

Anthony Baldry* & Paul J. Thibault*

Applications of multimodal concordances

Abstract

Multimodal corpus linguistics has so far been a *theoretical* rather than an *applicative* discipline. This paper sketches out proposals that attempt to bridge between these two perspectives. It does so with particular reference to the development of the conceptual and software tools required to create and concordance multimodal corpora from the applicative standpoint and as such is designed to underpin the study of texts at universities in foreign-language teaching and testing cycles. One branch of this work relates to *multimedia language tests* which, as illustrated in *Section 2*, use concordancing techniques to analyze multimodal texts in relation to students' understanding of oral and written forms of discourse in English. Another branch is the exploration of *multimodal tests* concerned with the *explicit* assessment of students' knowledge of the principles and/or models of textual organization of multimodal texts. The two types of test are not mutually exclusive. A third branch of research thus relates to the development of *hybrid tests* which, for example, combine a capacity to analyze multimodal texts with an assessment of students' language skills, such as fluency in speaking and writing in English or which ascertain the multimodal literacy competencies of students and the differing orientations to meaning-making styles that individuals manifest. The paper considers these different applicative perspectives by describing the different categories of concordance achievable with the *MCA* online concordancer (*Section 2*) and by defining their relevance to multimodal discourse analysis (*Section 3*). It also illustrates the use of meaning-oriented multimodal concordances in the creation and implementation of *multimodal tests* (*Sections 4*). It concludes by suggesting that the re-interpretation of the nature and functions of concordances is long overdue and that the exploration of new types of concordance is salutary for linguistics and semiotics in general.

1. Introduction

Studies relating to tagged *multimodal* corpora are, with very few exceptions (e.g. Baldry/Thibault 2001, 2005, 2006b, forthcoming), conspicu-

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ous by their absence. This is not surprising given that a multimodal perspective in corpus linguistics entails a much wider and more complex vision of meaning-making than the language-only perspective. Nevertheless, collections of digitalized multimodal texts (films, websites or printed materials) can now be searched by adopting concordancing techniques developed specifically to this end (see *Section 2*).

Our joint work in the last ten years demonstrates the significance of multimodal corpora in gaining insights into the meaning-making processes found in multimodal texts, including insights into the role language has to play in these processes (Baldry/Thibault 2001, 2005, 2006b: 168; Baldry 2004, 2007). This research has related mainly to the development of multimodal corpus linguistics as a *theoretical* rather than as an *applicative* discipline. In the discussion below, we shall sketch some proposals that attempt to bridge between these two perspectives. Our main focus is on the development of the conceptual and software tools required to create and concordance multimodal corpora from the applicative standpoint (Baldry 2005a; Taylor Torsello/Baldry 2005; Ackerley/Cocchetta in press). This research is designed to underpin the study of texts at universities in foreign-language teaching and testing cycles. One aspect of this work relates to *multimedia language tests*. As illustrated in *Section 2*, these typically use digital technologies (concordancing techniques included) to analyze multimodal texts in relation to students' understanding of oral and written forms of discourse in English. A different branch of this applicative research is the exploration of *multimodal tests* concerned with the assessment of students' understanding of models of multimodal text analysis developed for both printed and digital media (Baldry/Thibault 2006a, 2006b; O'Halloran 2004; Kress/van Leeuwen 2006 [1996]). Unlike multimedia language tests, *multimodal tests* provide *explicit* assessment of students' knowledge of the principles and/or models of textual organization of multimodal texts. They are, thus, *not* necessarily concerned with foreign-language learning and could, for example, relate to modules in communication studies concerned with the general organizational principles of printed and digital media (Baldry in press a).

The two types of test are not mutually exclusive and make it possible to envisage the development of *hybrid tests* within text-based foreign language learning combining a capacity to analyze multimodal texts with an assessment of students' language skills, such as fluency in

speaking and writing in English. Such tests may also be developed to ascertain the multimodal literacy competencies of students and the differing orientations to meaning-making styles that individuals manifest.

Accordingly, the paper provides a description of the different categories of concordance achievable with the *MCA* online concordancer (*Section 2*), an illustration of their applications in multimodal discourse analysis (*Section 3*) and a characterization of the use of *meaning-oriented multimodal concordances* in the creation and implementation of multimodal tests which includes a brief outline of the characteristics of a hybrid test that strengthens the adoption of a multimodal perspective in text-based studies (*Section 4*). The paper concludes (*Section 5*) by suggesting that the re-interpretation of the nature and functions of concordances is long overdue and that the exploration of new types of concordance is salutary for linguistics and semiotics in general.

2. Concordances in relation to language tests based on multimodal corpora

This section describes the role played by multimodal corpora and, more specifically, by various types of concordances in the development of *multimedia language tests*. *Table 1* sketches out the nature and functions of four types of concordance. Of these, the *language-only, form-oriented type* has received most attention in research and classroom teaching. It is instantly recognizable thanks to its single central column delimited by automatically-created alignments, bold type, colour and/or gaps. The rows of individual concordances combine to create a semi-tabular format created automatically by the concordancing software. This allows the linguist to perceive recurrences in wordings and relate them to *co-texts* given in the individual rows on either side of the central column (Sinclair 1991). Apart from greatly assisting the ‘phraseological approach’ (Hunston 2006: 55) to language studies, the main reason for using this type of concordance is the widespread availability of lemma-based concordancers and the fact that *tags*, i.e. metatextual descriptions associated to specific forms, are either unnecessary or already embedded in texts thanks to automatic tagging systems such as *CLAWS* (Condragon et al. 2000). This approach to concordancing is attractive since it minimizes the work of unearthing examples and presents them in tidy patterns. Nevertheless, it leaves the question of interpretation in terms of meaning-making processes unanswered.

