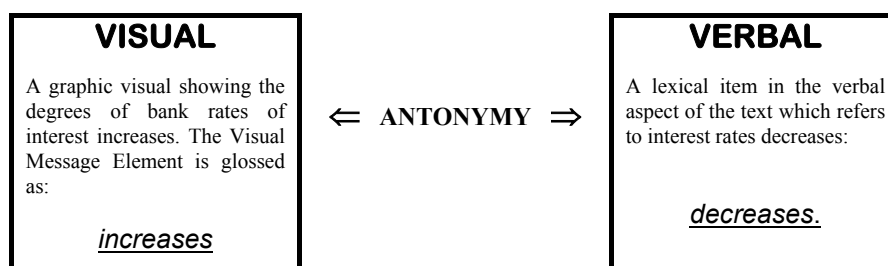| **VISUAL**		**VERBAL**
A graphic visual showing the degrees of bank rates of interest increases. The Visual Message Element is glossed as: _increases_	⇐ **ANTONYMY** ⇒	A lexical item in the verbal aspect of the text which refers to interest rates decreases: _decreases._

Figure 5.6 Intersemiotic sense relation of antonymy

Intersemiotic Hyponymy involves a classification of the cohesive relations between a general class (termed the Super-ordinate) and its sub-classes (termed the Hyponyms and Co-hyponyms), and vice versa. This cohesive relation may be seen in Table 5.3:

Super-ordinate (class)	*taxes*	*market structures*
Hyponyms and Co-hyponyms (sub-classes):	*excise duty* *income tax* *VAT* *company tax*	*monopoly* *oligopoly* *perfect competition* *monopolistic competition*

Table 5.3 Cohesive sense relation - hyponymy

This intersemiotic sense relation is represented in Figure 5.7 below.

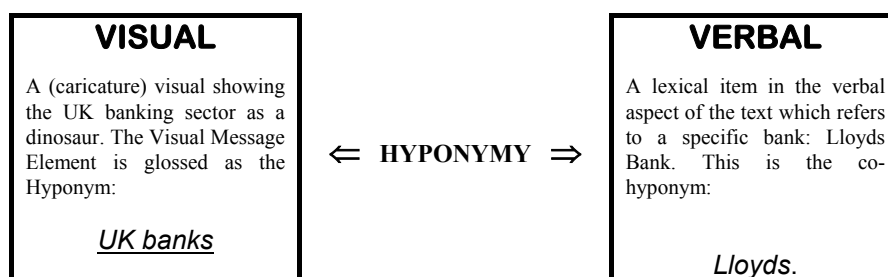| VISUAL		VERBAL
A (caricature) visual showing the UK banking sector as a dinosaur. The Visual Message Element is glossed as the Hyponym: *UK banks*	⇐ **HYPONYMY** ⇒	A lexical item in the verbal aspect of the text which refers to a specific bank: Lloyds Bank. This is the co-hyponym: *Lloyds.*

Figure 5.7 Intersemiotic sense relation of hyponymy

Meronymy involves a classification of the cohesive relations between the whole of something (termed the super-ordinate) and its constituent parts (termed the meronyms and co-meronyms). This cohesive relation may also be seen in Table 5.4:

Super-ordinate (whole)	*Balance of Payments*	*Money Supply*
Meronyms and Co-meronyms (parts):	*capital account* *current account* *statistical discrepancy* *official settlements*	M1 M2 M3

Table 5.4 Cohesive sense relation - meronymy

This intersemiotic sense relation is represented in Figure 5.8 below.

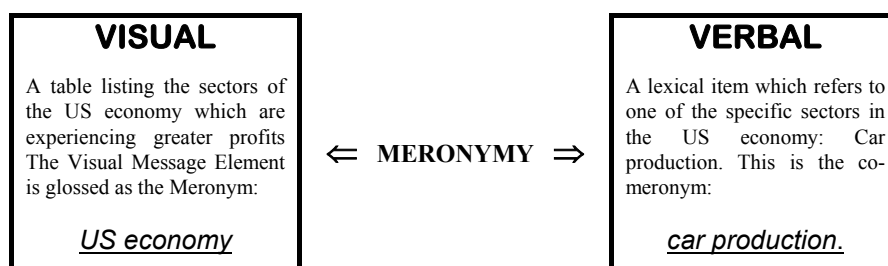| VISUAL		VERBAL
A table listing the sectors of the US economy which are experiencing greater profits The Visual Message Element is glossed as the Meronym: *US economy*	⇐ **MERONYMY** ⇒	A lexical item which refers to one of the specific sectors in the US economy: Car production. This is the co-meronym: *car production.*

Figure 5.8 Intersemiotic sense relation of meronymy

The term Collocation, as used by Halliday (1994:333-334), refers to those lexical items which "do not depend on any general semantic relationship .... but rather on a particular association between the items in question - a tendency to co-occur". In his discussion of this term Halliday suggests that lexical items occurring as collocations are often associated with one or another particular register or functional variety of language (op.cit:334). This is the case with lexical items that

are of a technical nature and commonly appear only in one kind of text, and it is true of those words which are not specifically technical in nature but collocate according to a particular variety of text, such as those found in a recipe book, an academic journal of literature, and in an economic-journalistic publication like *The Economist* magazine.

Intersemiotic Collocation as used in this study therefore involves a classification of the lexical relations between items which do not necessarily enter into the semantic relations discussed above such as hyponymy or meronymy etc., but do, in a general sense, have a tendency to co-occur as collocates in texts of different kinds in various fields. This category may be defined as the relation (or association) between lexical items which have a tendency to co-occur due to the particular configuration of the register variable field. This relation will vary in strength depending on the particular text. For example the word c*utting* in a text on rose gardens may suggest collocates such as '*secateurs*', '*shoots*' and '*off-cuts*', in an economics text words such as '*budget*', '*spending*' and '*debts*', or in a text on movies words like '*scenes*', '*camera*' and '*lights*'. Thus there is an expectancy relationship occurring between the lexical items, which is an aspect of the collocational relationship (Halliday 1985:313). This intersemiotic sense relation is represented in Figure 5.9 below.
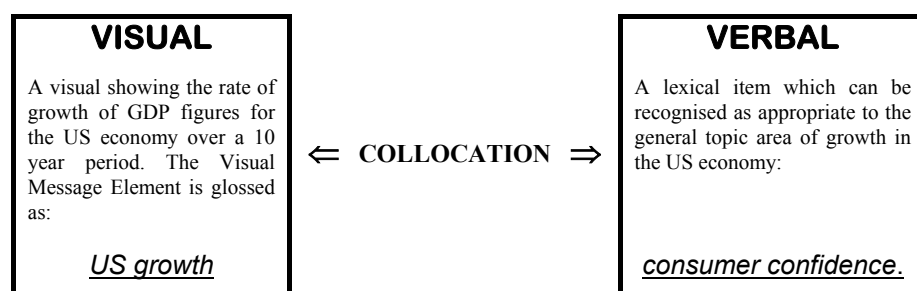
VISUAL		**VERBAL**
A visual showing the rate of growth of GDP figures for the US economy over a 10 year period. The Visual Message Element is glossed as:	⇐ **COLLOCATION** ⇒	A lexical item which can be recognised as appropriate to the general topic area of growth in the US economy:
US growth		*consumer confidence.*

Figure 5.9 Intersemiotic sense relation of collocation

METAFUNCTION	VISUAL MEANINGS	INTERSEMIOTIC COMPLEMENTARITY	VERBAL MEANINGS
IDEATIONAL	Variations occur according to the coding orientation. In the **Naturalistic** coding we can look at: Identification: Who or what are the represented participants (actor, recipient, goal)? Who or what are they interacting with? Are the participants interacting? (vectors). Activity: What action is taking place, events, portrayal, scene, states, types of behaviour (gestures, facial expressions, stance, physical moves)? Circumstances: where, who with, and by what means are the activities being carried out (setting, means, or accompaniment)? Attributes: what are the qualities and characteristics of the participants? In the **Mathematical** coding we can look at: Identification: What are the participants (dependent or independent variables, physical objects, forms, formats, symmetrical arrangements). What are they interacting with? Participant interaction (vectors). Relational Activity: What is the relation between the participants, occurring singly, or in some combination - is it derivative (rate of change), comparative, or proportional? Circumstances: where, what with, and by what means are the relations realised (setting, means, and accompaniment)? Attributes — what are the qualities and characteristics of the relationships represented - a category which is difficult to apply to mathematical visuals.	Various lexico-semantic ways of relating the experiential and logical content or subject matter represented or projected in both visual and verbal modes through the intersemiotic sense relations of: • Repetition: identical experiential meaning. • Synonymy: the same or similar experiential meaning. • Antonymy: opposite experiential meaning. • Meronymy: the relation between the part and whole of something. • Hyponymy: the relation between a general class of something and its sub-classes. • Collocation: an expectancy or high probability to co-occur in a field or subject area.	Lexical elements which relate to the visual meanings. These lexical items arise according to: Identification (participants): who or what is involved in any activity? Activity (processes): what action is taking place, events, states, types of behaviour? Circumstances: where, who with, and by what means are the activities being carried out? Attributes: what are the qualities and characteristics of the participants?
INTERPERSONAL			
COMPOSITIONAL			

Table 5.5 Ideational intersemiotic complementarity

The model of intersemiotic complementarity presented in Figure 5.3 can now be elaborated into an explanatory Table 5.5 illustrating the potential ways that ideational intersemiotic complementarity can be realised. This table presents these ideational intersemiotic features in terms of a range of questions which can assist the analyst in focussing on the VMEs and identifying the range of semantically-related verbal features. It should be noted however that not all of the questions will apply to a multimodal text at any one time. The degree of application of these questions will very much depend on the type of text — for example, an article dealing with the latest news in a complex financial issue and utilising a sketch caricature and a photograph will perhaps reveal a far more complex mix of messages and usages of these realisations than a straightforward advertisement focussing on a single product or service.

5.6 The Analysis of Intersemiotic Interpersonal Features

The examination of the intersemiotic interpersonal features of a text with both verbal and visual components involves, in line with the social view taken in this study, a look at the ways that relations between the visual and the viewer/reader are represented. The ways in which the producer and viewer/reader of a multimodal text are placed socially in relation to each other is important because this can affect the topic, the ways that it is received, and the ways that it is interpreted. As Kress and van Leeuwen note,

> what gets represented, how what gets represented **is** represented, as well as how that is read and used, are all effects of the social place of producers and viewers of images (or of writers and readers of verbal text). Viewing an image entails first and foremost, before anything else has happened, being located in a particular **social** way by and in relation to the image (1990:23).

