Chapter 19
Textuality on the Web:
A Focus on Argumentative Text Types

Chiara Degano
Università degli Studi di Milano, Italy

ABSTRACT

This chapter focuses on computer mediated communication from a linguistic perspective, exploring aspects of textuality which have been impacted by the pervasive spread of the hypertext. Central features in the construction of texts are the notions of cohesion and coherence, originally tailored on linear time-based modes of communication, where both the elements and their sequentiality – fully controlled by the author – contribute to meaning making. In light of the disruption of linear sequentiality brought by the space-based logic of the hypertext, this chapter aims to understand how cohesion and coherence work in the website environment, with specific regard to genres characterised by an argumentative drive, which potentially suffer more than other text types from the loss of the author's control on the linear dispositio of arguments. The analysis identifies different patterns for the construction of cohesion and coherence in argumentative websites, which accommodate traditional standards of textuality into the new environment.

INTRODUCTION

Of all elements characterizing electronic discourse, hypertextuality has probably been the most macroscopic, resulting in a loss of linearity as well as a reduced author's control on text construction, with users gaining 'power' in that respect. Following closely are multimodality, i.e. the coexistence of different semiotic modes (verbal, visual and audio), and in more recent times increased interactivity, marking the transformation of the website from a hypertextual information space to a 'remote software interface' (Garrett, 2000), where the user is increasingly pushed to action. Such a profound innovation has triggered far-reaching change in our conception of discourse, at least as far as its formal aspects are concerned, which – some claim – has started exerting a deep influence on literacy itself and on cognitive processes of meaning formation, whose effects cannot yet be fully grasped (Kress, 2003).

A similar scenario certainly poses several important questions from the viewpoint of the adequacy of the tools traditionally employed by discourse analysts. Considering discourse from a linguistic perspective, where the textual component is the privileged object of investigation, this paper addresses a basic concern: in what way are textual realizations on the Web unique? What is the impact of website affordances on the standards of textuality? In particular, attention will be focussed on argumentative discourse, as one which more than others, might suffer from the loss of a rigorous logical progression, jeopardised on the Web by the disruption of linear reading modes.

Indeed, in argumentative discourse it is the logical sequence of reasoning that is fundamental, and arranging arguments in the best possible order (*dispositio* in classical rhetoric) was traditionally seen as a crucial ability of the orator in the pursuit of rhetorical effectiveness. On this ground, argumentation on the web, here epitomized by an NGO's campaign against genetically engineered food, is investigated with a view to understanding how coherence is imposed on the fragmented and multi-linear (Landow, 1992) content of a website.

BACKGROUND

The impact of the hypertextual/web environment on textuality has been investigated both from a linguistic (Fritz, 1998; Tosca, 2000; Bolter, 2001; Askehave & Ellerup Nielsen, 2005; Garzone, 1997; Garzone, Catenaccio, & Poncini, 2007) and a computer-science perspective (for a review of the literature, see Carter, 2000), even though only rarely has the focus been specifically on argumentative discourse (Carter, 2000; 2003; Shauf, 2001; Degano, 2012; Catenaccio, 2012). Salient factors affecting textuality on the web, as emerged from previous research, include multimodality, hypertextuality, co-articulation and interactivity,

multiple reading modes and granularity (Garzone, 2007, pp. 20 and ff).[1]

Multimodality refers to the possibility of combining different modes of communication in the same communicative event and is strictly dependent on multi-medianess (Askehave & Ellerup-Nielsen, 2004, pp. 12-13) i.e. the integration of different media into a single environment, which is an inherent characteristic of the Web. The ease with which visual and written semiotic resources, both in their static and dynamic forms, can be combined on a website has certainly contributed to accelerating the process of 'dethronization' of written discourse – which had been dominating western cultures since the seventeenth century (Kress & van Leeuwen, 2006, p. 18) – started with the spread of TV. From the viewpoint of discourse analysis, this has raised the issue of the (in)adequacy of purely linguistic models to grasp the complexity of contemporary discourses.

If multimodality is not exclusive to the web, but only heightened by its affordances, hypertextuality is the very innovative trait of web-textuality.[2] According to a well-known definition by Landow (1992, pp. 3-4), hypertext designates "text composed of blocks of text – what Barthes terms a lexia – and the electronic links that join them." It is the presence of electronic links that disrupts the perception of text as something linear, creating what Landow calls 'multilinear or multisequential' texts. According to the same author the term *hypertextuality* is interchangeable with *hypermediality* as in fact web affordances are such that written text is as easily linked to visual content, sound, animation as to other texts properly intended.

Co-articulation and interactivity denote the reader's concurrence to the construction of the text, as the website architecture offers a number of different paths, but it is the user's action which determines the shape (i.e. the contents and their sequentiality) of the text s/he will actually engage

with (Garzone, 2007, p. 23). This is all the more true when website visitors shift from the reading to the navigating mode (Finnemann, 1999), with the former corresponding to traditional sequential reading and the latter allowing the user to choose his/her reading path. According to studies of reading on the web, literacy exerts its influence on how websites are experienced by users as the deep-rooted familiarity with the left-right top-down patterns of reading/writing (as far as western cultures are concerned) induces web users to follow a similar route also on websites, referred to as the 'Gutenberg Z' (Lynch & Horton, 2008). In turn readers' habits influence the design of webpages and content distribution within the page compositional plan. However, compositional aspects are just part of the story, as other elements – among which personal interests – may easily prompt departure from suggested paths, making it virtually impossible to pre-establish with certainty what navigation path will be taken by users.

Finally, granularity refers to the fact that Web texts are generally broken into smaller units (lexias) to facilitate reading on the screen, where too long and wide sequences of linear text would not be easily coped with. On the other hand, a possible drawback of such textual organization could be an over-simplification and a fragmentation of reasoning, as pointed out with regard to other electronic genres where space constraints heavily influence the organization of thoughts, as is the case in slideware presentations (Tufte, 2003).

All these factors have limited the author's control on text composition in general, and on the arrangement of arguments (what in classical rhetoric was known as *dispositio*), thus raising questions as to the effectiveness of argumentation in this environment. In particular this concern rests on the assumption that the notion of *dispositio* as intended in classical rhetoric, cannot be 'transferred' to the Web as such, due to the disruption of linearity. However, as shown by Catenaccio (2012) in a review of the literature on this specific issue, there is a consensus among scholars that

dispositio is not necessarily to be understood as linear, linearity being a constraint imposed by orality and literacy, both relying on a time-based logic (Tapia, 2003). Rhetoric in the era of the Web should simply fine-tune its tools to meet the requirements of the space-based logic which dominates the webpage (Shauf, 2001).

Further impinging on the traditional understanding of textuality there is fragmentation, which Carter (2003, p. 7) defines as the isolation of units of meaning from their co-text. If in printed documents it is the norm that paragraphs and chapters form coherent relations with preceding and following textual units, which are crucial for text comprehension, on the webpage textual units are reduced to self-contained 'nodes,' 'islands of meaning' which do not depend on each other for interpretation. Truth to tell, this phenomenon is not exclusive to web-born genres. The news story, for example, in its traditional printed form is characterized by a similar textual structure referred to by means of various metaphors such as the inverted pyramid, the satellite structure (for an account of them, see Clark, 2006), or the instalment structure (van Dijk, 1988, p. 15). Whatever the metaphor, the point is that under the pressure of growingly tight news-production schedules, but also as a result of the fast-paced rhythm of contemporary society leaving people with little time for reading newspapers, news-writing has turned towards a specific structure, with paragraphs 'gravitating' around the nucleus (headline and lead, i.e. the first paragraph containing synthetically all the important information), each adding details on one of the aspects therein mentioned, and not depending on neighbouring text units for coherence. In this way news stories can easily be edited rearranging the order of paragraphs or cutting them without prejudice to global meaning, and readers can quit reading at any point after the nucleus, or selectively scan the text, still retaining the gist of the story.