FORM-ORIENTED	MONOMODAL	MULTIMODAL																											
<p>Type 1. This type of concordance relates to <i>forms</i> as text-making resources retrieved from text corpora and specifically to the textual uses of <i>one</i> specific resource (e.g. a concordance of punctuation marks, symbols, lines, colours or ambient sounds). In practice, almost all concordances of this type are lemma-based studies of language and consist of single lines of wordings arranged in a tabular form; hence the reference in this paper to this type as <i>language-only, form-oriented concordances</i>. The examples below of <i>forget</i> are taken from the <i>British National Corpus</i> (BNC).</p> <table border="1" data-bbox="657 996 906 1601"> <tr> <td>FRQ 3687 Sheldukher... don't</td> <td>forget</td> <td>the Cell...;</td> </tr> <tr> <td>LUG 1895 I never</td> <td>forget</td> <td>a face --; (He looks into the SPY's face)... not that I know yours that is.</td> </tr> <tr> <td>FYA 859 It's it's four hundredths of don't</td> <td>forget</td> <td>that times is of.</td> </tr> <tr> <td>G0I 167 Some mornings he would rush away and</td> <td>forget</td> <td>to leave anything.</td> </tr> <tr> <td>G2W 257 Don't</td> <td>forget</td> <td>to say you saw it first in Ski survey, February/March issue, 1991!</td> </tr> <tr> <td>G63 472 But er they would maybe lay it by for two or three weeks and then</td> <td>forget</td> <td>came to the end of the quarter they were a whole lot or weeks behind, you know, they couldn't pay it then.</td> </tr> <tr> <td>H7A 2505 "If you tell me to</td> <td>forget</td> <td>it I will, Mr Feather.</td> </tr> </table>	FRQ 3687 Sheldukher... don't	forget	the Cell...;	LUG 1895 I never	forget	a face --; (He looks into the SPY's face)... not that I know yours that is.	FYA 859 It's it's four hundredths of don't	forget	that times is of.	G0I 167 Some mornings he would rush away and	forget	to leave anything.	G2W 257 Don't	forget	to say you saw it first in Ski survey, February/March issue, 1991!	G63 472 But er they would maybe lay it by for two or three weeks and then	forget	came to the end of the quarter they were a whole lot or weeks behind, you know, they couldn't pay it then.	H7A 2505 "If you tell me to	forget	it I will, Mr Feather.	<p>Type 3. Like <i>Type 1</i> concordances, this type relates to <i>forms</i> used as text-making resources in text corpora but, in keeping with the resource integration principle (Baldry/Thibault 2006a: 18-19), focuses on <i>typical combinations of, and relations between, forms</i> used at the same <i>point of time</i> in specific texts. For reasons of space, the example shown is a fragment of a single concordance which records the presence of <i>written, oral, vocal, visual, vectoral, spatial,</i> and <i>temporal</i> resources and, in part, begins to suggest their function in relation to <i>mini-genres</i> (Baldry/Thibault 2006a: 42) such as slogans and logos in a TV advert.</p> <table border="1" data-bbox="726 492 842 974"> <tr> <td>logo: visual, vectoral and spatial resources</td> </tr> <tr> <td>slogan: oral: wording: <i>freedom to choose</i></td> </tr> <tr> <td>slogan: oral: voice: male voice</td> </tr> <tr> <td>slogan: written: wording: <i>freedom to imagine</i></td> </tr> <tr> <td>slogan complex: written + oral overlap: exactly synchronized</td> </tr> <tr> <td>logo + slogan overlap: exactly synchronized</td> </tr> </table>	logo: visual, vectoral and spatial resources	slogan: oral: wording: <i>freedom to choose</i>	slogan: oral: voice: male voice	slogan: written: wording: <i>freedom to imagine</i>	slogan complex: written + oral overlap: exactly synchronized	logo + slogan overlap: exactly synchronized	<p>Type 4. Like <i>Types 2</i> and <i>3</i>, this type of concordance uses <i>descriptive labels</i> to search a multimodal corpus. It focuses on meaning that derives from a combination of diverse semiotic resources. See <i>Table 3</i> for an illustration of this type of concordance and, for more complete examples, Baldry/Thibault 2001: 94-6; see also Baldry 2005a; 2006: 118-9; Baldry/Thibault 2006b).</p>
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MEANING-ORIENTED	<p>Type 2. As with <i>Type 1</i> concordances, this type relates to <i>forms</i> produced by <i>one</i> resource but <i>explicitly</i> extends the range of a concordance to <i>meaning</i> by providing information about the <i>functions</i> various forms have in specific contexts. To date, all such concordances appear to have dealt with language, taking various forms, including the two-line concordances <i>exemplified in Table 2</i>, where the first line contains actual wordings in one or more texts, the second, the functions carried out by these wordings.</p>	<p>Type 4. Like <i>Types 2</i> and <i>3</i>, this type of concordance uses <i>descriptive labels</i> to search a multimodal corpus. It focuses on meaning that derives from a combination of diverse semiotic resources. See <i>Table 3</i> for an illustration of this type of concordance and, for more complete examples, Baldry/Thibault 2001: 94-6; see also Baldry 2005a; 2006: 118-9; Baldry/Thibault 2006b).</p>																											

Table 1. What types of concordance exist?

2.1. New types of concordance and concordancing: principles and potential applications

In this respect, *Table 1* presents two distinct though related perspectives, one relating to the degree to which the *copresence* of meaning-making resources is taken into account, the second relating to the *meanings* that these codeployments have in specific (con)texts. Despite the greater work involved, in particular the spadework of manual tagging, building analyses of meaning into concordances is a significant step for both linguistic and semiotic studies (Baldry/Thibault 2001, 2006b; Baldry 2005a, 2005b; Taylor Torsello 2001; Taylor Torsello/Baldry 2005) which includes many undertakings, such as the development of *multimodal transcriptions* (Baldry/Thibault 2006a), *multimodal concordances* (Baldry 2005a: Chap 1; Baldry 2005b; Baldry/Taylor 2004; Baldry/Thibault 2006b), *multimodal tagging procedures* (Baldry 2005a: 15-27) and the construction of a new generation of online concordancers such as *MCA* (Baldry 2005a, Baldry/Beltrami 2005) and based on relational databases, in the case of *MCA*, *Microsoft Sequel Server*.

Table 1 defines four types of concordance which can be implemented with *MCA* (Baldry 2005a) and ultimately encourages a re-interpretation and evolution of traditional *form-oriented language-only concordances* in a way that greatly assists their applicative use in various forms of student assessment and/or text-based studies of films. Meaning-making cannot be achieved by a single meaning-making resource in isolation (see *Section 3*). Form and meaning cannot exist separately (Baldry/Thibault 2006b: 175-7). Hence the need to transcend traditional *form-oriented language-only* concordancing by introducing other types of concordance into daily teaching practice, all of which – more from an applicative standpoint than a theoretical one – helps achieve a balance between form and meaning. A detailed illustration of the way in which meaning-oriented concordances achieve this is given in *Tables 2* and *3*.

This type of concordance often highlights contrasts in the functions of words, in this case different clause-level transitivity configurations consisting of process(es), participant(s) and circumstances in relation to the way in which the *running*-form is deployed. The concordance shown here, which is a reworking of a concordance taken from a *BNC* sample, shows a range of experiential clause-level configurations involving the process lexeme *running* and the ways in which its meanings relate to and cut across the transitive and ergative semantic models of human experience (Davide 1999: 25-53; Halliday/Matthiessen 2004 [1985]: 280-302).

AHC 212 But having talked his reluctant owner and trainer into running, Davies proceeded to kid and cajole their unpredictable 11-year-old into <i>Actor: animate / Affected: Medium</i>	Running <i>Process: pseudo-effective</i> was running	the race of his life <i>Non-affected: Range: Cognate: Expand process</i> into another world.
AR7 1550 We had arrived in Barbados only 12 hours earlier, and instead of dead streets and dog walkers, I <i>Actor: animate / Affected: Medium</i>	<i>Process: transitive; pseudo-effective: accidental</i> Might be running <i>Process: transitive; pseudo-effective: accidental: goal achieving</i> is running <i>Process: transitive; pseudo-effective: accidental: goal-achieving</i> was running	<i>Non-affected: Range: Circumstance: Extent</i> into trouble. <i>Range: Circumstance: Extent</i> along the unit, landing in desperate need of the lavatory. <i>Circumstance: Spatial Trajectory (towards goal)</i>
CRB 3531 But it is already clear that the programme <i>Actor: inanimate / Affected: Medium</i>	was running <i>Process: transitive; middle: controlled; deliberate: motion along spatial trajectory towards achievable goal: goal-directed</i> was ... running <i>Process: transitive; middle: controlled; deliberate: goal-directed</i> was running	for president of the top body in world motor sport? <i>Non-affected: Range: Circumstance: Desired Goal</i> thru to Coon, but Coon could nt hold it anyway so IMO it didnt affect the 'goal'. <i>Circumstance: Spatial Trajectory (towards goal)</i>
ACW 1518 Then the gripping pains started, and soon he <i>Actor: animate</i>	was running <i>Process: transitive; middle: uncontrolled; accidental: motion along spatial trajectory towards goal</i> was running <i>Process: ergative; middle</i> was running	I had seen no staff in the cinema for hours, like a well-oiled machine, instead of like a slightly out-of-control summer camp. <i>Circumstance: Manner: Comparison</i> the Drake Fellowship; this was a scheme set up by the Prince in the wake of the inner-city riots, to give young people from those areas adventure training.
A6C 596 Through the film <i>Affected: Medium: inanimate</i>	was running <i>Process: ergative; effective</i> was running <i>Process: ergative; middle</i> was running.	fast and I learnt later that bathing could be perilous. <i>Affected: Medium</i> <i>Circumstance: Manner</i>
19X 603 The river <i>Affected: Medium</i>	was running <i>Process: ergative; middle</i> was running.	at about £13 billion. <i>Range: Circumstance: Extent</i> a deficit of £1,500 million. <i>Affected: Medium</i>
GW3 1785 The little boy had gone over to his granny because his nose <i>Affected: Medium</i>	is running <i>Process: ergative; middle</i> is running <i>Process: ergative; middle</i> is running <i>Process: ergative; pseudo-effective</i>	
K9W 158 'I o put our industry in context, the balance of payments deficit <i>Affected: Medium</i>		
EC3 1154 It is evident that the public sector <i>Setting</i>		

Table 2. A detailed illustration of a monomodal meaning-oriented (*Type 2*) concordance

