MODELING IDEAL-REAL – A SOCIAL SEMIOTIC-COGNITIVE APPROACH

by
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In this article, I discuss how to construct a model of meaning dichotomies between idealized (or generalized) information and realistic (or practical) information on websites. According to Martinec and van Leeuwen (2009), a basic semantic pattern on websites is an Ideal-Real meaning dichotomy. In order to investigate this pattern theoretically and analytically, they introduce the analytical concept of a non-linear Ideal-Real model. While innovative, I argue that the description of this model of Ideal-Real needs to be informed by social semiotic multimodality theory (Martinec & van Leeuwen 2009), systemic functional linguistics (SFL) (Martin 1992; Martin & Rose 2007) and cognitive schema theory (Johnson 1987; Hurtienne & Israel 2007). Furthermore, the model must be able to represent the Ideal-Real meaning dichotomy on two levels: on one level as an abstract semantic relation between two kinds of information, and on another level as a spatial structure.

The article is structured around a theoretical discussion of the concept of an Ideal-Real model, but an analysis of two webpage cases is also undertaken in order to illustrate the theoretical points.

1. Introduction

This article takes Martinec and van Leeuwen's (2009) analytical concept of a non-linear Ideal-Real model, i.e. a non-linear diagram of a meaning dichotomy between idealized (or generalized) and realistic (or practical) information, as point of departure. Martinec and van Leeuwen (2009) present this model (and other models) as a tool for analyzing (and designing) new media products, e.g. websites and CD-Roms.[1] They claim that a better descriptive analysis of new media may

on the one hand improve our understanding of new media as semiotic products, and on the other, have practical implications for the design of new media products. It is thus of interest to both scholars and designers of new media. In this article, the concept of a non-linear Ideal-Real model will be discussed in relation to the analysis of websites. Martinec and van Leeuwen (2009) state that new media products build on semantic patterns which connect different semiotic modes (i.e. semiotic systems for meaning-making such as image, language, sound etc.) into meaningful wholes. One of these patterns is the meaning dichotomy of Ideal-Real, which is construed as a semantic contrast between idealized (or generalized) and practical (or specific) information within a semantic field. Since this pattern is a basic principle for the design of websites, it becomes imperative to develop an analytical concept of the Ideal-Real dichotomy: a non-linear model that can help us describe this kind of meaning more accurately.

Being innovative, the Ideal-Real model proposed by Martinec and van Leeuwen also raises new questions on how a model of this semantic relation may be constructed. Especially the question of the spatial representation of idealized and real information challenges the authors' modeling of Ideal-Real as a fixed spatial structure. The aim of the present article is thus to qualify the discussion of how a model of the Ideal-Real meaning dichotomy on websites is constructed. It is proposed that by complementing the non-linear model presented by Martinec and van Leeuwen (2009) with systemic functional linguistic (SFL) (Martin 1992; Martin & Rose 2007) and cognitive schema theory (Johnson 1987; Hurtienne & Israel 2007), a model can be developed which demonstrates a greater descriptive adequacy and flexibility in representing the Ideal-Real meaning dichotomy.

Following these introductory remarks, the second part of the current article will present Martinec and van Leeuwen's concept of a non-linear Ideal-Real model, and discuss the implications of complementing the social semiotic framework on which the non-linear

model builds, with systemic functional linguistics and cognitive schema theory. The third part discusses the process of constructing the Ideal-Real model itself, while the fourth part undertakes a modeling of Ideal-Real meaning dichotomies on two web pages, in order to point up the issues involved in representing Ideal-Real as different spatial structures. As will be shown in part five, the web page analysis also gives rise to a revision of Martinec and van Leeuwen's Ideal-Real model; this revision and its implications will be discussed in part six. Part seven offers a conclusion.

2. The theoretical framework of an Ideal-Real model

In order to qualify the discussion of the concept of an Ideal-Real model, I use an interdisciplinary approach that combines social semiotic multimodality theory (Martinec & van Leeuwen 2009), SFL (Martin & Rose 2007) and cognitive schema theory (Johnson 1987; Hurtienne & Israel 2007), which are introduced in the following sections. These three theories complement each other, and I propose that they must be combined to create the theoretical framework behind a model of Ideal-Real.[2]

2.1. Social semiotic multimodality theory: The non-linear model of Ideal-Real

The primary theoretical concept to be discussed is the non-linear model of Ideal-Real which is one of six basic non-linear models introduced by Martinec and van Leeuwen (2009) in their social semiotic multimodality theory of new media. Non-linear models are diagrams of "[…] semantic constructs that map out the relations between concepts in the semantic fields, or fields of meaning, that underlie new media products" (Martinec & van Leeuwen 2009:

1), and they are non-linear in the sense of being static conceptual structures (Martinec & van Leeuwen 2009: 44).