It is to be noted that in the press the instalment (or satellite, or inverted-pyramid) structure works for news stories which are primarily informative,

416

while comment articles and editorials, which are argumentative, still rely on the establishment of more traditional bounds of coherence between paragraphs, which presuppose thorough linear reading of the text. On the web, different strategies must be used for presenting arguments, if affordances therein provided but also limits imposed by online reading are to be taken into consideration. In this respect, Bolter (1991, p. 119) points out that to cope with the multitude of paths allowed by the navigating mode, a 'structure of possibilities' instead of 'a single argument' must be envisaged. Drawing on previous studies (Hovland, 1957; Kolb, 1997; Bernstein, 1998) Carter identifies two macro strategies. One tries to mitigate the effects of the author's loss of control on *dispositio*, and consists in trying to induce a certain 'reading' path of the hypertextual content by leveraging on the effects of primacy (the first things the user encounters is more likely to draw attention), recency (the last thing encountered tends to be more easily remembered) and repetition, so that different routes would lead to the same message (Carter, 2003, p. 8). The other strategy addresses concerns posed by text fragmentation, and basically suggests avoiding separation of the main parts of the argument,[3] i.e. claim and ground (Toulmin, 1969) or, following the pragmadialectical terminology (van Eemeren & Grotendorst, 1992), standpoint and supporting arguments.

All the considerations above on the peculiarity of textuality on the Web imply an implicit comparison against the norm of traditional textuality. Devised well before the massive spread of electronic discourse, research on the standards of textuality (de Beaugrande & Dressler, 1981) was meant to extend the systematic study of language beyond the level of proposition, to identify those factors influencing the production and reception of texts – the privileged unit of meaning in real-life communication, as opposed to isolated sentences that for such a long time had been the focus of linguistic investigation. Central to such a theoretical frame are the text internal notions of

cohesion and coherence (while text external factors include intentionality, acceptability, situationality, informativity and intertextuality), which deserve a mention in this section as they will be brought to bear on the analysis of electronic discourse carried out in the chapter.

One of the most influential accounts of cohesion is Halliday and Hasan's book-length 1976 study (*Cohesion in English*), in which the concept is in fact used to subsume both cohesion and coherence. Few years later, de Beaugrande and Dressler (1981) drew a distinction among them, defining cohesion as grammatical and lexical ties on the *surface* of the text, and coherence as the mutual relevance of concepts *underlying* the text proper:

A text makes sense because there is continuity of senses[4] among the knowledge activated by the expressions of the text. […] We would define this continuity of senses as the foundation of coherence, being the mutual access and relevance within a configuration of concepts and relations. (V. 2)[5]

Cohesion provides access to coherence, as when processing a text the receiver starts with "parsing the surface text onto a configuration of grammatical dependencies" (V. 24), which activate concepts and relations among them, forming the starting point for the construction of continuity of sense. However, if the notion of cohesion is closely related to the material sequentiality of elements, otherwise lexico-grammatical dependencies would not hold (e.g. a pronoun cannot occur too far from the noun it refers to), coherence does not rest on a chronological linearity. The very language used by the same authors to talk about coherence, incidentally, makes reference to spatial – rather than temporal – metaphors, as seen in the propositions "text users must build up a configuration of *pathways* among [meanings] to create a *textual world*" (V. 22), and "[coherence is] the result of combining concepts and relations into a *network* composed of *knowledge spaces centred around* main topics" (V. 23).

In light of the above, nothing seems to preclude the possibility of applying the notion of coherence to a hypertextual environment, even though conceptual adjustments may be in order to accommodate the original concept to the new context. Here, the issue is how surface elements – including not only the alphabetical stuff of which texts are traditionally made, but also those compositional elements constituting the 'page-as-text' – can be arranged within and across pages to favour the reconstruction of continuity of sense by the user. In a previous study, Degano (2012) has addressed this concern comparing the strategies adopted by two activists' groups on their websites, which from a preliminary survey stood out as two extreme cases: BabyMilk Action campaign against Nestlé (whose central point is a boycott of the company's products), for its 'malpractice' advertising policies in developing countries, and Greenpeace's campaign against genetically engineered food. The former presents a lack of global coherence among the materials assembled on the website, as a result of concomitant factors, among which information overload, lack of compliance with web-writing norms – many texts being simply an electronic version of a printed counterpart – and a failure in exploiting compositional resources. In particular, lower-level pages, where arguments briefly anticipated on the homepage are actually provided, hardly favour the identification of the 'continuity of senses' which is the foundation of coherence: the different lines of defense are haphazardly pursued, mixing – apparently without any superimposed design – the planes of making a case for the boycott, giving information about the campaign and calling people to action. Borrowing Gray's (1995) words on the nature of troubles that users experience in the construction of meaning from hypertexts, the website presented two orders of problems: "those that result from violations of expectations of coherent linear flow and those that result from violation of relevance assumptions" (p. 628).

On the other hand, Greenpeace's campaign against genetically engineered crops pursued successfully the ideal of a 'dynamic coherence planning' (Storrer, 2002), as pages were compositionally and discursively devised to suggest a pattern of reading which reflects a hierarchical organization of issues, from general to particular, thus providing global coherence. Besides, a 'modular' structure was deployed, where each node synthetically featured the core elements of the campaign genre (expressing the standpoint, supporting it through arguments and calling to action), thus warranting local coherence. Furthermore, the same critical discussion, with slight variations, was repeated in more than one node, so that different navigation patterns would lead to the same message.

STUDY DESIGN

Drawing on text linguistics, multimodality, and works on argumentation on the Web developed within computer science as described in the previous section, the issue of how coherence can be conferred upon argumentative hypertexts will be addressed by focussing on activists' campaigns on the Web. A prototypically argumentative activity, being geared towards getting support for a cause, which, at the same time – being generally excluded from mainstream media – has thrived on the web, this appeared an ideal ground for analysis.

As seen in section 2, existing recommendations on how to establish coherence in hypertextual arguments are formulated in rather general terms, without going into the details of practical realizations. The analysis here carried out contributes to filling this gap, thus setting the basis for the creation of a repertoire, which may be put to use for both scholarly and practical purposes. Due to the preliminary character of the investigation, attention will be focussed on just one website, that of Greenpeace's campaign against genetically

engineered food, which from a previous study (Degano, 2012, cf. section 2) qualified as a case of best practice. It complies, indeed, with the few general recommendations available for the construction of arguments on the web, managing to strike a balance between allowing for different reading patterns and orienting access to information, so as to maintain global coherence in spite of surface spatial discontinuity.

Resting on qualitative in-depth analysis, the website will be explored following navigation routes, with a view to identifying patterns of coherence and proposing a tentative systematization of them. The results thus yielded will need to be tested against a larger sample in future research stages.

ANALYSIS

In the following sections different patterns of coherence will be identified and discussed, relying on the methodological assumptions outlined above.

Coherence within the Node

The first pattern will be called the 'nutshell' structure, i.e. a text unit which synthetically contains all the elements of an argument in a limited por-

Figure 1. Example of 'nutshell' structure (http://www.greenpeace.org. Used with permission.)

tion of the page suitable for online reading. An example can be found in Figure 1.