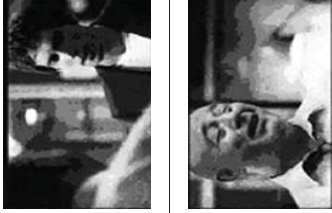
<p>Search Feature Parameter: [Eyes: Closed]</p> 	<p>Gaze Transitivity Frame</p> <p>GAZER<GAZE VECTOR DISENGAGED; EYES CLOSED; AVERTED DOWNWARDS; DISENGAGE INTERLOCUTOR</p> <p>GAZER<GAZE VECTOR DISENGAGED; EYES CLOSED; AVERTED DOWNWARDS; DISENGAGE INTERLOCUTOR</p>	<p>Verbal Text</p> <p>None</p> <p><i>You sat opposite the getaway car!</i></p>	<p>Clause Analysis and Discourse Semantics</p> <p>No clause analysis; Discourse Move: Signals inability to provide desired response</p> <p>Exp: Actor<Process; Material: Action<Circumstance: Location; Int: declarative; second person Subject: Tex: Theme/Given; second person focus; Rheme/New: end focus on addressee's close proximity to getaway car. Discourse Move: Signal incredulity, surprise</p>
<p>Like <i>Type 2</i> concordances shown in Table 2, this particular example of a <i>Type 4</i> concordance is concerned with transitivity relations (Halliday 1994 [1985]). The fragment also shows that like <i>Type 3</i>, this concordance is <i>relational</i>: it specifies both activities and resources that are <i>concurrent</i>, involving gaze and language in the enactment of discourse moves in the exchange between the two speakers. The example illustrates a simple multimodal concordance using two examples involving gaze. The example is based on the search parameter <i>[Eyes: Closed]</i>, itself a feature in a gaze system network, in the corpus of car advertisements currently being investigated by the authors (see Baldry/Thibault forthcoming) with the aid of <i>MCA</i>. The concordance shows the co-occurrence of gaze and verbal text with reference to this parameter. Both examples occur in the context of dialogue between the two subjects, who are shown in the first column in an advertisement for a Rover car. Gaze and the momentary disengagement of gaze, as here, when the participants close their eyes at these particular moments in the exchange between them, can function to enact very finely calibrated responses to the actions of one's interlocutor, including what the other says, in the dialogue. The momentary disengagement of gaze when attending to the other in the course of interpersonally coordinated interaction can itself constitute or be a constitutive part of a move in the dialogue. In the first case, the young man closes his eyes briefly in response to a challenging question from his interlocutor, who is a policeman. The young man, who witnessed a bungled bank robbery from a prime viewing position from inside a café whilst the robbery took place outside, is unable to give any useful information about the robbers because of his fascination with the getaway car. His closed eyes and the absence of a linguistic response at this point indicate his embarrassment and inability to provide a convincing answer to the policeman. In the second example, the policeman momentarily closes his eyes at the same time that he says in an incredulous tone of voice, <i>"You sat opposite the getaway car!"</i>. In this case, the meaning of the closed eyes relates to the overall meaning of his move at this point in the exchange between them. His reaction is one of disbelief or incredulity that the witness cannot recall any salient details of the robbers. The multimodal concordance shown here demonstrates how we can investigate cross-modal or inter-semiotic relations in, for example, car advertisements. The selection of a given search parameter such as <i>[Eyes: Closed]</i>, as here, shows its relevance in the context of gaze vectors to the management and ongoing development of scripted dialogue in advertising and other genres of video text (see Baldry/Thibault 2006a: 167-173).</p> <p><i>Exp: = Experiential; Int: = Interpersonal; Tex: = Textual (Metatfunctions)</i> ^ = followed by (see Halliday/Matthiessen 2004 [1985])</p>			

Table 3. A detailed illustration of a multimodal meaning-oriented (*Type 4*) concordance

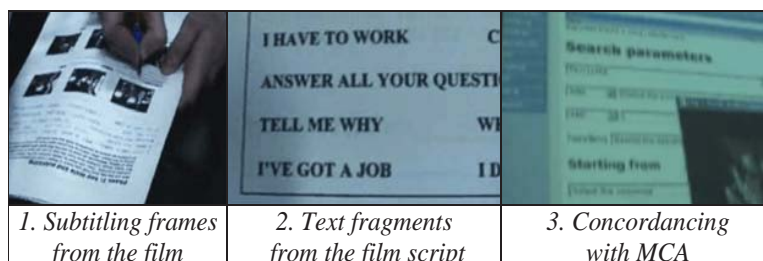


Figure 1. Stages in the reconstruction of meaning units in a film

Figure 1 gives a classroom demonstration of the circumstances that have led to the redevelopment of the *form-oriented, language-only* concordance in such a way as to increase its relevance to text studies that embrace a wide variety of genres. It illustrates three crucial moments in a lesson recorded in January 2004, part of a corpus of filmed lessons. The students were following a 24-hour B2 level film-based course that prepared them for exams leading to the international certification of their proficiency in English. They were asked by the teacher to fill in a handout summarizing the events in a particular phase in the film (for *phase* see Baldry/Thibault 2006a: Chap. 4). As they did so, they were instructed by the teacher to consult each other, in English, with a view to reconstructing what they had understood so far about the film on the basis of a *single* viewing. Part of this classroom test required the students to provide appropriate subtitles for a sequence of frames (*Figure 1.1*). To help them in this reconstruction, the students were prompted by a series of text fragments (*Figure 1.2*) and given access to computers in order to carry out keyword searches using MCA (*Figure 1.3*). This allowed them to establish how individual words, such as *work* and *job*, were used in the film script and gave them a chance to view and hear the specific film sequence (*utterance, subphase or phase*) in which these words occurred. Concordancing exercises were thus part of an overarching activity that exercised various skills – reading, writing, listening, speaking and reflection on the functions of language in context – in an integrated way. Throughout this activity, concordancing was based on the principle of comparing *what might have been said* with *what was actually said*. Thus, activities included watching phases in the film with the soundtrack suppressed and using the observation of resources such


as movement, gaze and gesture to make hypotheses about the *actual* words used in specific utterances which were then verified or refuted by keyword concordancing (Baldry et al. 2005).

Careful analysis of the filmed corpus helped identify a number of difficulties arising with this approach to classroom concordancing. Space permits us to mention only one of these in passing, namely the need to explore the properties of texts on a *comparative* basis. There was, in other words, a need to use concordances in such a way as to promote the principle, mentioned above, of highlighting the relationship between the *potential* and the *actual*. *Figure 2* maps out and summarizes three steps in the reinterpretation and extension of *form-oriented language-only concordances* incorporated in the latest version of *MCA* (*Release 3.6*) that do just this. The extensions built into *MCA* enhance the *comparative basis* of classroom concordancing. The corpus in *Figure 2* is derived from posters displayed in an Italian supermarket chain. They reincarnate foodstuffs, in particular fruit and vegetables, as people, animals and inanimate objects. The posters, one of which is reproduced in *Figure 2* (top-right), are multimodal texts made up of visual and verbal clusters (Baldry/Thibault 2006a: 31). The verbal clusters take the form of captions placed at the bottom of the posters. A soundtrack in various languages has been added to the corpus. In keeping with traditional concordancing, searches still focus on *wordings* but are performed in terms of three new types of concordance, the *media-indexed* concordance, the *tabulated* concordance and the *captioned* concordance associated, respectively, with *MCA*'s *Search*, *Pivot* and *Captioning* buttons displayed in the left-hand column of the example. They are, thus, extensions to lemma-based concordancing designed to take into account the characteristics of multimodal texts and, above all, analytical comparisons of texts (Baldry in press b).

The process of re-interpreting the nature and function of concordances may be characterized in relation to traditional views of *co-texts* (Sinclair 1991) as generating *extended co-texts* (Baldry in press b). From another standpoint, however, this research may be taken as reconstructing concordances as *subtexts of* and *points of access* to specific parts of digitalized texts (films, audio recordings, photos, printed media etc.). *Extension 1* described in *Figure 2* exemplifies this. The same process is further evidenced by *MCA*'s subtitling procedures (see *Figure 2, Extension 3*) where concordances are construed as *co-contextualizing sub-*

texts of the texts to which they relate (Baldry 2005a: 97; see also Taylor 2004). Overall, the approach adopted allows a comparison, across languages and across modalities, of oral and written forms of wordings, all of which is particularly useful, for example, in the early stages of foreign language learning. The new types of *form-oriented, language-only* concordances produced by the extensions described in Figure 2 may be called *extended concordances*.