In this socially-determined context, an examination of the ways that the visual and verbal components in an *Economist* text realise interpersonal intersemiotic complementarity can be clarified through an examination of the ways that both modes seek to address the viewer/readers and to inform them about the text constructors' attitudes to the subject matter represented.

5.6.1 The Interpretation of Visual Interpersonal Features

As already discussed in Section 5.1, in the lexicogrammatical system, the interpersonal metafunction is realised by the clause as exchange, and the range of choices that can be made in the systems of Mood and Modality. These systems basically deal with speech function, and the speaker's attitudes, comments and assessments about that which is being exchanged. To examine the interpersonal intersemiotic features of an *Economist* text, the first step is to examine any extant visuals in terms of viewer address, levels of involvement, power relations and social distance in the visual Mood system, and in terms of the various modality markers in the visual Modality system.

As with the ideational aspects of visuals, variations can occur according to the coding orientation. In the Naturalistic Coding Orientation, these variations occur along a continua of degrees of incidence:

In the Visual Mood System:

- <u>Address</u>: Gaze at the viewer (direct or indirect).
- <u>Involvement & Power</u>: Perspective - horizontal angle, vertical angle.
- <u>Social Distance</u>: Size of frame (close up, medium, long shot etc.).

In the Visual Modality System:

- <u>Modality Markers</u>: Contextualisation: (full to absence of background). Degree of representing detail or abstracting detail. Texture, Illumination (light and shade); Colour saturation/differentiation/modulation.

In the Mathematical Coding Orientation however, there is a more restricted continuum of degrees of incidence due to the nature of the medium:

In the Visual Mood System:
- <u>Involvement & Power</u>: Perspective - horizontal angle; vertical angle.

In the Visual Modality System:
- <u>Modality Markers</u>: Contextualisation: (full to absence of background). Degree of representing detail or abstracting detail. Texture, Illumination (light and shade).

Each of these will now be examined in turn.

5.6.1.1 The Analysis of Visual MOOD - Address ("Visual Speech Acts")

In language the roles in a communicative exchange and the nature of the commodity exchanged can be combined into the four primary speech functions of Offer, Command, Statement and Question, which can then be matched by a set of appropriate responses such as accepting the offer, carrying out the command, acknowledging a statement, and answering a question (Halliday 1985:68-69). In considering MOOD in visual communication however, it seems that visuals are not easily analysed with these categories - they often need verbal support to make the nature of the speech function clear, as in a visual offer of goods and services supported by a verbal contact address in an advertisement, or the verbal reinforcement provided by a printed question to complement a questioning facial expression (Kress and van Leeuwen 1990:30).

Halliday also distinguishes between the exchanging of goods and services, and the exchanging of information. In the exchanging of goods and services, the semantic function of the clause is defined as a PROPOSAL, and in the exchanging of information, the semantic function of the clause is defined as a PROPOSITION (1985:70-71). This is an important distinction in language, but since *The Economist* magazine does not exchange goods and services but information with its readers, the focus of this study will be on how intersemiotic complementarity in *The Economist* magazine is realised through the ways that its propositions are addressed to its readers via questions and statements in the exchange of information. This is therefore concerned with forms of Visual Address ("Visual Speech Acts"), or the ways that *The Economist* magazine addresses its readers in order to exchange (or offer) information. This will be discussed in the ensuing section.

In determining the speech function of a particular visual, the most important feature to look for is the presence or absence of visual techniques which directly address the viewer. In the case of a visual which approximates or reproduces a naturalistic scene (a Naturalistic visual), the absence of any gaze or facial expressions towards the viewer indicating a question is being asked (realised by vector drawn from some point of origin to the viewer's face), or gestures which command (realised by for example a pointed finger forming a vector directly to

the viewer), or offers of goods to the viewer (realised perhaps by a vector formed from a hand gesture towards some object in the visual frame), would strongly suggest that it is offering some kind of information to the viewers. In that case there would be no vectors which can be drawn from the represented participants directly towards the viewers; all the vectors for example may indicate participants within the visual frame, and require the viewer to be cognisant of the ways that they are interacting with each other. It would therefore be a portrayal or a scene which the viewer can look at with really no requirement to react to other than to agree with it, or to either acknowledge or contradict its existence/veracity as a scene (some elements of which will be discussed in the section on visual modality markers). This offer of information can be supported by some kind of verbal support, such as labelling to identify the scene or major represented participants (as is often the case in *The Economist*).

In the case of a visual which presents information in a mathematical form (as in a graph or chart), the techniques for addressing a viewer of a naturalistic image can't really be utilised. This perhaps goes to the heart of the nature of a visual of this type, in that its primary function is to address the viewer via techniques which present information in quantitative forms and showing the quantitative relations between them. Thus there really is no question that these kinds of mathematical visuals are offering information, since the represented participants (in other words the data) can form no other relationship to the viewer(s) than to be simply a display of numbers and graphic lines interacting with each other to indicate some inter-related information or data. The viewer is not asked anything, is not commanded, and is not asked to accept/reject something on offer. The viewer is however offered information which can be agreed or disagreed with, or acknowledged or contradicted.

5.6.1.2 The Analysis of Visual MOOD - Involvement

The post-Renaissance development of the Western traditions of visual representation in art and drawing has used perspective to realise visual point of

view. A visual with perspective is one which has an inherent or "built-in" point of view, where the represented situation and the physical space in which the visual is viewed, or the frame, is cordoned off through various means by a clear dividing line between the image and its surrounds, thus marking it off and giving it the function for the viewer as a "window" or "peep-hole" on reality. Indeed, some early post-Renaissance artists who utilised perspective used a peep-hole as a frame to draw on a transparent surface what could be seen in order to guarantee an unchanging point of observation (Arnheim 1974:283-84). The viewer of a visual utilising perspective can therefore only see the participants and action from a particular point of view - if the viewer were to walk around the actual object portrayed (as in a piece of sculpture or an actual person etc.), there would of course be a different view available from a different angle, but in a visual the viewer has no choice but to accept the point of view loaded into it by its constructor. As Kress and van Leeuwen explain, the "perspectival image compels the viewer to become, together with the institution that has produced the image, an 'us' with respect to a 'them' or an 'it' - that is with respect to the participants represented in the image" (1990:32).

The level of involvement by a viewer with a visual is realised by horizontal angle, which is concerned with the interrelationship between two frontal planes: the frontal plane of the constructor of the visual and the frontal plane of the represented participants. These planes can be aligned parallel to each other, or diverge by forming an angle of varying degrees with each other. A visual can therefore have either a frontal or oblique point of view, the oblique point of view being a continuum of obliqueness according to the angle of the divergence (Montague 1993:1-18). The importance of these distinctions is that they are suggestive of the level of involvement. The horizontal angle encodes whether or not the person who has produced the visual, and as a consequence the viewer, is committed or not in some way to the represented participants. The frontal angle is a statement of some degree of **inclusion** between the constructor and the visual, which is realised by the vanishing points all being placed within the visual frame (Dondis 1973:60-61). On the other hand, an oblique angle encodes varying degrees of commitment to the subject or represented participants, stating to

varying degrees of intensity the level of inclusion. This can be illustrated by considering the difference in a viewer's reaction to two photographs, one where the subject's face is facing directly at the viewer (a sense of inclusion which would be strengthened by a direct gaze), and the other with the subject's face at forty-five degrees to the viewer, looking at someone/thing else (very little sense of inclusion since the vanishing points all occur outside the visual frame). The right-angled or perpendicularly oblique angle would be suggestive of viewing a scene with no involvement at all, beyond suggesting that 'this is a scene" to be observed.

There are some fundamental differences between visuals which attempt to portray participants in some realistic way, and those which attempt to display numerical or quantitative representations. The former, in effect, have by their nature the system of perspective fundamentally encoded within them. The drawer of a visual can, by the very nature of the represented participants, choose to present them from any angle. With the possible exception of three-dimensional representations of data, where it is now possible with many computer programs to rotate blueprints and mathematical representations, the constructors of a mathematically-based visual are constrained by the inherent nature of this kind of visual form. This visual can only really be viewed from an oblique point of view, since it is representing meaning on a two-dimensional plane. All viewers are forced to view the information portrayed in an abstract graphic form as an offer of information with which they can agree or disagree, acknowledge or contradict. Unlike the naturalistic visuals, into which their constructors can encode various degrees of involvement through degrees of obliqueness, the mathematically-derived visuals are restricted to a two-dimensional plane which leaves no other choice for the viewers than to be an uninvolved observer of information or data. There is really no way that this type of visual can include the viewer.

5.6.1.3 The Analysis of Visual MOOD - Power Relations

The power relations between the viewers and the represented participants in a visual are encoded in the vertical angle formed between them, which is also an important aspect of cinematography, where the viewers of film are required to

react to the participants in a particular shot according to whether they are looking down to, up to, or at eye-level with them. There are therefore three possibilities here for looking at a visual in *The Economist* magazine: a high angle, a low angle and an eye-level angle. The high angle means that the viewers are looking down on the represented participants, suggestive of a superiority to them or some degree of their insignificance, a low angle means that the viewer is looking up to them, suggestive of an inferior position to them or some degree of their magnificence, and an eye-level angle is suggestive of equality between the viewer and the represented participants.

The differences in perspective between images portraying naturalistic scenes and mathematically-based visuals are also of relevance here, in that the former is able to utilise the three angles according to the drawers' or photographers' views, but the latter is still constrained by the two-dimensional nature of its presentation of information; they form an eye-level angle between the viewer and the represented participants and therefore do not (and cannot) place the represented participants in a superior or inferior position. This is in line with the previously mentioned interpretations of these kinds of visuals as offering information, and as offering this information from an oblique point of view (and therefore requiring no involvement).