In this lexia, opening Greenpeace's campaign against GE in a previous version of the website (accessed in June 2010), a whole argument is enclosed, including the overarching standpoint ("you should say no to GE"), and arguments defending it. Reconstructing the text following the pragmadialectical approach (van Eemeren, 2010), it is possible to identify all the four stages of the critical discussion model: the instruction 'say no to genetic engineering' corresponds to the confrontation stage, in which the difference of opinion emerges. The very presence of negation implies that other people do or may take an opposite stand towards the issue. The concessive proposition "While scientific progress on molecular biology has a great potential to increase our understanding of nature and provide new medical tools" pertains to the opening stage, in which a zone of agreement is established between the sender and those receivers who have a positive opinion of GE. Acknowledging that scientific progress on molecular biology may prove valuable for purposes other than the commercialization of genetically engineered food has the function of legitimating the value of scientific research per se, as opposed to research serving commercial interests, thus reducing the space of disagreement to some of the uses to which it is put. Also typical of the opening stage is the establishment of premises which will function as a starting point accepted by both parties to a dispute. Here stating that "the Biodiversity and environmental integrity of the world's food supply is too important to our survival" establishes a premise which will be relied upon in the argumentation stage proper. The argument put forth in support of the standpoint is that genetic engineering puts at risk biodiversity and integrity of the world's food supply (which, as established earlier, are all too important for our survival), an example of the negative pragmatic argument scheme (van Eemeren, Grotendorst, &
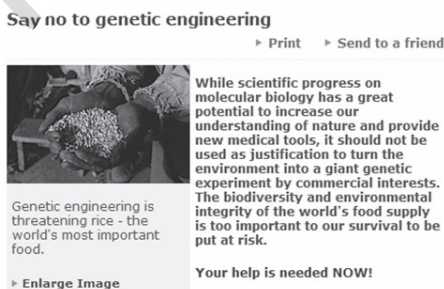
Snoeck Henkemans, 2002, p. 101), whereby it is claimed that an action should not be taken as it would lead to a certain consequence, and that consequence is undesirable. In this case the scheme is associated also to a rhetorical appeal to fear, as it is claimed that catastrophe would ensue from transforming the environment into a giant genetic experiment, driven by commercial interest. Finally, in light of the elements put forth thus far, the initial point that the addressee should take action against the risks of GE is restated, functioning as a conclusion of a critical discussion meant to resolve the difference of opinion in favor of the protagonist.

This can be considered a maximally coherent *dispositio*, where – as highlighted by the reconstruction above – coherence between the textual components is warranted by adherence to the typical stages of a critical discussion. In other words, the logical relations underpinning global coherence can be expressed as follows: "You should say no to GE *because* it puts biodiversity and environmental integrity at risk, *and* biodiversity and environmental integrity are vital for our survival. *Therefore* your help is needed now."

Cohesive mechanisms are also unproblematic, as the self-containedness of the lexia allows for an easy decoding of internal grammatical and lexical relations. Particularly worthy of notice from the latter point of view is the presence of two opposite semantic areas to which different evaluations are attached, both connected with the field of scientific research. On the one hand there are the positively connoted 'scientific progress,' 'increase understanding of nature,' and 'providing new medical tools, biodiversity and environmental integrity,' and on the other the negatively-assessed 'giant environmental experiment,' and 'commercial interests and risk.' If the notions of cohesion and coherence are extended to include also visual elements, the image accompanying the lexia can be seen as belonging to the positively connoted area, as inferentially the hands of a presumably poor farmer holding rice stand for the simplicity

and ancient wisdom of traditional agriculture as opposed to the hazardous genetic engineering experiments driven by the huge commercial interests of multinational corporations in the agricultural industry.

Coherence beyond the Node: The 'Page-as-a-Hub"

All in all, its brevity as well as 'unity of space' (i.e. the arrangement of the content in a single graphical unit) makes the text discussed in section 4.1 similar to its printed, non navigable texts, with lexico-grammatical interdependencies easily processed as they are all retrievable in the lexia. Not so for stretches of text spanning over greater spaces and exploiting hypertextual affordances more fully. An example is provided by Figure 2, which shows the current homepage of the same campaign (last accessed on November 12, 2012).

In this case no main standpoint is explicitly expressed in salient positions: if we consider the headlines of the three lexias featured in the central column ("China says no to genetically engineered rice," "Agriculture campaign" and "Quick facts about agriculture"), none of them has the features of an argumentative thematic-text-base, nor of an instructive one (Werlich, 1983) functioning as a deontic standpoint. The first one, basically an action-recording sentence, qualifies as the text-base of a narrative (for the role of narratives in persuasive discourse see Schubert, 2010), while the second and the third look like the thematic-text-bases of expository text types, in which either a concept is analyzed into its components or discreet elements are related to a superordinate concept. However, alone or jointly with the text associated to them, they all have an argumentative flavor and, on the basis of the user's background knowledge of the campaign as a genre,[6] they can be taken to contribute to making the case for the fight against genetic engineering.

The narrative, in whose headline the verbal process "says [no]" activates the scheme of an

Figure 2. Agriculture campaign's homepage (http://www.greenpeace.org. Used with permission.)

argumentative situation, has the function of, so to say, establishing credentials for the campaign: if, presumably as an effect of Greenpeace's campaign, the world's largest consumer of rice has rejected GE, the campaign itself is worth the reader's attention as it can really achieve positive results (pragmatic argument) and it has already succeeded in persuading a critical portion of public opinion (argument *ad populum*).

In the "Agriculture campaign" box, reading

1. Greenpeace is campaigning for agriculture that is good for the planet and people. Healthy food grown with the environment — not against it. Farming that helps cope with climate change. Get involved.

the very concept of campaigning entails a contrast between two social groups, contrast which is further implied by the predicate 'good for the planet and the people,' as under the maxim of relevance (Grice, 1975) this remark will be processed as antithetical to another form of agriculture which is not good for the planet and the people,

and by the antithetical structure 'grown with the environment — not against it.'

Here the argument can be reconstructed as "you should get involved in the campaign, because the campaign will lead to a better form of agriculture, and such a result is desirable," corresponding again to the pragmatic scheme.

Finally, the bullet list beneath, (see excerpt 2), is not factual at all, being in fact the most explicitly confrontational content of the page. What it presents is a list of arguments against genetic engineering and more generally polluting industrial agriculture:

2. Quick facts about agriculture

● Ten corporations control nearly 70 percent of the world's seed market. This corporate control of agriculture means farmers have less choice.

● Genetic Engineering does not feed the world. 99.5 percent of farmers around the world do not grow Genetically Engineered crops.

421

● *Industrial polluting agriculture uses synthetic fertilizers and toxic chemicals which pollute our water and soils – the very things we need in order to provide healthy food now and in the future.*

● *Excessive use of synthetic fertilizers in industrial polluting agriculture contributes to climate change.*

As one discovers navigating through lower levels in the website architecture, these arguments recur throughout the pages: the concentration of market control in the hands of few corporations, with the consequent reduction of differentiation in the offer, and the massive recourse to chemical fertilizers and pesticides which apart from polluting soil and water negatively affect climate change, are other examples of pragmatic arguments, while the remark about the very limited grasp of GE on farmers world wide is a negative form of *ad pupulum* reasoning: if 99.5% of farmers do not grow GE crops, then GE crops are not valuable per se.

These and other information bits discussed earlier are all related to the overarching standpoint that the commercialization of genetically engineered crops must be stopped – what Storrer (2002, p. 4) calls 'global coherence' – but are not immediately coherent with one another, i.e. in terms of 'local coherence.' For example, the bulleted 'facts' reported in the bottom box do not show high interdependency with the agriculture campaign box above it, contrary to what a conservative approach to web reading, transferring here linearity expectations, might suggest. The reasons against GE are in a way the premises justifying the campaign, but are not the campaign itself, so this part can hardly be seen as a continuation of the preceding lexia. In other words, local coherence does not seem a concern for the website author, who apparently relies on the assumption that the user will make allowances for the loosening of ties between neighbouring parts of a text, provided a tenuous topical continuity is warranted, in so far as expectations of continuity of sense (de Beaugrande

& Dressler, 1981, V.1) are met elsewhere in the website, by means of links and navigation buttons. In this sense this page seems to be designed as a 'navigation hub' (a term commonly used in the field of web design, which once again rests on a space-based metaphor), displaying contents which are meant to attract the attention of the reader so as to induce him/her to explore deeper levels of the website. At the same time, the variety of information provided on this first page manages to convey at least some arguments against GE which will reach the user even if s/he decides to quit reading at this point.