Martinec and van Leeuwen go on to present a typology of non-linear models. In this connection, I will take a closer look at the non-linear model that they call Ideal-Real[3]. The non-linear Ideal-Real model:

> […] is based on polarization and divides information into two halves, or poles. The Ideal-Real pattern divides information into the more general, or idealized, essence of the information (Ideal), and complementary details, or documentary evidence, or down-to-earth practical realities (Real). (Martinec & van Leeuwen 2009: 20)

Furthermore, they state that visual representation of the bipolar conceptual structure divides a space into two horizontally-divided halves. They illustrate this by means of a diagram (see Fig. 1):

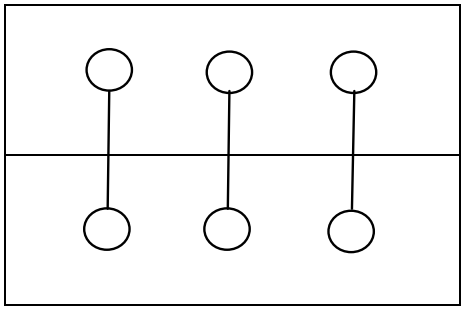

Figure 1. *The Ideal-Real model*

As a diagram that model is made up of two frames. The top frame represents the idealized information and the bottom frame represents the real information of a given semantic field. The content of each

frame is represented by three circles. Each of the three circles in the idealized frame is linked by lines to a corresponding circle in the real frame. These links illustrate that the ideal frame and the real frame are still related, although the information contained in them is presented in different frames.

As Martinec and van Leeuwen (2009: 20) point out, it is important to note that this visual depiction also indicates an up-down spatial orientation in a two-dimensional space. The idealized part of the non-linear model is placed 'up' (that is, in the upper frame), whereas the real part is placed 'down' (in the lower frame). This is essential because the non-linear model of the conceptual structure is hereby linked to a fixed spatial orientation.

Martinec and van Leeuwen's concept of non-linear models is innovative because it charts new ways of analyzing websites. However, by merely stating that the information of a website can be organized in an Ideal-Real structure, the non-linear model fails to describe how the Ideal-Real meaning dichotomy is constructed. Furthermore, the diagrammatic display indicates a fixed vertical structure of this kind of meaning dichotomy, which is problematic because the dichotomy can also be represented in relation to other spatial structures. The modeling of the Ideal-Real meaning dichotomy thus needs to be understood in greater detail. To elaborate on this point, I propose to further develop Martinec and van Leeuwen's concept of the non-linear Ideal-Real model in combination with systemic functional linguistics' concept of taxonomic relations for ideation (Martin 1992; Martin & Rose 2007). While Martinec and van Leeuwen are informed by systemic functional linguistics, they primarily use lexico-grammatical terminology; I want to point to a more consequent use of SFL's discourse-semantics.

2.2. Systemic functional linguistics: Ideal-Real meaning as a taxonomic relation

In terms of SFL's concept of metafunctions, the Ideal-Real meaning dichotomy may be considered ideational, i.e. concerned with the representation of reality (as opposed to interpersonal and textual meaning). It is thus different from a textual concept like 'information value' (Kress & van Leeuwen 2006), which aims to account for how different placements of elements in an image or a layout are assigned different values of information. Ideal-Real describes the type and character of information, not its spatial organization. This means that the Ideal-Real meaning dichotomy, represented by the model, can be seen as a particular taxonomic relation (Martin & Rose 2007), and it can thus be described in terms of systemic functional linguistics' theory of ideational discourse semantics.

Building on Halliday's systemic functional grammar (e.g. Halliday & Hasan 1976; Halliday & Hasan 1985; Halliday & Matthiessen 2004), Martin and Rose (2007) suggest that the discourse semantic concept of ideation is concerned with the construal of human experience, which is comprised of ''processes involving people, things, places and qualities'' (Martin & Rose 2007: 75). In language, the representation of reality as configurations of processes and their participants is realized by clauses and their lexical elements, and clauses are combined by means of cohesive links, e.g. lexical elements. Consequently, an analysis of the experiential semantics involves examining the semantic relations between lexical elements, within and beyond the clause.

Martin and Rose (2007) identify three subsystems constituting the system of ideation; these subsystems make it possible to construe an experiential semantics. The three subsystems are: (i) taxonomic relations (between elements from clause to clause), (ii) nuclear relations (configurations of elements within each clause) and (iii) activity sequences (from process to process in a series of clauses). Of these three systems, the system of taxonomic relations is

particular relevant for my purpose, because it names different kinds of dichotomies and taxonomies (Martin & Rose 2007: 81) and the Ideal-Real dichotomy could be understood as a taxonomic relation[4].