5.6.1.4 The Analysis of Visual MOOD - Degree of Social Distance

A further aspect which is specific to images and their realistic portrayal of represented participants is the degree of social distance between the represented participants and the viewer(s), as realised by the size of frame. As already explained in the review of Kress and van Leeuwen's work, in television production the size of frame is related strongly to how much of the human body is shown in the visual frame (1990:44). There is the close up, the medium shot, and the long shot etc. These different kinds of television shots can be paralleled with the varying distances between people when they talk to each other face to face, where it can be intimate or friendly (as in a spouse or friend or acquaintance), or unknown (as in a complete stranger). Contextually-based distances may involve interaction in specific social and public situations, where a well-known, familiar

or unknown public figure is delivering a speech to an audience. These distances are of course culturally determined, but generally speaking one can apply these ideas to the meanings encoded in visuals when a close up shot of someone's head and shoulders, as opposed to the top half of the torso, and as opposed to the full body within three metres or at over thirty metres or more is utilised. As Kress and van Leeuwen explain further,

> the relation between the human participants represented in images and the viewer is once again an imaginary relation. People are portrayed **as though** they are friends, or **as though** they are strangers, regardless of their actual relation to the viewer. Images allow us to **imaginarily** come as close to public figures as though they were our friends and neighbours - or to look at people like ourselves as strangers (op.cit:45).

5.6.1.5 The Analysis of Modality in the Visual Component

The analysis of Modality in the visual component of a text involves an investigation of viewer acceptance of the truth or credibility of what is represented, and how this is realised via the use of various visual modality markers such as contextualisation, the degree of representing or abstracting detail, and the use of texture, illumination, and colour saturation/differentiation/modulation. As discussed above, when information is offered in both naturalistic and mathematically-based visual modes, it can be affirmed, or denied by the viewer(s). Also, in language the truth or credibility of what is represented by a speaker or writer is expressed through the use of modality at the clause level, and the polarity between the affirmation and denial of this offered information is expressed in terms of whether something **is** or **is not**, or whether it is **real** or **unreal**. In between these two extremes there are other possibilities which express degrees of certainty or uncertainty, where *perhaps* something could happen, or of usuality, where something might *sometimes* happen, but not *always*. In the visual semiotic code visuals can also be interpreted in terms of the truth, credibility, and probability of what they represent to the viewer(s), and the information they offer can also be affirmed or denied according to whether something is or is not, or real or unreal, as well as whether other possibilities exist which can express degrees of certainty or uncertainty (where *perhaps* something could happen), or of usuality, (where

something might *sometimes* happen, but not *always*). In both modes there is the sense that these attitudes can be expressed through selections made along a continua of possible choices.

The interpretation of the degrees to which a visual is considered to be real or unreal, credible or incredible, possible or impossible depends in the first instance on its coding orientation. So far the discussion of visual representation in *The Economist* magazine has generally distinguished between those visuals which are portraying realistic or naturalistic scenes, and those which derive from a mathematical source. This distinction, as well as the notion of coding orientation, is a useful one which will be developed and explained more fully in Chapter Six, which deals with developing a visual typology of *The Economist's* visuals. In terms of the naturalistic type of visuals, it is proposed that there is a continuum of naturalistic visuals which are considered to be real/unreal or possible/impossible depending on the degree of accuracy of their representation of reality. This continuum (shown below in Figure 5.10) will also be outlined in Chapter Six as a categorisation for describing the various forms of visuals which occur in the naturalistic coding orientation in *The Economist* magazine.

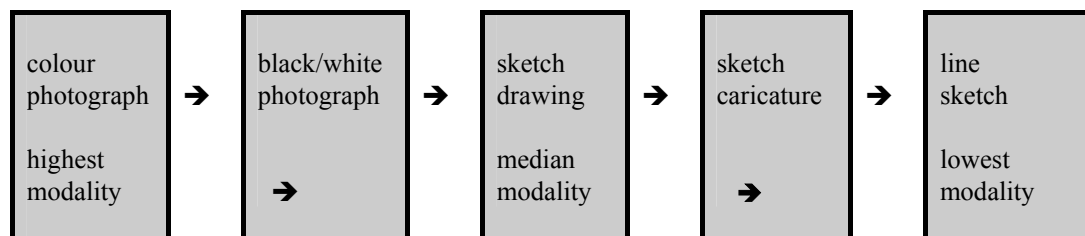| colour photograph highest modality	➔	black/white photograph ➔	➔	sketch drawing median modality	➔	sketch caricature ➔	➔	line sketch lowest modality

Figure 5.10 Modality in the naturalistic visual continuum in *The Economist* magazine

This coding orientation illustrates the varying degrees to which these visuals (and by default their drawers) attempt to portray 'natural' images (visuals which the members of a particular cultural setting would agree to be a recognisable form of a representation of reality, as viewed by the human eye).

As will be seen from the analysis given in Chapter Six, the s*ketch caricature* form of visual is the most common type of naturalistic visual to be found in *The Economist* magazine. This form of visual attempts to represent familiar objects,

entities, scenes, characters or actions (real or fictional) which are easily recognisable to the viewers, but are abstracted via caricature. These are not totally accurate representations, but are a stylistic drawing form in which the main features of the represented participants have been emphasised to present the represented participants from a particular attitudinal viewpoint, ones which the drawer(s) hold and wish to convey to any potential viewer(s). As such, the visual modality of a caricatured scene in terms of representing what is real or credible is relatively low. What is presented is not a true representation of reality, as a colour or to a lesser extent black and white photograph or sketch drawing may, but a whimsical version of it. In this type of visual there is in a sense more freedom for the viewer(s) to agree or disagree with the portrayal, to acknowledge it, or to contradict it. It is therefore a 'suggested' or 'loaded' interpretation of reality, and as such carries a lower modality in terms of its representation of 'truth' than photographs or sketch drawings. A viewer of a photograph cannot argue with it as a representation of reality beyond claiming that it was doctored or taken in deliberately unflattering circumstances (a high vertical angle for example). The absence of colour and the abstraction away from many physical details in the s*ketch caricature* which could have been included, such as additional facial and physical features, and landscape features such as plants, trees etc., also adds to this relatively low modality. The emphasis in this type of naturalistic visual is not on accuracy or realism as in sketch drawings or colour and black/white photographs, but on presenting a subject in such a way that the main features are caricatured, and so drawing attention to the attitudes that the drawers wish to express.

Mathematical visuals are on the other hand instances which are derived from the scientific/technological coding orientation. In this orientation the level of credibility

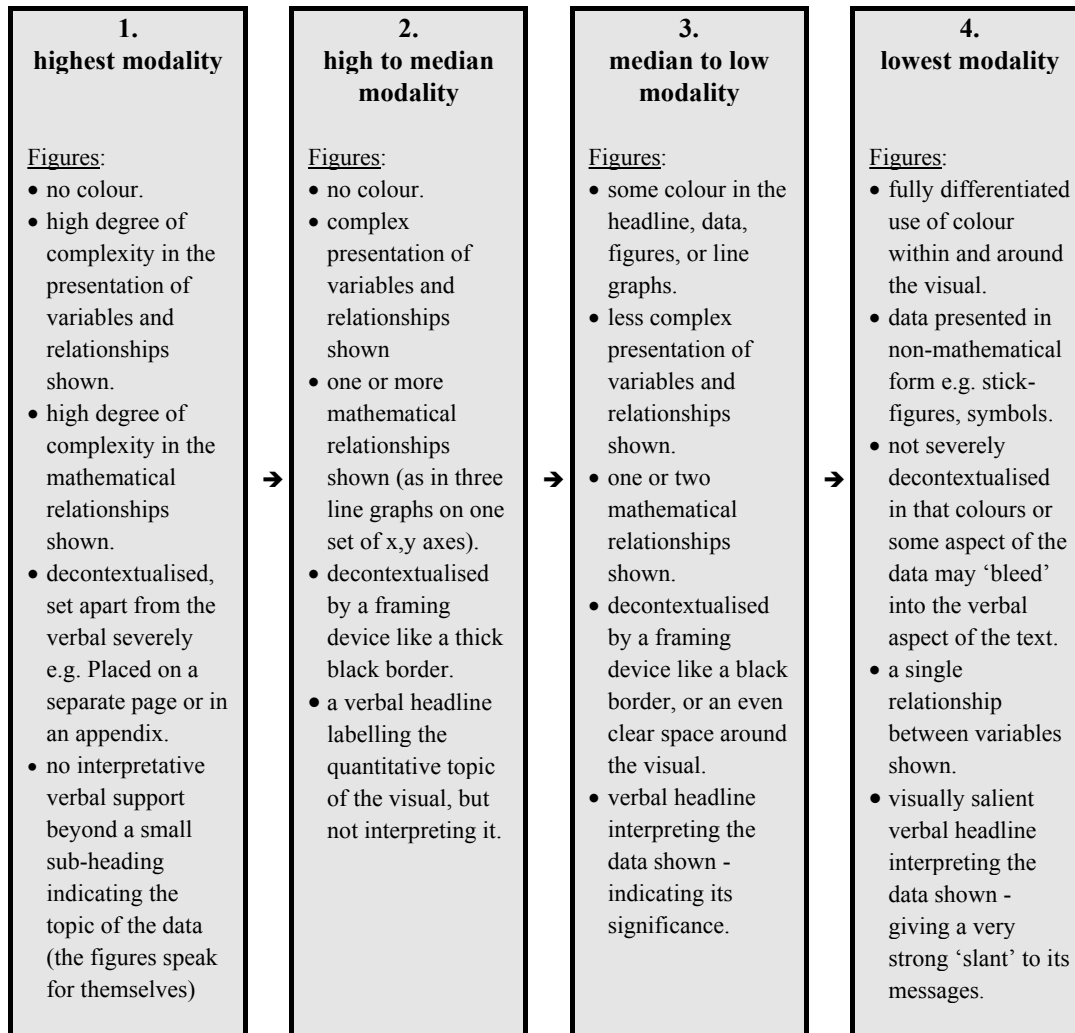| 1. highest modality	2. high to median modality	3. median to low modality	4. lowest modality
Figures:	Figures:	Figures:	Figures:
• no colour.	• no colour.	• some colour in the headline, data, figures, or line graphs.	• fully differentiated use of colour within and around the visual.
• high degree of complexity in the presentation of variables and relationships shown.	• complex presentation of variables and relationships shown	• less complex presentation of variables and relationships shown.	• data presented in non-mathematical form e.g. stick-figures, symbols.
• high degree of complexity in the mathematical relationships shown.	• one or more mathematical relationships shown (as in three line graphs on one set of x,y axes).	• one or two mathematical relationships shown.	• not severely decontextualised in that colours or some aspect of the data may 'bleed' into the verbal aspect of the text.
• decontextualised, set apart from the verbal severely e.g. Placed on a separate page or in an appendix.	• decontextualised by a framing device like a thick black border.	• decontextualised by a framing device like a black border, or an even clear space around the visual.	• a single relationship between variables shown.
• no interpretative verbal support beyond a small sub-heading indicating the topic of the data (the figures speak for themselves)	• a verbal headline labelling the quantitative topic of the visual, but not interpreting it.	• verbal headline interpreting the data shown - indicating its significance.	• visually salient verbal headline interpreting the data shown - giving a very strong 'slant' to its messages.