From a compositional point of view, the central feature story (China says no to GE rice) has good chances of attracting attention: it is the first meaningful cluster of information the visitor encounters, occupying almost entirely the so-called golden triangle, i.e. the upper-left part of the page which, according to studies of navigation preferences, receives greatest notice in western cultures, due to the deeply-rooted influence of left-to-right, top-down progression of reading and writing.[7] Apart from that, the presence of a large glossy picture, and the possibility for the user to take action, i.e. to click on the link or change picture and story using a progression bar in the bottom-left of the picture, increases its potential as an entry point (cf. Garret, 2000). At the same time the prospect of reading a story may be more enticing than a bullet list of arguments for some readers, especially for those who bump into the website without having a strong stake with the issue.

As already pointed out, the narrative here presented has a function in the overarching argumentative speech act performed by the website. However, formally, the text follows the scheme of a narrative text type, and particularly of the feature article, a press genre typically published in magazines sitting between the news story and the comment article, concerning topics which are not so timely as in news stories, and following a sequential flow of reasoning (Pape & Featherstone, 2006), as opposed to the satellite structure

of news stories. More than argumentative texts, narrative forms rely on time as an organizational principle, and in text grammar, the narrative text-type is associated with a focus on phenomena in the temporal context (Werlich, 1983, p. 19). This is not to say that coherence in narrative text types is necessarily linear: suffice it to think of the well established difference between the time of the story and the time of narration, the former being necessarily subject to a chronological order, while the second can depart from it with flashbacks, anticipations, to and from leaks in time. However, it is interesting to observe how a narrative text is embedded in a website whose compositional plan is dominated by space-bound logics. The title on the feature story 'China says no to GE rice' gives access to the page shown in Figure 3.

Like the campaign's homepage discussed above, also this one works as a 'hub' in the information architecture of the website, as it does not itself host the story but contains links to parts of it, which taken together form a complete and coherent unit of meaning, but will have to be accessed singularly to get the whole of it. The current page, however, differs from the previous one as all the modules[8] in the page frame cling together to convey a continuity of sense which makes the sequence highly coherent.

From a compositional point of view, the page accommodates the reading habits of the average western user, as the story starts with the larger module displayed on the left and unfolds throughout the smaller modules on the right. As can be noticed from Figure 3, three alternative entry-points have been designed, all leading to the beginning of the feature story: the headline on the big picture, the identical text repeated in the first module of the right column and the 'read more' link placed at the end of the short lexia below the big picture (whose content can be read in excerpt 3). The latter, like the lead in news stories and the introduction in comment articles, is meant to wet the reader's appetite, so as to induce him/her to continue with the story.

Incidentally, the repetition of the link leading to the beginning of the story in the right column is quite revealing in terms of the rationale behind the general compositional plan: had the aim simply been to provide access to the lower-level content, two entry points would have probably been enough. The repetition of the module in the right column seems thus to serve a different purpose in the new context, namely that of enhancing the perception of continuity and progression of the story, in spite of its being chunked into bits on the surface. On lower-level pages, where the story is actually told,
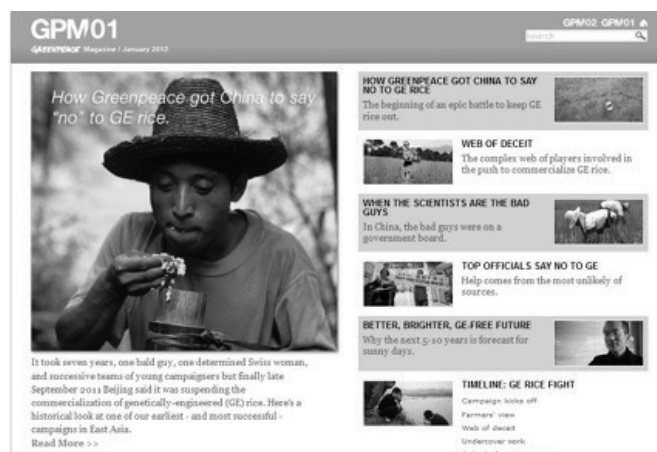
Figure 3. Entry-points to a feature story (http://www.greenpeace.org. Used with permission.)

Figure 4. Graphical indication of sequentiality (http://www.greenpeace.org. Used with permission.)

the sense of progression is further conveyed by the bidirectional arrow displayed in Figure 4, which explicitly shows the user what comes before and after the current chunk.

Besides graphical elements, coherence is imposed on this sequence also through the alphabetical text, although to work effectively this presupposes the reader's familiarity with another genre, i.e. the fairy tale, impinging then on the mediating function of intertextuality (cf. endnote vi). Drawing on Propp's (1928) model of the folk tale structure, the following sequences can be identified here: in module 1 [*How Greenpeace got China to say no to GE rice. The beginning of an epic battle to keep GE rice out*], genetically engineered rice is the complicating element which disrupts the initial calm. Worthy of notice is the use of the hyperbolic expression 'epic battle,' which echoes the hero vs villain antagonistm that lies at the heart of the fairy tale itself. Module 2 and 3 [respectively *Web of deceit. The complex web of player involved in the push to commercialize GE rice* and *When the scientists are the bad guys. In china the bad guys were on a government board*] correspond to the sections devoted to the difficulties met by the hero and his/her battle against the antagonist. In the latter, familiarity

with the fairy-tale mental model is implied also by the use of grammatical reference with the definite article "*the* bad guys" presupposing that someone must fill the 'antagonist' slot in the fairy-tale role scheme. Finally, in cluster 4 [*Better, brighter, GE-free future. Why the next 5-10 years is forecast for sunny days*] the solution comes, thanks to the help of an (unexpected) assistant, order is re-established and a bright future is announced, again in a conscious mimic of the fairy tale happy-end cliché.

Moving to the story itself, text analysis reveals that as well as being highly coherent (both locally and globally) the text presents also a fair degree of cohesion with lexico-grammatical ties stretching across pages.

The very first lines of the story, displayed in the lexia beneath the main picture (see Figure 3) introduce the protagonists of the story – *one* bald guy, *one* determined Swiss woman etc. –, treating them as new information, as signalled by the use of the indeterminate article:

3. It took seven years, one bald guy, one determined swiss woman and successive teams of young campaigners but finally late September 2011 Bejing said it was suspending the commercialization

of genetically-engineered (GE) rice. Here's a historical look at one of our earliest - and most successful campaigns – in East Asia.

In the next lower-level page, the battle against GE rice in China, occupying the theme position, is presented as given information, on account of its being introduced in the previous pages, and the protagonist becomes '*the* bald guy,' with the determinate article marking a shift of status in the information structure.

4. The fight [given] to keep GE rice out of China is one that can be traced back to the beginnings of Greenpeace in Mainland China itself. And it's a story that encapsulates much of what Greenpeace stands for: Even with the most formidable of opponents, from both government and industry, positive change can be achieved.

First let's introduce the bald guy [given]. He's 38-year-old Sze Pang Cheung, also known as Kontau (which means bald in Cantonese). He's now the Campaign Director of Greenpeace East Asia.

Apart from creating interdependency with the immediately higher-level content, the page's incipit (excerpt 4) just discussed provides also an anchorage to the macro argumentative speech act accomplished by the campaign's website, making it explicit that the feature story has an exemplary function ("it's a story that encapsulates much of what Greenpeace stands for: Even with the most formidable of opponents, from both government and industry, positive change can be achieved"), and is therefore a variant of the symptomatic argumentative scheme (see van Eemeren et al., 2002, p. 96). The core argumentation structure introduced on the campaign's homepage is thus enriched with a further level of arguments (taking the form of what van Eemeren, Grotendorst, & Snoeck Hankemans, [1996] call subordinate argumentation, where arguments are brought in

support of other arguments) which can be reconstructed as seen in Figure 5.

This also leads to a more general consideration on how an argumentation structure builds-up on the web: the core of the critical discussion[9] is immediately conveyed on the home page, consisting of the main standpoint (in the case of NGOs' campaigns an exhortation for the reader to get involved in the campaign, if only by adhering to the positions therein upheld) and at least a general supporting argument (which in the case of NGO's campaigns is likely to rest on the pragmatic argument scheme). Subsequent pages, which may contain repetitions of the core components, generally add up new elements (starting points or new arguments) which the user, irrespectively of the local position in the website information structure, will remotely connect to the core of the main critical discussion, i.e. standpoint and main argument(s). In this way temporary configurations of interconnected topics come into being only to 'dissolve' with the next click. In other words, each visitor will be espoused to contents generating different argumentative structures, depending on the path followed, but whatever the route, the main idea – al least – is conveyed, and hopefully a residual track of the individual arguments encountered during the website exploration will be retained.