In order to analyze idealized and realistic information, the concept of nuclear relations is also useful. A nuclear relation is said to consist of a process (centre), a medium (nucleus), an agent (margin) and circumstances (periphery) (Martin & Rose 2007: 95), and these concepts can be used to analyze the configurations of ideational meaning in texts and images.

2.3. Cognitive schema theory: The Ideal-Real model in relation to schema metaphors

I further propose that cognitive schema theory can qualify the discussion of the Ideal-Real model. This theory allows us to describe how the model's diagrammatic representation of the conceptual structure of Ideal-Real may be understood in terms of a mental projection of schemas[5], among these schemas of space (Johnson 1987; Johnson 2005: see also Hurtienne 2007, 2009). Johnson defines a (image) schema as:

> […] a recurring dynamic pattern of our perceptual interactions and motor programs that gives coherence and structure to our experience. … 'Experience' … is to be understood in a very rich, broad sense as including basic perceptual, motor-program, emotional, historical, social and linguistic dimensions. (Johnson 1987: xiv, xvi)

Most schemas come from an embodied experience of the world within and around us, such as our experience of space. Schemas help structure our perceptual experiences so that these are perceived as coherent and meaningful.

Johnson establishes a specific set of spatial schemas: UP-DOWN, LEFT-RIGHT, FRONT-BACK, CENTRE-PEREPHERY (Johnson 1987; see also Johnson & Lakoff 1999).[6] Such schemas can be used to describe space in terms of basic topological dimensions: points, lines, surfaces and dimensions (Munkholm Davidsen 2011).

Schemas not only lend structure to sensory-motor experiences, but also to more abstract ones:

> In conjunction with the capacity for conceptual metaphor, which allows human beings to map experiential structure from the ''imagistic'' realms of sensory-motor experience [a source domain], to non-imagistic (''abstract'') ones [a target domain], image schemas were hypothesized to provide one of the ''embodied'' anchors of the entire conceptual system. (Hampe & Grady 2005: 1)

A schema that is projected onto an abstract experience may be referred to as a 'schema metaphor' in which ''[…] it is not conceptual elements of knowledge […] that get mapped from a source to a target, but conceptual elements of [image-]schemas'' (Kövecses 2002: 36).

In relation to the Ideal-Real model, I want to argue that a diagrammatic representation of the Ideal-Real meaning dichotomy may serve as a schema metaphor enabling us to understand the diagram as a representation of the particular Ideal-Real meaning. If we think of Martinec and van Leeuwen's Ideal-Real model in schema metaphoric terms, the diagrammatic model in Figure 1 can be understood as a compound schema structure, where the source domain (comprising e.g. a vertical space schema and other basic schemas) is projected onto the target domain. In this non-linear model of the semantic relation between idealized and real information, the schema structures are mapped onto the visual elements of the diagram, whereby the entire diagram is understood as a compound schema metaphor (see Fig. 2):

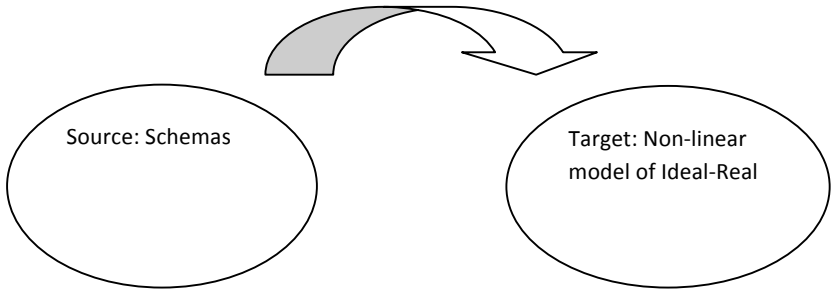

Figure 2. *Metaphorical projection of schemas onto the non-linear Ideal-Real model*

Figure 2 illustrates the metaphorical projection of schemas onto the diagram representing the Ideal-Real meaning dichotomy. For instance, the diagrammatical display of content frames on the Ideal-Real model (see Figure 1) would have to be understood as the projection of a CONTAINER schema. In cognitive terms, this aspect of the model would constitute the conceptual schema metaphor INFORMATION AREAS ARE CONTAINERS.