RESEARCH		A captioned corpus			
Project Definition					
Play Media		start	end	Des1	Des2
Grammar Selection	0	4	Ballerina o carote?	A ballerina or carrots?	
Media Indexing	5	9	Bosco o broccoli?	A wood or broccoli?	
Task definition	10	14	Cavallucci o peperoncini?	Sea horses or chili peppers?	
Sequence Analysis	15	19	Colonne o formaggio?	Columns or cheese?	
Search	20	24	Libellule o piselli?	Dragonflies or peas?	
Pivot	25	29	Palle da tennis o pompelmi?	Tennis balls or grapefruit?	
Captioning	30	34	Fatche o melanzane?	Seals or aubergines?	
	35	39	Mongolfieri o cipolle?	Hot air balloons or onions?	



Ballerina o carote?
A ballerina or carrots?

Extension 1. The media-indexed or multimedia concordance is an extension to lemma-based concordancing – implemented in MCA through the Search function – which is designed to link language-only concordances to those parts of multimodal texts, for example film sequences, from which the wordings are derived. Clicking on the Media Player buttons shown in the example allows the context where the wordings occur to be both seen and heard. Whereas traditional concordances are used to explore formal properties of language – for example, to encourage awareness of those forms in English with plurals marked by a final “s” and those, such as *grapefruit*, which do not – the *media-indexed* concordance is concerned with understanding the meanings *wordings* make in specific contexts. While embracing the logic of traditional concordances that focus on target words (in this case the Italian equivalent of *or*), this extension to *wordings* relates to *intertexts* – in this case translated captions functioning as *parallel subtexts* – that further the possibilities for comparative analysis of texts.

Extension 2. The tabulated concordance is, instead, an extension designed to link *wordings* to the textual properties of specific genres. As befits an approach to concordancing focusing on text types, the row-based, semi-tabular format of traditional concordances – with its emphasis on a single *language form* and a *single column* – has given way to a fully tabular display consisting of columns that contain sets of words with similar functions, in this case exemplifying the mini-genre ‘caption’. The tabulated concordance is implemented in MCA through the Pivot function which, as its name suggests, rotates traditional concordances through 90 degrees, transforming them into paradigmatic sets labelled with a classifying *Headword* (in this case the labels of convenience *Des1* and *Des2*). For reasons of space, the example is limited to two columns, but many more are present on a computer screen.

Extension 3. The captioned concordance is an extension designed to embed concordances into online teaching applications. As exemplified in the top right-hand corner, captioned concordances can be presented as subtitles generated in MCA by the combined use of the Pivot and Captioning functions. Like traditional subtitles, they are synchronized with the unfolding visual text; the *wordings* displayed are, however, the result of user selections from any two columns in a *tabulated* concordance. They can thus be varied at will to show many *wording* combinations. One use is in the early stages of language learning where dual-language subtitling can facilitate the identification and meaning of words in an associated soundtrack. Another is as a support for the examination of translation processes in film scripts.

Figure 2. What kinds of extensions can be made to traditional lemma-based concordancing?

2.2. Defining the multimodal concordance in relation to multimodal tests.

Potentially, the use of these *extended concordances* goes beyond *wordings*. For example, *captioned concordances* can be used to produce *Type 2 monomodal* concordances – see *Table 1* – by *directly* analyz-

ing wordings in the soundtrack in relation to the experiential meanings (Halliday 1994 [1985]). Similarly, they also can instantiate **multimodal** concordances (*Types 3 and 4* in *Table 1*) consisting of two-line selections from the tagged corpus. For teaching and learning purposes, this is good enough to highlight the changing pattern of resource integrations (*Type 3* concordances) in specific texts in the corpus illustrated in *Figure 2* and, of course, in other corpora. Though not shown in *Figure 2*, one example is the relationship of *vertical vectors* (first line in the concordance) to *horizontal vectors* (second line in the concordance). Equally, though again not illustrated in *Figure 2* for reasons of space, *captioned concordances* can highlight relations existing *between* textual subunits in multimodal texts (*Type 4* concordances in *Table 1*) for example to establish the mutual positioning of the two main clusters in the corpus illustrated in *Figure 2*: the *depicted object* cluster (represented in the first line in the concordance) and the *slogo* (i.e. slogan + logo) cluster (represented in the second line in the concordance). This shows that in this corpus, somewhat against expectations, the mutual position varies and, by varying, imposes different reading paths on readers as they attempt to ‘decipher’ each of the posters.

A fuller description of the extensions described above and their applications goes beyond the purposes of this paper (see Baldry/Thibault forthcoming). Further description of the *Type 4* concordance is instead given below in *Section 4*.

To summarize this *Section*: once automatic tagging is put aside there is no reason why corpora and concordancers should not be constructed in such a way as to highlight typical textual patterns recurrent in specific texts that are not achievable with traditional concordancing (see Cocchetta, this volume). This insight has led to new forms of lexis-oriented concordancing. These begin to move down the **multimodal cline** of concordance types indicated in *Table 1* away from monomodality and towards multimodality by stimulating students’ awareness of the resource integration principle (Baldry/Thibault 2006a), and down the **meaning-oriented cline** towards the interpretation of words as used in specific multimodal texts. The testing procedures implied in *Figures 1* and *2* are formative in that they relate to classroom activities. We could, however, easily devise an end-of-course, summative test that ascertains students’ individual skills in understanding films based, for example,

on the appropriate captioning of a sequence of frames as illustrated in *Figure 2*.

3. Multimodal Discourse Analysis in the Environment of a Multimodal Concordance

The extensions to lemma-based concordancing referred to in *Figure 2* can also be connected to multimodal discourse analysis in interesting and fruitful ways. In this Section, we shall focus on some aspects of the captioned corpus of advertisements from the *Esselunga* supermarket chain in northern Italy to develop this point. Consider, for example, the poster captioned *Ballerina o carote?*, as shown in *Figure 2*. As a statement of first principles, the linguistic items *Ballerina o carote?*, *Bosco o broccoli?*, and so on, have no meaning except in relation to the visual images that they are integrated with. The picture of the carrots-cum-ballerina is a visual metaphor that also indexes in a somewhat playful way the phenomenon of ‘concealment’ which has been studied by Gestalt psychologists of visual perception (Gottschalldt 1926; Arnheim, 1999). Concealment refers to the potential for a visual image to be seen in two quite different ways: is it a vase or a human face?, and so on.

The verbal caption asks the reader to choose between two conflicting interpretations of the image. The caption specifies two distinct domains of activity (‘ballerina’ vs. ‘carote’) and asks the reader to make a choice. The use of the Italian conjunction ‘o’ [‘or’ in English] may suggest that the relationship between the two semantic domains is a symmetrical one in which the two conjuncts on either side of the conjunction are accorded an equal value weighting. As we shall see below, the Italian conjunction ‘or’ in the *Esselunga* texts does not have this meaning. The symmetrical relationship is implied in Martin’s (1992: 205-6) systemic interpretation of the English conjunction ‘or’ as having the general logico-semantic meaning of ‘alternation’. This is the case, for instance, in the following examples featuring the use of the conjunction ‘or’ from the *BNC* (*British National Corpus*):

AOT 690 Thinking is a capacity to refer at will, whose nature is made more mysterious if we try to chop it up into mental episodes with particular epistemic content or causal power.

ASF 92 Brodkey's relations with his adoptive mother Doris, a Jewish Clytemnestra to his haunted Orestes, involve a bizarre attempt at incestuous symbiosis ('The feeling of obliteration or castration or whatever it was was unsettling as hell') and a deathbed reconciliation with a nervous breakdown as a postlude.

ACJ 968 There can therefore be little doubt that, in general, sexual assaults constitute a substantially more serious form of harm than mere property offences --; which is not to deny that some forms of theft or destruction of property can be more serious than some minor sexual assaults.

ADE 1089 This is obviously true whether the bereavement is caused by death or separation or change of circumstances.

ADW 1373 Servants were people who worked for the government or for a company: in Kufra 68 per cent, in Ajdabiya 52 per cent of men were government servants, about one third of them conscripts.