Figure 5. Reconstruction of argumentation
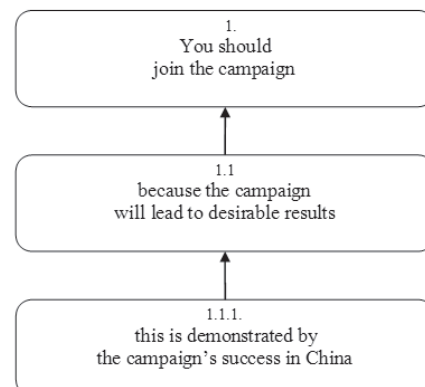
The first part of the story (How Greenpeace got China to say no to GE rice. The beginning of an epic battle to keep GE rice out) concludes with a 'hook' to the next part of it, anticipating the obstacles met by the hero in the pursuit of the final goal, which will be dealt with more extensively in the next section of the story (Web of deceit):

5. But just as they were about to head south, the team got some bad news. Chinese scientists had applied to commercialize four varieties of Chinese GE rice. […]

At the bottom of the page, a box is displayed (Figure 6), which is clearly set apart from the continuity of sense tying up the sections of the story, and provides reasons for taking on genetic engineering.

In argumentation theory this lexia would qualify as a premise, i.e. information that – whether taken for granted of explicitly negotiated – conceptually (and not necessarily sequentially) comes prior to argumentation proper, and has the function of creating a sufficient zone of agreement between the parties to a discussion, on which the subsequent effort to win the other party's adherence of mind will rest. In other words it aims to bridge a possible gap between the writer's and the receiver's knowledge and beliefs system, so as to reach a common starting point. Here of course if someone does not share the view that genetically engineering is dangerous, in no way will s/he commit to (i.e. accept) the claim that the campaign is worth joining. Furthermore, should a user choose this page as the beginning of this path, having ignored the previous ones, the box provides a rationale against which the narrative can make sense.

The Analytic Path

So far the analysis has concerned the creation of coherence among contents occupying a central position on the page. This section will consider a peripheral navigation area, located in the right-hand column, i.e. a navigation menu where each link prompts the display of further links to sub-directories, thus giving rise to a complex hierarchy of contents structured analytically, i.e. with superordinate concepts divided into smaller constitutive parts (Werlich, 1983). Initially only few links appear (see Figure 7, left column), grouped under the headings *What we do,* which presents the different campaigns promoted by Greenpeace, including the one on Agriculture investigated in this chapter, and *Jump to…* which directs to selected highlights, accessible also from other paths. The 'Agriculture' link is structured in *The problem* and *The solution*, thus explicitly referring to the cognitive function of the argumentative text-type: judging in answer to a problem (Werlich, 1983, p. 40).

The problem is further divided into three navigation links (Figure 7, center column): *Agriculture and climate change*, *Corporate control of agriculture* and *Say no to genetic engineering*, which restate and expand the arguments presented on the agriculture campaign's homepage against genetic engineering and 'polluting' agriculture in general. Their content is arranged hi-

Figure 6. Bottom-page box (http://www.greenpeace.org. Used with permission.)
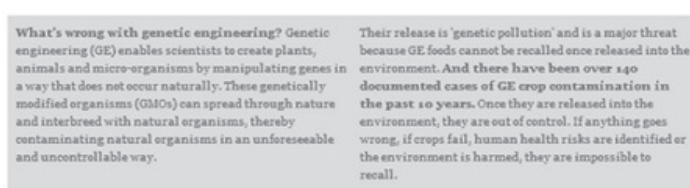
Figure 7. Expandable menu (http://www.greenpeace.org. Used with permission.)
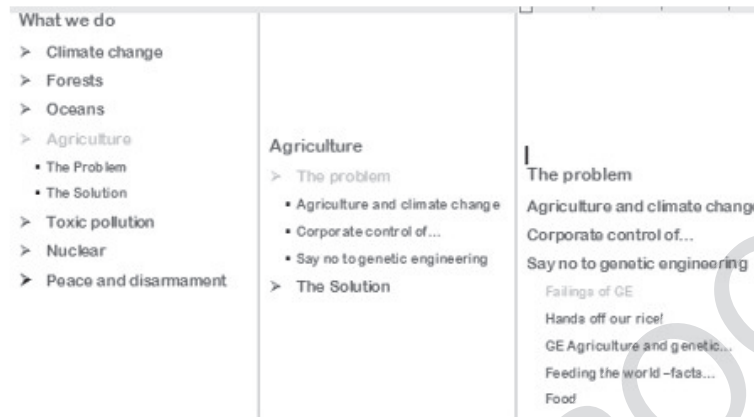

erarchically in a number of sub-directories, links to which become available as the user descends in the information architecture, as shown in Figure 7 (right column). These links also provide an indication as to the position of the currently displayed page in the immediate hypertextual context, thanks to the repetition of the headline, with a function similar to that performed by a table of content in a book or magazine.

"Click-depth," i.e. the number of clicks needed to reach a content (Lynch & Horton, 2008), is here directly proportional to informativity,[10] as it generally takes several clicks to reach the arguments which concludes the defense of the standpoint. For example, if we consider the climate change argument, a causal relation between polluting agriculture and climate change itself is already established on the home page, but it is only several 'clicks' later that one finds a satisfactory explanation for such a relation:

6. Agriculture and Climate Change: Sources of Pollution

What, exactly, are the sources of the human-caused greenhouse gas emissions in agriculture? Apart from deforestation and other land use changes, it is mainly synthetic fertilizers and livestock that emit nitrous oxide and methane, potent greenhouse gases.

Approximately half of agricultural emissions come from livestock and meat production. The average amount of fossil-fuel energy needed to produce calories in meat is roughly ten times higher than the energy needed to produce calories in plants.

The website designer's assumption here seems to be that curiosity will push the reader further until s/he finds a satisfactory explanation for what is stated in higher-rank pages, in a sort of delayed disclosure. However, this risks being a somewhat presumptive assumption as the ever-expanding number of subdirectories might discourage the user to get to the 'end of the story,' or more appropriately in this case to the 'killer argument.'

The Inverted-Pyramid Structure

The risk of excessive delay is pre-empted in the structure shown in Figure 8, which introduces the last pattern of coherence discussed in this chapter:

This page's layout is reminiscent of online newspapers, with a headline, a lead (in bold face) and several paragraphs clearly separated from one-another. The main point here is that "many fundamental questions regarding the functioning of DNA and genes remain unanswered" as our understanding of DNA is in too early a stage, in which errors are still very common. Therefore (and this is the unexpressed standpoint, or conclu-

Figure 8. Example of inverted-pyramid structure (http://www.greenpeace.org)

sion) current scientific knowledge on GE crops cannot reliably rule out dangers for the human being and the environment.

This reasoning is already conveyed by the lead, while the first paragraph simply expands on that, making some of the inferences activated in the link explicit: the foundation of genetic engineering (a rephrasing of 'the discovery of DNA' mentioned in the lead) is defined as a dogma more than as a theory, to signify that it has not been demonstrated scientifically. The lack of reliable knowledge has led to "many surprises and unexpected effects associated with GE organisms," and on this ground, the effects of GE organisms on human health and the environment cannot be reliably assessed. In light of all these elements, it is concluded, GE crops must not be released into the environment. Further arguments in support of the ones here presented are made available in pdf documents, leaving to the reader the choice of whether exploring them or not.