Complex schema structures are composed of several different schemas. Together they make the non-linear Ideal-Real model meaningful as a diagrammatic representation of a particular conceptual structure. In particular, the division of the Ideal-Real model into two frames builds on a CONTAINER schema containing the ideal and real information, and separating the two in virtue of the schema's structural elements: inside, outside and border. In this way, a basic logic of containment is applied to the model's representation of ideal and real information: ideal information is contained in one frame, real information in the other.

The content of ideal and real information in the model is understood as volumes (six small containers) building on a SUBSTANCE schema. The connection between the ideal and real information is based on a LINK schema connecting the elements that are in the containers. Finally, the visual display of the Ideal-Real model builds

on a spatial schema, UP-DOWN, which orients the two parts, ideal and real, vertically: the idealized information being located in the upper part of the model, the real information in the lower part. Cognitive schema theory thus can qualify the concept of an Ideal-Real model by offering a theoretical framework for describing the structural elements in such a model.

3. Constructing the Ideal-Real model

The focus in the present section is on how the Ideal-Real meaning dichotomy is analyzed and how a diagrammatic representation in the form of a model is constructed. After having presented Martinec and van Leeuwen's guiding principles for constructing an Ideal-Real model, I will suggest that these principles can be improved on by including methods for analyzing taxonomic relations (Eggins 1994; Martin 1992; Martin & Rose 2007) and for cognitive schemas (Johnson 1987, 2007), the reason being that the guiding principles of modeling must make explicit how one identifies an Ideal-Real meaning dichotomy on a website and translates it into an Ideal-Real model.

In order to identify the Ideal-Real semantics of a website, Martinec and van Leeuwen undertake a semantic content analysis. I take their analytical method as a point of departure. A semantic content analysis implies four elements:

1. *A semantic approach to web design, where a correlation between the form of the website and its meaning is assumed*. Given this approach, it is possible to study meaning through form (Martinec & van Leeuwen 2009: 177). In this context, form refers to the navigation and interface of the website. By analyzing a website's navigational structure and interface, one is able to reconstruct the semantics in terms of non-linear models.
2. *A focus on the semantics of the website*. This means that one focuses on the meaning of concepts rather than on the wording (Martinec & van Leeuwen 2009: 178). Thus the analysis of the website is grounded in its form (navigation and interface), but the focus of analysis is on mapping out the semantic relationship between concepts in the website's content.
3. *A focus on the content that is represented on the website* (Martinec & van Leeuwen 2009: 146). Martinec and van Leeuwen are not very explicit here, but their semantic analysis of content seems to primarily focus on experience, i.e. on experiential meaning. The kind of analysis that Martinec and van Leeuwen refer to could therefore, in terms of SFL, be understood as an analysis of experiential semantics (Eggins 1994).
4. *Conducting a content analysis*. To decode the experiential semantics of a website or a set of web pages, a content analysis is conducted, i.e. an analysis of the semantic patterns of lexical items on the website (Martinec & van Leeuwen 2009: 69). This is done by examining the semantic relations between the lexical items in a text or an image.

Following these guidelines, a model of the website's semantic can be constructed, which in this case means a model of the Ideal-Real meaning dichotomy. According to Martinec and van Leeuwen, the end result would look like the diagrammatic model in Figure 1.

While I acknowledge the value of Martinec and van Leeuwen's approach, it is necessary to further develop their description of the construction of the Ideal-Real model, as they fail to explain how an Ideal-Real meaning dichotomy is identified on an actual website, or why Ideal-Real must be displayed in the model as a fixed top-down structure.

In order to obtain greater descriptive adequacy of the model construction, I suggest to supplement Martinec and van Leeuwen's method for analyzing semantic content by the method for analyzing taxonomic relations (Eggins 1994; Martin & Rose 2007). An analysis of taxonomic relations in a written text is conducted by mapping out the relations between the lexical items of the text, indicated by nouns, main verbs, adverbs, and adjectives (Eggins 1994: 101). This procedure gives one an idea of how the text's lexical content is construed, e.g. as a dichotomy or a taxonomy. A useful tool for the analysis of taxonomic relations is the construction of so-called lexical strings, i.e., ''all the lexical items that occur sequentially in a text that can be related to an immediately prior word either taxonomically or through an expectancy relation'' (Eggins 1994: 103).

Martin and Rose (2007) suggest that, when analyzing an image, it should be noted that an image may depict entities or activities. One should also take note of the construal of reality in the image. Martin and Rose refer to Peirce's (1931) concept of icons (representation by way of resemblance), index (representation by correlation with or pointing to something) and symbol (representation based on convention).

The above sketches out the social semiotic multimodal/systemic functional contribution to the guiding principles of constructing the Ideal-Real model. I also suggest that these principles include a method for schema analysis, because a cognitive schematic approach could qualify the social semiotic analysis of non-linear models of conceptual structures. When a non-linear Ideal-Real model has been identified, it is related to one or more schemas that make the semantic pattern recognizable and meaningful when displayed in a diagrammatic model (Hurtienne & Israel 2007).