Figure 5.11 Mathematical visual modality in *The Economist* magazine

does not rest on the degree to which something is accurately represented, but on how efficiently it represents data in a quantitative form. What is 'real' in this coding orientation is dependent on how much the visual conforms to the accepted scientific and mathematical norms for presenting data in a visual format in the various contexts in which it may occur. This orientation therefore focuses on how phenomena are counted, weighed and measured, and how these measured features interact with each other in an abstracted, two dimensional way. What is 'real' can be looked at in terms of whether it utilises these accepted norms of mathematical interpretation of interacting data. There is in a sense a continuum of scientific/technological acceptability which, depending on the degree of use of certain kinds of scientific/technological visual techniques, places the viewer(s) in various attitudinal positions. These attitudes will vary across different contexts (or disciplines), and the means of graphic representation in some of the 'hard' sciences like physics and chemistry will differ to those acceptable to a social science-based discipline like economics or commercial studies.

As will also be seen in Chapter Six, the kinds of mathematical visuals used in *The Economist* magazine are largely *line graphs*, *bar graphs, pie charts,* and *tables*. These kinds of visuals vary in the amount of data they show and the ways that are deemed to be appropriate by the members of the discipline for whom they are produced. Since *The Economist* magazine is produced for a wide audience of professional and non- professional readers in the eco-financial sphere who are both initiates and non-initiates with mathematical presentation techniques, mathematical modality in *The Economist* could be interpreted by making reference to a continuum of mathematical modality markers as suggested in Figure 5.11.

According to the mathematical visual modality continuum in Figure 5.11, one would expect that mathematical visuals of highest modality would be found in professional economics journals, given the absence of colour and the high degree and complexity of information required. The types of visuals with the lowest modality would on the other hand be expected to be found in a very introductory economics textbook, or a general newspaper or magazine that dealt with economics issues in such a way that would be palatable and understandable for the

uninitiated. Thus, one would expect that the kinds of mathematical visuals utilised in *The Economist* magazine could most likely be identified as being placed approximately between 2 and 3 (median modality) because they typically combine elements of both these descriptions (see Chapter Six on this for a fuller explanation).

5.6.2 The Interpretation of Verbal Interpersonal Features

In interpreting verbal communication in terms of the interpersonal metafunction, one is also looking at the clause in terms of an interactive event in which the speaker, or writer and audience are involved (Halliday 1985:68). The interpersonal metafunction in the lexicogrammar is realised by the clause as exchange and the range of choices that can be made in the systems of Mood and Modality, which are basically concerned with speech function, speaker attitudes, comments and assessments.

5.6.2.1 The Analysis of MOOD in Verbal Propositions

In the SFL model, the interpersonal aspects of communication are covered in terms of how the roles in the exchange and the nature of the commodity exchanged can be combined into the four primary speech functions of OFFER, COMMAND, STATEMENT and QUESTION, which can be matched by a set of appropriate responses: accepting the offer, carrying out the command, acknowledging a statement, and answering a question (Halliday 1994:68-69). When information is exchanged in an interaction between a speaker/listener and a writer/reader, as it commonly is in *The Economist* magazine, it is the MOOD element in the clause which carries the components of information that are dealt with in the exchange, and which realise the speech function. In lexicogrammatical terms this is realised through the choices made in the Mood structure of the clause, in terms of the ordering of the Subject, Finite, Predicators, and various aspects of the Residue.

In relation to Visual Address, in *The Economist* magazine the main focus is the exchange of information between the magazine and its viewer/readers. Given this, the relevant grammatical category used in the exchange of information is the

indicative. Within this category, the usual expression of a statement is the 'declarative', and the usual expression of a question is the 'interrogative' (op.cit:74). As discussed, for both the order of the elements is significant, in that:

- The order *Subject before Finite* realises the 'declarative'.

- The order *Finite before Subject* realises 'interrogative', of which there are two further distinctions: there is the yes/no interrogative for polar questions (the response is either a yes, no or a maybe), and there is the WH-interrogative for content questions (where the answer is concerned with who, what, which, why, how, and when).

Having established that *The Economist* magazine is basically concerned with the exchanging of information and that this is realised by the ordering of the Mood elements in the indicative grammatical category, the next stage therefore is to check through the verbal aspect of an *Economist* magazine text for the ways that it addresses its readers in the act of exchanging information. As already mentioned, this will basically be in terms of whether the readers are addressed via being asked questions, or by being given statements; this means that the verbal aspect of the text will be examined in terms of its Subject-Finite ordering.

5.6.2.2 The Analysis of MODALITY in Verbal Propositions

In the lexicogrammar, it is the function of Modal Adjuncts to add interpersonal meaning to the clause (ideational meaning is added by Circumstantial Adjuncts and textual by Conjunctive Adjuncts). Modal Adjuncts do this by influencing the Mood element through the addition of some kind of modification to the Subject/Finite relation, or more indirectly by simply adding some attitudinal expression or attempting to control the nature of the interaction. Halliday (1994:81-83) identifies two principle types of Modal Adjunct which express interpersonal meaning: Mood Adjuncts (which are most closely associated with the meanings in the Mood system and therefore tend to occur close to the Finite operator), and Comment Adjuncts (which do not have a direct impact on the Mood constituent of the clause but affect the speaker's attitude to the proposition as a whole). These are summarised with

TYPE	ADJUNCT	MEANING	PRINCIPLE EXAMPLES
Mood	polarity & modality	polarity probability usuality readiness obligation	*not, yes, no, so* *probably, possibly, certainly, perhaps, maybe* *usually, sometimes, always, never, ever, seldom, rarely* *willingly, readily, gladly, certainly, easily* *definitely, absolutely, possibly, at all costs, by all means*
	temporality	time typicality	*yet, still, already, once* *occasionally, generally, regularly, mainly,* *for the most part*
	mood	obviousness intensity degree	*of course, surely, obviously, clearly* *just, simply, merely, only, even, actually, really, in fact* *quite, almost, nearly, scarcely, hardly, absolutely, totally,* *utterly, entirely, completely*
Comment	opinion admission persuasion entreaty presumption desirability reservation validation evaluation prediction	I think I admit I assure you I request you I presume how desirable? how reliable? how valid? how sensible? how expected?	*in my opinion, personally, to my mind* *frankly, to be honest, to tell you the truth* *honestly, really, believe me* *please, kindly* *evidently, apparently, no doubt, presumably* *(un)fortunately, to my delight/distress, regrettably,* *hopefully* *at first, tentatively, provisionally, looking back on it* *broadly speaking, in general, on the whole, strictly* *speaking, in principle* *(un)wisely, understandably, mistakenly, foolishly* *to my surprise, surprisingly, as expected, by chance*

Table 5.6 The principle types of Modal Adjunct (from Halliday 1994:49, 81-83).

examples in Table 5.6. Each will be discussed in turn.

Within the category of Mood Adjunct, Modality is used by speakers to express their attitudes towards the arguable point contained in a clause (i.e. the Mood constituent), whether they be Propositions or Proposals. When information is exchanged, the Proposition is something that can be argued about in terms of whether it is or is not, real or unreal, and whether it can be agreed or disagreed with (polarity). However, many communicative interactions are not expressed in such extremes, for participants in interactions often temper their communication by projecting something about their attitude to the message, or making some kind of comment about its relevance, reliability, interest etc.

The system of Modality allows for the information being exchanged to be adjusted in various ways and to express these attitudes and judgements. When Modality is used to argue about the probability or frequency of a proposition, it is referred to as Modalisation, and basically relates to the expression of two kinds of meanings (Halliday 1994:88-92):

- **probability**: judgements are expressed as to the likelihood of something happening or being through the usage of *certainly, surely, probably, maybe, perhaps,* etc.
- **usuality**: judgements are expressed as to the frequency with which something happens or is through the usage of *always, often, usually, typically, occasionally, rarely, seldom, once; ever, never,* etc.

The meanings produced through this form of modalisation, which basically means that the speaker is being tentative about his or her proposition, can be expressed in the clause through the usage of:

- the choice of a Finite modal operator such as in '*The Chancellor **might** have raised interest rates*'.
- the use of Mood Adjuncts which express probability, certainty such as '*The Chancellor was **possibly** thinking of raising interest rates*'.
- the use of Finite modal operators and Mood Adjuncts together as in '*The Chancellor **might possibly** have been thinking of raising interest rates*'.

Halliday distinguishes and classifies these modalisation resources into three degrees or values of modal judgement: high, median and low. Some of the

common lexical resources used to realise these can be summarised in Table 5.7 below.

	Value: Low	Value: Median	Value: High
Verbal Operator	may	will	must
Adjective	possible	probable	certain
Adverb	possibly	probably	certainly
Noun	possibility	probability	certainty

Table 5.7 Degrees [Values] in Modality (1994: 337-339)

Speakers not only express their judgements about the likelihood, frequency, or generality of propositions, they also make Comments about them. Comment Adjuncts are used by speakers to add an expression of attitude and evaluation to the proposition as a whole, but they do not say anything about the probability, generality or frequency. They typically occur in the initial position in a clause or directly after the Subject; however Halliday claims that because these kinds of adjuncts are commenting about the entire clause rather than its individual Mood/Residue elements, they should be considered as operating outside that structure altogether. In fact they tend to occur at points in the clause which are significant for the textual organisation (op.cit:83). Some typical examples of Comment Adjuncts include:

1. '*Unfortunately*, the Reserve Bank raised interest rates today.' [Desirability]
2. 'The Reserve Bank, *understandably*, raised interest rates today.' [Evaluation]
3. 'The Reserve Bank raised interest rates today, *as expected*..' [Prediction]
4. '*Tentatively*, the Reserve Bank could raise interest rates today.' [Reservation]

Both types of Modal Adjuncts, the Mood Adjunct and the Comment Adjunct, relate to varying degrees to the system of Mood, and therefore to the statements or questions realised in the Mood structures in Propositions. The Mood Adjunct is obviously closer to the Mood elements than the Comment Adjunct, but they do form a continuum, and as in Halliday's interpretation, both will be treated as being part of the Mood constituent of the clause and as important vehicles for adding interpersonal meaning to the clause (loc.cit.).