It should be noted that this textual organization is similar to the inverted-pyramid structure typical of newspaper stories: the basic information is fed all at once at the very beginning of the story, so that even if reading is quit early, the core message is nonetheless conveyed. While a single example does not warrant generalizations, should further research confirm that this is not an isolated case, the satellite/inverted pyramid structure would cease being exclusive to the news story, marking an important shift in our mental model of how an argumentative piece of writing should be organized on its surface. As for underlying ties pertaining to coherence, no major changes would be implied, as even in linear texts these are imposed independently of what is materially printed out, much resting on inferences which are not linguistically codified.

FUTURE RESEARCH DIRECTIONS

The analysis carried out here and in previous works by the same author (Degano, forth.a; forth.b) contributes to the ongoing debate on the

textuality of electronic discourse, which is just in its early stages. Further research may develop into different directions. First of all, the patterns of coherence here tentatively identified should be validated against a larger sample of websites geared to influencing people's beliefs and behaviour by making appeal to their rationality, so as to refine and expand the repertoire of strategies used to compensate for the loss of linearity. Parallel to this descriptive concern, research should aim to test the results of qualitative analysis in experimental settings, in order to gain evidence on how people actually impose coherence on web and other computer-mediated electronic contents, and eventually establish standards of best practice. This latter strand of research presupposes a multidisciplinary approach where discourse analysts work jointly with cognitive psychologists, following in the thread of a similar research endeavour pursued in the Seventies with regard to traditional texts (cf. e.g. Kintch & van Dijk, 1978). Furthermore, the issue of how coherence (and relevance at large) work in electronic discourse should be explored also with regard to more genuinely dialectical genres, where two or more parties are actively involved in deliberation activities.

Following a second thread, investigation may address more squarely the impact of multimodality – the other macroscopic distinguishing trait of Web's textuality – on argumentative discourse, drawing on the existing literature on visual arguments and visual rhetoric at large (Birdsell & Groarke, 1996; Groarke, 2002; Foss, 2005). In so far as images are regaining pace in the digital era, thus determining a new balance between visual and verbal semiotic modes, it is reasonable to expect that argumentative discourse makes no exception. Yet, the possibility of transferring the analytic categories of argumentative discourse from verbal to visual semiotic systems is an issue of debate, which is far from being settled. Furthermore research on this issue may contribute to shedding light on the all too relevant issue of how literacy is changing in contemporary society.

CONCLUSION

Drawing on categories devised for traditional linear textuality as well as on previous works of textuality on the web, the analysis here carried out has explored how coherence is created in the multilinear, user-coarticulated hypertextual and multimodal discourse of the Web.

Focusing in particular on argumentative discourse – here epitomized by an NGO's online campaign – as a text type that more than others have traditionally impinged on the time-based logic of sequential linear flow of reasoning, the study has addressed the issue of how the disruption of such mono-directional progression can be coped with in website argumentation.

In light of the analysis carried out here, it can be concluded that while the mechanisms at work for the construction of coherence on a website are not qualitatively different from those that hold for the construction of coherence in traditional texts (after all the cognitive function presiding over arguing is one and the same, and notions like grammatical interdependency and continuity of sense hold here as well as in printed documents), differences lie in the intensity of relevance ties between physically adjacent contents. These tend to be significantly looser on the web, where relations of mutual accessibility among concepts tend to form 'vertical' threads, activated by the user as s/he navigates through the web, which are 'transversal' (cf. Lemke, 2001) to the levels of the website's information architecture. In the specific case of argumentative discourse such a process of coherence construction is all the more akin to what happens when the structure of argumentation is reconstructed analytically, collocating individual bits of the linear text into a diagram

of hierarchically organized relations between standpoints, arguments supporting standpoints, and other arguments that in turn support them.

Caution must be taken by the designer of a website with a prevalently argumentative function as to how elements are distributed within and across pages and levels to favour and guide, as much as possible, the identification of such threads of continuity by users, whatever the route they will follow. In particular, in the course of this analysis, four patterns have been identified for the creation of coherence, accounting for portions of text that range from circumscribed lexias to the page and beyond.

The simplest pattern, referred to as the *nutshell* structure, is a self-contained node which includes a complete though synthetic critical discussion, comprehensive of standpoints and arguments (cf. endnote [iii]), posing no problems at all in terms of coherence reconstruction on the part of the reader. On the other hand, space constraints impose a trade-off in terms of the quantity of information that can be 'squeezed' into it, thus allowing only for reasoning that is not too complex.

The *page-as-a-hub* pattern is far more complex, characterized as it is by a multitude of contents that are only tenuously related to one another, each establishing in fact a closer dependency with the overarching campaign's standpoint. If it is a homepage that features this structure, it contains only an argumentative core, comprising the main standpoint and at least one supporting argument, while the greatest part of the argumentation develops throughout lower levels. These will add elements to the argumentative structure, which will be directly connected with the argumentative core (thus contributing to the construction of global coherence) and possibly, but not necessarily, to 'neighbouring' parts of the text (local coherence), giving rise to volatile argumentative structures which change as the user moves through the website.

The *analytic* pattern, here found in a peripheral area of the page template, rests on a hierarchy of directories and subdirectories, accessible through a list of logically structured links, in which larger concepts are divided into smaller concepts following a general-to-particular rationale. Here local coherence is quite strong, but so is the risk of excessive distance (measurable in click-depth) between the beginning and the end of the chunked sequence, to the point that the reader might desist from the purpose of getting to the end.

Finally, in the *inverted pyramid* argumentative pattern, content is made available in instalments, following in the track of a well-established practice in news and web writing, where all the basic pieces of information are given at the beginning of the story (in the lead), with details provided in subsequent paragraphs which depend directly on the lead rather than on neighbouring units of meaning. In this analysis such a structure has been identified on lower pages, corresponding to lower arguments in a subordinative argumentation structure, with the point which is being made summarized in a sort of lead, placed at the beginning of the story and in bold face for greater emphasis, and expanded upon in the subsequent paragraphs.

Fundamental is also the role of intertextuality, (the reliance on user's background knowledge of textual organization models) as it exerts a mediating function in the process of imposing coherence on the graphically separated bits of discourse concurring to the global meaning. So, for example, even though no explicit standpoint is formulated on the homepage, where only arguments are present, a user who is familiar with the campaign as an argumentative genre that makes the case against some practice judged dangerous or morally wrong will be able to infer that there must be a standpoint and to relate all the relevant individual bits of content to that.

To conclude, while the repertoire of possible patterns of coherence in argumentative texts presented in this chapter is not meant to be exhaustive, nor does it allow for generalizations, it shows that there are several strategies for constructing argumentatively effective texts on the Web. Fur-

ther light on the fundamental issue of whether and how computer-mediated communication is changing our discursive competence might come from multidisciplinary research drawing together linguists, cognitivists and web-designers.

REFERENCES

Askehave, I., & Ellerup Nielsen, A. (2004). Web-mediated genres – A challenge to traditional genre theory. *Working Paper nr. 6* (pp. 1-50). Aarhus: Cenre for Virksomhedscommunication.

Askehave, I., & Ellerup Nielsen, A. (2005). Digital genres: A challenge to traditional genre theory. *IT & People*, *18*(2), 120–141. doi:10.1108/09593840510601504.

Bernstein, M. (1998). Patterns of hypertext. [Pittsburgh: Association of Computing Machinery.]. *Proceedings of Hypertext*, *98*, 21–29.

Birdsell, D., & Groarke, L. (1996). Toward a theory of visual arguments. *Argumentation and Advocacy*, *33*, 1–10.

Bolter, J. D. (1991). Topographic writing: Hypertext and the electronic writing space. In Delany, P., & Landow, G. P. (Eds.), *Hypermedia and literary studies* (pp. 105–118). Cambridge, MA: MIT.

Bolter, J. D. (2001). *Writing space: The computer, hypertext, and the history of writing* (2nd ed.). Hillsdale, NJ: Lawrence Erlbaum.

Carter, L. M. (2000). Arguments in hypertext: A rhetorical approach. In F. M. Shipman, P. J. Nürnberg, & D. L. Hicks (Eds.), *Proceedings of the Eleventh ACM on Hypertext and Hypermedia* (pp. 85-91). New York: ACM.