4. Discussing the Ideal-Real model in relation to websites

In order to underscore the theoretical point made in the preceding sections, the present section will further discuss the construction of the Ideal-Real model and its guiding principles. I will do this by analyzing two web pages from the website of the largest Danish insurance company, Topdanmark (www.topdanmark.dk; accessed 11. Nov. 2012). The design of this website follows a generic web page structure, with a header at the top of the page, and three columns in its middle: A left-hand column that usually contains a local vertical navigation bar, a central, main content column that displays the topic, and a right-hand column that contains additional information and links related to the information in the main content column. At the bottom of the web page is a footer that gives information about the company and the website.

Prior to discussing how their Ideal-Real models are constructed, I will present the two web pages in more detail.

4.1. Insurance Check-up

The first web page is about an insurance check-up that Topdanmark offers their business customers (see Figure 3). The information about the service check-up is displayed in the header and the main content column. The header depicts the face of a man wearing a headset and looking directly at the viewer. His smiling face is shown against a white background. The main content column contains the headline ''Få tjekket forsikringer og pension'' (Give your insurance and pension a check-up), a short text in five paragraphs, and a bulleted list of points. Some of the text is framed by a blue box; underneath the blue box is a green box saying: ''Bliv ringet op og hør mere'' (Be called up to find out more).

Figure 3: *Screen print from Topdanmark's web page Servicetjek*

4.2. Storm damage

The second example is Topdanmark's retail customers web page dealing with insurance against damage caused by storms (see Figures 4 and 5). Similar to the page analyzed earlier, here too, the information is displayed in a header and a main content column, except that the header is located on the website's home page (Figure 4) and functions as a hyperlink to another web page, where the written text about the insurance is found (see Figure 5). The customer is only presented with the written text after clicking on the link. The header depicts the head of a woman wearing a red scarf with black stripes. Her head is turned towards a withered dandelion, depicted next to her face. The shape of her mouth indicates her blowing on

the dandelion and making its seed disperse. The woman's face is on the right-hand side of the header, and a green text box is placed on the left. The box has a headline that reads ''Efterårsstormen kommer'' (The autumn storm is on the way). Below the headline is a short text explaining that you can get advice on how to secure your home and garden against stormy autumn weather.

Clicking on the header makes a new web page appear that, in the main content column, spells out how to take precautionary measures against a storm and bad weather. On this new web page, the body text of the main content column is arranged in six paragraphs, including six bullet points. In the middle of the body text there is a green text box with the text: ''Er skaden sket? Få hjælp her'' (Has the damage been done? Get help here). The text box is a hyperlink which guides the customer to a web page with information on how to contact the insurance company (see Figure 5).[7]

Figure 4: *Topdanmark's home page with a header about storm damage*

Figure 5: *Topdanmark's web page about Storm damage*

5. Ideal-Real models of Topdanmark's website

At this point, we want to remind the readers that our analysis aims to engage them in a theoretical discussion of the Ideal-Real model, with a focus on how this particular meaning dichotomy is identified and how to model its diagrammatic representation. In the following subsections, we want to elaborate on, and further specify this aim.

5.1. Service check-up

The first Ideal-Real model was constructed in order to represent the content on the web page about insurance service check-up, as shown in Figure 3. The information related to the service check-up

is contained in the header and the main content column, the latter being structured in a spatial top-down array. This vertical positioning suggests a semantic relation between the header and the main content column; consequently, the header and the content column are the units to be analyzed more closely as to their semantic content. The header is represented as an image. Following Martin and Rose (2007), the smiling man's photograph would be a compositional image, in that it depicts a part/whole relationship of a face to its parts. An important part of the image is the headset. Drawing on cultural knowledge of stereotypes (Lakoff 1987; Munkholm Davidsen 2006, 2011), we recognize this as being an image of a person working in a business as a contact representative.

In terms of nuclear relations (Martin & Rose 2007), we have a person (nucleus), who is smiling while listening (centre), in what appears to be a neutral background (periphery). The image portrays a simple activity, which is emphasized by the fact that nothing else is depicted in the image.

The image is iconic, in Peircean terms, inasmuch as it construes a representation of reality: it resembles the depicted man as he looks in real life. In addition, the image is symbolic, as the viewer is supposed to know that a man wearing a headset is a generic representation of a stereotype, a business representative personifying the activity ''contact us'' (when searching an image database like Getty Images for 'contact us', one regularly encounters images of people with headsets)[8].