In the above examples, the conjuncts linked by 'or' are construed as being in a relationship of alternation. There is no implication that one conjunct is preferred or valued more highly than the other. Generally speaking, the semantic domains linked by 'or' in these examples stand in a relationship more like 'complementarity' instead of 'contrast'. Thus, thinking can be chopped up into mental episodes on the basis of 'epistemic content' or 'causal power'; as such the two terms are equally valid criteria for chopping up mental episodes. Similarly, 'death', 'separation' and 'change of circumstances', which are linked by the conjunction 'or', are seen in this example (ADE 1089) as equally possible causes of bereavement. In this and other examples cited above, the terms linked by 'or' are construed in their texts as all belonging to some common semantic class on the basis of some criterion or criteria which they are deemed to share.

However, in the *Esselunga* advertisements it is the semantic **contrast** between the two lexicalized domains which is salient. Moreover, this contrast must be seen not in terms of the verbal caption on its own, but in terms of its relation to the disjunctive meanings evoked by the visual image and hence to the overall multimodal discourse context that helps to establish the meaning of 'or' in these examples. This further

highlights the importance of the ways in which meaning is created in the process of integrating language with non-linguistic aspects of the world in which language is used. Multimodal corpus linguistics therefore seeks to develop criteria for showing how this fundamental aspect of contextualization is built into corpus design and tagging practices. Crupi (2006) makes some pertinent proposals in this regard in relation to the conjunctions *but*, *yet*, and *still* in the perspective of the sign-based linguistic framework of the Columbia School, though without developing this framework in the directions of multimodal discourse analysis, as here. Instead of being alternatives which are placed on an equal footing, the conjunction ‘or’ signals an asymmetrical relationship between the linked items – the conjuncts – X and Y. In each case, the reader is being guided to choose the preferred alternative Y, which corresponds to the food item in all of the instances featured in *Esselunga*’s advertising campaign (*see below*). The discourse context can be schematized as an activity sequence, as in *Figure 3*.

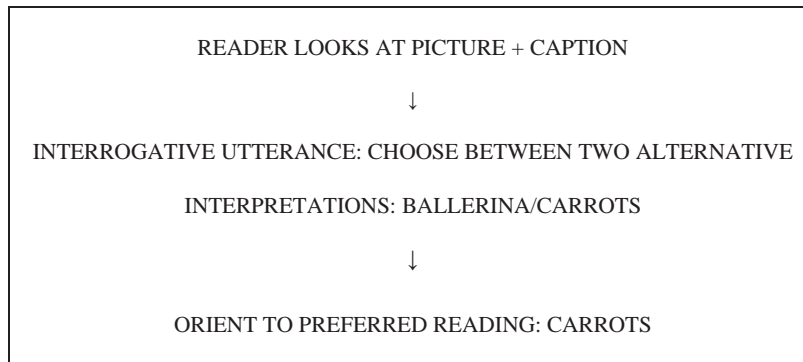


Figure 3. Schematisation of discourse-level activity sequence in relation to the *Esselunga* poster

The point of this schematization is to draw attention to the ways in which the discourse context is created through the integration of diverse activities that readers must perform and the texts (e.g. caption + image) that are embedded in and participate in these activities. The starting point for this observation is the self-evident fact that the verbal caption and the picture are not two separate and independent domains – the ‘verbal’ and the ‘visual’ – which can be studied and analyzed sepa-

rately with the aid of their own specialized tools of analysis. It makes little sense to study the verbal caption on its own as a separate 'linguistic' domain because the caption exists and has the possible meanings it has only by virtue of its integration with the picture. A quick visual scan reveals the self-evident character of this observation: caption and image are juxtaposed as two parts of the one overall visual-spatial image. They are not separate 'verbal' and 'visual' domains to start with.

In its own modest way, the example shows that words in their varied manifestations, in the activities we call speech and writing, do not constitute autonomous and independent domains. Instead, words are defined and have their meanings by virtue of the activities they are integrated with. Multimodality and multimodal corpus linguistics must explicitly recognize this fact and make it a central informing principle of its description, analysis and theorization of all forms of verbal and other semiotic behaviour. In the present case, the caption functions to help us make communicational sense of the picture by subtly suggesting a preferred choice from the two alternatives that are linked by 'or'. By the same token, we can only make communicational sense of the words in the caption by integrating them with and relating them to the picture. Multimodal corpus linguistics must accordingly be able to shed light on the varied ways in which we make communicational sense of texts like the *Esselunga* example under consideration. Moreover, it must do so on the basis of the everyday practices in which we perform the kinds of integrating (contextualizing) operations referred to above.

The genre in question is that of **advertising**. Advertising texts work to grab your attention and motivate you to buy goods-and-services that have been transformed into commodities by the discourse of advertising (Pateman 1983; Thibault 1990: 115-118; Beaugrande 1997: 4-5). Food items such as carrots are essential goods which, in the text, are transformed into commodities according to a market-driven ideology of consumerism. The 'ballerina or carrots' text seeks to motivate consumers to buy carrots not ballerinas at the *Esselunga* supermarket chain in northern Italy. The given food item – carrots – is therefore transformed into a commodity potentially to be consumed by *Esselunga*'s customers. Why then are carrots compared to ballerinas in the playful use of the psychological tests of visual perception and the resulting visual metaphor both of which are evident in the image? In this respect, the text invites the reader to indulge in a little semiotic play in which the

reader/consumer can take pleasure in appreciating the joke and its aesthetics at the same time that the decision to buy the commodity is linked to the consumer's sense of satisfaction at being able to participate in the playful and sophisticated tendencies of the text and the complicity that this participation entails with the intended meanings of its producers.

Consider, for example, the different effects that would be produced by the caption 'buy our carrots!' juxtaposed with a picture of a fresh, juicy looking carrot ripped straight out of the garden. In the present case, the overall context of situation of the text consists of managing and orienting the ways in which the activities and purposes of potential customers of *Esselunga* encounter food commodities in the supermarket. The 'ballerina or carrots' text semiotically mediates such encounters by offering consumers a sense of the aesthetic and intellectual pleasures to be gained for their part in playing the game afforded by the text at the same time that their decision-making is oriented to the purchase of food products such as carrots at *Esselunga*.

It is in this context that we can better understand the meaning of the conjunction 'or'. The verbal caption *ballerina o carote?* is the Predicate of an ellipted interrogative clause which functions to guide the reader/consumer to make a choice. The expanded and more cumbersome full clause – actually two clauses – would be as follows: *E' una ballerina o (sono) carote?* ['Is it a ballerina or are they carrots?' + interrogative intonation]. On one level, the choice is between two readings of the picture and the sense of playfulness that this is likely to invoke in readers whether they are aware of the underlying psychological discourse from the field of visual perception or not. On another level, the choice is between a would-be decision to buy or not to buy the commodity that is focused on. We have already noted that, on the first reading, the choice is between the two disjunctive domains that are lexicalized by the terms 'ballerina' and 'carote'. This reading highlights the ambivalent status of the visual image and intertextually invokes the psychological discourse of 'concealment' that is much discussed in Gestalt psychology (Gottschaldt 1926; Arnheim 1999), or at any rate the ability to see the visual pun and hence to connect the visual patterns to two distinct areas of meaning and social practice that are intersected in the image. It is as if the reader is participating in or being invited to participate in a psychological test of visual perception.

The reduction of the full clause complex, as expanded above, to the nominal group complex *ballerina o carote?*, and its framing as an interrogative, puts the discourse focus on these items and, of course, on the putative choice between them by virtue of this strategy of the deletion and reduction of lexicogrammatical items being weighted towards the items in end-position in their respective clauses. Moreover, the choice of the shorter, simpler lexicogrammatical pattern rather than the full clause complex in this and the other examples in the corpus in *Figure 2* also favours the focus on the lexicalized items in the predicate position.

Rather than treating carrots as something already known to the reader, which would require their positioning as Given information in the clausal Subject (e.g. in the clause *our carrots (Given) are freshly hand-picked from the garden (New)*), the discourse strategy which the lexicogrammatical selection enacts treats the **choice** between the two disjunctive lexicalized domains as the New information in the discourse context. This is reinforced by the framing of the utterance as interrogative: the reader is thus being guided to make a choice in the first instance between two interpretations of the visual image and, by implication, to respond to the question posed by the linguistic choices in the caption.