Carter, L. M. (2003). Argument in hypertext: Writing strategies and the problem of order in a non-sequential world. *Computers and Composition*, *20*, 3–22. doi:10.1016/S8755-4615(02)00176-7.

Catenaccio, P. (2012). *Networked dispositio: A preliminary investigation of hypermodal resource deployment for argument building on the web*. Paper presented at the ESSE Conference, Istanbul.

Clark, C. (2006). *Views in the news*. Milano: Led Edizioni Universitarie.

De Beaugrande, R. A., & Dressler, W. U. (1981). *An introduction to text linguistics*. London: Longman. Retrieved August 4, 2012, from http://beaugrande.com/introduction_to_text_linguistics.htm

Degano, C. (2012). Argumentative genres on the Web: the case of two NGOs' campaigns. In Campagna, S., Garzone, G., Ilie, C., & Rowley-Jolivet, E. (Eds.), *Evolving genres in Web-mediated communication* (pp. 97–124). Bern: Peter Lang.

Finnemann, N. O. (1999). *Hypertext and the representational capacities of the binary alphabet*. Retrieved February, 2005, from www.hum.au.dk/ckulturf/ pages/publications/nof/hypertext.htm

Foss, S. (2005). *Handbook of visual communication: Theory, methods, and media*. Mahwa, NJ: Lawrence Erlbaum.

Fritz, G. (1998). Coherence in hypertext. In Wolfram, B., Lenk, U., & Ventola, E. (Eds.), *Coherence in spoken and written discourse: How to create it and how to describe it* (pp. 221–234). Amsterdam: John Benjamins.

Garret, J. J. (2000). *The elements of user experience. User-centered design for the web*. New Riders Publishing. Retrieved August 18, 2012, from http://www.jjg.net/elements/

Garzone, G. (1997). Osservazioni sul valore pedagogico dell'ipertesto. In Schena, L., & Garzone, G. (Eds.), *Il computer al servizio degli insegnamenti linguistici, Milano 28.4.1995 - 3.5.1996* (pp. 21–39). Milan: Centro Linguistico Università Bocconi.

Garzone, G. (2007). Genres, multimodality and the world-wide web: Theoretical issues. In Garzone et al., 15-30.

Garzone, G. E., Catenaccio, P., & Poncini, G. (Eds.). (2007). *Multimodality in corporate communication. Web genres and discursive identity*. Milano: Franco Angeli.

Gray, S. H. (1995). Linear coherence and relevance: Logic in computer-human 'conversations.'. *Journal of Pragmatics*, *23*, 627–647. doi:10.1016/0378-2166(94)00039-H.

Grice, H. P. (1975). Logic and conversation. In Cole, P., & Morgan, J. L. (Eds.), *Syntax and semantics* (pp. 41–58). New York: Academic Press.

Groarke, L. (2002). Towards a pragma-dialectics of visual arguments. In van Eemeren, F. H. (Ed.), *Advances in pragma-dialectics* (pp. 137–151). Amsterdam: Sic Sat.

Halliday, M. A. K., & Hasan, R. (1976). *Cohesion in English*. London: Longman.

Hovland, C. I. (1957). *The order of presentation in persuasion*. New Haven: Yale UP.

Kintsch, W., & van Dijk, T. A. (1978). Toward a model of text comprehension and production. *Psychological Review*, *85*(5), 363–393. doi:10.1037/0033-295X.85.5.363.

Kolb, D. (1997). Scholarly hypertext: Self-represented complexity. In M. Bernstein & L. Carr (Eds.), Proceedings of Hypertext '97 (pp. 247-268). Southhampton: Association of Computing Machinery.

Kress, G. (2003). *Literacy in the media age*. London, New York: Routledge. doi:10.4324/9780203164754.

Kress, G., & van Leeuwen, T. (2006). *Reading images: The grammar of visual design*. New York: Routledge.

Landow, G. P. (1992). *Hypertext: The convergence of contemporary critical theory and technology*. Baltimore: Johns Hopkins University Press.

Lemke, J. L. (2001). *Towards a theory of traversals*. Retrieved August 4, 2012, from http://academic.brooklyn.cuny.edu/education/jlemke/papers/traversals/traversal-theory.htm

Lynch, P., & Horton, S. (2008). *Web style guide online* (3rd ed.). Yale University. Retrieved August 18, 2012, from http://webstyleguide.com/

Nielsen, J. (2006). *F-shaped pattern for reading web content*. Retrieved August 4, 2012, from http://www.useit.com/alertbox/ reading_pattern.html

Pape, S., & Featherstone, S. (2006). *Feature writing. A practical introduction*. London: Sage.

Propp, V. Y. (1928). *Morfologiya skazki*. Leningrad: Akademija.

Schubert, C. (2010). Narrative sequences in political discourse: Forms and functions in speeches and hypertext frameworks. In Hoffmann, C. R. (Ed.), *Narrative revisited. Telling a story in the age of new media* (pp. 143–162). Amsterdam, Philadelphia: John Benjamins.

Shauf, M. (2001). The problem of electronic argument: a humanist's perspective. *Computers and Composition*, *18*, 33–37. doi:10.1016/S8755-4615(00)00046-3.

Storrer, A. (2002). Coherence in text and hypertext. (Preprint). Then published in *Document design*. Retrieved May 2009, from http://www.hytext.info

Tapia, A. (2003). Graphic design in the digital era: The rhetoric of hypertext. *Design Issues*, *19*(1), 5–24. doi:10.1162/074793603762667665.

Tosca, S. P. (2000). A pragmatics of links. *Journal of Digital Information, 1*(6). Retrieved May 2009, from http://journals.tdl.org/jodi/article/viewArticle/23/24

Toulmin, S. E. (1969). *The uses of argument*. Cambridge: Cambridge University Press.

Tufte, E. R. (2003). *The cognitive style of power point*. Cheshire, CT: Graphics Press LIC.

van Dijk, T. A. (1988). *News analysis*. Hillsdale, London: Lawrence Erlbaum Associates.

van Eemeren, F. H. (2010). *Strategic manoeuvring in argumentative discourse: Extending the pragma-dialectical theory of argumentation*. Amsterdam: John Benjamins.

van Eemeren, F. H., & Grootendorst, R. (1992). *Argumentation, communication, and fallacies: A pragma-dialectical perspective*. Hillsdale, NJ: Lawrence Erlbaum Associates.

van Eemeren, F. H., Grootendorst, R., & Snoeck Henkemans, F. (1996). *Fundamentals of argumentation theory: A handbook of historical background and contemporary developments*. Mahwah, NJ: Erlbaum.

van Eemeren, F. H., Grootendorst, R., & Snoeck Henkemans, F. (2002). *Argumentation: Analysis, evaluation, presentation*. Mahwah, NJ: Lawrence Erlbaum Associates.

Werlich, E. (1983). *A text grammar of English*. Heidelberg: Quelle und Meyer.

ADDITIONAL READING

Aakhus, M., & Jackson, S. (2005). Technology, interaction, and design. In Fitch, K. L., & Sanders, R. E. (Eds.), *Handbook of language and social interaction* (pp. 411–436). Mahwah, NJ: Lawrence Erlbaum.

Chuy, A. M., & Rondelli, F. (2010). Traitement des contraintes linguistiques et cognitives dans la construction de la cohérence textuelle. *Langages*, *177*(1), 83–111. doi:10.3917/lang.177.0083.

Graesser, A. C., Singer, M., & Trabasso, T. (1994). Constructing inferences during narrative text comprehension. *Psychological Review*, *101*(3), 371–395. doi:10.1037/0033-295X.101.3.371 PMID:7938337.

Hoey, M. (2001). Signalling in discourse: A functional analysis of a common discourse pattern in written and spoken English. In Coulthard, M. (Ed.), *Advances in written text analysis* (pp. 26–45). London: Routledge.

Hoey, M. (2001). *Textual interaction: An introduction to written discourse analysis*. London: Routledge.