In the main content column, the content is represented in text and color, and is laid out using various visual framing devices that can be used to connect or separate different elements on the page. Here, I will primarily concentrate on the text. Analyzing the taxonomic relations of the text, we see that lexical strings are established around the units: ''forsikring og pension'' (insurance and pension), ''virksomhed'' (business), and ''servicetjek'' (service check). The taxonomies found in the text allow us to assign the text information to

two types of hierarchies (Martin 1992). First, a classifying taxonomy (of the type 'kind of') is presented of the kinds of changes that a business can undergo, and that would prompt a business to avail itself of a service check. The superordinate member of the taxonomy is ''changes in the company'', while the particular changes (e.g. hiring new employees, changes in the payroll, purchasing technologies or machines) are its subordinate parts. Second, we observe an additional, compositional ('part of') taxonomy in relation to the content of a service check. The superordinate of this taxonomy is the service check up, and its parts are the service elements of the check-up (e.g. arranging for a meeting to discuss the details of the check, anticipating the questions that could be asked by the insurance company, adjusting pensions and insurance terms). This taxonomy is framed by a blue box in order to make it more salient.

How do the content of the header and the main content column relate to the non-linear model of Ideal-Real? They both relate to the service check, but present different aspects of its meaning. The text is detailed, concrete and specific. It provides information on situations in which a business should get a service check, and what such a check entails. The text may therefore be understood as real-world information. The image, on the other hand, even though providing the insurance company with a human face, offers only a generic picture. It does not visualize the service check itself – just a general telephone service function. The picture represents a generalized essence of the service check, namely a friendly (smiling) person who is listening (associated by the headset): a person with whom you can talk about your pensions and insurance. In this sense, the picture embodies idealized information.

The web page presents the Ideal-Real meaning dichotomy by placing the ideal information (the image) on top, with the real-world information is placed in the middle, below the image, in a vertical orientation of the semantic relation between Ideal and Real.

The web page's diagrammatic representation of the Ideal-Real

meaning dichotomy would be similar to that of Martinec and van Leeuwen's model (see Figure 1), but the further construction of the model may be described as a series of schema metaphors (Johnson 1987) as follows:

1. INFORMATION AREAS ARE CONTAINERS – in this metaphor, a CONTAINER schema is projected onto the idealized and realistic information parts of the content in the model. The content itself is understood in terms of a SUBSTANCE schema. The two frames of the model are thus understood as containing and dividing Ideal and Real information;
2. DICHOTOMY IS REPULSION – this metaphor uses a metaphorical projection of a REPULSION schema to create the contrasting meaning between the two types of information frames;
3. SEMANTIC CONNECTION IS LINKING – if the model is to display a semantic connection between Ideal and Real information, a LINK schema is projected. This way, the diagram of the abstract semantic relation of Ideal and Real is represented in the form of two entities with a connecting bond.
4. IDEAL INFORMATION IS UP, REAL INFORMATION IS DOWN – Ideal meaning is placed higher up than is Real meaning, since we perceive the semantic relation as a vertical experience, based on the metaphorical projection of the UP-DOWN schema.

5.2. Storm damage

Content-wise, the Ideal-Real model applied to Topdanmark's web pages dealing with storm damage (see Figures 4 and 5) operates as

follows: The header is in the modes of image and text (as well as color in case of the frames, cf. Figure 4). The compositional image (part-whole relationship) of the woman's head on the right-hand side of the header contains a depicted head (whole) and its parts such as the scarf around the woman's neck (an important part of the image since, drawing on our common knowledge, we know that scarves are worn when the weather gets cold in autumn and winter).

Considered as a nuclear relation, the image consists of the woman (nucleus) blowing (centre) air on a dandelion (margin), and a background in soft focus (periphery, cf. above, section 2.2). The image consists of a simple activity; contextualized by the soft focus background

The image represents reality iconically: the woman's head has a realistic look. However, the image could also be understood in a more symbolic way, as a metaphor for the autumn weather that blows the leaves off the trees (connecting us with the woman blowing seeds off the dandelion).

I now turn to the other element in the header, i.e. the green frame on the left-hand side. The text displayed in the frame involves one simple nuclear relation: 'The autumn storm (nucleus) is (centre) on the way (periphery)', and another, complex construction of two nuclear relations: 'Get (centre) advice (nucleus) about how to secure (centre) your home and garden (nucleus) from stormy autumn weather (periphery)'. The green color of the frame makes these nuclear relations more salient.

In the main content column linked to the header, the content is represented in the modes of text and color (see Figure 5). The sentences 'Has the damage been done? Get help here' are framed by a green box for saliency. By way of 'color rhyme', the green color also connects the text to the frame in the header (van Leeuwen 2005).