There remains one further way that interpersonal meaning can be realised in Propositions. This is through the use of what Halliday refers to as the attitudinal

Epithet 1994:184, Matthiessen 1995:692). These primarily lexical items operate at the next rank down in the lexicogrammar: that of the grammar of groups and phrases. Epithets are important in the nominal group in both experiential and interpersonal terms. When they are used in experiential terms, they are seen as being 'objective', where they simply describe an entity as in '*I bought a small share issue*', or define it as in '*I bought the small share issue*'. In these examples the distinction between describing and defining is realised by the '*a/the*' contrast. When Epithets are used to add interpersonal meaning however, they are usually referred to as 'subjective' adjectives which express the speaker's subjective attitude towards the Head (noun) by providing information about it in either *appreciative* terms as in '*it was a wonderful day of trading*', or in *pejorative* terms as in '*it was an appalling day of trading*' (Downing and Locke 1992:451-453). It is this latter attitudinal Epithet which will be examined in *The Economist* magazine text.

To summarise, the next stage of an analysis of a multimodal text in terms of its verbal Propositions therefore is to check through the verbal aspect of the text for the ways that the readers are addressed in terms of the speech function realised in the exchange of information. This will involve an examination of the text's Mood features in terms of the ordering in the main Subject/Finite constituent of the clause complexes, to ascertain whether the Propositions the readers are being addressed with take the form of statements, or questions, or some degree of both. Once this is done, the next step is to see how or in what ways the Propositions are treated in terms of their Modalisation features: where there is argument about the probability or frequency of a Proposition, and any comments that may also be made. In addition to this, the next step would be look at the ways that the speaker's attitudes are realised through the use of such features as attitudinal Epithets. Once these analyses are completed, it will then be possible to examine the multimodal text in terms of how both the verbal and visual elements address their reader/viewers, as well as how the mode-based attitudes are expressed to realise interpersonal intersemiotic complementarity.

5.6.3 The Analysis of Interpersonal Intersemiotic Complementarity

In the same ways that the relevant features of the contexts of situation and culture along with aspects of a text's intertextual history inform the interpretation of a multimodal text's intersemiotic ideational features, these features can also play a part in the interpretation of a text's intersemiotic interpersonal characteristics. Once the main ways that the viewer/readers have been addressed by both modes have been described, along with any attendant Modality features, it is then possible to examine these features in relation to how they complement each other to produce an interpersonally coherent multimodal text.

The aim here therefore is to identify how intersemiotic complementarity is realised in the various ways that the reader/viewers and the text are intersemiotically related through the systems of MOOD (Address via Offers, Commands, Statements, Questions) and MODALITY (Attitude re something as real or unreal, true or false, possible or impossible, necessary or unnecessary, and other attitudinal positions). It is proposed that intersemiotic complementarity can be realised semantically through the intersemiotic interpersonal relations of:

- Reinforcement of address: an identical form of address, where the visual and the verbal modes, utilising the methods inherent in their modes, both ask questions or make statements in the exchange of information. When this occurs, the fact that both modes address the reader/viewers in the same way leads to them to interact in such a way that a single, coherent multimodal text is the result. Reinforcement of address therefore realises intersemiotic complementarity. One could well ask what is the opposite or alternative to Reinforcement of Address — but since there really is no opposite form of address to a statement or a question, except the logical opposite of no-question or no-statement, there seems on the surface that there is no category of intersemiotic complementarity which can account for situations where one mode asks a question and the other makes statements, except perhaps Differential Address; but this is unrevealing, since there is still the sense that the two modes are complementary in some way. To account for this perhaps intersemiotic complementarity could be viewed in terms of two potential options: one in terms of reinforcement of address (or roles) as explained above, the other as a realisation of some kind of "correspondence" relationship or reciprocal association between the modes in the text, as in an advertisement where a photograph may directly address viewers with a question and the accompanying writing mostly makes a series of statements which answer the question(s) raised (see Royce 1998b on this in an analysis of an advertisement from *The Economist* magazine). The terminology of Barthes (1977) may be helpful here, where he refers to the '*relay*' relationship in image-text relations (although his usage of the term restricts

this kind of relationship to the speech balloons used in comics, and the various modes involving moving images such as TV or film, where the dialogue works in concert with the images).

- Attitudinal congruence: the same or a similar kind of attitude, where the propositions presented by both modes are treated in the same or similar attitudinal fashion. Here intersemiotic complementarity can be realised via the Modality Markers in visual(s) and the Modality features of the clauses projecting the same or similar attitudinal meanings in concert.

- Attitudinal dissonance: an opposite or ironic attitude, where the propositions presented by both modes are treated in different ways attitudinally. Here the attitude presented in the visual for example can be one which is opposite or ironic in relation to the attitudes expressed in the verbal aspect of the text. In these situations the intersemiotic complementarity produced by the ideational aspects of the text in a sense 'anchors' the reader/viewers' interpretation — they see that ideationally the multimodal text is a coherent one, but that interpersonally there is opposition produced by the differing attitudes. This is a recognisable rhetorical device in literature, where irony is used for dramatic or even whimsical effect. In these senses therefore intersemiotic complementarity is realised via the obvious dissonance between the attitudes.

The model of intersemiotic complementarity presented in Figure 5.3 can now be elaborated into an explanatory table illustrating the potential ways that interpersonal intersemiotic complementarity can be realised. This table presents these interpersonal intersemiotic features in terms of a continuum of options which may be simultaneously selected in both modes. It should be noted however that not all of the continuums will apply to a multimodal text at any one time, and in fact one or two may dominate the ways that each mode attempts to address the viewer/readers and to project various attitudes. The range of potential visual and verbal realisations of these interpersonal, intersemiotic complementarity relations are outlined in Table 5.8 (following page).

5.7 The Analysis of Intersemiotic Compositional Features

The examination of the intersemiotic compositional features of a multimodal text involves an examination of those features of the page's layout which facilitate intersemiotic complementarity between the visual and verbal modes. As mentioned previously, the term 'composition' has been bracketed with Halliday's textual

METAFUNCTION	VISUAL MEANINGS	INTERSEMIOTIC COMPLEMENTARITY	VERBAL MEANINGS
IDEATIONAL			
INTERPERSONAL	Variations occur according to the Coding Orientation. In the Naturalistic Coding - it is a continua of the use of: Address: Gaze at the viewer (direct or indirect). Involvement & Power: Perspectival aspects of the role of the horizontal angle, and the vertical angle. Social Distance: Size of frame (close up, medium, long shot etc.) affecting the affinity between viewer and image. Modality Markers: Contextualisation (full background to a complete absence of background). Degree of representing detail or abstracting detail. Texture Illumination (light and shade). Colour saturation showing degree of reality. In the Mathematical Coding -it is a continua of the use of: Involvement & Power: Perspective - horizontal angle; vertical angle. Modality Markers: Contextualisation: (full to absence of background). Degree of representing detail or abstracting detail. Texture, Illumination (light and shade).	Various ways of intersemiotically relating the reader/viewer and the text through MOOD (Address via offers, commands, statements, questions) and MODALITY (Attitude re something as real or unreal, true or false, possible or impossible, necessary or unnecessary, and other attitudinal positions) through the intersemiotic relations of: • Reinforcement of address: an identical form of address. • Attitudinal congruence: a similar kind of attitude. • Attitudinal dissonance: an opposite or ironic attitude.	Elements of the clause as exchange which relate to visual meanings. These arise according to: The MOOD element in the clause realising speech function (offer, command, statement, question) as determined by the Subject/Finite relationship. The MODALITY features of the clause which express attitudes about the Proposition presented in the clause. Modalisation which indicates views on the possibility, probability, and certainty of the Proposition, as well as the use Comment Adjuncts. Also the use of attitudinal Epithets in the form of subjective adjectives.
COMPOSITIONAL			

Table 5.8 Interpersonal intersemiotic complementarity

because it captures more fully the sense of two modes interacting with each other to project meaning coherently on the page. Also, the concept of 'composition' refers not only to systems of layout, but also to a text's positioning within a whole magazine or book, as well as a particular section or department.

This section will, in line with previous sections, examine the ways that both the visual and verbal modes project their meanings to produce compositional intersemiotic complementarity. The visual mode will firstly be examined in terms of general principles of layout and composition, principles which would be considered as the conventional wisdom when applied to codes of graphic design. The verbal mode however will not be examined at the clause level in terms of Halliday's analysis of Theme-Rheme, but will be treated as the 'body copy'; in other words as an orthographic whole realised by many of the same compositional principles used in the visual mode. These principles organise the verbal element as a coherent piece of orthography, which simultaneously interacts with the visual element(s) placed on the same page. This analysis of composition will adapt and extend the work of Arnheim (1974, 1988) on pictorial design and visual (gestalt) perception, Dondis (1973) on the fundamentals of visual literacy, Uspensky (1973) on the poetics of composition in classical art, Kress and van Leeuwen (1996) on compositional structuring principles in images, O'Toole (1994) on composition in displayed art, and especially White (1982a, 1982b, 1983, 1984, 1988, 1990,) on graphic design principles and techniques for page layouts in magazines.

5.7.1 The Interpretation of Visual Compositional Features

As discussed in the review on composition in Chapter Four, Kress and van Leeuwen utilise the work of Arnheim (1974, 1988), Dondis (1973) and Uspensky (1973) for describing the kinds of meanings that are compositionally organised in visuals. In *The Grammar of Visual Design* (1996), the structuring principles they previously discussed in the earlier *Reading Images* (1990) version are conflated into three interrelated systems which relate the "representational and interactive meanings of [a] picture to each other" (1996:183). These principles were:

a) INFORMATION VALUE: The placement of the elements (participants and syntagms that relate them to each other and to the viewer) endows them with specific informational values attached to the various 'zones' of the image:

* <u>left and right</u>: the left approximates the well-established, known, understood, implicitly held view, or the Given, and the right approximates that which is contestable, to-be-established, presented as not yet known, to be agreed upon, or to be made explicit, or the New.
* <u>top and bottom</u>: where the top of a visual is the space of the 'ideal' or most highly valued, and the bottom is that of the 'real' or less highly valued.
* <u>centre and margin</u>: the centre means that it is represented as the nucleus of the information on which all the other elements are in some sense subservient, and the margins are ancillary, dependent elements.

b) SALIENCE: The elements (participants and representational and interactive syntagms) are combined to attract the viewer's attention to different degrees by assigning 'visual weight', as realised by such factors as:

* <u>placement in the foreground or background</u>: objects or entities placed in the foreground are visually more salient than those in the background, and elements which overlap others are more salient.
* <u>placement in the visual field</u>: the aspect of visual 'weight' - objects are 'heavier' when close to the top, and 'heavier' when placed on the left.
* <u>relative size</u>: larger objects are more easily noticed by the eye that smaller ones.
* <u>contrasts in tonal value</u>: areas of high contrast such as black borders on white spaces are higher in salience than a grey-shaded, less distinct border.
* <u>colour contrasts</u>: the contrasts between highly saturated colours and softer muted colours, or the contrast between primary red, white and blue.
* <u>differences in sharpness</u>: objects are more clearly seen because their features are in sharp focus and are more easily noticed by the eye than those which have their features less sharply focused.

c) FRAMING: The presence or absence of framing devices disconnects or connects elements of the image, signifying that they belong or do not belong together in some sense. This is realised by a range of elements:

* by drawn in <u>frame lines</u> and <u>borders</u>.
* by <u>variations in visual shape or volume</u>, as in a column in a building or in a scene which may divide up the elements portrayed into sectors.
* by <u>discontinuities of colour hue or saturation</u>.
* by the use of <u>empty space</u>.
* by vectors formed by the <u>arrangement of abstract graphic elements:</u> besides being lines which can be drawn from or form a part of the represented elements in a visual, as realised by the direction of gaze, arms, and the structural features of objects, vectors may also be used where the eye is

guided away from the most to the next salient element (in terms of size or colour saturation etc.).