At this point, we can return to the meaning of the conjunction ‘or’. In all of the examples cited in *Figure 2*, the playful item occurs in first position (henceforth conjunct X) and the food item – typically a fruit or vegetable – occurs after the conjunction in second position (henceforth conjunct Y). The more salient end-focus is, in all cases, on conjunct Y – the food commodity – which the advertisements in this series are seeking to motivate customers to buy. The overall multimodal textual relationship may be modelled as in *Figure 4*.

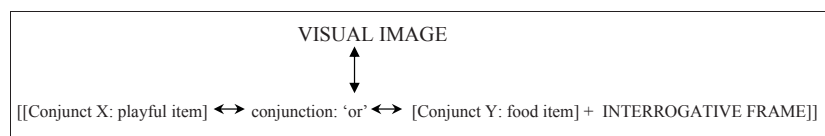


Figure 4. Modelling conjunctive relations in multimodal texts

The very small corpus featured in *Figure 2* shows that the conjunction ‘or’ does not link alternatives that are equally entertained from the point

of view of the overall discourse goals and strategies of the advertising genre. Instead, ‘or’ signals in each case that conjunct Y is the **preferred alternative** and that the discourse strategies chosen seek to orient readers-cum-consumers to this alternative and to the courses of action (e.g. the purchasing of carrots at *Esselunga*) that follow from opting for this alternative. Along the way, readers are invited to indulge themselves in a little pleasure-giving game, as mentioned above, but they know that *Esselunga* is in the business of selling carrots, peas, broccoli, cheese, and so on, rather than ballerinas, dragonflies, forests and Grecian columns. After all, the advertising discourse seeks to stimulate in individuals a need for commodities and to recruit individuals to the goals and activities that will lead to the purchase of such commodities. At the same time, consumers are also co-opted to the fantasy world of free choice and pleasure-seeking – both intellectual and physical – that these activities appear to offer in exchange for the individual’s willingness to become a consumer of both commodities and the gratification fantasies they are seen to provide. Essential goods such as food items, as the examples show, are by no means exempt from these processes of commodification.

The evidence provided by this small-scale multimodal corpus of *Esselunga* advertisements suggests that the meaning of the conjunction ‘or’ is specified by its integration to the overall communicative purposes of the multimodal discourse context and that this meaning cannot be separated from or treated in isolation from this context. According to the analysis proposed above, *or* links discourse items that are **not** equal or symmetrical. Instead, the reader is being asked to evaluate the items that occur after *or* (conjunct Y) as the **preferred alternative**. The meaning of *or* in this context can therefore be glossed as: [EXTERNAL ADDITIVE: ALTERNATIVE: VALUE WEIGHTED: PREFERRED].

The analysis and interpretation developed above does not claim to exhaust the possible meanings of ‘or’. Instead, the purpose of this discussion is to show how multimodal corpus linguistics can help to shed light on the practices whereby individuals experience and understand language. The advertising text that was focused on here plays on and manipulates a fundamental aspect of language behaviour: language is a means for learning about and investigating the nonlinguistic world around us. In the present case, the reader is positioned as one who would ask and/or respond to a question about some aspect of the

situation that the text helps him or her to activate – in the first instance, the visual image; in the second, his or her choices as a consumer when shopping in *Esselunga*. In activating this aspect of language, the reader is nudged towards a consideration of carrots and other food items as potential commodities to be acquired.

From a narrowly linguistic perspective, the lexicogrammatical or contextual environment of the captions is quite sparse. The captions are not surrounded by extended verbal co-text in relation to which their meanings may be further specified. However, the discussion above shows that further dimensions of analysis that push beyond the immediate co-text or the lexicogrammatical selections *per se* can be adduced in our efforts to develop multimodal corpora. We can therefore shed light on the meanings of linguistic and other items by taking as a fundamental principle the view that ‘language’ and its definition is never separable from a whole range of other phenomena with which language is integrated in and through meaning-making activities. As argued in *Section 4*, and in *Table 4* in particular, a number of **interrelated scales** of multimodal textual organization which interact with each other and with the goals of the producers and consumers of texts can be postulated as analytical and theoretical constructs which can aid us in the investigation of the meaning potential of particular items in particular kinds of environments. Thus, as shown above, we can shift the scope and reach of multimodal corpus linguistics to a number of scalar levels of organization such as the ones that we drew on in this Section. In this way, specific choices in different semiotic resource systems can be connected to their co-deployment in particular multimodal texts and to the large-scale genre structures and activity-types in which they are embedded, as follows:

1. DISCOURSE GENRE: Advertising as Social/Communicative Practice: Organizing the activities and priorities of individuals in terms of the ideology of consumerism;
2. THE MULTIMODAL TEXT: the composite text consisting of [caption + image] semiotically mediates the encounter between individuals and the goals of *Esselunga* to maximize sales;
3. THE SEMIOTIC RESOURCES that are selected and strategically co-

deployed to enact and realize these activities and textual mediations: e.g. visual metaphor + use of ‘or’ to signal value-weighted preferences towards commodities and concomitant courses of action in relation to lexicalized external domains of social activity (e.g. ballerina, carrots) that are indexed and the playful invoking of multiple contexts of interpretation.

The examples featuring ‘or’ taken from the *BNC* (see above) were not linked to perceptually recoverable information that is relevant to the interpretation of the semantic relationship between the conjuncts so linked. The relationship between conjuncts is symmetrical and no conjunct is tied to a value weighting or preference. Moreover, there is no perceptual cueing of a preferred ranking of items through the multimodal integration of verbal text and visual image. A Search Parameter may accordingly be proposed based on the following selection of features, which characterise the meaning of ‘or’ in this sample, as follows: [or: Alternation: symmetrical: complementarity; – value weighting; – perceptually cued].

On the other hand, the conjunction ‘o’ in the *Esselunga* corpus can be described in terms of the following feature selection: [or: Alternation: asymmetrical: contrast; + value weighting; + perceptually cued: visual image].

In this case, the Search Parameter specifies that such uses of ‘or’ implicate a value weighting of one conjunct as the preferred item and that the meaning of the conjuncts linked by ‘or’ is also perceptually cued by the multimodal integration of verbal caption and visual image.

This raises the further enticing possibility that multimodal corpus linguistics, in the longer run, will be able to provide powerful computational tools for modelling probabilistic, syntagmatic multimodal corpus data within the framework of a systemic (paradigmatic) approach to multimodal discourse analysis and its role in the development of multimodal corpus linguistics (see Tucker 2006: 90).

The two Search Parameters proposed above for the two sets of examples – from the *BNC* and the *Esselunga* corpora, respectively – suggest that textual syntagms can be modelled in the framework of a systemic approach that incorporates feature specifications that cut across different semiotic modalities such as the verbal and the visual in the *Esselunga* corpus. It therefore becomes possible to say that the meaning of a

linguistic item may be dependent on syntagmatic and paradigmatic environments that cannot be described in linguistic semantic terms alone. The relevant Search Parameters can therefore be devised so that multimodal corpora like those based on *MCA* are constructed with multimodal feature specifications as an integral part of the tagging process and the grammar descriptions based on this.

4. Concordances in relation to multimodal tests based on multimodal corpora

Having illustrated how multimodal discourse analysis can be enlightened by the use of multimodal concordancing, we can now move on to the discussion in this section of *multimodal* tests, i.e. classroom tests concerned with an *explicit* demonstration of awareness of the typical organization of multimodal texts (Baldry/Thibault 2006a). The development of a multimodal test, and in particular the *hybrid test* mentioned in *Section 1*, leads us to focus on the 4th type of concordance illustrated in *Table 1*.