If we look for taxonomic relations in the text, we can locate two major lexical strings: ''storm'' (storm) and ''skade'' (damage). A classifying taxonomy of initiatives to prevent storm damage is also

presented. The superordinate contains the initiatives for damage control, while the subordinates are comprised of a list of things to do to secure the house and garden, e.g. closing doors and windows, securing loose objects such as barbecue grills, garden furniture, parasols, and the like. In the Ideal-Real meaning dichotomy, the header and the content column both relate to the same topic, i.e. storm insurance, but they present different aspects of information: it would seem that the text in the main column is more detailed and specific, while the header's image and text are more idealized. The header text gives a kind of promise (in the sense that you get good advice about what to do in stormy weather), while the main column describes practical prevention measures; it also tells the customer what to do if the damage has already occurred (which is something the header does not). Taking the image of the woman blowing on the dandelion as a metaphor, the storm's potential danger is conceptualized as relatively minor. This creates a contrast to the content column, which describes the damage that a storm can cause. In short, the header in Figure 4 is Ideal, the main content column in Figure 5 is Real.

In contrast to the first web page's up-down orientation (see Figure 3), on the two web pages represented by Figures 4 and 5, a different spatial orientation could be assigned to the meaning dichotomy, namely one of surface and depth. In that case, the Ideal information of the header is placed on the homepage. Clicking on the header link takes one to the page where Real information is available. By its very design, the web thus animates the use of a third dimensional space; this, too, indicates that the Ideal-Real model must be displayed as a three-dimensional diagram.

We see how the diagrammatic representation of the meaning dichotomy in schematic terms employs the same metaphorical projection of schemas as did the service check-up example (except for the UP-DOWN schema). This design of a third spatial dimension may be described as a metaphorical mapping of the FRONT-BACK

type, creating the schema metaphor IDEAL IS FRONT, REAL IS BACK (Naumann et al. 2007). The connection between spatial dimensions and the Ideal-Real model will be further addressed in the next section.

6. Issues of model construction

In light of the above analyses, I will address the following two issues: one, the spatial analysis of the Ideal-Real meaning dichotomy, and two, the correlation between the Ideal-Real model and the attribution of spatial dimensions.

6.1. Spatial analysis of the Ideal-Real meaning dichotomy

In the previous section, I have analyzed two examples in terms of different spatial schemas. In the analysis of the service check (cf. Figure 3), the UP-DOWN schema was seen as suitable for the description of the Ideal-Real meaning, while the storm damage analysis (see Figures 4 and 5) employed a FRONT-BACK schema. As for the rationale for choosing a different spatial schema in the storm damage example, one could argue that the UP-DOWN schema would have been equally suitable for describing the Ideal-Real meaning dichotomy – not in the sense of displaying the semantics vertically on a single two-dimensional web page (as in the service check), but in the sense of considering the relation between web pages as a hierarchy of information (see Lynch and Horton (2008)), where the homepage with its idealized information would be placed higher than the web page containing realistic information. In the logic of such a hierarchy, an UP-DOWN-schema would be projected onto the abstract relations between the superordinate and its subordinates.

While the argument may be valid, it does not challenge my claim,

for two reasons. Firstly, the semantic relation that the non-linear Ideal-Real model represents is not a hierarchy. According to Martinec and van Leeuwen (2009), a hierarchy needs to be represented by a different non-linear model, a Tree. Since non-linear models should reflect the semantics of the website, the Ideal-Real non-linear model is a better choice than a taxonomic model like a hierarchy.

Secondly, the claim that the front-back space is a more precise spatial depiction of the Ideal-Real model is supported by the fact that, in the literature of Human Computer Interaction (Sharp et al. 2011), it is accepted to think of computer interaction in terms of 'Spatial User Interaction', i.e. as enabled by the website's third dimension of space. Consequently, the spatial schema that best captures this representation of a website's third space dimension seems to be the FRONT-BACK one, in which space is described as a third dimensional container in which action can unfold (Buckland 2003).

6.2. Spatial dimensions of the Ideal-Real model

In this connection, another issue is the correlation between the Ideal-Real model and the attribution of spatial dimensions. The analysis of the two examples above sheds light on the earlier theoretical discussions and raises the important question of how the Ideal-Real model relates to, and displays, notions of space. Significantly, as proposed by Martinec and van Leeuwen (2009), the semantic relation of an Ideal-Real meaning dichotomy is tied to a vertical orientation on websites. But it needs not to be. In the case of our second example (See Figures 4 and 5), we have seen in the preceding section how the Ideal-Real meaning dichotomy may equally well be understood in terms of a surface-depth relation, thereby indicating its adaptation to a three-dimensional space. Alternatively, one could imagine the meaning dichotomy realized as a left-right structure.