* by vectors formed by the <u>differences in size or volume</u> in co-occurring images, and the angles created by skewed elements.

Kress and van Leeuwen also state that these three structuring principles of information value, salience and framing apply not only to individual visuals but also to layouts, or what they refer to as composite visuals, or "visuals which combine text and image, and perhaps, other graphic elements, be it on the page or on a television or computer screen" (loc.cit.). As shall be outlined below, these compositional principles are similarly useful in explicating how intersemiotic complementarity is realised in compositional terms in magazine multimodal texts; but first the ways that the verbal aspect of a multimodal text will be interpreted in this study will be outlined.

5.7.2 The Interpretation of Verbal Compositional Features

As mentioned above, the verbal element will be referred to and treated as the body copy, or as an orthographic 'visual' whole which is organised, in a similar way to the ways that visuals are compositionally organised, through the structuring principles of information value, salience and framing. These structuring principles in the verbal mode are realised through the use of various typographical conventions which are in general use in many magazines of the same type as *The Economist* magazine. These orthographic compositional or layout techniques are generally referred to as principles of *typography*. Typography is defined by Watson and Hill as

> the art or style of printing, integrally allied to visual design …… [wherein] the choice of typefaces and the marrying up of text with graphics, both to arrest attention and to please the eye, lend force to the old adage that it is not only what you say but how you say it that counts (1997:236).

The importance of typography is also highlighted by White, who suggests that
> a coordinated system of typography is a complex aesthetic and functional calculation requiring the balancing of a number of factors. If it is well worked out, it becomes a basic — and important — visual tool as well as a constant definer of the magazine's personality (1982b:84).

These structuring principles of information value, salience and framing, and how they apply to the body copy will be discussed below.

In terms of **Information Value**, the relative placement of typographic elements endows them with specific informational values attached to the various 'zones' of the body copy. Here the left and right orientation in English is important. The space on the page is conventionally seen as consisting of two parts or zones — there is the zone of the outer margins which must be kept clear of type, and the zone of the "live matter", or the area within the page margins where the type is to be placed (White 1988:81). In the lexicogrammar, the culturally-determined left to right reading path in English works textually to realise the Theme-Rheme ordering in the clause. In this the well-established, known, understood, implicitly held view typically occurs in the initial, or left, position of the clause, and that which is contestable, to-be-established, presented as not yet known, to be agreed upon, or to be made explicit occupies the right. This left-right orientation can work in the whole page space as well, and realises what Kress and van Leeuwen (1996:186-187) have referred to as Given-New ordering in composition (see Chapter Four on Information Value). On the page, the copyfitting of columns (in magazines it has typically been the two-column and three-column breakup), the selection of line length (justified or ragged, noting that the longer the line the harder it becomes to read), and the use of runarounds (fitting or shaping the text type around a visual, the degree of deformation and line length working to disrupt or improve the reading path), all work in an integrative way to facilitate a reading path of left-right orientation, and to potentially realise a Given-New ordering. Associated techniques which influence information valuations include the use of line spacing (or leading), where the increased difficulties in reading longer lines can be compensated by increasing the space between the lines, and devices like numbering or lettering, which allow for the listing of information and facilitates faster scanning.

There is also the importance of placement in terms of the top and bottom of the page, where the top of the page is the space of the 'ideal' or most highly valued, and the bottom is that of the 'real' or less highly valued. This valuation is specifically relevant to the placement of headings and sub-headings, blurbs, boldface lead-ins, by-lines, and captions, which are typically located in the top (and left-hand) part of the page (White 1988:93).

- **Headings** in magazines are usually referred to as the 'Headline', incorporating its function to catch or attract the reader's attention, as well as to announce the topic

- **Blurbs** usually summarise or expand the meaning of the headline, explain its significance to the reader, and generally operate to attract the reader to the article; they are thus placed in such a way that they can be easily seen and understood.

- **Boldface lead-ins** are pieces of text which are designed to draw the reader into the article — they start the article off and are presented, in their most effective form, as complete sentences which stand alone in terms of making sense and setting up the reader's interest.

- **Captions** are provided to ensure that the reader will interpret a visual in the way that the author of the article intends, and commonly they are placed at the bottom of the visual in ragged right format.

- **By-lines** let the readers know who or which reporting bureau has prepared the article, and can be placed anywhere on the page, typically above or below the headline, or just after the blurb. In *The Economist* magazine they are almost invariably found below the headline and sometimes after the blurb in the form of a statement which gives the city bureau from which the article has been sent (never the names of the reporters).

The ways that these features work compositionally is also related to the left-right orientation of readers. As White points out, these features should be placed on the page where they are most likely to be noticed. The left-right orientation and the tendency to read from top to bottom therefore means that each feature should generally be placed in "the first place we look on seeing a new page [which] is the top-left corner (northwest)", and that later "our eyes [can] travel downward in a diagonal direction (toward the southeast), searching for whatever else might be of interest" (op.cit:97). Thus each of these features is accorded a specific status in terms of its top-bottom (and left-right) placement on the page.

The aforementioned division of space on the page into the zones of the outer margins, and the "live matter" is also relevant in terms of the ways that the centre and margin operates to balance the composition of a page. Besides being sized according to a magazines' binding conventions and practices, the margins are generally used to give a publication a 'special look". According to White, the "conspicuous consumption of empty space" (i.e. the use of deep margins) can be used to "add a touch of class as well as individuality", with the empty space

around the type making it "appear more valuable", and working to "give a little space for the eye to rest [which] is appreciated by the reader". The space of the margin is not to be wasted by being crammed with the type, but is viewed as "the velvet cushion setting off the jewel" (op.cit:81-82). The zone of "live matter" on the page implies of course that this is the centre or focal point of the page as a whole (not as a single point, but in terms of the central area of influence). This centre-area can be divided up in many ways, but as pointed out above, in magazines it is usually into the two and three column make-up. The centre area where the columns are arranged, as the area of presentational influence, is the part of the page to which all the other elements are in some sense subservient. In typographical terms the margins and even the visuals, while important, are ancillary, dependent elements. As White asserts rather pointedly,

> the typography is the fabric of the publication. It is seen on all the pages and, as such, it is the fundamental raw material you can control. Pictures, charts, headlines, logos, and all the rest of the embellishments are additional to the typography. You can have a product without the aforementioned elements, but you cannot publish without words, and that means type (1983:42).

In terms of **Salience**, various typographic elements are utilised to attract the viewer's attention to different degrees by their ability to assign 'visual weight'. Here "tone of voice typography" is of prime importance. Type can be likened to human speech in that speakers can speak more loudly for emphasis, or vary the voice pitch or tone to modulate up and down a high or low scale. In White's (loc.cit.) view, the volume or loudness of a voice is translated in typographical terms to the size of the type, where 'shouting' can be realised by the use of large letters (this has its counterpart in Email discourse and IRC chat lines where it is considered rude to 'shout' by using capitalisation). Typographical salience here is thus realised through relative size, where larger letters are more easily perceived by the eye than smaller ones — the larger the type, the more easily it is noticed by the reader, as in headlines.

Changes of pitch or voice tone can be (tentatively, as White does point out) translated into varieties of **boldness**, where lightface can be used for a 'high

voice', and extra-bold for a 'low' voice (loc.cit.). The editorial judgement involved here is significant; that which is deemed important should be emphasised, and what is merely background or unimportant should be treated in a less emphatic way. Thus contrasts in tonal value are often utilised, where areas of high contrast such as black letters on white spaces are higher in generating salience than grey-shaded, less distinct letters.

Salience is also generated by contrasts in type, where different kinds of typeface can be used to express differing senses, ranging from the 'working' style of the more traditional typefaces (such as Courier, Arial, Times Roman etc.), to the use of more 'exotic' or decorative typefaces (such as Gaelic, Handwriting etc.). Other ways of creating emphasis in type, all of which White (1988:38) recommends to use sparingly, are the use of underlining (or underscoring) an important word, phrase or whole sentence, switching from Roman (upright) to *Italic* typeface (to be balanced by the fact that italics is lighter in shade than the Roman), and varying line length of the important type or using ragged right if the rest is justified etc. There are also special variations of typefaces which can serve to intensify salience, such as the use of various forms of outlining, shadowing, and ornamental or swash characters, and by contrasts in colours, as in a contrast between type in highly saturated colours and softer muted colours, or the contrast between type in primary red, white and blue. These special variations are not really relevant to *The Economist* magazine since it rarely outlines or shadows the type and exclusively uses monochrome type; it is important in advertising pages however. As White elaborates, typography in a magazine such as *The Economist* should be subjected to consistency in styling and not be used as an exploratory, esoteric art form (an area that should be left to typographic experimentalists), because a magazine

> depends on its typography to *hold it together* (sic). Typographic fireworks, albeit fun and games in themselves, cannot help but *tear it apart* (sic). Words (i.e. type) are the one element occurring on all pages, and they must be used to help unify those pages into a common package. To achieve this unity — which is actually nothing but easy recognition — it is essential to retain basic simplicity throughout (1982b:80).