Hoffmann, C. (2012). *Cohesive profiling. Meaning and interaction in personal weblogs*. Amsterdam, Philadelphia: Benjamins.

Hutchby, I. (2001). *Conversation and technology: From the telephone to the Internet*. Cambridge, UK: Polity.

Jackson, S. (1998). Disputation by design. *Argumentation*, *12*(2), 183–198. doi:10.1023/A:1007743830491.

Kolb, D. (1997). *Socrates in the labyrinth: Hypertext, argument, philosophy*. Watertown, MA: Eastgate System.

Lemke, J. L. (2002). Travels in hypermodality. *Visual Communication*, *1*(3), 299–325. doi:10.1177/147035720200100303.

Lemke, J. L. (2005). Multimedia genres and traversals. *Folia Linguistica, 39*(1, 2), 45-56.

Martin, J. R. (1994). Macro-genres: The ecology of the page. *Network*, *21*, 29–52.

Perleman, C., & Olbrects-Tyteca, L. (1969). The new rhetoric. A treatise on argumentation. Paris: Notre Dame. (original: Traité de l'Argumentation. La nouvelle Rhétorique Paris. Paris: Presses Universitaires de France, 1958).

Petroni, S. (2011). *Language in the multimodal web domain*. Rome: Aracne.

Plantin, C. (1999). Arguing emotions. In F. H. van Eemeren, R. Grotendorst, A. J. Blair, & C. A. Willard (Eds.), *Proceedings of the Fourth International Conference of the International Society for the Study of Argumentation* (pp. 631-638). Amsterdam: SicSat.

Plantin, C. (2004). On the inseparability of reason and emotion in argumentation. In Weigand, E. (Ed.), *Emotion in dialogic interaction* (pp. 269–281). London: Benjamins.

Prakken, H. (2005). AI and law, logic and argumentation schemes. *Argumentation*, *19*, 303–320. doi:10.1007/s10503-005-4418-7.

Santini, M. (2007). Characterizing genres of web pages: Genre hybridism and individualization. In *Proceedings of the 40th Hawaii International Conference on System Sciences*. Retrieved September 2, 2012, from http://origin-www.computer.org/csdl/proceedings/hicss/2007/2755/00/27550071.pdf

Snoeck Henkemans, A. F. (1992). *Analysing complex argumentation: The reconstruction of multiple and coordinatively compound argumentation in a critical discussion*. Amsterdam: SicSat.

van Eemeren, F. H. (1990). The study of argumentation as normative pragmatics. *Text: An Interdisciplinary Journal for the Study of Discourse*, *10*, 37–44.

van Eemeren, F. H., Grootendorst, R., Jackson, S., & Jacobs, S. (1993). *Reconstructing argumentative discourse. Studies in rhetoric and communication*. Tuscaloosa: The University of Alabama Press.

van Eemeren, F. H., & Houtlosser, P. (2005). Theoretical construction and argumentative reality: An analytic model of critical discussion and conventionalised types of argumentative activity. In D. Hitchcock (Ed.), *The uses of argument: Proceedings of a Conference at Mcmaster University* (pp. 75-84). Hamilton: OSSA.

Verhoeven, L., & Perfetti, C. (2008). Advances in text comprehension: Model, process and development. *Applied Cognitive Psychology*, *22*, 293–301. doi:10.1002/acp.1417.

Walton, D., Reed, C., & Macagno, F. (2008). *Argumentation schemes*. Cambridge: Cambridge University Press. doi:10.1017/CBO9780511802034.

Weger, H. Jr, & Aakhus, M. (2003). Arguing in Internet chat rooms: Argumentative adaptations to chat room design and some consequences for public deliberation at a distance. *Argumentation and Advocacy*, *40*(1), 23–38.

KEY TERMS AND DEFINITIONS

Activists' Discourse: The expression is used here to refer to the discursive practices of groups and organizations that pursue political or social change, by means of activities geared towards raising audience awareness and changing citizens' behaviour.

Argumentation: Discursive activity meant to defend a standpoint against real or potential criticism by making appeal to rationality.

Coherence: The mutual relevance of concepts underlying the text proper.

Cohesion: Grammatical and lexical ties on the surface of the text. Mechanisms of cohesion include pronouns, conjunctions at phrase, clause and sentence level, lexical repetition, synonymy and paraphrase as well as ellipsis and substitution.

New Literacies: New forms of literacy developed as a consequence of the pervasive spread of digital technologies. Differently from writing-dominated traditional literacy, computer-mediated-communication has enhanced interactivity and the combination of several semiotic resources.

NGOs' Campaigns: Series of actions designed by non-governmental organizations to produce political or social change. These include public information activities and direct action such as boycotts and flashmobs.

Textuality (on the Web): The property of being a text. In Text Linguistics textuality is seen as the resultant of seven standards, two of which are text internal (cohesion and coherence) and five are text external, i.e. depend on contextual factors: intentionality, acceptability, informativity, situationality, intertextuality.

Web Writing: The expression refers to writing conventions on the Web, differing from the traditional writing on account of how people read web pages. Web writing should favour page scanning, an end pursued, for example, by keeping texts short, highlighting keywords, using subheadings, and sticking to the one idea per paragraph style.

ENDNOTES

1. The original model includes more features, as it was devised to account for the impact of the Web on genres, a perspective which is not pursued in this paper.

2. In actual fact hypertext started off-line around the 1960s as a tool for facilitating the search of entries in electronic dictionaries and encyclopaedias (http://www.techterms.com/definition/hypertext).

3. The word 'argument' designates different entities in different traditions within the field of argumentation theory. One designation refers to the whole of 'claim' and 'ground' (with the relevant 'warrant') (Toulmin, 1969), while the other indicates only the propositions backing a thesis. This is the case of pragma-dialectics (van Eemeren & Grotendorst, 1992), which uses the terms 'standpoint' for claim, 'argument' for those utterances meant to back the standpoint, and 'critical discussion' for an argumentative speech act as a whole.

4. 'Sense' refers for the authors to the knowledge which is actually conveyed by an expression in a given text, as opposed to

'meaning' which designates "the potential of a language expression for representing and conveying knowledge" (1981: V. 1).

5. V and 24 refer respectively to the chapter and the paragraph in de Beaugrande and Dressler's digital version of their *Introduction to text linguistics*, which features no page numbers.

6. In text linguistics, and more generally in discourse analysis, this mechanism goes under the name of intertextuality, which refers to "the ways in which the production and reception of a given text depend upon the participants' knowledge of another text" (de Beaugrande & Dressler, 1981, IX.1). Such a relation can be either in the form of an allusion to another text which the sender presumes the receiver knows, or of familiarity with a matrix (text type, genre, communicative situation) of which a given textual realization is an instance.

7. Quoting from Lynch & Horton (2006) "[e]ye-tracking studies by the Poynter Institute of readers looking at web pages have shown that readers start their scanning with many fixations in the upper left of the page. Their gaze then follows a 'Gutenberg Z' pattern down the page, and only later do typical readers lightly scan the right area of the page. Eye-tracking studies by Jakob Nielsen (2006) show that web pages dominated by text information are scanned in an "F" pattern of intense eye fixations across the top header area, and down the left edge of the text."

8. The term 'module' and the idea of a modular structure for web-pages is drawn from Garret's lexicon, and particularly from her definition of 'wireframes,' i.e. "rough two-dimensional guides to where the major navigation and content elements of your site might appear on the page. They bring a consistent modular structure to the vari-

ous page forms of your site and provide the fundamental layout and navigation structure for the finished templates to come.

9. In the pragma-dialectical approach to argumentation theory, a 'critical discussion' is meant to solve a difference of opinion on the merits by making appeal to the other party's rationality (van Eemeren & Grotendorst, 1992).

10. Together with cohesion, coherence, intertextuality and others, informativity is one of the standards of textuality posited by de Beaugrande and Dressler (1981). It refers to the extent of unexpectedness of an enunciation: the more unexpected (i.e. unknown), the more informative.