When, in the light of what we have stated in the previous Section, we take a second look at *Table 1*, and compare it to *Table 4*, we begin to see that its apparently orderly arrangement of concordances in terms of *two* intersecting clines, one relating to the relative copresence of meaning-making resources, the other relating to the degree to which meaning-making in specific (con)texts is considered, is far from exhaustive. In actual fact, *Table 1* conceals the presence of other, only partially represented clines. One is the *scalar* cline. This is alluded to in the previous Section and in the example given in the *Type 4* concordance (*Table 3*), concerned specifically with meaning processes in multimodal texts. This includes, for example, the examination of the hierarchy of textual (sub)units (Baldry/Thibault 2006a: 144) and the cohesive devices (Baldry/Thibault 2006a: 179-80) that link them to each other in co-contextualizing patterns, all the way up from basic meaning-making resources (language, movement, gaze, gesture, colour and so on) through subclusters, clusters, superclusters (and similar units in films such as visual transitivity frames, subphases, phases and macrophases) to complete texts, and indeed beyond this to the study of intertextual relationships between texts (Baldry/Thibault 2006b: 177-180). Associated with this view of the nature and functions of concordancing is yet a fourth

cline alluded to in *Table 1*, the *genre* cline, which relates to the relationship between a text as *single* instance and a text as *type*, i.e. a member

	INSTANCE-ORIENTED	TYPE-ORIENTED																								
RELATIONAL SINGLE-LEVEL	<p>Subtype 1: The <i>Type 4</i> concordance given in <i>Table 1</i> falls within this category. It stems from work on tagging systems in relation to <i>transitivity</i> and is associated with the earliest forms of multimodal concordancing prior to the development of relational concordancing in <i>MCA</i> (Baldrý 2000: 81). It can be produced from an <i>MCA Query</i> of the form [<i>Eyes: Closed</i>] that we saw in <i>Table 3</i>.</p> <p>Simple and easy to implement, it is matrix-like (Hoey 2001: Chap 6) and hence benefits from the use of the tabulated extension to concordancing described in <i>Figure 2</i>. This makes it a useful support when mapping out the stage-by-stage unfolding of, for example, a lecture or multi-agent multimodal interaction (Thibault 2005: 367-368). Requiring only a few tags (relating to the transitivity system, resources and one textual subunit e.g. phase), it provides a rich set of data (Baldrý 2006: 119) that helps pin down the interplay in specific texts of resource combinations and textual processes such as the <i>projection</i> of diverse discursive voices by linguistic and gestural means (Baldrý/Thibault 2001: 94-6; Baldrý 2000: 78-80).</p>	<p>Subtype 2: This type of concordance reconstructs <i>one</i> level of depth in the textual organization in a corpus of texts (Baldrý 2004: 102) and is typically tagged and searched in terms of sets of parameters that belong to a higher class, in this cases the <i>macrophases</i> that make up TV adverts (Baldrý/Thibault 2006a: 48). <i>Phase 1, 2, 3</i> and <i>X</i> are phase <i>types</i> as instantiated in specific texts: <i>Phase 1: an establishment phase in an outdoors location; Phases 2 and 3: event phases; Phase X: the end phase containing a logo, a slogan or both</i>. This type of concordance helps produce data about the typical characteristics of genres and their divisions into mini-genres (Baldrý 2004: 85-104).</p> <table border="1"> <tr><td>TEXT 82:</td><td>MACROPHASE 1: PRESENT</td></tr> <tr><td></td><td>MACROPHASE 2: PRESENT</td></tr> <tr><td></td><td>MACROPHASE 3: ABSENT</td></tr> <tr><td></td><td>MACROPHASE X: PRESENT</td></tr> <tr><td>TEXT 83:</td><td>MACROPHASE 1: ABSENT</td></tr> <tr><td></td><td>MACROPHASE 2: PRESENT</td></tr> <tr><td></td><td>MACROPHASE 3: PRESENT</td></tr> <tr><td></td><td>MACROPHASE X: PRESENT</td></tr> <tr><td>TEXT 84:</td><td>MACROPHASE 1: PRESENT</td></tr> <tr><td></td><td>MACROPHASE 2: PRESENT</td></tr> <tr><td></td><td>MACROPHASE 3: ABSENT</td></tr> <tr><td></td><td>MACROPHASE X: PRESENT</td></tr> </table>	TEXT 82:	MACROPHASE 1: PRESENT		MACROPHASE 2: PRESENT		MACROPHASE 3: ABSENT		MACROPHASE X: PRESENT	TEXT 83:	MACROPHASE 1: ABSENT		MACROPHASE 2: PRESENT		MACROPHASE 3: PRESENT		MACROPHASE X: PRESENT	TEXT 84:	MACROPHASE 1: PRESENT		MACROPHASE 2: PRESENT		MACROPHASE 3: ABSENT		MACROPHASE X: PRESENT
TEXT 82:	MACROPHASE 1: PRESENT																									
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	MACROPHASE X: PRESENT																									
SCALAR-HIERARCHICAL	<p>Subtype 3: Similar to <i>Subtype 1</i> and referring to <i>individual</i> texts, this type of concordance (here shown in an abbreviated form) relates to textual units within a <i>scalar</i> model of texts (Baldrý/Thibault 2006a: 144) and typically involves the <i>hierarchical</i> distribution of lower scale textual units (<i>note the indentation</i>) such as visual transitivity frames (<i>VTFs</i>) (Baldrý/Thibault 2006b: 171-4) vis-à-vis higher levels such as subphases and phases (Gregory 2000; Thibault 2000; Baldrý/Thibault 2001; 2006a; 2006b, Baldrý 2007: 177-80).</p> <p>TEXT 47 PHASAL STRUCTURE : PHASAL SEQUENCE: CD(1)^CS^CS/CD(2)^CD(3)^~CS/-CD(4)* PHASE 1 VTF SEQUENCE: PHASE 2 VTF SEQUENCE VTFs IN FIRST PHASE (1) ENGAGE: panorama; VTFs IN SECOND PHASE (1) ENGAGE: car; (2) ENGAGE: part of car SHOTS IN FIRST VTF (1) landscape RESOURCES IN FIRST SHOT (1) distance: far; (2) vertical angle: median; (3) horizontal angle: frontal; * where CD = Car drive sequence, CS = sequence in which car is stationary, ^ = followed by</p>	<p>Subtype 4: A cross between <i>Subtypes 2</i> and <i>3</i>, it reconstructs <i>more than one</i> level of depth in the textual organization of a corpus of texts. Significant in the quest for typical patterns in multimodal texts, it reconstructs typical distributions of <i>types</i> of meaning units in specific genres across scalar levels. (Baldrý 2004; Baldrý 2005a; Baldrý/Thibault 2001, 2006a: 144) including, macrophases, phases and <i>VTFs</i>. The fragment given below is a heavily simplified example, enough to show the combination of <i>hierarchical</i> and <i>relational</i> features.</p> <table border="1"> <tr><td>TEXT 82:</td><td>MACRO-PHASE 1: PRESENT</td><td>PHASES 1: PRESENT</td><td>PHASE 1 > VTFs 3</td><td>PHASE 2 > VTFs 0</td></tr> <tr><td>TEXT 83:</td><td>MACRO-PHASE 1: PRESENT</td><td>PHASES 1, 2: PRESENT</td><td>PHASE 1 > VTFs 2</td><td>PHASE 2 > VTFs 4</td></tr> <tr><td>TEXT 84:</td><td>MACRO-PHASE 1: ABSENT</td><td>PHASES 0 PRESENT</td><td>PHASE 1 > VTFs 0</td><td>PHASE 2 > VTFs 0</td></tr> <tr><td>TEXT 85:</td><td>MACRO-PHASE 1: PRESENT</td><td>PHASE 1 PRESENT</td><td>PHASE 1 > VTFs 1</td><td>PHASE 2 > VTFs 0</td></tr> </table>	TEXT 82:	MACRO-PHASE 1: PRESENT	PHASES 1: PRESENT	PHASE 1 > VTFs 3	PHASE 2 > VTFs 0	TEXT 83:	MACRO-PHASE 1: PRESENT	PHASES 1, 2: PRESENT	PHASE 1 > VTFs 2	PHASE 2 > VTFs 4	TEXT 84:	MACRO-PHASE 1: ABSENT	PHASES 0 PRESENT	PHASE 1 > VTFs 0	PHASE 2 > VTFs 0	TEXT 85:	MACRO-PHASE 1: PRESENT	PHASE 1 PRESENT	PHASE 1 > VTFs 1	PHASE 2 > VTFs 0				
TEXT 82:	MACRO-PHASE 1: PRESENT	PHASES 1: PRESENT	PHASE 1 > VTFs 3	PHASE 2 > VTFs 0																						
TEXT 83:	MACRO-PHASE 1: PRESENT	PHASES 1, 2: PRESENT	PHASE 1 > VTFs 2	PHASE 2 > VTFs 4																						
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TEXT 85:	MACRO-PHASE 1: PRESENT	PHASE 1 PRESENT	PHASE 1 > VTFs 1	PHASE 2 > VTFs 0																						

Table 4. What types of multimodal meaning-oriented concordance exist? Subtypes of *Type 4* condordances

of a genre or subgenre (Baldry 2004, 2005a, 2005b, 2007). In this respect, the *scalar* cline intersects with the *genre* cline. Given that the relationship between *instance* and *type* is the essence of all types of concordancing, meaning-oriented concordances are particularly valuable when they show how all four clines typically interact in texts, and, of course, within genres. *Table 4* exemplifies this by expanding the *Type 4* concordance described in the bottom right-hand corner of *Table 1* into 4 subtypes.