In terms of **Framing** there are various compositional elements which work to demarcate or connect the parts of the body copy, signifying that they belong or do not belong together in some sense. White (1982a:89-102) demonstrates that this can be realised by a range of elements. The first and most obvious is the use of actual <u>frame lines</u> under, above and between the typography, and <u>borders</u> around the typography to set it apart from the margins and any visual elements. These can be seen in some magazines where the entire space of the live matter is enclosed or 'boxed in', or in magazines such as *The Economist* where each page is separated from the top margin by a single line, and each article is separated by a column-wide single line and square symbol. Single lines are especially used on pages where a number of articles of the same length are presented.

Another very important framing device is the use of clear, <u>empty space</u> around the typographical elements to mark them off from both the space of the margins and the gutters. Both the frame lines and empty spaces can be used to form lines of division between columns and to act as a divider along the central spine of the page, essentially dividing the page into two typographical halves (this is common in magazines which include short item leader-reports, such as *The Economist* magazine's 'Leaders' section). A variation of these linear dividers is the use of the <u>runaround</u>, which can be either actual lines or blank space that is used to conform to the shape of another page feature — in this the type is forced to 'run around' another page element, and lines on the page or clear space act as the element which realises the division (not highly recommended however since it can lead to a disjointed typographical presentation). A further element which is related to salience is the ways that large or variable type in sub-headings, bold-face lead-ins, bylines and blurbs can act as framing devices or dividing lines between typographical elements.

Framing through borders and frame lines can be weak or strong depending on the typographical <u>tonal values</u> — the framing values of black in white spaces are of course higher than in that of grey-shaded, less distinct borders and frame lines. Framing can also be readily viewed as a continuum of 'framedness' if the use of colour to frame is considered. The divisions between typographical elements on

the page can be gradually realised by gradations of background page colour, and in some more experimental pop magazines such as *Raygun*, even the colour of the type itself can be used to frame the page elements. In both these cases there is not a clear 'in or out' sense created, but a graduated balancing act between inclusion and division. An important device to balance strong framing is the use of <u>bleeding</u> across page boundaries. This mainly involves visuals being presented across two pages for effect, but it can also be used in typography, where headings can spread across the top of two pages, or even start at the top and finish at the bottom of the same page — this can work to mediate any strong typographical framing, and combined with visual bleeding, can serve as a strong unifying force on the page(s).

To summarise then, it can be seen that the structuring principles of information value, salience and framing operate simultaneously in both the visual and body copy (verbal) aspects of a multimodal text, and that these principles are realised in accordance with the inherent characteristics of the mode — in the visual it is through various pictorial, photographic and illustrative methods, while in the verbal it is through typology. The next section will address how both the modes compositionally realise intersemiotic complementarity through these common structuring principles.

5.7.3 The Analysis of Compositional Intersemiotic Complementarity

Once the ways that each of these modes organise themselves in compositional terms have been examined, the next stage is to examine the multimodal text in terms of how the structuring principles of information value, salience and framing are utilised by both the verbal and visual elements on the page. The previous sections discussed how these principles operate within the modes, but now the discussion will focus on how they work together on the whole page space. The argument presented here is that an intersemiotically coherent multimodal text is potentially realised via the following compositional intersemiotic complementarity relations of:

- Information valuation on the page
- Salience on the page
- Degrees of framing of elements on the page

- Inter-visual synonymy
- The importance of potential reading paths.

Each of these will be discussed in turn, but before this a number of compositional aspects regarding the magazine as a whole should be considered, because they have an important impact on the ways that these intersemiotic relations operate on the page. White (1982b:17-43) discusses at some length the importance of "how we look at, and then read, the product [the magazine]". The first important element is the physical properties of the whole published document, be it a newspaper, magazine or textbook. This involves aspects of its size, shape, weight, stiffness, floppiness, thickness and the techniques used for binding (op.cit:15). These all affect the ways that it is held in the hands. If it is a magazine, then the ways that a reader can leaf through it is important in influencing the magazine's construction. Readers of magazines like *The Economist* tend to hold them by the spine and them flip the pages looking for elements which catch the eye. As White points out,

> Readers see the magazine twice: the first when riffling through the pages to determine whether it is interesting; then the second, slowly and deliberately, when they have committed attention to it. The process results in two distinct sets of impressions: (1) a cumulative *muchness*, and (2) a set of memorable highlights. These highlights stand out in contrast to the overall background texture and their function is to beguile the superficial page flipper into becoming an involved participant - a reader (op.cit:17).

The impression of a "cumulative *muchness*" is generated by the repetition of a range of compositional devices or signals which work to guide the reader through the pages and allow him or her to apportion time for the reading. The sense these repetitive, recognisable devices produces is a coherent pattern that allows the reader to efficiently interact with the whole magazine. This is commonly realised via the consistent use of department headings, similar pictorial and graphic (visual) elements, numbering conventions, common framing styles, and consistency in general typology (e.g. display type). Additional important elements are the ways that the colour and texture of the body copy typography, and the ways that the margins and spaces are handled — all these contribute to an impression that the elements contained within are all part of a piece (op.cit:18).

These regular, controlled 'signposts' can be contrasted with the elements which are designed and used with the reader in mind as the recipient of 'memorable highlights'. These are the devices which work to fulfil the 'attract' function, such as brightly coloured graphics, sketch caricatures, incongruities in layout, unexpected words or catchy word-plays and puns in headlines, or anything which may break the sense of conformity, the repetitive background patterning of the magazine. Once the reader has been persuaded by these 'attracts' to go further into the work, to begin to read, he or she is influenced by the background patterning in terms of such features as

> good clear writing. Good clear illustration that reinforces the words with apt images. Good clear organisation that encourages the flow of ideas in logical sequence. Good clear presentation that acts as a lubricant, helping to slip those ideas off the page and into the reader's mind ….. (loc.cit.)

These aspects will be discussed not only in terms of the three structuring principles of information value, salience and framing on the page already referred to above, but also in terms of two additional compositional intersemiotic complementarity relations. These are inter-visual synonymy, and the importance of potential reading paths. All five of these intersemiotic complementarity relations will now be explicated.

A consideration of **information valuation on the page** requires an examination of the relative placement of the visual and verbal modes in terms of their vertical or top/bottom placement on the page, their horizontal or left/right placement on the page, and their relative placement on the page in relation to the centre and margin. An important element in this discussion of information valuation on the page is the already-mentioned physical properties of the whole published document, be it a newspaper, magazine or textbook. As was pointed out, readers of magazines tend

Prime viewing area

Prime viewing area

Area least visible on first examination of the magazine
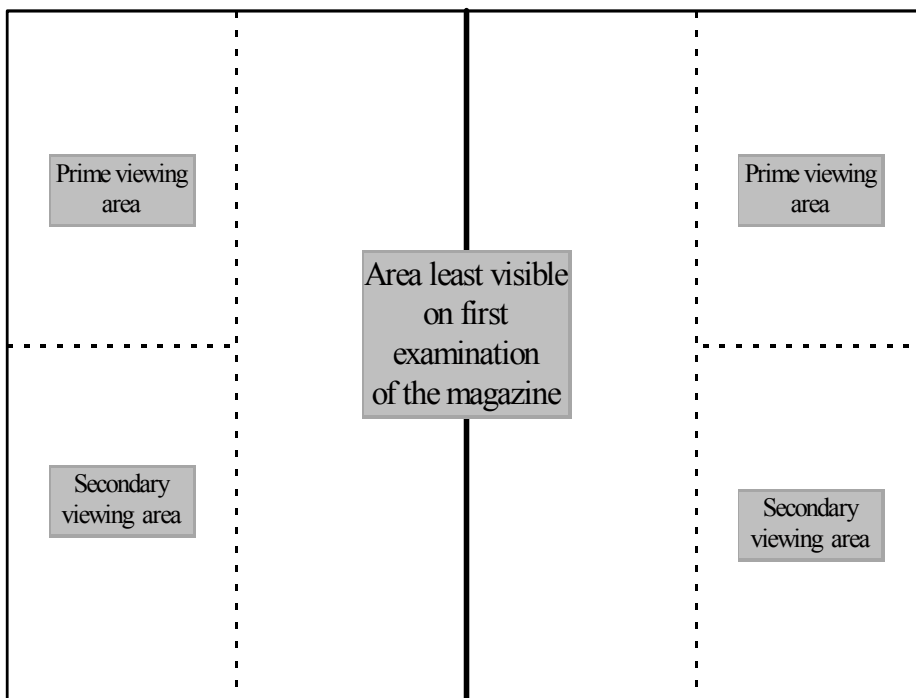
Secondary viewing area

Secondary viewing area

Figure 5.12 Information valuation on the page (from White 1982b:16)

to hold them by the spine and then flip the pages looking for elements which catch the eye. Whether they flip from left-to-right or vice versa, the inside pages of the magazine (near the gutter) are virtually "useless in that first, crucial viewing" (op.cit:15). Readers of magazines tend to pay attention, in a seemingly random way, to what grabs their eyes — given this information, the prime viewing areas of a magazine page, in the initial stages, are therefore those identified and represented in Figure 5.12.

However, once a reader has been attracted to a particular page, these whole-magazine prime viewing areas shift to those relevant for a single page; then the influence of the left to right, Given-New structuring orientation becomes more marked, and the inside pages of the magazine take on a single page-based compositional importance.

A consideration of **salience on the page** requires an examination in terms of the relative sizes of the visual vis à vis the verbal aspect of the text, and perhaps vice versa. The proportion of space taken up by each on the page can illustrate how important the elements are to the compositional makeup of the text. According to White, size is an indicator of importance, so a graphic designer should

> signal the Big Idea of the story in the Big Picture - and make that big picture as big and as dominant as possible. Then, reinforce the big idea within the big picture with smaller ideas carried in the smaller pictures, to flesh out the big idea, add details, corroborate the thesis …… In visual terms, such attention-focusing is achieved most easily by the simple expedient of giving the important picture the size that shows its importance (1982b:127).

On the page salience is realised also by variations or contrasts in tonal values, type and colours in much the same ways as when they are used within the visual and verbal modes. There may be situations where a visual uses intense colours or heavy black tones to attract the eye of the reader, or where larger than normal type is used to direct the eyes to the headline. Gradations of tone can also be used to guide the eye from the intense (or hyper-real) colour or deep black from one element on the page to another — this can work in a step-by-step fashion where, as the tone decreases in intensity, the eye is guided away (or towards) the next

salient feature on the page by the gradual 'fading' or 'deepening' effect. This is an aspect of horizontal sequencing which White sees as an important feature of magazine layout and design (op.cit:26). This can also occur across whole pages, where the visual or verbal feature can bleed across the pages (this is more common in images however).