I would argue that the two web pages examined in this paper denote information that is partly idealized and partly realistic. Since both the idealized and realistic parts relate to the same semantic field, in one case an insurance service check, in the other dealing with storm damage, they form a meaning dichotomy. It is not the spatial dimension, but rather the polarity between idealized and realistic information that constitutes the semantics of the Ideal-Real meaning dichotomy; as I have tried to show, the meaning dichotomy is not tied to a fixed spatial structure.

At the same time, as Martinec and van Leeuwen (2009: 1) point out, in order for the semantics to be perceivable by the senses, it must be presented in the form of navigation and interface. In the realization of the Ideal-Real meaning dichotomy, the semantic relation is designed as a vertical, a depth or some other spatial relation.

Consequently, the non-linear Ideal-Real model must be modified, such that it allows one to describe its properties in schematic terms. Here, one has to distinguish between the conceptual structure of Ideal-Real and its realized structure in a website design. Abstractly considered, the structure of Ideal-Real may, first and foremost, be described as the metaphorical projection of a contrast schema which lets us cast this particular semantic meaning in terms of a bipolar construct. By contrast, when the dichotomy is realized in a website design, a space-schema, e.g. UP-DOWN, RIGHT-LEFT, FRONT-BACK, must be projected, as it is impossible to think of the realized semantic relation without the use of a spatial metaphor. This indicates that different schemas are employed at different levels of conception and text design. Most importantly, the diagrammatic modeling of the Ideal-Real dichotomy should reflect these insights: a non-linear model of Ideal-Real must be able to represent the meaning dichotomy both as an abstract semantic relation and in terms of different spatial structures.

7. Conclusion

In this paper, I have discussed the construction of a model of an Ideal-Real meaning dichotomy on websites. Using social semiotic multimodal theory, systemic functional linguistics, and conceptual schema theory, I have discussed the theoretical concepts underlying the Ideal-Real model, as well as the guiding principles for constructing this model. I have furthermore included an analysis of two web pages (both from an insurance company website) to point out issues concerning the spatial construction and representation of the Ideal-Real meaning dichotomy in a model. The discussion and the accompanying analyses have been used to argue two points: The first is that the model's representation of the semantics of the Ideal-Real needs not be tied to a fixed vertical orientation, as the storm damage example has shown. Describing the model in terms of spatial schemas makes this point stand out. The second is that a distinction has to be made between two levels of the Ideal-Real dichotomy: one is the Ideal-Real dichotomy in itself, as an abstract conceptual structure, the other is the manifestation of the idealized-realistic structure in the design of a website's navigation and interface. In relation to schema theory, it has become clear that different schemas are used to describe Ideal-Real as a conceptual structure versus as a designed artifact. Both of these insights must be reflected in the Ideal-Real model.

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Notes

1. The concept of non-linear models only represents a part of a comprehensive theory of new media design. See Martinec & van Leeuwen 2009.
2. Martinec and van Leeuwen (2009) also use an interdisciplinary approach to their description of non-linear models, mixing social semiotic theory with theories from e.g. artificial intelligence, web design and cognitive science. In the article, I will not discuss the implications of mixing theories from different paradigms, especially social semiotics and cognitive semantics.
3. Other non-linear models include the Given-New model (a diagram of given and new information), the Star model (a diagram of central and peripheral information), the Tree model (a diagram of taxonomic information), the Table model (a diagram of compared information) and the Network model (a diagram of non-hierarchical and non-centralized information) (Martinec & van Leeuwen 2009).
4. I should underline that this is my suggestion. Martin and Rose do not mention Ideal-Real as a dichotomy.
5. In this article, I use the simple term 'schema', but it is the same as 'image schema' (Johnson 1987).
6. In cognitive semantics, names of schemas, e.g. CONTAINER, LINK, as well as conceptual metaphors, e.g. UP IS MORE, are spelled in capital letters (Lakoff 1987).
7. The header of web page also displays three people on bikes and functions as an image hyperlink to another web page about personal insurance; it is not semantically related to the content about storm damage.
8. A lot more could be said about this image, in terms of semantic meaning. One could also apply the useful lexico-grammatical concepts of the semiotic resources of salience (assigning visual 'weight' to elements on the web page, thereby noticing the close-up and relative size of the man's head), contact (he is looking directly at the viewer and almost demanding a response to his smile) and modality (noticing the missing context of an office or site of a business). See Kress & van Leeuwen 2006.

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