We may mention in passing that this does not exhaust the list of possible concordance types and that no attempt is made here either to provide such a list or to provide further illustration of the subtypes of multimodal meaning-oriented concordances. Nevertheless, *Table 4* helps us redefine the nature and functions of concordances and encourages us to pose questions as to whether concordances can help us carry out the work of analyzing the scalar structure of individual multimodal texts (Baldry/Thibault 2006a) and if so to what extent. It also encourages us to pose questions as to whether concordances can help characterize the existence of subgenres within genres or sets of texts that enact and exemplify fusions between genres.

The answers to these questions lie in the way we look on concordances and on concordancing and, specifically, how we reinterpret the function(s) of concordancing in relation to the analysis of the meaning-making processes in multimodal texts. We may look on sets of multimodal concordances as *records* of human **activity** arranged so that similarities and differences are highlighted *within* and *across* texts. That is, by rearranging activities so that their patterned nature is made prominent, multimodal concordances reconstruct *processes* and *stages* in texts involving temporal and/or causal sequencing and *patterns* of relationships involving mergings between different activities. Multimodal concordances thus identify similarities and differences across patterns of behaviour **both** in **hierarchical** terms (e.g. *within* the same class of activity and *within* the same text) **and** in **relational** terms (e.g. *across* classes of activity and *across* texts that record these classes of activity). The focus on activities, in particular their concurrent nature in many texts and their co-deployment of meaning-making resources, has already been suggested in the *Type 4* concordance illustrated in *Table 3*.

There is now only a short step to be taken as regards enacting a test that uses the meaning-oriented forms of concordancing to be used in conjunction with assessment of students' awareness of the multimodal organization of texts. *Table 5* gives a checklist of questions used as the basis for such a test which are 'valid' for many multimodal genres. Specifically, by virtue of their reference to time-related events, *questions 8, 9, 10, 11b, 12, 15, 18 and 19b* (the ones in italics) could, in most circumstances, *only* be posed in relation to dynamic multimodal texts, such as film texts, whose meaning-making is by definition dependent on the passage of time, while the majority of the others can also be put forward in relation to many printed texts. More often than not, they all take on a special significance in relation to dynamic multimodal texts such as films and websites. In this respect, it may be claimed that, as hinted above, one of the main advantages of using multimodal concordances in relation to multimodal tests is precisely that they assist in the work of encouraging the use of film texts in language learning.

There are various ways in which the questions in *Table 5* can be used to test students' awareness of the multimodal organization of texts. One prototype is mentioned in a previous paper (Baldry 2006: 118-9) where comparative searches were made in relation to the transitivity system in films involving hiding that involved a tagging system similar to the *Type 2* concordance mentioned in *Table 1*. Another is to require students to create a small corpus of websites (usually restricted to the home page and other pages directly linked to the home page) that is tagged in relation to the checklist in *Table 5*. Space does not allow us to describe the detailed mechanics of the construction of an *MCA* corpus (see Baldry 2005a). However, the corpora thus created are typically concerned with the exploration of *Internet* genres and subgenres such as virtual tours and virtual museums, online newspapers, presentations of professional associations and many other *information websites* (Baldry/Thibault 2006a: 104). Such explorations can be presented as part of a *PowerPoint* presentation that both illustrates and compares the characteristics of the different websites. At one level, this is a test of language ability that specifically requires students to separate the written content of their *PowerPoint* presentation from their oral presentation and interpretation of the texts they are analysing (Baldry in press a). At another level, *multimodal concordances*, derived from students' mini-corpora, provide the basis for tabulated comparisons in the *PowerPoint* presentation

of the various textual units in websites selected for comparison. In essence, these two stages respectively incarnate the *multimodal test* and the *hybrid test* described in *Section 1*.

Answer the following questions in relation to the prescribed text(s)	
1	Who/what are the participants in the text? Who/what are the main participants?
2	Are they human, animal or inanimate?
3	Which participants are active? Which participants are passive?
4	What relationships seem to exist between the participants? How do they interact?
5	What kinds of activities and events are associated to them? What temporal scales are involved?
6	What actions do the participants undertake? For example, do they look, move, talk and indicate they're thinking?
7	Who/what does what to whom/what?
8	<i>What can the viewer learn from the participants' changes in facial expression, their gesture and the way that they look at each other?</i>
9	<i>What changes occur to the participants' body state: do they bend over, hide, lie down, cover up, protect themselves, become deformed?</i>
10	<i>What changes appear to occur as regards the mental, emotional and behavioural aspects of the participants? For example, do they start laughing, crying or appear to become angry?</i>
11	Is a story told? If so, what are its characteristics? <i>Assuming you have seen the first part, how do you think the story is likely to end?</i>
12	<i>Is the story told by one or more narrators? Are they off-screen or on-screen?</i>
13	What attitudinal stances does the text suggest? How does the text evaluate the actions and events that are represented?
14	What events and actions change the user's attitude towards the participants as the text unfolds?
15	<i>What resources or combinations of resources does the text use to indicate a particular value stance?</i>
16	Does the text make you think of other texts? Which texts? Why? How do they link us to the text's wider context of culture?
17	Identify the meaning-making resources that you think are most salient or important in the text? Why did you choose these particular resources? What is their significance in the text?
18	<i>What features – e.g. patterns of movement, action, colour, sound – connect one part of the text to other parts? What changes take place in these patternings?</i>
19	What is the significance of colour? Do particular colours stand out? <i>What changes in colour as the text unfolds indicate special meanings?</i>
20	What processes of recontextualisation are apparent in the text?

Table 5. A checklist of questions applicable to multimodal texts

5. Conclusion

The research reported above is breaking new ground not just by promoting new forms of multimodal concordancing. Rather, within *applicative* frameworks, it is attempting to integrate meaning-oriented multimodal concordancing with more traditional forms of concordancing. However, if progress is to be made, the further development of, for example, multimodal tests, would appear to be linked to the *simplification* of the procedures involved.

On a wider, theory-oriented front, the design and development of research into multimodal corpus linguistics has been influenced by the suggestions of a growing number of researchers concerned with the shortcomings of traditional concordancing, including, for example, attempts to associate probabilistic approaches with *form-oriented language-only* concordances (see Tucker 2006: 90-4). Building a versatile online concordancer catering for many types of concordancing is significant in this respect. As *MCA* evolves, it attempts to maintain the possibilities afforded by *form-oriented language-only* concordance tools essentially concerned with the concordancing of words, their parts and combinations, such as *Micro-OCP* (Hockey/Martin 1987), *MonoConc-Pro* (Barlow 1999), *SARA* (Aston/Burnard 1998), *TACTweb* (Rockwell et al. 1997) or *WordSmith Tools* (Scott 2001). But it also attempts to embrace the insights achieved with *language-based meaning-oriented concordancers*, such as *Systemics*, (O'Halloran/Judd 2002).

However, multimodal concordancing and multimodal tests can go beyond this. Hence, the paper has explained how multimodal concordancing will increasingly play a central role in extending the range of digital texts embraced by university text-based studies relating, for example, to languages and linguistics. Just as *form-oriented, language-only* concordancing is a powerful tool in the analysis of lexicogrammatical structures in texts and genres, similarly multimodal concordancing creates many possibilities for the analysis of the meaning-making units in, for example, film texts. In the future, viable multimodal tests will influence the overall nature of course design. The increase in the paradigmatic inventory of possible "text analysis" questions (*Table 5*) that can be asked in teaching and testing modules is in itself a powerful demonstration of the capacity for multimodal text studies to meet soci-

ety's new demands for a better understanding of the nature and evolution of texts in an age characterized by mergings of existing genres and the emergence of new ones.

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