An examination of the **degrees of framing of elements on the page** involves the ways that the visual and verbal elements are divided between themselves and the remaining empty space on the page. Again, the methods by which elements on the page are bounded or divided by actual frame lines, borders, and empty space work in much the same ways as when they are used within the visual and verbal modes. The degree of this boundedness is modulated also by the various ways of using a runaround, variations in tonal values, and the use of visual-verbal bleeding across pages.

The two additional compositional intersemiotic complementarity relations of **Inter-visual synonymy** and **potential reading paths** can also be used to convey a sense of compositional unity in a multimodal text. Inter-visual synonymy is concerned specifically with the degrees of semblance in form across visual modes which can work to present a kind of inter-visual harmony, realising an inter-visual intersemiotic complementarity. In many multimodal texts there is often more than one visual utilised, and as we shall see in *The Economist* magazine, this can potentially be naturalistic photographs, sketch caricatures and drawings, or mathematical tables, charts, graphs and diagrams. When visuals have been derived from the same coding orientation, there is potential for them to co-operate on the page; this can occur even if they are from differing coding orientations. This complementarity is realised through inter-visual synonymy, where there is some semblance in form, shape or colour across the page, which in a sense mirrors the meaning expressed by both visuals.

An aspect which is interdependent with the compositional principles of information value, salience, framing and inter-visual synonymy on the page is that of potential reading paths. Kress and van Leeuwen (1996:218-223) discuss this

when they refer to 'linear' and 'non-linear' compositions. The former refers to the strictly coded verbal text of English, which in its single-mode form must be read from left to right (e.g. a novel), and the latter to multimodal texts which can be approached in alternative non-linear (circular, diagonal, spiralling) ways (as in some newspapers and magazines). Reading paths relate to the hypothetical viewer's eye movement from the most salient points in the composition to the next or less salient points. Arnheim's (1988) work on left-right directionality and the reading path that a typical reader will follow is of note here, as well as the already-discussed assumptions that graphic design experts like White make about how magazines are typically read (White 1982a, 1982b; Swales 1990:15). There is of course a cultural element to this in that viewers from different cultures (and even different age groups or educational backgrounds and contexts) may read a multimodal text in differing ways.

This is supported by Kress and van Leeuwen's comments about the reading paths commonly used in magazines and newspapers. They suggest that the reading paths followed in magazines often involve the readers flicking through and stopping as pictures or headlines catch the eye, and then perhaps returning to the articles which piqued their interest. Alternatively, they may go straight to the article relating to the front page topic or headline, or to their favourite columnist, or the sports section. Thus the reading path can be selective and partial, as opposed to being strictly linear.

The model of intersemiotic complementarity presented in Figure 5.3 can now be elaborated into an explanatory table illustrating the potential ways that compositional intersemiotic complementarity on the page can be realised. This table shows that an examination of the compositional features of a multimodal text involves an examination of those features of the layout or composition which allow the elements on the page to be viewed as coherent parts of the one composite text. Again, the assumption is that these features have not been placed on the page in a

METAFUNCTION	VISUAL MEANINGS	INTERSEMIOTIC COMPLEMENTARITY	VERBAL MEANINGS
IDEATIONAL			
INTERPERSONAL			
COMPOSITIONAL	Variations in visual meanings occur according to choices made in terms of: Information Value: Top/bottom placement (vertical axis). Left/right placement (horizontal axis). Balance (or balancing centre & margins). Salience: Foregrounding & backgrounding. Relative sizing. Contrasts in tones and differences in sharpness of focus. Framing (weak and strong). Clear spaces or actual frame lines. Contrasts in tones and/or colours. Structural elements which divide visual space. Vectors producing an hierarchy of elements via arrangements of abstract graphic elements. Similarity and differences in size or volume in co-occurring images.	Various ways of mapping the modes to realise a coherent layout or composition by • Information Valuation on the page: Left/right placement (horizontal axis); Top/bottom placement (vertical axis); Balance (centre and margins). • Salience on the page: Foregrounding and-backgrounding; Relative sizing; Tonal contrasts and variations in focus. • Degree of framing of elements on the page: Clear spaces or actual frame lines; Contrasts in tones and/or colours. Visual-verbal bleeding; run-arounds; margins; gutters. • Inter-Visual synonymy: Degrees of semblance in form across visual modes. • Potential Reading paths: The impact of potential reading paths.	The body copy as an orthographic whole realised by various structuring principles: Information Value: Top/bottom placement: visual 'weight' assigned to headings, sub-headings, blurbs, boldface lead-ins, by-lines, & captions. Left/right placement: columns, margins, line spacing, line length (justified or ragged). Centre & margins: balance between margins & 'live matter'. Salience: Relative sizing: size of the type face. Contrasts in tonal values: lightface vs. extra - bold. Contrasts in type: traditional vs. decorative typefaces, roman vs. italics and various forms of outlining, shadowing, and ornamental or swash characters. Contrasts in colours: highly saturated vs. softer muted. Framing (weak and strong). Frame lines, Empty space, Borders. Contrasts in tonal values and/or colours. Elements which divide/control visual space: runarounds, bleeding.

Table 5.9 Compositional intersemiotic complementarity

random way, but have been placed there for various purposes within a particular context of situation and culture, the most important purpose being to convey to the readers a sense of unity, of co-operation, and of coherence in terms of the central and supporting messages. The range of potential visual and verbal realisations of these compositional intersemiotic complementarity relations are outlined in Table 5.9.

5.8 The Theoretical Framework and Summary

In this chapter, the analytical framework which will be utilised for the analysis of intersemiotic complementarity in *The Economist* magazine has been introduced, derived and explained. Each section dealt with the main areas where intersemiotic complementarity may be realised, and a brief explanation of the theoretical principles and assumptions of the SFL theory underpinning this study was given, as well as a more focussed discussion of its various features and their relevance to economics discourse. This chapter also presented an interpretation of the ways that visual meanings in the visual semiotic are realised, and this also was related to the kinds of visuals extant in *The Economist* magazine.

In each of the last three metafunctionally-based sections in this chapter, an analytical framework which showed how visual and verbal meanings can potentially be realised was presented, and this was used as the basis for a tabular presentation of the ways that intersemiotic complementarity can be potentially realised in a multimodal text. Each of these tables can now be combined and conflated to present an overall descriptive framework showing a range of potential ways in which the intersemiotic metafunctions reflect relations between different semiotic codes in a multimodal text. This is shown in Table 5.10 (following page), which will now form the analytical basis for the analysis of a representative text extracted from *The Economist* magazine, referred to previously as the *Mountains* text.

The analysis of this text will be applied and outlined in the next two chapters.

METAFUNCTION	VISUAL MEANINGS	INTERSEMIOTIC COMPLEMENTARITY	VERBAL MEANINGS
IDEATIONAL	Variations occur according to the coding orientation. In the **Naturalistic** coding we can look at: Identification : who or what Activity : what action Circumstances where, who with, by what means Attributes the qualities and characteristics In the **Mathematical** coding we can look at: Identification : what Relational Activity : what is the relation Circumstances : where, what with, by what means Attributes: qualities and characteristics	Various lexico-semantic ways of relating the experiential and logical content or subject matter represented or projected in both visual and verbal modes through the intersemiotic sense relations of: • Repetition: identical experiential meaning. • Synonymy: the same or similar experiential meaning. • Antonymy: opposite experiential meaning. • Meronymy: the relation between the part and whole of something. • Hyponymy: the relation between a general class of something and its sub-classes. • Collocation: an expectancy or high probability to co-occur in a field or subject area.	Lexical elements which relate to the visual meanings. These lexical items arise according to: Identification (participants): who or what is involved in any activity? Activity (processes): what action is taking place, events, states, types of behaviour? Circumstances: where, who with, and by what means are the activities being carried out? Attributes: what are the qualities and characteristics of the participants?
INTERPERSONAL	Variations occur according to the Coding Orientation. In the Naturalistic Coding - it is a continua of the use of: Address Involvement & Power Social Distance Modality Markers In the Mathematical Coding - it is a continua of the use of: Involvement & Power Modality Markers	Various ways of intersemiotically relating the reader/viewer and the text through MOOD (Address via offers, commands, statements, questions) and MODALITY (Attitude re something as real or unreal, true or false, possible or impossible, necessary or unnecessary, and other attitudinal positions) through the intersemiotic relations of: • Reinforcement of address: an identical form of address. • Attitudinal congruence: a similar kind of attitude. • Attitudinal dissonance: an opposite or ironic attitude.	Elements of the clause as exchange which relate to visual meanings. These arise according to: The MOOD element in the clause realising speech function The MODALITY features of the clause which express attitudes. Modalisation views on the possibility, probability, and certainty of the Proposition, as well as the use Comment Adjuncts. Also the use of attitudinal Epithets in the form of subjective adjectives.
COMPOSITIONAL	Variations in visual meanings occur according to choices made in terms of: Information Value Salience Framing (weak and strong).	Various ways of mapping the modes to realise a coherent layout or composition by • Information Valuation on the page • Salience on the page • Degree of framing of elements on the page • Inter-Visual synonymy • Reading Path	The body copy as an orthographic whole realised by various structuring principles: Information Value Salience Framing (weak and strong).

Table 5.10 Analytical framework for intersemiotic complementarity in *The Economist* magazine.

Chapter Six will focus on the contextual variables which are relevant to the interpretation of the *Mountains* text. This includes an examination of *The Economist* magazine as a cultural institution, and the stylistic and graphic design conventions it utilises in the context of creation of its texts. It also includes an examination and discussion of the contextual variables which have influenced the *Mountains* text. This will involve an examination of the text in relation to its Context of Situation, and in terms of its intertextual history. Chapter Seven will involve a detailed application and discussion of this analytical framework to the *Mountains* text — this will be carried out according to each metafunction, and will constitute an attempt to answer the questions raised about how the visual and verbal modes work together on the page, and to test the argument that intersemiotic complementarity occurs when certain conditions are met. It is argued that intersemiotic complementarity will obtain when one or more of the following occurs:

- when the ideational meanings in both modes are related lexico-semantically through intersemiotic sense relations of repetition*, synonymy, antonymy, hyponymy, meronymy,* and collocation.

- when the interpersonal meanings in both modes are related through intersemiotic reinforcement of MOOD, and through intersemiotic attitudinal congruence and attitudinal dissonance (Modality) relations.

- when the compositional meanings are integrated by the compositional relations of information value*, salience, visual framing, visual synonymy, and potential reading paths.